NAILBA
NAILBA University

FIELD UNDERWRITING GUIDE Version 4.0

Hank George, FALU, CLU, FLMI

NAILBA
The Voice of Independent Brokerage Distribution

NAILBA
NAILBA University

FIELD UNDERWRITING GUIDE Version 4.0

NAILBA COPYRIGHT STATEMENT

IMPORTANT: PLEASE READ BEFORE USE!

Disclaimer of Liability

Contact Information

NAILBA
11325 Random Hills Road, Suite 110
Fairfax, VA 22030

Phone: (703) 884-1525
E-mail: info@nailba.org
Website: www.nailba.org

How to Use This Guide

This NAILBA Field Underwriting Guide had been produced specifically with you, the producer, in mind. We believe it is a highly unique, educational, and practical resource that can save you time and earn you more money. The best practices included here can truly improve your chances of having your business placed quickly and easily!

- Highlight key points of your app for faster underwriting (page 4)
- Quickly check applications to make sure they are fully complete (page 7)
- Set and manage expectations with your client (pages 9-11)
- Ensure you gather the right information for every case (pages 13-14)
- Understand risk factors and how to optimize the medical assessment process (page 15)

Created by a group of experienced industry professionals representing each of the entities involved in the insurance application process, this Guide has been created to be a practical, hands-on resource for you to put to use as you work through an application. It is also intended to be a long-term reference tool, giving you a full perspective on the important steps to acknowledge and the distinct roles of the carrier, the Brokerage General Agency, and you, the producer, in the application process.

Whether you are new to the business or a seasoned veteran to writing apps, we believe this Field Underwriting Guide can be a great "sidekick" as you seek to improve your production levels. It can be called upon for the consistency and the competitive edge you need to increase your percentage of successfully written business. We think that following these guidelines will increase the placement of your business by 10 to 20 percent, resulting in thousands of additional sales dollars.

So don't just tuck this away on the shelf!

Take a few minutes to review this guide. Start using the interactive tools to improve the way you sell and write your business today!

NAILBA
NAILBA University

FIELD UNDERWRITING GUIDE Version 4.0

Table of Contents

NAILBA University

FIELD UNDERWRITING GUIDE Version 4.0

Dear Valued Producer,

This guide will help you do the best basic field underwriting possible and prepare you for meetings with clients with a variety of medical histories.

Using this guide, you will be able to gather the right information, ask the right questions, and set clear expectations with your client. Use this guide to increase your ability to obtain coverage for your clients that meets their expectations.

- **Fact Finder and Generic Underwriting Criteria:** The fact finder (page 13) and the generic underwriting criteria (p. 15) will help your brokerage general agency find the best carrier prior to formal submission. Impaired risk cases are the most difficult cases to quote.
- **Common Medical Impairments Summary:** Accurate information enables you or your Brokerage General Agency to select the best carrier for your client and determine which risk class to quote. Please use the common medical impairments summary (page 16); this summary will help guide you in asking the right questions on medical conditions. Once you determine which carrier will best suit your client, the application process begins.
- **Forms Checklist:** The best means of communicating with the underwriting department at the insurance carrier is through the application. Our handy forms checklist (page 7) can be used to make sure important documents are not missed. Thorough completion of each application can save weeks of additional underwriting time and will result in higher placement. The checklist will also help you deliver the policy and receive your commission checks sooner.
- **Setting Clients Expectations:** It is always best to set expectations (page 9), and using our guide will enhance the communication between yourself, the client, and the agency. Underwriters with all carriers depend on you to make sure the information on the application is complete, detailed, and accurate, and that all the relevant information about the applicant's situation is provided even though it might not be initially required on the application. After all, your time and effort getting the sale should not be wasted on a poorly completed application, which will result in delays or worse yet, a not-taken policy.
- **Cover Letter:** A cover letter (page 5) is an excellent way for you to clarify a situation or provide the underwriter with additional information about your client. If you have information that will give a more complete picture of the person or present a favorable impression, do not hesitate to submit it.

Created by a group of experienced industry professionals representing each of the entities involved in the insurance application process, this Guide has been created to be a practical, hands-on resource for you to put to use as you work through an application. It is also intended to be a long-term reference tool, giving you a full perspective on the important steps to acknowledge and the distinct roles of the carrier, the Brokerage General Agency, and you, the producer, in the application process.

Whether you are new to the business or a seasoned veteran to writing apps, we believe this Field Underwriting Guide can be a great "sidekick" as you seek to improve your production levels. It can be called upon for the consistency and the competitive edge you need to increase your percentage of successfully written business. We think that following these guidelines will increase the placement of your business by 10 to 20 percent, resulting in thousands of additional sales dollars.

What should your cover letter include? Highlight the factors that would not be developed through the application, current exam, attending physician statements, or an inspection report. For example, if your client has a history of a heart attack, highlight the favorable lifestyle changes that he/she has made since the event—weight, cholesterol and blood pressure control, smoking cessation, a daily aspirin, and exercise 3 times per week.

Five minutes of your time can shave days or even weeks from the underwriting process!

To: Underwriter @ XYZ Company:

- How well do you know the client and the client's business? Have you done any business with the client in the past? Were they referred to you by another client? Is the client a key center of influence for future business?
- How did the sale develop? What is the purpose of the coverage (income replacement, key-person, buy-sell, estate preservation, etc.)?
- How were the plan of insurance and face amount determined? Provide any assumptions or formulas used to determine the amount. Include copies of any financial planning documents.
- Are other business partners applying for coverage? If not, explain why.
- If a loan is involved, what is the amount, duration, and purpose of the loan?
- Is this a new business venture? Does the client have any prior business experience that would contribute to this new venture's success?
- Is the case being shopped to other carriers? Which carriers? What offers have you received? What is the client's premium tolerance? What is the total line of coverage, and how much will be placed with each carrier?
- Any history of bankruptcy or reorganization? Chapter filed? Date of discharge? Include any special circumstances around that specific time.
- Does the client have any special circumstances with his or her dependents?
- Are there any factors in the client's history that may present a problem or even help with underwriting?
- Any underwriting concerns? Lifestyle changes that he/she has made? (This is especially important when dealing with older-age clients)
- Is the client physically active or involved in any religious/community organizations?
- Has the client traveled to countries longer than two weeks? Any upcoming travel?
- Has the client participated in avocations such as aviation, rock climbing, etc.? Does the client maintain any extra training or proficiency testing beyond what's required?
- Has the client ever been rated or declined in the past?
- Are you in competition with another broker for the case?
- Have CPAs, attorneys, or trustees been involved in the case? What is their role? Do you expect any changes before or after issue based upon recommendations from the client's advisors?
- Is the client a non-working spouse? If so, make sure to address amount of coverage on working spouse and the annual income for that working spouse as well.

Is Your Business Profitable?

Using placement ratio, carriers are looking at agents as either profitable or not profitable parts of their field force. Brokerage General Agencies (BGAs) also look at their business to see if it's profitable, and agents do as well. Cases that are not placed are not profitable for anyone, and carriers are now starting to penalize BGAs with low placement ratios by dropping commis-sions, or worse, terminating contracts with brokerage agencies and agents. The current industry average of not placed cases is between 25 and 35 percent.

The hardest part of an agent's job is getting the sale. The next major hurdle is getting the formal application completed and mailed to the BGA; after that, most of the work of getting a policy issued will be done by the BGA and carrier.

- How many prospecting calls do you have to make to get just ONE appointment?
- From the appointments you obtain, how many turn into follow-up appointments?
- How much of your time is spent on determining need and adjusting products?
- How many follow-up visits do you make? A lot goes into getting that one application! Finally, when you are done and ready to send this application to your BGA, most of your work is completed.

What if you don't place that case? This is lost time, money, and effort for you, the BGA, and the carrier. Medical records have been paid for, underwriting requirements have been obtained, underwriters and doctors have reviewed the case. Everyone involved has made an investment in the case for no return.

Use this guide, ask the right questions, complete ALL questions on the application, and set realistic expectations up-front for your client.

All of this can make the difference between an expedited paid case and a failed opportunity.

It's not how many cases you submit. It is how many are paid!

"What's all this worth?"

If you can reduce your case cycle time by 8 to 10 days, then you could see a dramatic increase in your placement percentage.

If you spent an extra five minutes per case, you could increase your placement ratio by 5 percent, and your gross income would increase by approximately $12,000 per year! This is based on 100 cases per year with an average gross profit of $2,300. This means spending another 8 hours or so each year and earning an additional $1,500 for each hour spent.

Think of how much better you feel when your time prospecting results in more sales.

FORMS CHECKLIST TOOL

Completion of a Forms Checklist will accelerate the underwriting process by as much as 10 to 15 days.

Application

- ☐ Signed by Agent, Proposed Insured, and Owner.
- ☐ When applicant is a child, the parent must sign as the Proposed Insured on all forms.
- ☐ When a business is the Owner, an officer other than the client MUST sign the application as Owner. Include his/her title when signing for the business.
- ☐ When the Owner is a Trust, the application MUST be dated after the Trust date. Also, be sure to include tax ID#. All trustees should sign the application as required in the Trust Agreement.
- ☐ If a corporation is the owner, make sure to include tax ID#.
- ☐ Trustee Acknowledgement Form (if Trust is the Owner of the policy).
- ☐ EOLI - Employer Owned Life Insurance (when employer is the owner of the policy).

Non-Medical

- ☐ At most, complete all doctor information and impairments; these two items will shorten the underwriting process.

HIV Consent

- ☐ Your General Agent will have correct form numbers for the resident state of the applicant.

HIPAA Authorization

- ☐ Signed HIPAA Authorization Form.

Replacement Form(s)

- ☐ Your General Agent can verify proper forms for the state in which this application is being signed and delivered.

Questionnaires

- ☐ Special questionnaires may be required for some activities. Your General Agent can assist you with the correct form.

1035 Forms

- ☐ Please submit originals.

State-Specific Forms

- ☐ Proper forms for the state in which this application is being signed and delivered can be verified with your General Agent.

Financial Information

- ☐ When a business is the Owner, please include business financial statements to include Balance Sheets, Income Statements, and Cash Flow Statements (if available) for at least the last two years to demonstrate a track record for the company.

Cash with Application

- ☐ Checks need to be made payable to the Insurance Carrier.
- ☐ Ensure your client's coverage is bound by verifying with your General Agent the specific rules for each Carrier.
- ☐ Completed Limited Insurance Agreement when submitting cash with application.

Underwriting Requirements:

- ☐ Schedule the paramed, labs, EKG, and all medical requirements.

UNIVERSAL LIFE CASES

Certification of Non-Illustration or Acknowledgment of Non-Illustration

- ☐ NAIC regulations require the illustration to be dated on or prior to the application signed date.
- ☐ If a signed illustration is not collected at time of application, a Certification of Non-Illustration or Acknowledgment of Non-Illustration must be completed.

Formula and Guideline for Amounts of Insurance (Financial Underwriting)

Each carrier has its own specific guidelines. The information here is meant to give you a general guideline to help you in the Financial Underwriting process. See specific carrier guidelines or check with your General Agency to determine if third-party financials are needed.

What Is Financial Underwriting?

Financial underwriting is the analysis of an individual's financial situation which takes place every time a life insurance case is un-derwritten. The purpose of this evaluation is to determine the need for insurance and to make sure the amount of insurance applied for is reasonable and in line with the insured's needs.

Purpose	Formulas and Guidelines		Pertinent information in a cover letter to accompany the application
Personal Insurance — Replacement of Income	Age	Factor times income	A cover letter explaining: Purpose and need for coverage How amount was determined Details on earned and unearned income
	20–35	20 to 30	
	36–40	15 to 25	
	41–45	14 to 20	
	46–50	12 to 20	
	51–59	10 to 15	
	60–64	7 to 10	
	65–70	4 to 10	
	70+	4 to 5	
Children's Coverage	Up to 50% of parents' coverage *Some carriers only offer maximum of $250,000. Check with your BGA for details.		Need for coverage If there is more than one child in the family, they should all be insured for similar amounts. If not, an explanation should be given.
Debt Protection (Personal)	100% of home loan 50% to 75% of loan balance for other types of loans		Reason for loan Duration and amount of loan Identity of lender Status of loan (pending or approved)
Debt Protection (Business)	50% to 75% of loan balance		Same as personal loan with the addition of: Business financial statements Explanation of why the proposed insured is key to the dept repayment
Charitable Contributions	Based on contribution history and personal needs having been met		Details of association with charity Details of personal insurance Details about organization if not well known Organization's tax-exempt number Reason for purchase
Key Person	Up to 10 times annual income		Description of why this is a key person Details of coverage on other key staff Other details: Proof of total compensation Employment contract

HELPFUL HINTS FOR THE BROKER

Through the application process, remember to:

1. Explain the application, set expectations on how long it might take, and explain the "life cycle of an application."
2. Explain to your client the medical exam and inspection process.
3. Complete limited insurance agreement when submitting cash with application.
4. To ensure the best exam results, encourage your client to:
   - fast for at least 12 hours prior to the exam.
   - avoid foods that are high in salt.
   - avoid alcohol for at least 8 hours before the exam.
   - avoid strenuous exercise for at least 12 hours prior to the exam.
   - avoid tobacco for at least one hour prior to the exam.
   - bring a list of all current medications, including dosages, name, address, and phone number of the physician prescribing the medications.
   - If a stress test is required, advise your client to wear comfortable clothing and athletic shoes.
5. Fully answer all questions on the application, and use your client's full legal name.
6. Write legibly using black ink. Take your time and write the information so that it can be read.
7. Document Aviation, Avocation, and Foreign Travel. (Check with specific carrier at time of application for specific forms, and check with state for compliance regulations related to foreign travel)
8. Explain the insurable interest and financial justification.
9. Make sure the application is signed by you, your client, and the policy owner(s).
10. Foreign citizenship of client—make sure to address country that client is a citizen of, provide copy of visa (type and expiration), provide copy of green card, or supply green card number.
11. Complete the Part 2, medical information section of the application:
    - Ask probing questions—Ask about the frequency of the condition; date of diagnosis, treatment given, and by whom. Also include start and stop dates, if recurrent.
    - Use concrete terms—Be specific about treatment and medications, using accurate spelling, dosage, and reason for medication.
    - Provide details of all treatment—Give start and end dates all medical treatment for the past 5 years.
    - Provide physician information—List full names, addresses, and phone numbers for all physicians consulted.
    - Provide details of any cognitive or functional tests during the past 5 years.

A properly completed application with medical information can help to speed the underwriting process along and will not leave the prospect wondering, "What's going on with my application?"

The Insurance Exam: Setting Client Expectations

Example of form/letter to provide to your client:

An examination will be required when applying for life insurance. The degree of testing is determined by your age and the amount of insurance you have applied for. The exam can consist of any of the following:

- Health history
- Vital signs, to include blood pressure, pulse, height, weight, and chest measurements (for males only)
- Urine sample
- Blood sample
- EKG or treadmill
- Doctor examination (an exam performed by a doctor)
- Chest X-ray (due to certain ages, face amounts, and smoking status)

The exam is performed by an approved paramedical facility. They will contact you to make an appointment that is convenient for you. The examiner will advise you of what the exam will consist of from the list noted above and advise you of any necessary instructions.

Please note the following before taking your exam:

- Try to relax prior to the exam.
- Please fast for at least 8 hours prior to the exam.
- Avoid strenuous exercise for at least 12 hours prior to the exam.
- Try to abstain from the use of stimulants at least 1 hour prior to the examination (smoking, coffee, tea, soft drinks, or anything containing caffeine).
- Alcoholic beverages should not be consumed for at least 12 hours prior to the exam.
- Please prepare a list of doctors' names and addresses that have been seen in the last few years.
- Bring a list of all current medications, including dosages, as well as the name, address, and phone number of the physician prescribing the medications.
- Please bring a photo ID (driver's license).

There is no cost to you for the exam. If you would like a copy of your lab results, please write and sign a short note addressed to the carrier where you are applying for life insurance, indicating you would like a copy of your lab results sent to you. We will forward to the carrier.

Example of letter to client after taking application, thus setting the expectations the client should have when applying for life insurance.

WELCOME "ABC" Company

(Date)

(Client Name)
(Address)
(City, State, Zip Code)

Dear (Client Name):

Thank you for placing your confidence in us. We are committed to providing you with the best service in the business.

We have completed our in-house process and have forwarded your application(s) to (Company Name or Names) for medical history review and underwriting approval. Every week, we will communicate with the carrier on your case. Once all requirements are received and the policy is issued, we will be calling you to make arrangements to deliver the new policy. During the underwriting process, we may be in contact with you if the carrier requests additional information or clarification.

Note: Please be advised that the time between when an application is submitted and a policy is issued varies based upon several factors and could take anywhere from 4 to 8 weeks. This all depends on when the exam is completed, if there are medical records that need to be obtained from your doctor, and if any additional forms/questionnaires are being requested by the underwriter.

We will work to expedite the handling of your application, as our primary goal is your satisfaction! In the meantime, please do not hesitate to contact us with any questions or concerns. You may reach us at 505-555-1212.

Thank you again for your business with ABC.

Best Wishes,

Broker Name
Registered Representative
Company Name

AGENT

- Initiates contact with applicant and maintains the relationship
- Collects client's financial and medical information
- Field underwriting and initial assessment of need
- Educates client on the case life cycle; sets expectations
- Works with agency to obtain best solution for client
- Begins formal application process with client
- May order paramed exam

BGA

- Illustration Software (Administrator to Broker)
- Promotes carrier products to agents
- Compensation awareness
- Educates and trains agents about the cycle of case; provides expectations
- Field Underwriting—utilizing underwriting guidelines information from carriers to assess products for client; work with Agent to determine best possible solution for client
- Ensures completeness of application package prior to submission to Carrier
- Timely ordering of requirements
- Ensures agent is properly licensed
- Provides clear and timely communication with Broker

CARRIER

- Designs products
- Legal and compliance
- Advanced sales support and concepts
- Policy service
- Policy risk assessment and policy delivery
- Provides consistent, timely responses with the best possible offer the first time
- Promotes new products through various communication tools
- Communication regarding product changes, state changes, legal changes
- Designs/maintains producer and BGA compensation payments and bonus programs

QUICK FACT-FINDER TOOL

All personal information protected by HIPAA regulations (see HIPAA Form attached with supplemental forms)

Completion of a FACT FINDER will accelerate the underwriting process

Agent name: _____

Agent phone number: _____ E-Mail Address: _____

Proposed Insured's legal name: _____ Date of Birth/Age: _____

Plan of Insurance requested:

Individual: ☐ Term ☐ UL ☐ VUL ☐ WL **Survivorship:** ☐ SUL ☐ SVUL ☐ SWL

Rate Class Desired

☐ Best Rate
☐ Preferred
☐ Standard
☐ Rated: _____

Has this case been discussed or submitted to your BGA on a preliminary, trial, or informal basis? ☐ Yes ☐ No

Client's budget: $ _____

Present Nicotine Use:

☐ None ☐ Cigarettes—frequency of use per day: _____

☐ Cigars ☐ Pipe ☐ Dip ☐ Chew ☐ Nicotine Gum ☐ Other: _____

Quantity per month _____

Former Tobacco Use: List each type of tobacco, quantity and frequency used, and date of last use:

_____

_____

Build: Height: feet _____ inches _____ Weight: _____ pounds

Family History *(Family history is a consideration for each rate class)*:

To your knowledge, is there any family history (parent or siblings) with onset of disease prior to age 60 due to cardiovascular disease, cerebrovascular disease, diabetes, or cancer? ☐ Yes ☐ No

If yes, provide full details with impairment, age at onset and age at death if deceased:

☐ Father: _____

☐ Mother: _____

☐ Siblings: _____

Blood Pressure and Cholesterol:

Latest BP reading: _____ / _____ Latest total cholesterol: _____ mg Latest cholesterol/HDL ratio: _____

Are you currently taking any medication for blood pressure? ☐ No ☐ Yes, Name of medication: _____

Are you currently taking any medication to lower cholesterol? ☐ No ☐ Yes, Name of medication: _____

Aviation/Avocation

In the past 5 years have you or do you intend to participate in any of the activities listed?

☐ None ☐ Flying ☐ Racing ☐ Sky diving ☐ Scuba diving ☐ Other

Details: _____

Citizenship/Residency/Travel

US Citizen: ☐ Yes ☐ No

If no, provide type and expiration date of visa, green card status, and length of time in USA:

_____

_____

Any future plans to live or travel outside the USA? ☐ Yes ☐ No
*check with your Brokerage General Agency regarding state compliance prior to completing any application(s)
(provide purpose, cities, countries, frequency, and duration):

_____

_____

Driving History

Have you had any of the following motor-vehicle-related incidents in the past 10 years?

☐ Moving violation ☐ Reckless driving ☐ DWI or DUI ☐ License suspension ☐ License revoked

Provide dates, details: _____

Medical History

Have you ever had, been told you had, or been treated for any of the conditions listed? If yes, check all that apply:

☐ Alcohol abuse
☐ Alzheimer's/dementia/cognitive impairment
☐ Asthma
☐ Cancer
☐ Cirrhosis
☐ COPD
☐ Coronary artery or cerebrovascular disease
☐ Crohn's disease
☐ Depression/anxiety
☐ Diabetes
☐ Drug abuse
☐ Epilepsy
☐ Heart murmur/valve disease
☐ Hepatitis
☐ Irregular heartbeat/palpitations
☐ Kidney disease
☐ Lupus
☐ Multiple sclerosis
☐ Peripheral vascular disease
☐ Rheumatoid arthritis
☐ Sleep apnea
☐ Stroke
☐ Other _____

List dates, diagnosis, details, treatment, plus names, addresses, and phone numbers of all physicians consulted
(Refer to Common Medical and Non-Medical Impairment sections for critical underwriting factors):

_____

_____

_____

_____

_____

GENERIC UNDERWRITING CRITERIA REFERENCE TOOL

(See Below to Pre-Qualify Your Applicant)

	BEST Best Rates	BETTER Preferred Rates	GOOD Preferred and Standard
No Nicotine Use	5 years	Usually 3 years	Usually 1 year
Family History	No cardiovascular or cancer in parents or siblings before age 60	No cardiovascular or cancer in parents or siblings before age 60	No cardiovascular or cancer in parents or siblings before age 60
Aviation/Avocation **assuming the activity to be excluded is not the primary source of revenue*	Usually available with a flat extra or exclusion	Usually available with a flat extra or exclusion	Usually available with a flat extra or exclusion
Blood Pressure	Current BP cannot exceed 140/85, may vary over 60 not available with treatment.	Current BP cannot exceed 140/90, may vary over 60, with or without treatment.	Current BP cannot exceed 155/94, may vary over 60, with or without treatment.
Cholesterol or Cholesterol/HDL Ration	Maximum 220. HDL ration not to exceed 5.0 (with or without medication)	Maximum 250. HDL ration not to exceed 6.0 (with or without medication)	Maximum 300. HDL ration not to exceed 8.0 (with or without medication)
Cancer History	Not available. Possible exception: Basal cell cancer (skin)	Not available. Possible exception: Basal cell cancer (skin)	Usually available after 7 years for most carriers
Heart Disease	Not Available	Not Available	Usually Not Available
Driving History	No DUI, reckless driving, or suspension for 5 years.	No DUI, reckless driving, or suspension for 5 years.	No DUI, reckless driving, or suspension for 2 years.
Should you have any questions, please contact your Brokerage General Agency.			

MAXIMUM BUILD CHART

HEIGHT	WEIGHT		
Male/Female	Preferred Plus	Preferred	Standard
5'0"	145	161	189
5'1"	149	165	193
5'2"	153	170	197
5'3"	158	175	204
5'4"	162	180	209
5'5"	166	185	215
5'6"	170	190	220
5'7"	176	195	225
5'8"	182	200	230
5'9"	188	205	235
5'10"	193	210	242
5'11"	199	216	251
6'0"	205	222	256
6'1"	211	229	263
6'2"	216	236	271
6'3"	222	243	279
6'4"	227	250	286
6'5"	233	257	293
6'6"	238	264	300

GENERAL PURPOSE MEDICAL HISTORY QUESTIONNAIRE

Note: This nonspecific questionnaire is intended for use in all cases except cancer if there are no impairment-specific questions in the manual. Not all of the questions need to be asked in every case.

DIAGNOSIS

- What is the medical condition? It should be, defined as precisely as possible (e.g., "papillary thyroid carcinoma" instead of "thyroid cancer")?
- When was it diagnosed (month/year)?
- What symptoms did the applicant experience that lead to the diagnosis?
- Was the diagnosis made by the attending physician or after referral to a specialist (if specialist, note specialty and provide contact information as needed)?
- Was the applicant seen in an emergency department and/or hospitalized as an inpatient either for immediate treatment or to make the diagnosis?
- What tests were done to make the diagnosis (include results even if just noting they were "normal" vs. "abnormal")?
- What is the severity of the condition from the applicant's perspective or as stated by his physician: "mild," "moderate," or "severe?"

TREATMENT

- Was the applicant prescribed or directly administered any medication (Rx, pharmaceutical) for the condition?
  - If yes, list all the medications prescribed/administered, ideally with the dosage and route of delivery: pill, injection, transdermal patch, suppository, etc., for each drug prescribed.
  - Is the applicant taking the medication in the manner prescribed or has s/he decreased their use or discontinued it entirely at their own volition?
  - Has the applicant's medication been changed in the last 2 years; if yes, when was the change made and what was applicant taking previously?
- Did the applicant have any non-medicinal treatment?
  - If yes, list each type of treatment and date administered
  - If surgical, include the procedure and date it was done
- Is the applicant taking anything "over the counter" (such as a dietary supplement or herbal remedy) for the condition and if so, what are they taking?
- Has the applicant been hospitalized for this impairment subsequent to the diagnosis?
  - If yes, when and what was the specific reason for this subsequent hospitalization?
  - Was any additional treatment given during the hospitalization and if yes, what was given?
  - Was the applicant hospitalized more than once and if yes, provide details for each occasion.
- Were there any complications from treatment?
  - If yes, cite them and include a reference to their severity and whether they have resolved or persist.

FOLLOW-UP

- When is the last time the applicant experienced symptoms related to this condition?
  - If more than once, how often (per day, week or month, as appropriate) does the applicant experience these symptoms?
  - Are the symptoms more severe, as severe or less severe than they were at the time s/he was diagnosed and initially treated?
  - Have the symptoms increased, decreased or remained stable over the last 2 years?
- Has the applicant experienced any complications from the condition (e.g., retinopathy from diabetes, heart failure following myocardial infarction, etc.)?
  - If yes, ask appropriate questions like those above regarding symptoms, referral to specialist, diagnostic assessment, and treatment for each complication.
- Has the applicant been advised to have further follow-up testing?
  - If yes, what tests and when are they scheduled?
- Has the applicant been advised to have further treatment that s/he has not taken as yet?
  - If yes, what treatment and why has not been done?
- Does the condition currently interfere with the applicant's quality of life (occupational and social functioning)?
  - If yes, in what specific ways?
- Has the applicant been advised to modify his behavior in any way because of this condition; if yes, in what ways and is s/he doing so?
- Is there anything the applicant would like to add regarding any aspect of this matter?

NON-SPECIFIC CANCER QUESTIONNAIRE

Note: This questionnaire is intended for use in cases where there is no specific list of questions in this Guide.

- When was the cancer diagnosed?
- What is the precise name of the type of cancer?
- Did the cancer spread to lymph nodes or elsewhere?
- What kinds of treatment were used?
  - If surgery, was the tumor completely removed?
  - If radiation, was it done via external beam or radiation emitting implant?
  - If chemotherapy, what drugs were used?
  - Were any other kinds of treatment used?
- Did the cancer recur? If yes:
  - When did it recur; if more than once, list the approximate dates of each recurrence.
  - What further treatment was done?
  - Was the additional treatment successful in eradicating the recurrent cancer?
- How often does the applicant see their oncologist for followup and when was the last visit?
- Did the applicant have any delayed side effects from treatment? If yes, what were they and when did they occur?

ACUTE CORONARY SYNDROME (ACS)

ACS presents as one of three events affecting the myocardium (heart muscle):

- ST-elevation myocardial infarction (STEMI), also called a transmural or Q-wave MI
- Non-ST-elevation myocardial infarction (NSTEMI)
- Unstable angina (UA)

MI diagnosis requires a sufficient rise in the troponin blood test (indicating myocardial injury) plus at least one other criterion:

- Acute ischemia symptoms (chest pain, dyspnea, etc)
- ECG changes consistent with new ischemia
- New ECG Q waves
- Imaging test evidence of new loss of viable myocardium or new wall motion abnormality.

Creatine kinase MB (CK-MB) may also be reported but is not part of the official MI diagnosis. The results of this test are largely redundant to troponin and many experts now advise that CK-MB not be routinely done in suspected MI.

Unstable angina (formerly, coronary insufficiency) is MI-like acute ischemic symptoms without a sufficient rise in troponin. With advent of high-sensitivity (hs-) troponin test, UA is become an uncommon diagnosis. Its mortality risk is akin to a mild NSTEMI.

Most MIs are designated as type 1 (caused by a coronary artery plaque fissure or rupture). Type 2 MIs are due to an oxygen supply/demand imbalance due to coronary spasm, cocaine use etc. There can also be significant troponin elevations during coronary surgery, diagnosed as periprocedural MIs.

A "silent MI" may be diagnosed when pathological Q waves are present on an ECG but no history consistent with a cardiac event. This is most common in diabetics.

KEY INSURABILITY ISSUES

- Precipitating factors such as coronary spasm (Prinzmetal/variant angina), myocardial bridging, cocaine use, etc.
- Residual cardiac impairment (heart failure, myocardial aneurysm)
- Participation in post-MI rehabilitation
- Extent of coronary artery disease, if any
- Results of post-MI cardiac testing
- Incidence and severity of post-MI ischemic symptoms (stable angina, etc.)
- Post-MI activity limitations
- New-onset depression or posttraumatic stress disorder, if any
- Current coronary risk factor profile
- Extent of adherence to taking ongoing Rx for adverse risk factors (lipids, blood pressure, diabetes, etc.)

QUESTIONS

- When did ACS event occur?
- Does applicant know what type (STEMI, NSTEMI or UA)?
- Has applicant had more than one ACS event? If yes, full details on each event.
- Did applicant participate fully in post-MI rehabilitation? If not, why?
- What heart related tests has s/he had have since the MI and what were the results ("normal" vs. "abnormal" or with greater detail)?
- Has applicant been diagnosed with coronary artery disease? If yes, what if the extent (number of affected vessels, etc.)?
- Is there any residual heart damage, especially if limiting his/her activity or requiring specific treatment?
- Has applicant had any interim chest pain or other heart-related symptoms? If yes, what symptoms, how often, how severe and what precipitates them (physical activity, anger/stress, occurring at rest)?
- What CAD risk factors does the applicant have, such as diabetes, hyperlipidemia, hypertension, cigarette smoking, etc.
- What cardiac-related medications is applicant taking and in what doses? Has the applicant refused to take or stopped taking any such medications and if so why?
- Have any tests been recommended but not done? If yes, which tests and why not done?

ADJUSTMENT DISORDER

This psychiatric disorder is defined as "the development of emotional or behavioral symptoms" due to stressors and occurring within 3 months of their onset [DSM-5]

The symptoms must be clinically significant, in a manner out of proportion to their severity/intensity, in terms of their effect on the patient.

Adjustment disorder is often accompanied by protracted bereavement, anxiety disorders and/or depression. It may precede posttraumatic stress disorder.

Most cases are managed by antidepressants and/or psychotherapy.

Recent studies have shown significant extra mortality including suicide in adjustment disorder, especially in those with other coexisting psychiatric conditions.

KEY UNDERWRITING ISSUES

- Circumstances leading to onset/diagnosis
- Current/recent symptoms
- Duration of disorder
- Treatment
- Psychiatric comorbidities
- Suicidality

QUESTIONS

- What was the nature of the stress that induced this condition?
- How long has the disorder been present (greater than 9 months would be unfavorable)?
- Is the applicant still having symptoms? If not, when did the symptoms stop?
- Was medical treatment (Rx) prescribed? If yes:
  - What drugs
  - Were there any changes in Rx in the past 2 years
  - Is the Ex still being used?
- Was the applicant hospitalized and if so for how long?
- Were there any co-occurring psychiatric disorders and if so, which ones (include fill details based on questions for that condition)?
- Was there any suicidal ideation or a suicide attempt? If yes, how many times and when was the most recent episode?

ALBUMINURIA

Albuminuria is an elevated level of the protein albumin in the urine.

Proteinuria is albumin plus other (tubular) proteins in the urine. For underwriting purposes, albuminuria and proteinuria are essentially synonymous.

When the amount of albumin in a urine specimen is between 30 and 300 mg, this is called microalbuminuria. Larger quantities are designated as macroalbuminuria and pose a much greater mortality risk.

To get a more accurate determination by accounting for the effects of diluted or highly concentrated urine, we measure urinary creatinine and then calculate the albumin-to-creatinine (ACR) or protein-to-creatinine ratio (PCR). Urinary creatinine has no other underwriting significance.

Ratios are reported in milligrams per gram (mg/g). Those exceeding 200 mg/g in women and 300 mg/g in men are deemed abnormal.

Heavy exercise can cause transient albuminuria/proteinuria. It should be avoided within 24 hours of urine specimen collection.

Albuminuria and proteinuria are markers for both kidney damage/disease as well as major independent coronary artery disease risk factors.

Albuminuria/proteinuria is a major adverse finding in applicants with diabetes or hypertension.

KEY INSURABILITY ISSUES

- Quantity of albumin/protein in the urine specimen
- Number of specimens with significant excess albumin/protein and average amount in current/recent urinalyses
- Blood (hematuria) or cellular casts in the urine
- Elevated kidney-related blood tests: creatinine, cystatin C and BUN (blood urea nitrogen)
- Estimated glomerular filtration rate (eGFR) < 60 or markedly elevated
- Details of any prior clinical workup for albuminuria/proteinuria
- History of diabetes, hypertension or any kidney disorder
- Medication for early diabetic or hypertensive nephropathy (kidney damage), mainly angiotensin converting enzyme inhibitors or angiontensin receptor blockers

ALCOHOL USE DISORDER (AUD)

AUD encompasses both alcohol abuse (persistent excessive alcohol intake) and alcohol dependency (alcohol addiction, alcoholism).

DSM-5 requires just two of 11 diagnostic criteria to be present. These include consuming alcohol in greater amounts and over longer intervals than "intended," inability to cut down or stop, adverse social and occupational effects, recurrent use in hazardous situations, tolerance to alcohol's effects and withdrawal syndrome upon discontinuing intake.

The criteria have been loosened from those in DSM-IV-TR, making more AUD diagnoses common.

AUD severity is also specified as mild (2-3 symptoms), moderate (4-5 symptoms) or severe (> 5 symptoms).

When alcohol dependency is present, detoxification is usually necessary and almost always on an inpatient basis.

- Twelve-step programs such as Alcoholic Anonymous increase the odds of recovery and sustained sobriety.
- Any use of alcohol after completion of treatment is highly unfavorable from an underwriting perspective.

Post-recovery medical treatment may include disulfiram, acamprosate and possibly benzodiazepines.

Driving record is a key consideration. The odds of an AUD are 50-60% with one alcohol-related violation and over 80% with two.

In terms of mortality, the highest risk pattern of alcohol abuse is binge drinking (bingeing), usually defined as consuming 5 or more drinks per drinking occasion. Bingeing is the leading cause of drunk driving and alcohol-related accidents.

Excessive intake, with or without bingeing, is the main risk factor for medical consequences, which may affect any organ in the body, most notably the liver.

KEY INSURABILITY ISSUES

- Age at onset of alcohol abuse/alcoholism
- Duration of disorder
- Severity
- Treatment, including AA or equivalent
- Current alcohol use status
- Employment, social, financial and legal issues related to AUD history
- Evidence of liver damage
- All other potential medical complications
- Specific findings on various lab tests
- Motor vehicle record (DWI, suspended/revoked license, many speeding violations, reckless driving, etc.)

QUESTIONS

- When was the applicant diagnosed with AUD?
- What circumstances led to the diagnosis?
- How was the applicant treated including names of medications? Did the applicant have inpatient treatment; if yes, full details?
- Did the applicant participate in AA or an equivalent 12-step program as part of their recovery?
- Did the applicant take or are they taking any medication specifically related to preventing relapse of AUD? If yes, which drug(s)?
- Does the applicant use alcohol currently and if yes to what extent?
- Did the applicant experience any social, financial, occupational or legal consequences; if yes, full details?
- Has the applicant had any substance-related driving violations or accidents in (at least) the last 5 years?
- Did the applicant experience any medical complications? If yes, what were they and what is their current status?
- Has the applicant ever had a liver biopsy (if yes, when?) or been diagnosed with any liver disorder (if yes, which one and full details on that disorder)?

ALCOHOLIC LIVER DISEASE

There are three kinds of alcoholic live disease (ALD):

- Alcoholic steatosis (fatty liver)
- Alcoholic steatohepatitis (fatty liver with inflammation and fibrosis; the most severe presentation is called alcoholic hepatitis)
- Alcoholic (Laennec) cirrhosis, which may be compensated or decompensated

An accurate diagnosis requires a liver biopsy. Many patients will have multiple biopsies over the course of the disease.

Alcoholic steatosis is seldom reported because it largely asymptomatic. It is similar to nonalcoholic steatosis. The only "treatment" is cutting back on or discontinuing alcohol use.

There are two insurability issues:

- Its presence implies heavy drinking
- It may progress to more serious ALD

Alcoholic steatohepatitis (ASH) is a serious disease that often progresses to cirrhosis. Alcoholic hepatitis, the most severe presentation of ASH, is uninsurable.

Alcoholic cirrhosis is the most advanced ALD. It can be fatal and also has a high risk of subsequent hepatocellular (liver) carcinoma.

Early cirrhosis (Child-Pugh Class A) is compensated, which means the liver continues to function more or less adequately. Child-Pugh Classes B and C represents early and late (end stage) decompensated liver disease. This is fatal unless the patient has a liver transplant.

Early cirrhosis is often asymptomatic and suspected on the basis of blood tests and drinking history. Later, there are many signs and symptoms, culminating in portal hypertension (causing ascites and gastroesophageal varices), hepatorenal syndrome and hepatic encephalopathy.

Ascites is excessive fluid in the abdominal cavity. Gastroesophageal varices are veins in the esophagus and a portion of the stomach that are prone to eventually bleed and may cause fatal hemorrhaging.

Literally every component in the screening blood profile used in underwriting can be affected by alcoholic liver disease.

Treatment is largely supportive, treating the symptoms or, in eligible cases, liver transplantation.

KEY INSURABILITY ISSUES

- Suspected or biopsy-proven ALD
- If biopsy, precise pathology report diagnosis
- If more than one biopsy, any changes (progression, stable, possibly regression)
- Signs and symptoms
- Abnormal findings on screening* and clinical lab tests
- Current alcohol use, if any
- Treatment
- Organ damage/complications
- Alcohol use disorder history

* The most specific test components are elevated GGT, AST-to-ALT ratio ≥ 1.5, low serum albumin or BUN, high serum globulin or bilirubin

QUESTIONS

- Did the applicant have a liver biopsy?
- If not, how was the diagnosis made?
- If yes:
  - What was the precise pathological diagnosis?
  - Did he have more than one biopsy?
  - If yes, when was the most recent and did the diagnosis change (progression to more severe damage, stable or any degree of regression) between biopsies?
- What symptoms did/does the applicant have?
- What treatment did the applicant get, if any?
- Does the applicant continue consuming alcohol and if yes, how much per day/week?
- Did the applicant have any complications affecting the liver or other organs? If yes, full details.
- Was the applicant ever diagnosed with alcohol use disorder, alcohol abuse or alcoholism?

AMPUTATION

The most important consideration with partial or complete amputation of one or more limbs is whether this was due to trauma and the effects of some disease process.

In traumatic amputation, the only specific underwriting concern is the applicant's current functional capacity. Does he have any mobility limitations and if so how do they affect his employability and lifestyle?

In disease-related amputation, the main consideration is the underlying disease process. In some cases it is a localized problem with no further insurability issues. More often, however, amputation was the last treatment option because of a serious disease such as diabetes or cancer.

Lower extremity amputation has profoundly adverse underwriting implications in diabetics. The extent of the amputation process (toes only, foot, below knee, above knee, one or both legs) may be a mitigating factor in the occasional case.

QUESTIONS

- When did the amputation occur?
- What extremity is affected and to what extent (entire limb, part of limb, digits only)?
- Why was the amputation done?
- If traumatic:
  - What was the nature of the trauma?
  - What is the applicant's current functional status (see above)?
- If nontraumatic:
  - What disease or condition made the amputation necessary?
  - Ask the pertinent questions about that disease/condition.

ANEMIA

Anemia is defined as a low blood hemoglobin level. It is a finding on a complete blood count, not a disease per se.

The two key underwriting issues are the underlying cause and severity of the anemia.

There are four mechanisms that can induce an anemic state:

- Blood loss
- Increased destruction of red blood cells
- Decreased manufacture of red blood cells
- Ineffective manufacture of red blood cells

There are many potential causes for each mechanism to occur. Some have no mortality implications; others may be highly rated or uninsurable.

Anemia may be characterized on the basis of the mean corpuscular volume red blood cell index on the CBC. Anemia with elevated MCV is called macrocytic whereas when MCV is below normal it is called microcytic anemia. If the MCV is within the normal range, the anemia is said to be normocytic.

Knowing whether the anemia is macrocytic, microcytic or normocytic narrows down the number of potential causes.

Treatment, if any, is based primarily on the underlying cause.

KEY INSURABILITY ISSUES

- First and foremost, the underlying cause
- Age at diagnosis
- Gender in iron deficiency anemia
- Family history in hereditary anemias
- Severity of anemia based on hemoglobin and MCV
- Other abnormal CBC findings
- Results of other relevant tests such as blood iron level markers
- Extent of diagnostic assessment including whether a bone marrow biopsy was done and the results
- Referral to a hematologist or oncologist
- Type of medical treatment given, if any
- Hospitalization
- Need for blood transfusions
- Resolution or persistence of anemic state

QUESTIONS

- How was the anemia discovered (symptoms, screening due to family history, incidentally on routine CBC)?
- When was the diagnosis made (month/year)?
- What is the precise diagnosis of the specific type or cause of anemia?
- What tests were done and specifically was a bone marrow biopsy performed? If yes, what were the results?
- Has the anemia resolved or is it still present? If present, how severe is the anemia currently and has severity changed in the last 2 years?
- Has the applicant had symptoms due to the anemia in the last 2 years and if yes, what were they and are they still present?
- Does the applicant have as family history of this specific kind of anemia?
- Was the applicant referred to a specialist such as a hematologist or oncologist?
- Has the applicant been hospitalized because of this anemia; if yes, how many times and when (month/year)?
- How is/was the anemia treated, including the names of all medications? This may include medication, transfusions and bone marrow transplant
- Have there been any complications from the anemia or treatment?

ANEURYSMS AND AV MALFORMATIONS

An aneurysm is a bulging or ballooning out of a portion of the wall of an artery or vein. Most aneurysms arise during life rather than congenitally.

An arteriovenous malformation (AVM) is a congenital complex tangle of abnormal arteries and veins linked by one or more fistulas (openings) that allow blood to shunt between the arterial and venous circulations.

Both aneurysms and AVMs may rupture and depending on their size and location, this could be fatal.

Most subarachnoid brain hemorrhages are due to ruptured intracranial aneurysms.

The most common significant aneurysms occur in the brain and aorta, and the most significant AVMs are in the brain. The larger the aneurysm or AVM is, the greater the risk of rupture.

Depending on its size and/or location, an aneurysm or AVM with potential to rupture may be excised, surgically occluded with a clip or coil, or monitored periodically.

KEY INSURABILITY ISSUES

- Location
- Diameter (in millimeters/centimeters)
- Symptoms, if any
- Treatment and its effect
- Current status

QUESTIONS

- When was the lesion diagnosed?
- Was it discovered incidentally or due to investigation of symptoms?
- How large is/was the lesion?
- Is there more than one lesion? If yes, these questions should be asked about each of them that has been further evaluated or under ongoing observation.
- Has any treatment been given and if so what?
- Have there been any complications, including any partial hemorrhages?
- Is the lesion still present and is the applicant undergoing periodic observation? If yes, how often is this being done?

ANKYLOSING SPONDYLITIS (AS)

AS is a chronic rheumatologic disorder occurring predominantly in males, causing pain and stiffening of the spine. This results in movement limitations and inhibited chest expansion.

10% will progress to permanent work disability within a decade of onset.

Spondylitic heart disease occurs in 3-5% of cases, with aortic valve regurgitation and atrioventicular (AV) conduction defects on the ECG.

Milder cases are treated with nonsteroidal antiinflammatory drugs (NSAIDs). Various additional rheumatic disease drugs, similar to those used in rheumatoid arthritis, are required in more advanced or NSAID-resistant cases.

KEY INSURABILITY ISSUES

- Duration of disease
- Severity of spinal damage
- Degree of functional disability
- Presence and severity of cardiac manifestations
- Response to treatment and need for drugs with potentially significant side effects

QUESTIONS

- When was the diagnosis made (month/year)?
- How severe is the applicant's pain?
- Does the applicant have any other symptoms?
- Does the applicant have substantial spinal deformity; if so, what problems has it caused?
- What medical treatment is he taking?
- Have there been any medication changes in the last several years and if so, what were they?
- Is the applicant getting any other kinds of treatment and if so, what are they?
- Does the applicant have a heart murmur, abnormal ECG or heart-related symptoms (full details)?
- Has the applicant been referred to a cardiologist; if so, when and what were the results?
- Does the applicant have any functional or occupational limitations due to the AS or cardiac complications?

ANXIETY DISORDERS

There are currently four psychiatric conditions collectively known as anxiety disorders in DSM-5:

- Panic disorder (PD)
- Generalized anxiety disorder (GAD)
- Social anxiety disorder (SAD)
- Agoraphobia and other specific phobias (fear of heights, snakes and so on)

Posttraumatic stress disorder (PTSD) and obsessive-compulsive disorder (OCD) are no longer considered to be anxiety disorders.

Each anxiety disorder has specific diagnostic criteria as well as features common to all of them. While panic attacks are a specific criterion for PD, they commonly occur in the others as well.

In all cases, the affected individual experiences clinically significant distress and/or impairment in social, occupational and other domains of functioning.

Agoraphobia is characterized by marked anxiety and fear related to using public transit, being in either open or closed places, standing in line, being in a crowd or being outside of the home. It commonly co-occurs with panic disorder.

All anxiety disorders have a high risk of other (comorbid) psychiatric conditions, most notably depression. The comorbidities often have far greater mortality implications than the anxiety disorder.

Treatment is primarily with the selective serotonin reuptake inhibitors (SSRIs) and certain other antidepressants, as well as with benzodiazepines and the antianxiety drug buspirone.

Psychotherapy is also used, alone or with Rx.

KEY INSURABILITY ISSUES

- Exact diagnosis
- Duration of illness
- Pattern of remissions and relapses/recurrences
- Treatment
- Inpatient care
- Adherence to treatment
- Co-occurring (comorbid) psychiatric conditions
- Suicidal ideation or attempts
- Extent of adverse impact on current functioning

QUESTIONS

- Which anxiety disorder was diagnosed; was more than one diagnosis made (e.g., panic disorder and agoraphobia)?
- When was the diagnosis made?
- What treatment was given? If medication, names and doses of all currently used.
- Is the applicant currently taking medication and/or any other form of treatment?
  - If no, when was the last time treated was taken?
  - If yes, have there been any medication changes in the last two years and if so, what Rx was taken previously?
- Was the applicant hospitalized at any time for this disorder or any complications? If yes, when, how many times and for how long on each occasion?
- Has the applicant had any suicidal ideation or made a suicide attempt? If yes, when?
- Does the applicant have any other psychiatric conditions, currently or at any time in the past (provide full details for each)?
- Is there any current adverse impact on social or occupational functioning?

ASTHMA

Asthma is a chronic respiratory disease that may arise at any age.

Most cases start in childhood and are incited by specific external triggers such as animal dander, pollen, cold and various occupational exposures. Symptoms are intermittent. Pulmonary function tests are abnormal during exacerbations but usually normal between episodes.

Severity is measured on the basis of a number of factors:

- Frequency of symptoms/attacks overall
- Frequency of nighttime awakenings due to symptoms/attacks
- Impact on daily activities
- Treatment needed to control the symptoms
- Results of FEV1 and FEV1/FVC (time vital capacity) pulmonary function tests
- Number of emergency room visits and/or need for inpatient care

Adult onset asthma, especially after age 50, may be a manifestation of chronic obstructive pulmonary disease (COPD), especially in long time smokers.

For intermittent asthma, short-acting beta-agonist drugs are used as needed. Low dose inhaled steroids are almost typically prescribed except in the mildest cases.

In persistent asthma, additional drugs, higher doses and more frequent Rx use are common. High-dose inhaled steroids, long-acting beta-agonists are the mainstays of treatment in persistent asthma.

In the most severe cases, oral steroids and omalizumab are prescribed.

KEY INSURABILITY ISSUES

- Age at onset
- Inciting factors
- Pattern of attacks over last year (increasing, stable, decreasing)
- Severity of attacks (worsening, stable, less severe)
- Smoking status (current, ex- or never)
- Results of pulmonary function tests between episodes
- Treatment given including type and number of drugs, dosage needed and frequency of use
- Adherence to Rx use
- Number of severe episodes/exacerbations, including status asthmaticus, requiring emergency visits and/or inpatient care.
- Need for intubation (breathing tube) during severe episodes.
- Impact on academic/occupational and other aspects of functioning.
- Comorbid conditions, especially depression which is more common in asthma

QUESTIONS

- When was the applicant diagnosed with asthma?
- Are any environmental or occupational factors known to incite asthmatic attacks and if yes, which one(s)?
- What is the pattern and severity of episodes and is the pattern and/or severity worsening, stable or decreasing?
- What medication is currently taken and how often; if there have been any changes in past two years, what was taken previously?
- Has the applicant had to get emergency care or be treated as an inpatient? If yes, how often and when was the last episode of each type of hospital-based care?
- Has the applicant ever needed intubation due to a severe asthma attack?
- Adults: does that applicant have regular occupational exposure to dusts, chemicals or other lung irritants; if so, which ones?
- What effect does the asthma have on the applicant's functioning, including school or work?

ATRIAL FIBRILLATION

AF is the most common sustained cardiac arrhythmia. It is characterized by rapid, uncoordinated atrial activity with an irregular ventricular response rate.

The incidence increases steeply after age 60. A history of premature atrial contractions (PACs) predisposes to AF.

AF may be paroxysmal (spontaneously terminating, usually within 2 days), persistent (lasting > 7 days) or permanent (chronic). The acronym PAF is used for paroxysmal AF.

15-30% of episodes are asymptomatic and discovered incidentally on an ECG.

AF may be idiopathic or secondary to an underlying condition or event. Paroxysmal AF under age 60 is most often incited by a bout of heavy drinking (called the "holiday heart syndrome").

50% of AF episodes terminate spontaneously. The others require intervention called cardioversion, which may be done electrically (ablation) or medically

AF may be managed by either rhythm control or heart rate control therapy. The former is done with potent antiarrhythmic drugs such as amiodarone and dronedarone. Rate control is accomplished with various drugs including beta-blockers, calcium channel blocks and digitalis.

AF is a common in many cardiac and even non-cardiac conditions (such as obstructive sleep apnea).

The most serious complications are TIA and stroke.

Annual stroke risk is based on the CHA2DS2-VASC score.

Strokes associated with AF have poorer survival and a high risk of discharge to long-term care facilities.

Risk of stroke is reduced with oral anticoagulation. Drugs used include warfarin (Coumadin), dabigatran (Pradaxa), apixaban (Eliquis) and rivaroxaban (Xarelto).

In addition, surgery may be used to close a left atrial appendage (LAA), which is the site where clots form during AF episodes.

KEY INSURABILITY ISSUES

- Age at onset
- Acute, persistent or chronic/permanent
- If recurring: frequency, duration and pattern of episodes over last two years
- If paroxysmal/under age 60: evidence of alcohol abuse
- Underlying cause, if any
- If cardioversion: method and frequency
- Anticoagulation prescribed and adherence to use
- Other forms of treatment including surgery for LAA
- CHA_2DS_2-VASC score
- Cardiac and other comorbidities

QUESTIONS

- When was the applicant's first/only AF episode?
- If the applicant has had more than, how often has the applicant had them and when was the last one?
- Has the cause been determined or is one strongly suspected by his physician?
- If cause not known and AF was paroxysmal and/or applicant is under age 60: did AF occur after alcohol use?
- Has the applicant required cardioversion? If yes, how often and how was it done (including names of drugs used)?
- Is the applicant taking an anticoagulant and if so which one? If not, did he take one in the past and if yes when and why did he stop?
- Has the applicant had any other form of treatment?
- When was the most recent AF episode?
- Does the applicant know their CHA_2DS_2-VASC score?
- Has the applicant had any complications from AF?

ATTENTION-DEFICIT HYPERACTIVITY DISORDER (ADHD)

ADHD is a common neurobehavioral disorder occurring in both genders and at all ages.

Most cases arise during childhood/adolescence and 50% persistent into adulthood. ADHD also first manifests in adults of all ages.

ADHD patients may have predominantly inattentive or hyperactivity symptoms, or both may be present to a significant extent.

Six of either type are needed for a diagnosis under age 17 and only five thereafter. Cases are designated as mild, moderate and severe based on number and severity of symptoms plus impact on functioning.

Major academic, occupational and social difficulties are often present. Being in school grade lower than expected for age and frequent job loss with bouts of unemployment are common examples.

ADHD usually has one or more comorbid psychiatric disorders. The most common are substance abuse, developmental/learning disabilities, depression and personality disorders.

Alcohol and drug use disorders are prevalent in adolescent and adult ADHD.

In addition, ADHD strongly associated with four other impulse control disorder arising primarily under age 18:

- Conduct disorder (CD)
- Oppositional defiant disorder (ODD)
- Intermittent explosive disorder (IED)
- Disruptive mood dysregulation disorder (DMDD)

Serious accidents, violence and criminal behavior are at least 50% more common in ADHD. Risk of suicidal ideation, and attempts is increased and more likely to be associated with hyperactivity rather than inattentive symptoms.

ADHD, CD and ODD predispose to antisocial personality disorder (APD) in adulthood. APD has a poor prognosis and is largely uninsurable.

ADHD is treated primarily with stimulants. The main drugs used are methylphenidate (Ritalin) and dextroamphetamine.

Nonadherence to taking medication is common.

Recent studies show that adherence to medication use greatly reduces the risks of accidents, violence, criminality and suicidality.

KEY INSURABILITY ISSUES

- Age at onset
- Mainly hyperactive or inattentive
- Number and severity of symptoms
- Academic/occupational and social functioning
- Comorbid psychiatric disorders
- Adolescent alcohol use, drug use at any age and/or substance use disorder diagnosis
- Court and motor vehicle records
- Treatment and adherence to Rx use
- Inpatient care
- Suicidal ideation and attempts

QUESTIONS

- When was the applicant diagnosed with ADHD?
- How do the symptoms adversely affect academic/occupational or social functioning?
- Is the applicant in the appropriate grade for their age or an occupation consistent with his education and training?
- Does applicant have a criminal record?
- Does the applicant have any other psychiatric disorders; if yes, details on each one?
- What medication does the applicant take for ADHD and does he adhere to Rx use in the manner prescribed? If his medication changed in the last two years, what was he taking previously?
- Has the applicant had any other kinds of treatment, such as psychotherapy?
- Has the applicant ever had inpatient care; if so how often, when and for how long on each occasion?
- Does the applicant have suicidal ideation or has the applicant ever attempted suicide?

BARRETT ESOPHAGUS (BA)

Barrett esophagus is a condition wherein there is a change in the type of cells (metaplasia) lining the bottom portion of the esophagus.

BA is a potential precancerous disorder although the vast majority does not progress to adenocarcinoma.

BA is more common in men and typically arises after age 50. It is estimated that there are two million cases in America, most of which have not been diagnosed.

BA may be asymptomatic or arise in persons with a long history of gastroesophageal reflex disease (GERD).

Diagnosis is made by biopsy, performed via esophagoscopy.

BA may be designated as "short segment" or "long segment" and the latter is where there is some risk of cancer.

Dysplasia (abnormal cells with premalignant features) may be present, designated as low grade or high grade. The latter accounts for 10% of dysplastic cases and is the finding associated with the risk of eventual cancer.

Low-grade dysplasia may persist, progress to high-grade or regress and disappear completely.

Nondysplastic BA and many cases of low-grade dysplasia are not treated other than with proton pump inhibitors (PPIs).

Invasive treatment is done by some ablative procedure. Surgical resection is only done for high-grade dysplasia or in situ/invasive cancer.

All cases require some degree of lifetime surveillance with periodic esophagoscopy. Frequency of this procedure correlates roughly with severity and magnitude of cancer risk.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Symptoms and response to PPI therapy
- Presence and severity of dysplasia
- Progression, regression or stability of dysplasia
- Presence of *Helicobacter pylori* (HP) bacteria in stomach
- Treatment other than PPI therapy
- Frequency of and adherence to surveillance

QUESTIONS

- When was Barrett esophagus diagnosed?
- Was it found incidentally or symptomatic?
- Was a biopsy done? If yes:
  - Was dysplasia present?
  - If yes, was it low-grade or high-grade?
- Did the applicant have an ablative procedure? If yes:
  - Was it done more than once?
  - If yes, when was the last time?
- Is the applicant taking medication for BA or GERD? If yes, which drug?
- Has the applicant been told to have followup (surveillance) esophagoscopy and if yes, how often?
- Has the frequency of surveillance increased, decreased or remained the same in the past three years?
- Does the applicant consistently comply with surveillance as directed by the physician?

BENIGN PROSTATIC HYPERPLASIA (BPH)

The “H” is for hyperplasia, not hypertrophy.

BPH is a common prostate disorder that mainly occurs after age 50 and may cause various urinary symptoms.

There is no risk of prostate cancer.

There are three things about BPH of interest from a life underwriting perspective.

The symptoms of BPH also occur in some prostate cancer cases.

BPH can induce an elevated prostate specific antigen (PSA) level and thereby result in a prostate biopsy.

BPH arises in the transitional zone of the prostate gland.

Most cancer occurs in the peripheral zone but 10% are found in the same area as BPH. These cancers may be discovered incidentally when surgery is done to alleviate BPH symptoms.

BEREAVEMENT

Bereavement is best defined as a state of intense psychological sadness and suffering in the wake of the loss of a loved one, most notably a partner or child. Grief is more or less synonymous.

In underwriting, the concern is prolonged/complicated bereavement. In DSM-5, this is defined as persistent complex bereavement disorder (PCBD)

PCBD diagnostic criteria mandate that at least 5 of 9 symptoms must be present daily or to a disabling degree.

Death of a child and violent death of a loved one tend to incite more prolonged/severe impairment as compared to death of older persons, especially when due to protracted illness where death was expected.

The main mortality risks in PCBD are suicide, risk taking behaviors (such as heavy drinking and neglecting one's own health) and, mainly in the 3-6 months, cardiovascular events (mainly if CV disease is present or the subject has an unfavorable CV risk profiles).

Treatment is with psychotherapy, support groups, antidepressants and benzodiazepines. Severe cases may require antipsychotic drugs and inpatient care.

KEY UNDERWRITING ISSUES

- Nature of loss inciting bereavement
- Duration
- Severity
- Multiple prior losses within five years
- Lack of social support
- Persistent depressive symptoms
- Psychiatric comorbidities
- Lab tests and other findings suggestive of substance abuse
- Treatment with antipsychotics or inpatient care
- Suicidal ideation or attempt

QUESTIONS

- Which family member died and when did it occur?
- Was the death violent, sudden and/or unexpected?
- How long has the applicant been in the bereaved state?
- Is the applicant being treated; if yes, what types of treatment including specific medication names and doses?
- Was the applicant hospitalized due to this bereavement; if yes, when and for how long?
- Does the applicant have other psychiatric disorder; if yes, which ones and are they currently symptomatic?
- Has the applicant had any suicidal behavior such as ideation or attempts?

BILIRUBIN

Bilirubin is one of the five so-called “liver function tests” on the screening blood profiles used in underwriting.

It is a byproduct of the breakdown of old red blood cells. It is conjugated (made water soluble for excretion) in the liver.

Bilirubin is usually reported as total bilirubin (TB), made up of two types: indirect (unconjugated) and direct (conjugated).

Hyperbilirubinemia (elevated bilirubin), in the absence of liver disease, consists predominantly of indirect bilirubin.

When elevated bilirubin is present and the other liver tests are normal, nearly all cases are due to Gilbert syndrome (GS).

- GS is inherited and present in 7-10% of people
- Elevated bilirubin in GS mainly occurs only after fasting
- Elevated levels typically do not exceed 2 times the upper limit of normal (roughly 2.5 mg/dL)
- There is no increased mortality risk
- In fact, recent studies suggest that GS may actually confer some protection against cardiovascular disease

When excessive direct bilirubin is present, this may be due to uncommon hereditary conditions or significant liver disease.

Jaundice is a yellowish staining in the eyes and skin caused by substantially increased bilirubin. Unexplained jaundice is uninsurable until the cause is determined clinically.

In the absence of liver disease, excess mortality risk is also associated with a low normal or below normal TB. This is because bilirubin is an antioxidant that protects against the cellular damage caused by free radicals.

BIPOLAR DISORDER

The bipolar disorder spectrum consists of three conditions:

- Bipolar disorder type 1 (BD-1)
- Bipolar disorder type 2 (BD-2)
- Cyclothymic disorder (also called cyclothymia)

A diagnosis of BD-1 requires both manic episodes and depression. Mania is an abnormal and persistently elevated, expansive mood. Psychotic episodes often occur in BD-1.

BD-2 consists of depression and hypomania (a milder expression of mania with far less impact on functioning). There are no psychotic episodes in BD-2.

Cyclothymia is defined as having episodes akin to hypomania and depression in bipolar disorder but without meeting the minimum diagnostic criteria. The risk implications are the same as BD-2.

Smoking (over 50% of patients), substance abuse, cardiovascular disease and suicide attempts are far more common than in the general population.

All three bipolar spectrum disorders are mainly treated with anticonvulsant drugs. Lithium is also widely used, especially in BD-1. More severe BD-1 cases are treated with antipsychotic drugs and electroconvulsive therapy (ECT).

These disorders tend to be chronic. Over 50% respond to treatment with a remission but most relapse and experience a long-term pattern of remissions and relapses. Those that do not respond to anticonvulsants are often hospitalized and multiple episodes of inpatient care are common in BD-1.

KEY UNDERWRITING ISSUES

- Exact diagnosis
- Age at onset
- Medications prescribed
- Adherence to Rx use
- Pattern and durations of remissions and relapse
- Predominance of depressive over manic/hypomanic episodes
- Treatment with ECT
- Hospitalization with frequency and duration
- Suicidal behavior
- Court records in BD-1
- Psychiatric comorbidities
- CV risk profile
- Lab tests and other findings suggestive of substance abuse

QUESTIONS

- What is the diagnosis?
  - If BD, does the applicant know if it is BD-1 or BD-2?
- At what age was the applicant diagnosed?
- How frequently does the applicant have symptomatic episodes; is their frequency and duration increasing, stable or decreasing?
- Are the applicant's symptoms predominantly depression or mania/hypomania, or a mix of both with neither predominant?
- How long has the applicant been in the current remission?
- What medication does the applicant take; if it has changed in the last five years, what medications were taken previously and when did the change(s) occur?
- Has the applicant been hospitalized or had electroconvulsive (electroshock) therapy? If yes to either; when and how many times?
- Has the applicant experienced suicidal ideation or attempted suicide; if yes, when?
- Does the applicant have any other psychiatric conditions currently or at any time in the past?

BLADDER CANCER

Nearly all bladder cancers are papillary urothelial carcinomas (formerly called transitional cell carcinoma).

Over 80% are diagnosed after age 65.

The most common finding in bladder cancer is hematuria (blood in the urine) and the leading known cause is longtime cigarette smoking.

Diagnostic assessment begins with cystoscopy and biopsy of suspicious areas in the bladder lining. Bladder cytology based on a urine sample is also done but insufficient to make the diagnosis.

Transurethral resection of the bladder is often done to excise tumors for pathology analysis. It is also the primary surgical intervention for localized bladder cancer.

Stage of disease depends mainly on the extent to which the tumor invades the bladder wall.

Unlike in most other organs, carcinoma in situ (CIS) in the bladder is an ominous disorder. There is a high risk of future invasive tumors.

Mortality risk in superficial bladder carcinoma depends on tumor grade and diameter of the tumor. Lifetime followup is mandatory because of the high risk of forming additional cancers.

If the tumor invades the bladder muscle, radical cystectomy (removal of the bladder) is usually done, followed by chemotherapy. This procedure includes prostatectomy in men and uterus removal in women.

Immunotherapy is also used, mainly with a compound called BCG.

KEY UNDERWRITING ISSUES

- Pathology report findings including tumor grade, tumor size, vascular invasion and other tumor features
- In situ or invasive
- Disease stage and lymph node status
- Treatment
- Duration since completion of treatment
- Adequacy of interim surveillance
- Findings in current urine specimen
- Tobacco use since diagnosis and treatment

QUESTIONS

- When was the cancer diagnosed?
- Did it spread to lymph nodes or elsewhere?
- What type of surgery was done?
- Did the applicant any other treatment; if yes, what?
- Was there a recurrence or need for further treatment; if yes to either, full details?
- How often does the applicant see their oncologist and is the applicant compliant with recommended followup?
- If the applicant was a smoker, did they quit after the diagnosis?

BODY DYSMORPHIC DISORDER (BDD)

BDD is grouped with obsessive-compulsive disorder and three other conditions that have some similar features: hair-pulling disorder (trichotillomania), skin-picking (excoriation) disorder and hoarding disorder.

DSM-5 criteria for BDD require an intense preoccupation with perceived defects and flaws in appearance that either slight or not observable by others. This leads to repetitive behaviors or mental acts with significant distress and impaired functioning.

BDD occurs mainly in women, where the focus tends to be on facial features, breast and buttocks size, etc. In men, it is on body build/musculature, genitalia and thinning hair.

BDD focused on musculature is called muscle dysmorphia. Anabolic steroid use is not uncommon in these cases, whether or not the individual is an athlete.

Female BDD patients frequently have cosmetic surgical procedures such as abdominoplasty, rhinoplasty, facelifts and breast augmentation.

Most BDD patients have one or more psychiatric comorbidities especially obsessive-compulsive disorder, trichotillomania, excoriation disorder, major depressive disorder, social anxiety disorder and anorexia nervosa.

Treatment is usually with high-dose SSRI antidepressants or clomipramine. Severe cases may be prescribed antipsychotics and/or require inpatient care.

The majority of patients continue to have symptoms for many years despite periodic remissions. There is often substantial impairment in occupational and social functioning.

Excess mortality is due mainly to comorbidities and suicide. Suicidal ideation occurs in 80% and 25% of these make at least one attempt.

KEY UNDERWRITING ISSUES

- Onset in childhood
- Severe impairment with delusional thinking
- Major comorbidities
- Treatment with antipsychotics (not recommended by often done)
- Muscle dysmorphia with possible use of anabolic steroids.
- Inpatient treatment
- Suicidal behavior

QUESTIONS

- At what age was the applicant diagnosed with BDD?
- Has the applicant had any surgical procedures related to BDD; if so, when and which ones?
- Is the focus on muscle appearance and if so has the applicant ever used anabolic steroids?
- What medication has the applicant been prescribed for BDD and in what dosage?
- Is the applicant adherent to its use?
- Has the applicant ever been hospitalized as an inpatient because of BD; if yes, how many times and when?
- Has the applicant had suicidal ideation or made a suicide attempt; if yes, how many times and when?
- Does the applicant currently have other psychiatric conditions or been diagnosed with other psychiatric disorders at any time in the past?

Because of widespread mammography, an increasing portion of BC is discovered and treated in the in situ rather than invasive form.

In situ BC is almost always cured by excision plus radiation, or with a mastectomy. There are some excess deaths due to undetected microinvasive disease. There is also a significantly increased risk of future invasive BC.

The insurability of invasive BC depends:

- Type of BC – 85% are infiltrating ductal carcinoma
- Size of the tumor
- Certain pathological features such as grade and presence of lymphovascular invasion
- Status (positive or negative) of estrogen, progesterone and HER2 receptors
- Stage at diagnosis.
- Lymph node status – no assessment, negative or positive nodes, number affected
- Treatment
- Disease recurrence at any site (local, in lymph nodes or at distant sites)

Inflammatory BC, an uncommon form, has a poor prognosis.

Phyllodes tumor may be benign or malignant. The malignant form has a prognosis similar to typical breast carcinoma.

Treatment of localized invasive BC may be with breast conserving therapy (tumor excision plus radiation) or radical mastectomy.

Chemotherapy is increasing used in higher risk localized BC, including neoadjuvant chemotherapy administered prior to surgery.

Women treated with doxorubicin (Adriamycin) and other anthracycline class chemotherapy drugs are at risk for delayed cardiac complications potentially decades later.

Women who received radiation therapy to the left breast are also at risk for delayed heart complications.

The BRCA 1 and 2 inherited genetic markers confer a high risk of eventual breast cancer, as well as ovarian cancer, pancreatic carcinoma and, in men, prostate cancer.

The majority of women with BRCA-1 or 2 mutations opt for prophylactic bilateral mastectomy and in many cases prophylactic oophorectomy (ovary removal) as well.

Regardless of prophylactic procedures, all of these individuals require lifetime surveillance for malignancies.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Family history and BRCA mutation status
- Diagnosis (in situ, invasive, tumor type)
- Stage
- Tumor grade
- Estrogen, progesterone and HER2 receptor status
- Status of lymph nodes
- Treatment
- Adequacy of followup and adherence to the followup
- Evidence of local, regional or distant recurrence

QUESTIONS

- At what age was the applicant diagnosed with BC?
- Was that cancer in situ or invasive?
- What treatment was given (type of surgery, radiation and/or chemotherapy)? If chemotherapy, which drugs?
- Did the applicant have a lymph node biopsy or lymph node removal (lymphadenectomy)? If yes, what were the results?
- Did the BC recur at any time? If so, when, where and what additional treatment was given?
- How often does the applicant see their oncologist for followup?
- Has the applicant had any treatment-related complications arising after completion of treatment? If yes, what and when?
- Was the applicant prescribed a drug to reduce the risks of BC recurrence and new breast tumors, such as tamoxifen, raloxifene, letrozole, etc.? If yes, which drug and how long was it taken?
- Does the applicant have a family history of BC involving their mother or sisters? If yes, which ones had BC and at what ages were they diagnosed?
- Was the applicant tested for BRCA 1 and 2 gene markers? If yes, what were the results?

BRONCHIECTASIS

Bronchiectasis is a disorder of the large airways (bronchi) with permanent abnormal dilatation (enlargement) and destruction of the bronchial walls.

It may be congenital or acquired in various ways, most notably infection and chronic inflammation. Almost half of cases occur in cystic fibrosis.

Symptoms include chronic cough, production of copious amounts of purulent sputum, coughing up blood (hemoptysis), wheezing, shortness of breath (dyspnea) and chest pain.

Treatment is focused on episodes of symptom worsening (exacerbation) and is mainly with antibiotics. The condition itself is incurable except in a few localized cases amenable to surgery.

KEY UNDERWRITING ISSUES

- Underlying cause
- Extent of bronchial damage
- Symptoms, including frequency and severity
- Need for hospitalization
- Treatment
- Effects on occupational and daily functioning

QUESTIONS

- When was the applicant diagnosed with bronchiectasis?
- Is the cause known and if so what is it?
- What symptoms does the applicant have and how often do they occur?
- How often is the applicant treated with antibiotics for these symptoms?
- Has the applicant ever been hospitalized for bronchiectasis? If yes, when, how often and for how long?
- Has the applicant ever had surgery and if so when?
- Does the bronchiectasis have any adverse impact on the applicant's occupation or daily living and if so to what extent.

CARBOHYDRATE-DEFICIENT TRANSFERRIN (CDT)

CDT is a laboratory test used in the context of suspected heavy drinking/alcohol use disorder.

It is rarely used clinically in the United States and many attending physicians will be unacquainted with it. It is used in Europe in law enforcement in alcohol-impaired driving.

Underwriters order CDT electively from industry labs when heavy drinking is suspected on the basis of other case findings, especially:

- GGT and/or AST elevations
- Markedly high HDL-C
- History of alcohol use disorder, where a positive test confirms current alcohol intake
- Alcohol-related driving violations
- Any other clues to possible alcohol abuse/dependency

Test results are reported as positive or negative.

There is poor correlation between CDT and GGT. Many heavy drinkers with a positive CDT have a normal GGT and vice versa. If both are positive the odds of heavy drinking are quite high.

Positive tests increase the likelihood that the applicant is a heavy drinker but do not prove that this is true. Therefore, CDT results must be used in context with all other evidence at hand.

CARCINOEMBRYONIC ANTIGEN (CEA)

CEA is a tumor marker. It is used clinically to monitor patients with colon cancer because it often elevates in the presence of an asymptomatic recurrence.

CEA is not used to screen for colon cancer even in high-risk populations. The reason is that various factors can induce a minimally elevated reading in the absence of cancer.

This test is available from both industry labs. Some companies use it to screen at higher face amounts. The threshold for a positive test is set high enough to greatly reduce but not completely eliminate the risk of false-positive results.

CARDIOMEGALY

Cardiomegaly is generalized heart enlargement.

It can occur as a long-term adverse effect of many heart disorders, most notably heart failure and certain cardiomyopathies, and also from COPD, etc.

It may be asymptomatic or induce a wide range of symptoms and complications.

If there are symptoms, it is usually treated, with treatment determined mainly by the underlying cause.

Underwriting is centered on the cause and whether that cause can be effectively treated in potentially insurable milder cases.

KEY UNDERWRITING ISSUES

- Cause
- Extent of enlargement
- Stable or increasing
- Measurement data
- Symptoms
- Treatment
- Complications

QUESTIONS

- What is the extent of the cardiomegaly (mild, moderate or severe)?
- What is the cause?
- Does the applicant have any symptoms and if so what are they?
- Has the applicant had any treatment and if so what?
- Has the applicant had any complications and if so what are they?

CARDIOMYOPATHY

Cardiomyopathy is a term for heart muscle disease.

Cardiomyopathy is associated with heart enlargement and progressive impairment of cardiac function

There are a number of specific types, most with various possible underlying causes:

- Hypertrophic cardiomyopathy (HCM) – the most common cardiomyopathy (discussed separately)
- Dilated cardiomyopathy – may be idiopathic (cause unknown) or due to a wide range of causes including myocarditis, alcohol abuse, diabetes and other endocrine diseases, doxorubicin chemotherapy and postpartum cardiomyopathy
- Takotsubo (stress) cardiomyopathy – mimics myocardial infarction (discussed separately)
- Restrictive cardiomyopathy – rare, mainly caused by amyloidosis and late effects of radiation

In cases of dilated and (rarely) restrictive cardiomyopathy that are potentially insurable, the key issues are underlying cause, extent of heart damage, symptoms and whether the condition is stable or progressive.

CEREBROVASCULAR DISEASE

This is atherosclerotic disease of the arteries serving the brain, the same pathological process that causes coronary artery disease.

These arteries constitute the anterior (carotid) and posterior (vertebrobasilar) circulation of blood to the brain.

The principle manifestation is carotid artery stenosis (CAS), which is graded by severity based on the % obstruction of the arterial lumen (open portion through which blood flows).

Moderate (50-69%) and severe (≥ 70%) obstruction of the carotid artery is present in 5-10% of persons' age 65 and older.

A distinct sound called a bruit over the affected artery segment is often the first clue to the presence of CAS. When a previously heard bruit disappears, this can be due to complete blockage of the artery.

White matter hyperdensities, also known as white matter lesions, are also often found in cerebrovascular disease, mainly incidentally on MRIs done for other reasons. Their presence increases the likelihood of prior cerebrovascular events as well as the risk of future TIA/stroke.

CAS may also be detected when evaluating patients following a cerebrovascular event (stroke, TIA) or ill-define symptoms such as dizziness, faintness and transient visual phenomena in older age individuals.

Treatment of cerebrovascular disease may be medical (antiplatelet drugs) and surgical (stenting and a procedure called endarterectomy).

CV risk factors are also aggressively treated (especially hypertension, the leading risk factor for stroke) and statin drugs are typically prescribed.

The main adverse outcome of cerebrovascular disease is ischemic stroke, akin to an "MI of the brain."

Extensive CAS accounts for up to 30% of strokes. There is also an increased risk of myocardial infarction because most patients with at least moderate CAS also have significant coronary artery disease

Stroke and TIA are covered separately.

KEY UNDERWRITING ISSUES

- Age
- Basis for diagnosis
- Current/recent symptoms
- Current activity restrictions
- Extent of obstructive disease
- CV risk profile
- Treatment
- History of prior TIA or stroke

QUESTIONS

- When was the diagnosis made?
- What symptoms did the applicant have prior to diagnosis?
- Has the applicant experienced one or more transient ischemic attacks (TIAs)? If so, full details. (see TIA)
- Has the applicant ever had a stroke? If yes, full details. (see STROKE)
- Does he have any symptoms currently and if so, what are they?
- Did the applicant have cerebrovascular imaging or arteriography to determine the location and extent of the disease? If so, what tests were done and does the applicant know the results?
- What treatment has the applicant had? If surgical, what procedure was done and when was it performed?
  If medication:
  - Which ones was the applicant prescribed at the time of their diagnosis?
  - If the applicant is still taking them, which ones does he use and in what dosage?
  - If the applicant stopped, when and why did they stop?
  - Does the applicant adhere to taking the medication as prescribed?
- Does the applicant have any activity or other restrictions imposed by their doctor because of cerebrovascular disease? If yes, what are they and does the applicant comply with them?

CHRONIC FATIGUE SYNDROME (CFS)

CFS is a disorder characterized by a combination of symptoms, at least four of which must be present for six months to make a diagnosis:

- Pharyngitis
- Tender lymph nodes in the neck and/or arm pits (axilla)
- Muscle pains (myalgias)
- Multisite joint pain (polyarthralgia)
- New headaches
- Non-refreshing sleep
- Post-exercise malaise
- Memory or concentration impairment

There is no distinct physical finding or laboratory test to make this diagnosis.

Psychiatric disorders, especially depression, are common in CFS.

Treatment may encompass a wide range of medications and therapies depending upon the major manifestations in a given case.

This disorder may persist indefinitely as there is no treatment that completely eliminates the symptoms or their impact on the patient's occupational and social functioning.

While the likelihood of disability is huge there is no mortality risk (save for the few cases where a serious disease diagnosis is missed in the workup of the patient).

CHRONIC KIDNEY DISEASE (CKD)

CKD is a common (25-35%) and often progressive disorder at older ages. It is common in applicants with diabetes, hypertension and other cardiovascular diseases. Most of the excess mortality is due to CV disease.

CKD is usually asymptomatic until far advanced.

The diagnosis is usually made incidentally, based on blood and urine screening or tests done for other reasons.

CKD is typically defined as an estimated glomerular filtration rate (eGFR) < 60 and/or the presence of a marker of kidney damage, such as significant amounts of albumin/protein in the urine for more than three months. Albuminuria is discussed separately.

The eGFR is calculated, not directly measured, because of the cost. It is based on one of two kidney disease markers: creatinine or cystatin C.

The stage of disease depends on how low the eGFR is, modified by whether or not albuminuria/proteinuria is present.

Stage 3 KCD (eGFR between <60 and 30) is now subdivided into stages 3a (59.9-45.0) and 3b (44.9-30.0). Stage 3a is only modestly predictive of excess morality, which is almost twice as great in stage 3b, and then progressively higher thereafter.

An eGFR < 15 represents endstage renal disease (ESRD).

The main blood tests for CKD are creatinine, BUN (blood urea nitrogen) and cystatin C.

Creatinine is often false negative in elderly applicants. This is because creatinine is derived from skeletal muscle and loss of this muscle (sarcopenia) occurs mainly at ages 70 and older.

For this reason, cystatin C is emerging as the kidney test of choice at older ages. It is unaffected by muscle loss.

Early CKD is mainly treated with two classes of hypertensive Rx: angiotensin-converting enzyme inhibitors (ACEIs) and angiotension receptor blockers (ARBs). They may slow the progression of CKD.

The treatment options in ESRD are dialysis and kidney transplantation.

KEY UNDERWRITING ISSUES

- Underlying cause, if known with full details
- Symptoms, if any
- CKD stage (severity) based on results of kidney blood tests, eGFR and level of albuminuria/proteinuria
- Pattern of change (improving, stable, slow/fast decline) based on historic readings
- Current/recent blood pressure
- Diabetes-related blood test results
- Predisposition to type 2 diabetes (weight, family history, prediabetes, etc)
- CKD treatment, if any

QUESTIONS

- When was the applicant diagnosed with chronic kidney disease?
- Is the cause known and if yes, what is it and when did it arise?
- Has the applicant had any kidney-related tests and if yes, which tests and what does the applicant know of the results?
- Has the applicant been treated for CKD; if medication, what drug(s) and what dose(s)?
- Has the applicant experienced kidney disease complications?

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

COPD consist of two primary disease processes:

- Chronic bronchitis (inflammatory airway disease)
- Emphysema (destruction of the alveoli, the terminal respiratory units in the lungs responsible for the oxygen/carbon dioxide exchange).

Unlike asthma, the airflow limitation is both irreversible and progressive.

The predominant cause of COPD is longtime cigarette smoking, followed by occupational dust/gas exposure.

COPD prevalence increases steeply with age and it is now the 3rd leading cause of death at older ages.

The main symptom of COPD is exertional dyspnea (shortness of breath with exertion). Others include chronic cough, excess sputum production and lingering respiratory infections.

The majority of COPD cases are not diagnosed until substantial lung damage is incurred.

The physical examination is not helpful in making the diagnosis of early COPD. It is diagnosed with pulmonary function tests (spirometry). There are dozens of components, the most important being:

- FVC – forced vital capacity
- FEV1 – forced expiratory volume at one second
- FEV1-FVC ratio – also called timed vital capacity; less than 70% of expected defines COPD
- TLC – total lung capacity at full inspiration
- RV – residual volume of air remaining in the lungs after maximal expiration
- DLCO – diffusing lung capacity for CO2, distinguishing chronic bronchitis (normal) from emphysema (low)

The GOLD criteria are used to stage COPD based on FEV-1, ranging from mild to very severe (< 30% of predicted).

Complications include progressively worsening dyspnea, functional impairment, osteoporosis, involuntary weight loss, secondary polycythemia, eventual right heart enlargement, pulmonary hypertension (cor pulmonale) and heart failure. There is also a high risk of lung cancer.

Cardiovascular disease is 2-3 times more common in COPD and 65% of symptomatic COPD patients have either depression and/or an anxiety disorder.

COPD is treated medically with the same short acting and long acting beta-2 agonists used in asthma, as well as various other drugs, including ipratropium, tiotropium, roflumilast, inhaled and oral steroids, and combinations of two drugs.

In late stage COPD (Gold IV), oxygen supplementation is also used and some cases are amenable to lung reduction surgery or transplantation

Treatment reduces symptom severity and the risk of exacerbations but cannot prevent eventual disease progression and is not curative.

Exacerbations are acute enhancements (“lung attacks”) in patient symptoms due to a combination of factors including lung infections. Hospitalization is often required and mortality increases progressively with the number of exacerbations.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Smoking history, mainly pack-years (amount smoked per day times years of smoking)
- Occupational exposure history if related to cause
- Spirometry findings: pattern and degree of worsening
- Symptoms including extent of dyspnea
- Functional status
- Frequency and severity of exacerbations
- Gold stage or equivalent
- Treatment
- Complications

QUESTIONS

- When and on what basis was the applicant diagnosed with COPD?
- If applicant is a current or ex-cigarette smoker: how many cigarettes did/does s/he smoke per day and how many years has s/he smoked?
- What symptoms does the applicant have; if dyspnea, how severe?
- How does COPD affect his/her occupation and daily functioning?
- Does the applicant know the results of their most recent spirometry and whether it has changed from prior measurements?
- Has the applicant had episodes of sudden symptom worsening; if yes, how many times in the past 2 years?
- Has the applicant been hospitalized for COPD; if yes, when and how many times?
- Has the applicant had any weight loss in the last year; if so, why and how much?
- Has the applicant had medical treatment? If yes:
  - What medication?
  - How often does s/he use it, on average, per day or week?
  - Has the applicant's use increased, stayed the same or decreased in the last 12 months?
- Does the applicant currently use or have they ever used oxygen therapy other than during hospitalization; if yes, when and how many times?
- Has the applicant has any other kinds of treatment for COPD?
- Has the applicant had any cardiac or other complications?

CIRRHOSIS OF THE LIVER

Cirrhosis is the final stage of liver fibrosis, wherein nonfunctioning fibrotic nodules replace the normal liver architecture.

It is the most advanced stage of many prevalent liver diseases including nonalcoholic fatty liver disease, alcoholic liver disease and both chronic hepatitis B and C. It is also more common in diabetes and hereditary hemochromatosis (discussed separately).

Primary biliary cirrhosis (PBC) is an autoimmune chronic liver disorder with a variable and unpredictable course. Long-term survival is not uncommon.

"Cryptogenic cirrhosis" is the term used when the cause of a cirrhotic liver is not known.

The Childs-Pugh and MELD scoring systems are used to characterize the extent of cirrhosis.

Cirrhosis may remain compensated (no major impact on liver function) or become decompensated.

Compensated cirrhosis is usually asymptomatic and detected via screening of at-risk chronic liver disease patients or incidentally when investing unexplained lab test abnormalities.

Common lab abnormalities in cirrhosis include:

- Mild-to-moderately elevated ALT, AST and GGT
- Significantly elevated bilirubin
- Elevated alkaline phosphatase, especially in PBC
- Low/falling total cholesterol and serum albumin
- Low BUN (blood urea nitrogen)

Decompensated cirrhosis progressively impairs vital liver activities and inducing portal hypertension by inhibiting flow through the portal vein.

Portal hypertension causes in a range of complications including:

- Spider telangiectasia or simply "spiders" – dilated superficial blood vessels on the neck and chest that blanch with light pressure'
- Ascites - excess fluid in the abdominal cavity
- Gastroesophageal varices – varicose veins in the stomach and esophagus which may bleed fatally
- Hepatic encephalopathy - with personality changes, intellectual dysfunction and impaired consciousness

The beta-blocker propranolol is often prescribed as part of the treatment of gastroesophageal varices.

The other concern is hepatocellular carcinoma (HCC) Precancerous dysplastic changes often arise in cirrhosis and it is the leading precursor of liver cancer in the aforementioned common liver disorders.

Diagnosis may be strongly inferred from findings on various tests but final confirmation usually requires liver biopsy. Early/localized cirrhosis is sometimes missed on biopsies.

Cirrhosis patients should be routinely screened at intervals for HCC with alpha-fetoprotein (AFP) and hepatic ultrasound.

Cirrhosis may become stable and inactive. Some cases regress, especially with effective treatment of inflammatory liver disease. Most, however, progress to decompensation and either death or liver transplantation.

CIRRHOSIS OF THE LIVER

KEY UNDERWRITING ISSUES

- Cause
- Results of liver-related tests and others such as BUN, serum albumin and globulin, total cholesterol, etc.
- Severity (compensated/decompensated)
- Current status (regressed, stable, progressive)
- Signs and symptoms of portal hypertension and other complications
- HCC screening test results
- Patient adherence to periodic screening

QUESTIONS

- When was the applicant diagnosed with cirrhosis?
- What liver condition, if any, did the applicant have prior to the diagnosis of cirrhosis? Full details on that disorder.
- What tests were done to make this diagnosis?
- Did the applicant have one or more liver biopsies? If yes, when?
- What symptoms has the applicant had?
- Has the applicant ever had upper GI bleeding?
- Is the applicant screened periodically for liver cancer? If yes, how often, with what tests and does the applicant comply with screening as advised by their doctor?
- Has the applicant had any treatment for cirrhosis or its complications? If yes, what types of treatment?
- Has the applicant been told that they may need a liver transplant?

COGNITIVE DISORDER/DEMENTIA

The two most common cognitive disorders are Alzheimer disease (AD) and mild cognitive disorder (MCI).

AD accounts for the majority of dementia diagnoses. The other three dementias occurring more than rarely are vascular dementia, dementia with Lewy Bodies and frontotemporal dementia.

Dementia is a progressive and incurable disorder. For obvious reasons, it is difficult to underwrite even mild AD.

Mild cognitive impairment

MCI, on the other hand, is insurable in some cases depending upon the type, manifestations and early course of the condition.

20-25% of persons age 70 and over have MCI.

There are over 20 factors associated with an increased risk of MCI. Family history and certain genetic tests are used, along with comorbid conditions, mood disorders, disinhibition, low blood pressure and indicators of physical frailty.

The 2 main types of MCI are amnestic (aMCI) and Nonamnestic (naMCI). The former is mainly associated with memory loss and a later risk of Alzheimer disease, whereas naMCI primarily involves other cognitive domains and is more likely to progress to vascular and other forms of dementia, rather than AD.

These two forms of MCI can be further subdivided into single vs. multiple-domain MCI. The latter has a higher risk of eventual dementias.

Many cases are minimally symptomatic at diagnosis. The diagnosis is done on the basis of medical history and a mental status examination using various cognitive tests.

The most widely used cognitive tests for this purpose are the Mini-Mental State Examination (MMSE), Montreal Cognitive Assessment (MoCA) and a shorter version of the latter called the Mini-Cog.

In underwriting screening, the main tests currently used are Delayed Word Recall and Clock Drawing.

Recently it was shown that the cystatin C laboratory test combined with the NT-proBNP test could provide a more client-friendly approach to cognitive screening.

There are also other tests for MCI and dementia including central spinal fluid protein markers and MRI imaging.

MCI may progress to dementia, remain stable for years or even regress. Progression is difficult to predict. Clues include persistent depression, apathy, progressive weight loss, impaired/lost sense of smell (anosmia) and diabetes.

There is no approved treatment for MCI. Dementia drugs such as donepezil, galantamine, rivastigmine and memantine are sometimes prescribed but not very beneficial.

There is excess mortality in all forms of MCI and to a somewhat greater extent in naMCI and multiple vs. single domain cases.

MCI cases with few or no risk factors for progression to dementia may be deemed insurable mainly with onset after age 70.

COGNITIVE DISORDER/DEMENTIA

KEY UNDERWRITING ISSUES

- Age at onset
- Precise diagnosis
- Results of cognitive and all other tests
- Cognitive domains affected
- Symptoms
- Comorbid conditions, especially psychiatric
- Treatment, if any
- Details shared by spouse, children and/or caregivers
- Current mental and physical functional status

QUESTIONS

- Was the diagnosis predementia (MCI) or frank dementia?
- What are the symptoms?
- How was the diagnosis made?
- Was the applicant referred to a specialist; if yes, what specialty?
- Has the applicant been asked to have any tests that have not yet been done?
- Does the applicant live alone?
- Has this condition caused the applicant to make any lifestyle changes such as stopping driving?
- Does the applicant function intellectually and physically on a fully independent basis; if not, what is the nature and extent of dependency?
- Has any treatment been given; if so, what?

COLON CANCER

Colon cancer is the second leading cause of cancer death in men and third in women. Roughly 1/3rd of invasive colon cancer patients die from that disease.

Colon cancer may arise sporadically or on an inherited risk basis. The latter are mainly due to Lynch syndrome (hereditary nonpolyposis colorectal cancer) and familial adenomatous polyposis (FAP) syndrome.

Most colon carcinomas involve the adenoma-to-carcinoma sequence and in some cases cancer are detected in polyps.

Because of widespread colon cancer screening, a sizeable portion is detected when still in situ (stage Tis) and these are cured by local excision.

Curable invasive carcinoma is treated surgically with wide resection of the tumor and a lymphadenectomy removing, ideally, at least 12 lymph nodes.

Adjuvant single drug chemotherapy is often used in localized disease to increase cure rates. Small metastatic tumor deposits in the liver and lung may be amenable to local excision (metastasectomy) with potentially long-tern survival.

Staging is based on extent of tumor invasion of the colon wall (T) and whether cancer is detected in lymph nodes (N) or at distant sites (M). The higher the T class is (T1 to T4a/b), the greater the mortality risk.

Stage 1 (T1 or 2, N0, M0) has 97% 5-year survival and nearly all patients are cured. Even with limited lymph node involvement (T1a/b), over 87% with T1 and T2 tumors are alive after five years. Survival decreases substantially in Stage IIIb and stage IV.

Most relapse at distant sites occurs within three years of treatment.

Adverse risk factors for long-term survival/cure include:

- Stage IIIB/IV
- More than four positive nodes
- Distant metastases
- Grade III (poorly-differentiated) and Grade IV (undifferentiated) tumors
- Vascular invasion
- Less than 10 lymph nodes removed for assessment
- Inadequate surgical margins
- Diagnosis under age 40

Post-treatment surveillance includes periodic testing with carcinoembryonic antigen (CEA). A significant rise in this tumor marker heralds a recurrence.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Sporadic or due to hereditary syndrome
- Stage
- Status of other adverse risk factors
- Treatment
- Post-treatment surveillance including CEA
- Adherence to surveillance

QUESTIONS

- At what age was the colon cancer diagnosed?
- Does the applicant have a family history of colon polyps or colon cancer, including a predisposing syndrome?
- Was the cancer in situ or invasive?
- Does the applicant know the tumor's stage at diagnosis? If the applicant does not know, ask if the tumor spread to their lymph nodes, liver, lungs or other places.
- What types of treatment were given, including names of any chemotherapy drugs?
- Did treatment include lymph node removal (dissection)?
- How often does the applicant see their oncologist for followup?
- When was the last time?
- Does the applicant adhere to the followup schedule set by their oncologist?
- Did the applicant have a CEA test at their last followup and if yes, do they know the results?

COLON POLYPS

Colonic polyps are growths arising in the inner lining of the colon. They are usually elevated, either pedunculated (on a stalk) or sessile (with a broad basis).

They may be neoplastic (adenomatous), hyperplastic (serrated) or mixed (both features present).

Neoplastic, mixed and hyperplastic polyps called sessile serrated adenomas are potentially premalignant or may contain either in situ or invasive carcinoma.

Polyps may be sporadic or hereditary. The latter occur in hereditary polyp-forming syndrome such as familial adenomatous polyposis, Peutz Jeghers syndrome, etc.

Most of these syndromes are associated with a high risk of carcinoma, mandating careful surveillance and eventual prophylactic colectomy.

Major risk factors for precancerous and malignant polyps:

- Neoplastic and mixed (adenomatous/hyperplastic) polyps
- Sessile serrated adenomas/polyps
- Villous (vs. pedunculated)
- ≥ 1 centimeter in diameter; risk increases progressively at larger sizes
- Hereditary polyp-forming syndrome
- Cigarette smoking
- Obesity

Most colon polyps are discovered during sigmoidoscopy or colonoscopy undertaken either for routine surveillance or due to rectal bleeding (visible or detected on stool occult blood tests).

Colonoscopy is preferred because a substantial percentage of polyps arising above the sigmoid colon (which is the extent to which sigmoidoscopy accommodates visualization of the colonic lining).

Larger polyps are usually excised for pathological assessment. Smaller, benign-appearing sporadic polyps may be followed with periodic surveillance in lieu of excision.

A history of sporadic neoplastic or mixed polyps increases the risk of colon cancer. Therefore, lifelong periodic surveillance, typically with colonoscopy, is recommended in these cases.

KEY UNDERWRITING ISSUES

- Age at first colon polyp diagnosis
- Method of colon examination (sigmoidoscopy or colonoscopy)
- Number and size of polyps detected and excised vs. not removed
- Pathology (insignificant, precancerous/dysplastic or in situ/invasive carcinoma)
- Family history of colon polyps, polyp-forming syndrome or colon cancer in parents and siblings
- Followup surveillance
- Applicant adherence to surveillance as advised by doctor

QUESTIONS

- When was the applicant first diagnosed with one or more colon polyps?
- Is this the only time the applicant has had polyps? If no, how many times have they had polyps and how many polyps at each episode?
- Were all the polyps excised? If no, how many were present but not removed on the most recent endoscopic examination?
- Was that procedure a sigmoidoscopy or colonoscopy?
- Was any specific name given to the polyp; is yes, what was that name and was the same for all of the polyps?
- Did the polyp(s) contain in situ or invasive carcinoma?
- Does the applicant have a family history of colon polyps or cancer affecting his parents and siblings; if yes, do any family members have a polyp-forming syndrome or have they been advised to have polyp screening under age 50?
- Was any further treatment given or recommended?
- When was the applicant's last colon cancer surveillance and what tests were done on that time?

CONGENITAL HEART DISEASE

Congenital heart disease consists of structural defects affecting one or more parts of the heart, present at birth.

It is not uncommon for these individuals to have multiple cardiac defects as well as noncardiac congenital defects.

They are typically divided into two groups: cyanotic and acyanotic. Cyanosis is bluish discoloration of the skin and mucous membranes due to inadequate oxygenated blood.

Acyanotic means that cyanosis is absent.

Cyanotic defects include tetralogy of Fallot, tricuspid atresia, hypoplastic left heart syndrome and transposition of the great arteries. In most cases, surgical intervention is palliative and there is substantial excess morality. Carefully selected cases at midlife or later may be insurable on a substandard basis.

Ebstein anomaly ranges from mild and asymptomatic to severe and incompatible with life. The former are readily insurable.

We will cover the congenital heart valve lesions under Valvular Heart Disease.

The four main nonvalvular acyanotic conditions are patent ductus arterious (PDA), atrial septal defect (ASD), ventricular septal defect (VSD) and coarctation of the aorta (CoA).

Nearly all PDA cases in adults are completely corrected and pose no extra mortality risk.

The main problem in septal defects is a hole in the wall between the two atria (ASD) or ventricles (VSD), permitting the flow of oxygenated blood from the left side of the heart to the right side. More severe cases have larger holes and coexist with other defects complicating surgical repair.

When VSD is fully repaired surgically, closes spontaneously or is present but small and asymptomatic, this poses no insurability issues.

ASD has a somewhat less favorable prognosis. When present in adults, even the more limited form (called a secundum defect vs. the more serious primum defect) is associated with some increased mortality. Insurability of corrected ASD depends upon whether symptoms and residual deficits are present.

CoA is a narrowing of the arching segment of the aorta a short distance beyond the aortic valve. CoA is usually accompanied by hypertension, which may be severe. Most cases can be corrected surgically but may recur.

The main underwriting issue is hypertension, which persists in many cases and is often difficult to manage medically. CoA is usually insurable on a substandard basis.

CONGENITAL HEART DISEASE

KEY UNDERWRITING ISSUES

- Nature and extent of defect
- Other congenital conditions
- Age when diagnosed
- Signs and symptoms
- Treated or untreated
- Complete or partial surgical correction
- Interim cardiac history
- Clinical assessment of current cardiac function

QUESTIONS

- When was it diagnosed; if in adulthood, was the diagnosis incidental or the result of investigating abnormal heart findings or symptoms?
- What was the exact diagnosis?
- Is this the only "birth defect;" if not, what other defects are present in heart or elsewhere?
- Was it treated surgically; if yes, was it fully corrected?
- Does the applicant have any residual symptoms or limitations on functioning related to this defect?
- Is the applicant currently taking any cardiac-related medication?
- If the diagnosis was CoA, add:
- Did the coarctation recur after surgical correction; if so, was it surgically treated at that time?
- Is there any residual coarctation present?
- Does the applicant currently have elevated blood pressure; if so, what treatment is being taken and did the treatment change in the last 5 years?

CORONARY ARTERY DISEASE (CAD)

CAD is defined as the deposition of atherosclerotic plaque lesions in the lining of the coronary arteries.

CAD is obstructive if it occludes more than 50% of the lumen (open area through which blood flows) of the affected artery. Obstructive disease increases the risk of symptoms such as angina pectoris.

Both obstructive and nonobstructive disease can trigger a cascade of events culminating in a myocardial infraction (MI) or unstable angina (see Acute Coronary Syndrome).

Overall, CAD is a disease of aging but it can occur at younger ages in applicants with homozygotic (rare) or heterozygotic familial hypercholesterolemia.

CAD arises later in females than males, mainly due to the advantages conferred premenopausally by female hormones.

It may be detected dominantly or at least disproportionately in one or several major coronary vessels (designated as 1-vessel, 2-vessel, etc.) disease but is usually present to some degree in all of the major coronary vessels. The most critical site is the left main coronary artery.

The diagnosis is usually made upon further investigation of symptoms or an adverse cardiac risk profile as reflected by a high Framingham Risk Score or the number of risk factors present.

The resting ECG is normal in 50% of CAD cases. Therefore, diagnostic investigation typically begins with a treadmill-based stress ECG or echocardiogram. Either exercise or chemicals are used to induce heart rate increase. The latter is an underwriting concern because it is done most often in patients with significant comorbid diseases or functional impediments. The reason for using chemicals rather than exercise should be made clear.

If stress testing is abnormal, further investigation may be undertaken with various imaging studies including computed tomography and MRI. Newer procedures look at patterns of blood flow such as FMD (flow-mediated dilation) and PWV (pulse wave velocity).

More precise determination of the nature and extent of CAD is done with either catheter-based (invasive) or imaging-based (noninvasive) coronary angiography. This allows for assessing the extent of CAD including the number of affected arteries.

CAD treatment may be medical or surgical. Surgically managed patients are also prescribed drugs. Behavior modification is also an important component of CAD patient management.

Medications include antiplatelet drugs (aspirin, clopidogrel and similar agents), statins and potentially other drugs such as beta-blockers (even in the absence of hypertension).

A critical issue in Rx management is compliance, which underwriters can assess when they have pharmacy records.

Surgical management is palliative in nature. It does not cure CAD but can ameliorate symptoms and reduce mortality over a finite interval.

The two main procedures are coronary artery bypass (CABG) and angioplasty with stenting.

A 2017 30-year CABG followup study revealed that the favorable mortality impact lasts for roughly 10 years and that excess deaths increase progressively thereafter. This is consistent with the notion that CABG is a palliative procedure.

The key determinant of long-term outcome is the applicant's CV risk profile and the extent to which physician and applicant interventions have improved this profile. These include weight loss if overweight/obese, lowering elevated blood pressure and/or LDL-C/total cholesterol, adequately managed diabetes, quitting smoking, regular exercise/physical activity and so on.

Carefully selected cases of stable angina may be considered for coverage at standard/near-standard rates. All others are rated or declined depending on the extent of disease, results of tests for ischemic and cardiac function and risk factor profile.

CORONARY ARTERY DISEASE (CAD)

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Symptoms, if any
- Tests done and findings
- % obstruction in affected vessels
- Left ventricular contractility and ejection fraction
- Treatment
- Compliance with Rx
- CV risk factor profile

QUESTIONS

- At what age was CAD diagnosed?
- Did the applicant experience any symptoms leading to diagnostic assessment; if yes, which ones and to what extent?
- Does the applicant have a family history of cardiovascular disease events/deaths in first-degree relatives (parents, siblings); if yes, at what age did they have a fatal or nonfatal CV event?
- What tests were done and what were the results?
- Were the stress tests done with exercise or chemically? If chemically, why?
- Did the applicant have angiography and if so what is the extent of the disease (which vessels/number of vessels and degree of obstruction)?
- What treatment did the applicant get medically or surgically?
  - If medication, what drugs are taken, in what doses and were there any changes in Rx in last 2 years?
  - If surgical, which procedure and what effect has surgery had in terms of symptoms and functioning?
- Has the applicant had any symptoms in the last 2 years; if yes, what were/are they and how often did/do they occur?
- Was the applicant advised to limit their physical activity or heart rate increase?

CROHN DISEASE (CD)

Crohn disease is a chronic inflammatory bowel disease (IBD). Older terms used for CD are regional ileitis and regional enteritis.

Onset may occur at any age. The early symptoms - bloating, cramping abdominal pain, diarrhea/constipation, fever and weight loss - are nonspecific. Thus, the correct diagnosis is often delayed if less significant conditions such as irritable bowel syndrome are mistakenly diagnosed.

CD may arise anywhere in the GI tract but is most often found in the small intestine and colon. When confined to the colon CD may be referred to as granulomatous colitis. Some of these cases are difficult to distinguish from ulcerative colitis without a biopsy and may be called indeterminate or nonspecific colitis.

Diagnosis is made with endoscopy and imaging studies, ideally confirmed with biopsy.

Complications are common, including strictures and fibrosis causing bowel obstruction, perianal disease, formation of fistulous tracts involving adjacent organs and weight loss/malnutrition.

The Montreal Classification of Crohn Disease is widely used to describe the extent of CD based on age at diagnosis, location of lesions and presence of complications.

The Crohn Disease Activity Score assigns a degree of severity, ranging from remission to severe active disease, based on 8 clinical variables.

The fecal calprotectin test is also used to assess severity.

Most CD cases have intervals of remission and disease activity. Only 13% have a relapse-free course. Except for a few cases confined to the terminal ilium (last portion of the small bowel) and cured surgically, CD is incurable and the risk of relapse persists lifelong.

There are over 15 drugs currently used to treat CD including sulfa compounds (sulfasalazine, mesalamine), steroids (local and systemic), antibiotics, immunosuppressives including methotrexate, and biological agents such as infliximab. The red flag drugs are the most potent immunosuppressives (azathioprine, mercaptopurine) and oral/intravenous steroids.

Nonadherence to Rx is a major cause of relapse.

Surgery is used when Rx fails to induce/sustain remission, for certain complications (perforation, obstruction, severe fistula formation) and when dysplasia/cancer are present.

80% of patients have surgery at least once and 50% have at least two procedures.

Extraintestinal (occurring outside the GI tract) manifestations are common. They include eye disorders (uveitis, episcleritis), gallstones, venous thromboembolism, osteoporosis, anemia, arthritis, major depression, skin diseases, elevated liver enzymes and, most significantly, primary sclerosing cholangitis.

CD confers excess mortality in all but the mildest cases and the mortality risk is greater than in ulcerative colitis.

CROHN DISEASE (CD)

KEY UNDERWRITING ISSUES

- Location of CD lesions
- Duration
- Severity
- Rx prescribed including recent changes
- Rx adherence
- Number and extent of surgical procedures
- Complications
- Extraintestinal manifestations
- Underweight/weight loss
- Degree of functional impairment
- Current lab test results

QUESTIONS

- When was the applicant diagnosed with CD?
- Where has the disease manifested in the applicant's GI tract?
- What symptoms did the applicant have at onset and what was their initial treatment?
- What symptoms has the applicant had in the past 2 years and what is the pattern (improving, stable, worsening)?
- What medication is the applicant currently prescribed and has it changed in the past 2 years?
- Has the applicant had any surgical procedures; if yes, which ones and when?
- Has the applicant experienced complications such as bowel obstruction, perforation, leaking of bowel content into other organs (bladder, vagina)?
- Has the applicant's weight been stable or have they lost/gained weight in past 2 years; if either, to what extent and, if loss, is their weight now stabilized or is the weight loss continuing?
- Has the applicant experienced any symptoms or had new diagnoses that their physician says are related to CD? If yes:
  - What are they (name of condition and/or organ affected?
  - When were they diagnosed?
  - Have they been treated and if so how?
  - What is their current status (symptomatic, stable, resolved)?
- Does the applicant have any functional limitations that impact their occupation or daily activities; if yes, what are they and how severe are they?

CUSHING DISEASE/SYNDROME

Both Cushing disease and Cushing syndrome are rare disorders resulting of excess corticosteroid levels.

The distinction is that the disease is caused by excess secretion of adrenocorticotrophic hormone (ACTH) in the pituitary gland, largely because of a benign tumor, whereas the syndrome is due primarily to an almost-always benign tumor in the adrenal gland.

Both the disease and the syndrome cause nonspecific symptoms such as fatigue, reduced stamina, backache, headache and new onset hypertension.

There are many physical findings that may arise including central (abdominal) obesity with a so-called "moon face," protuberant abdomen, thin extremities and possibly a so-called "buffalo hump" on the back.

Elevated glucose is the most likely finding on a screening blood profile.

In Cushing syndrome, the dexamethasone suppression test (DST) is the ideal screening tool. If positive, the presence of the syndrome is confirmed with a 24-hour urinary free cortisol test.

Imaging studies are used to pinpoint suspected pituitary and adrenal gland tumors.

Unexpected benign adrenal adenomas are found on 4% of abdominal CT scans done for other reasons. They are commonly referred to as "adrenal incidentalomas." Malignancy must be ruled out in all but the smallest adrenal tumors.

Pituitary tumors are not malignant but can cause significant symptoms as they enlarge. They are not always fully removable surgically.

If surgery is refused, not feasible or ineffective, various drugs may be prescribed including spironolactone, ketoconazole and metyrapone.

If the tumor can be removed completely (pituitary) and is not malignant (adrenal), the prognosis is favorable. However, there may be complications such as severe osteoporosis and hypertension.

If the cause of the excess ACTH release in Cushing disease cannot be determined, 10-year survival is less than 60%.

KEY UNDERWRITING ISSUES

- Syndrome or disease
- Underlying cause
- Severity of symptoms
- Tumor pathology and management
- Other treatment
- Treatment impact on signs and symptoms
- Complications
- Current disease manifestations if any

QUESTIONS

- When was this condition diagnosed?
- What findings and symptoms did the applicant have (including physical features as described above)?
- What was causing the condition; if tumor, location and if adrenal, benign or malignant?
- How was the condition treated; if pituitary tumor, could the entire tumor be removed?
- Were there any complications and if so what were they and how severe?
- Does the applicant currently have symptoms or are any features of the condition still present?
- Is the applicant still getting any type of treatment for this disorder; if so, what?

CYSTIC FIBROSIS

Cystic fibrosis is the most common fatal hereditary disease in Caucasians. It is also the most common cause of severe chronic lung disease in young adults.

The symptoms are chronic cough, markedly excessive sputum production, reduced exercise capacity and hemoptysis (coughing up blood).

The diagnosis is made with a sweat test revealing high levels of sodium and chloride. Family members are typically screened because 4% of mutated gene carriers develop the disease.

Cystic fibrosis can be treated with medication, various medical procedures and lung transplantation. The 3-year survival after transplantation is only 55%.

The longevity of cystic fibrosis patients is increasing and the median survival is now over 36 years. For this reason, cystic fibrosis is unlikely to be deemed insurable on any basis.

DEEP VENOUS THROMBOSIS/PULMONARY EMBOLISM

Deep venous thrombosis (DVT) is the formation of a blood clot (thrombus) in one of the larger veins, must frequently in the legs.

A DVT may become an embolism (detached thrombus) that reaches the lung (pulmonary embolus) and this can be fatal.

There are several dozen potential causes of a DVT including obesity, varicose veins, prolonged inactivity such as bed rest and long distance flights, various conditions called thrombophilias, acute medical illnesses including active cancer and anything that causes lower extremity edema.

Insurability is determined by the course of the DVT, with or without subsequent PE, and by the underlying cause.

When no definite cause is determined, some DVTs are due to occult (undiagnosed) cancer. There is a substantial risk of new cancer diagnoses within the first year, which then trails off thereafter. These cases should have evidence of careful assessment and at least short duration followup to exclude occult cancer.

Diagnosis is made with a test called D-Dimer and imaging studies.

Treatment is anticoagulation, with heparin and other intravenous thrombolytic drugs initially and then on an ongoing basis to prevent recurrence. Coumadin (warfarin), enoxaparin, fondaparinux and similar drugs may be used in this manner for an extended period, with the ever-present risk of major bleeding.

Symptomatic post-thrombotic syndrome develops in one third of patients with 2 years.

KEY UNDERWRITING ISSUES

- When diagnosed
- Number of episodes
- Cause if known
- If unknown, assessment and followup to exclude cancer
- Anticoagulation status
- Date of last symptoms/persistent symptoms
- Complications

QUESTIONS

- When did the DVT occur and if there has been more than one, when did each occur?
- What was the cause of the DVT, if known?
- Does the applicant have an underlying condition that predisposes to forming more DVTs?
- How was the DVT managed, initially and on the longer-term basis?
- Is the applicant still taking an anticoagulant; if yes, which one?
- Did the DVT result in a pulmonary embolism?
- Are any blood clots still present?

DEPRESSION

Depression may be used in the nonspecific sense to refer to various symptoms of sadness/feeling "blue" or in the context of a distinct diagnosed disorder.

When used in a nonspecific sense, underwriting depends on whether treatment was sought, coexisting issues with insurability implications and if the depressed state is still present.

There are several DSM-5 depression disorders with differing mortality implications:

- Major Depressive Disorder (MDD) – most common
- Persistent Depressive Disorder – also called dysthymia/ dysthymic disorder
- Premenstrual Dysphoric Disorder –also called PMS and usually not significant for mortality

Seasonal depression (also called seasonal affective disorder) is one presentation of MDD, wherein the symptoms are manifest or distinctly worse during the winter months, with exposure to a light source often being an effective intervention. It is underwritten the same as MDD.

Unipolar depression is consistent with MDD and needs to be noted only because depression is also one major feature of bipolar disorder (discussed separately).

Schizoaffective disorder is a psychosis with both major depressive and schizophrenic features (discussed under Schizophrenia).

The diagnosis of MDD requires at least 5 of 9 symptoms. Patients with 4 or fewer have minor, subclinical or subthreshold depression. Their risk is similar to MDD, depending in part on which symptoms are present and mostly importantly suicidal ideation.

Non-mood related symptoms (called somatic symptoms) are common in MDD and other forms of depression. In the elderly, they may be the dominant or only admitted symptoms.

The main somatic symptoms are pain and GI distress, which may be attributed to so-called "functional" disorders such as fibromyalgia, dyspepsia or irritable bowel syndrome.

Persistent depressive disorder (dysthymia) is distinct from MDD because it involves chronic depressive and related symptoms present for "most/more days than not" for at least 2 years. This disorder is less severe overall than MDD and treated in the same manner as MDD.

The mainstays of treatment for all of these forms of depression are antidepressants and psychotherapy. Either or both may be used.

There are over 20 approved antidepressants, with little if any significant difference between them in terms of efficacy. The choice of drug is usually based on side effects, presence of other medical conditions, etc.

The most commonly prescribed antidepressants are the selective serotonin reuptake inhibitors (SSRIs) and the selective norepinephrine reuptake inhibitors (SNRIs).

The former drug class includes fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), etc. The main SNRIs are venlafaxine (Effexor) and duloxetine (Cymbalta)

Patients that do not respond to these or the other first-line antidepressants may be treated with a variety of other psychiatric as well as nonpsychiatric drugs. The most significant class is the antipsychotics, a major red flag with adverse implications.

Treatment adherence is notably poor in depressed persons and thus a major underwriting issue. Nonadherence is a leading cause of relapse and is often the reason for what appears to be treatment-resistant (refractory) depression.

Electroconvulsive therapy (ECT) and other non-pharmaceutical treatments may be used in severe cases.

Most depression cases are managed on an outpatient basis. The need for inpatient care is consistent with more severe and/or Rx-resistant depression.

Suicide-related behaviors (ideation, gestures, attempts) are of great concern because most of the short/intermediate-term excess mortality in MDD is due to suicide.

Mild/moderate MDD and nearly all dysthymia cases are insurable at standard or near-standard rates. Severe cases are rated or declined until there is an adequate sustained remission.

All types of depression are associated with high risks of other psychiatric conditions. Their presence currently or recently may adversely impact insurability.

DEPRESSION

KEY UNDERWRITING ISSUES

- Nonspecific or DSM-5 diagnosis
- Date of onset/diagnosis
- Severity
- Pattern of remissions/relapses
- Initial treatment and changes
- Adherence to treatment
- Outpatient vs. inpatient care
- Suicidal behaviors
- ECT or other non-Rx interventions
- Comorbidities
- Functional issues

QUESTIONS

- What symptoms did the applicant experience?
- What was the specific diagnosis?
- Was the diagnosis made by the patient's personal physician, a psychiatrist or other mental healthcare provider (psychologist, psychiatric social worker)?
- When did the symptoms commence or the diagnosis made?
- Does the applicant consider the depression to be/have been mild, moderate or severe?
- Was/is the applicant's treatment provided by their primary care doctor, a psychiatrist or some other psychiatric care practitioner?
- What form(s) of treatment has been given (medication, psychotherapy, ECT, other) and if medical, what drugs were initially prescribed?
- Has the applicant's medication changed since initial treatment and if yes, what changes were made and what are they taking now?
- Does the applicant take the medication in the manner prescribed?
- How has the applicant responded to the medical treatment?
- Has the applicant had any other types of treatment (psychotherapy/counseling, electroconvulsive therapy, etc.); if yes, full details?
- Did the applicant require inpatient care at any time; if yes, when, how many times and for how long each time?
- Has the applicant had suicidal ideation or have they attempted suicide; if yes, when and how many times?
- Does the applicant have any other psychiatric diagnoses; if yes, which ones and then get full details?
- To what extent did/do the symptoms adversely impact the applicant's business/academic, social and personal life?

There are 4 distinct types of DM that are significant underwriting perspective:

- Type 1
- Type 2
- Type 3-c (pancreatogenic)
- MODY – type 2 with onset under age 30

Type 1 DM is an autoimmune disorder characterized by the inability to manufacture insulin. It usually presents under age 30 and with symptoms.

Type 2 DM is induced by a combination of hereditary predisposition and acquired risk factors, most notably obesity. It results from progressive insulin insufficiency and is usually discovered by screening tests in middle-aged and older persons that are free of overt diabetic symptoms.

Type 3-c DM is also called pancreatogenic diabetes. It is strongly associated with chronic pancreatitis and there is a significant risk of pancreatic cancer, which may be present when type 3-c is diagnosed or arise subsequently. These individuals are prone to be underweight rather than obese, present with typical diabetic symptoms and their diabetic state is more difficult to control without resorting to insulin.

Most cases are initially misdiagnosed as type 2.

Maturity-onset diabetes of the young (MODY) is type 2 diabetes diagnosed in adolescents and young adults. Unlike most type 2 diabetics, these individuals have a higher risk of complications and worse mortality than type 1 diabetics of the same age.

The distinction between types 1 and 2 DM is less important in underwriting because insurability largely depends on the same issues in both cases: duration of disease, degree of control of blood sugar and presence of complications.

The diagnosis is usually with an oral glucose tolerance test or the glycosylated hemoglobin (HbA1-c). Glucose levels, however, wax and wane for many reasons.

In type 2, we see cases where a 50-year old meets the criteria for diabetes in January, for impaired fasting glucose (IFG, a so-called “prediabetic” state) in May and then is normoglycemia (no DM or IFG) in October!

The longer an applicant has been a diabetic, the greater the risk of complications. Underwriting manuals typically assign baseline debits on this basis for both type 1 and type 2 DM.

Adequate control of glucose levels is key to prevent many complications. Underwriters look at current and recent glycosylated hemoglobin (HbA1-c) readings to determine if the applicant’s control is excellent, good, fair or poor. Debits are assessed on this basis as well.

Type 1 diabetics are mainly treated with insulin. Type 2 diabetics are usually treated initially with a combination of diet and the drug metformin. There are over 20 additional primarily oral hypoglycemic agents also available to manage type 2 cases.

Increasing doses of insulin or resorting to insulin pumps, etc. are indicative of glucose control issues in type 1 whereas adding additional oral medications and/or resorting to insulin are benchmarks for fair/poor control in type 2.

Acute complications such as bouts of hypoglycemia are considered in underwriting but the main focus is on chronic complications that are often progressive over years, especially if treatment is inadequate or not adhered to by the patient.

The main chronic complications are microvascular and macrovascular. These are the key microvascular complications:

- Kidney disease, which may be diabetic nephropathy or non-diabetic renal conditions (which are also more common in diabetics) and may progress to end-stage renal disease (ESRD) requiring hemodialysis or kidney transplantation. While this contributes to excess mortality, it is not the driver of the risk.

- Neurological conditions that range from peripheral neuropathies to problems with food transit through the GI tract and autonomic neuropathies than can lead to dizziness/ fainting, urinary problems, etc.
- Diabetic eye disease, consisting of background (early) and proliferative (late, vision-threatening) retinopathy, macular edema and various non-diabetic eye diseases than are also more prevalent in diabetics.
- Diabetic foot disease, caused by a combination of inadequate blood flow and neuropathy. Diabetic foot disease can lead to limb loss and has substantial mortality implications.

The macrovascular complications are accelerated development of atherosclerotic disease at various sites, most notably coronary artery disease and peripheral vascular disease.

These complications are the drivers of diabetic mortality.

Because of sensory neuropathies, diabetics are more likely to experience silent heart attacks (MIs) than nondiabetics. These are first identified by pathological Q waves on ECGs.

In virtually every study where diabetics and nondiabetics are matched in terms of known/ suspected atherosclerotic disease, the diabetics have higher mortality after adjusting for all other risk factors.

We may accept some diabetics at “standard” rates but there are no legitimately standard diabetics based on how we have traditionally defined a standard risk. It goes without saying that “preferred diabetic” is an oxymoron, even over age 80.

KEY UNDERWRITING ISSUES

- Type of diabetes – especially T3-c or MODY
- Age at onset
- Duration
- Control of blood sugar based on HbA1-c
- Types of treatment
- Adherence to treatment including Rx, foot care, followup visits with MD and home glucose monitoring
- Blood pressure/coexisting hypertension
- Current abnormal lab findings, especially elevated glucose, HbA1-c and protein/albumin in urine
- Presence of complications, especially macrovascular, kidney and foot disease

QUESTIONS

- What type of diabetes does the applicant have?
- When was the applicant diagnosed and did they have any symptoms at that time?
- How is the applicant currently being treated; has their Rx changed in the past 2 years and if yes, what were the changes?
- Does the applicant monitor their blood sugar at home and if yes, what has been the trend in their readings over the past 12-24 months?
- How has the applicant's doctor characterized the control of their diabetes or blood sugar?
- How often does the applicant see their physician for followup related to their diabetes?
- Has the applicant had any kidney, eye, nervous system, foot or other complications due to their diabetes? If yes, full details.
- Has the applicant had any other problems related to their diabetes such as hypoglycemic attacks, fainting spells, etc.? If yes, full details.
- Has the applicant had any tests for circulatory disease such as treadmill ECGs, other cardiac tests or blood pressure measurement in the ankles or toes (ankle-brachial or toe-brachial index)? If yes, which tests and what were they told about results?

DIZZINESS/VERTIGO

Dizziness is a highly subjective sensation of unintentional movement, disorientation of the body in space or postural instability. There are 4 types of dizziness:

- Disequilibrium – feeling off-balance or wobbly when standing, feeling that a fall is imminent
- Lightheadedness – vague feeling of being disconnected with the environment
- Vertigo – motion/spinning sensation
- Presyncope – sense of impending loss of consciousness with "gray out" in the absence of overt syncope (actually fainting). Syncope is considered separately.

The underwriting of dizziness/vertigo depends entirely on the underlying cause, which may never be determined, especially in transient episodes that end spontaneously.

Most cases are called peripheral and induced by one of various conditions affecting the inner ear, most notably benign positional vertigo (BPV), labyrinthitis, vestibular neuritis, Ménière disease and, in the elderly, otosclerosis. These cases are rarely significant to insurability.

The other main category is called central dizziness/vertigo. With the exception of most migraines, the causes here are all highly significant. They include multiple sclerosis, Parkinson disease, tumors and TIA/stroke.

Dizziness may also be psychogenic (mainly in anxiety states) or drug-induced.

We are mainly concerned about recent onset cases where the diagnosis has not been made and the symptoms suggest a non-peripheral cause and those that are ascribed to a serious cause, where underwriting is based entirely on that cause.

In those relatively few cases where episode is recent, did not clear spontaneously and the cause was not determined, our focus is on these issues:

- The nature of the symptoms
- Whether emergency care was sought
- What tests were done and the results
- What specific treatment was given and whether it is still being taken
- What underlying cause was most strongly suspected
- Whether the condition has recurred and if so when and how often

DRUG USE/DRUG USE DISORDER

In underwriting "drug use" pertains to any use of illicit substances as well as the inappropriate (abusive or addictive) use of certain psychogenic prescription drugs, most notably opioids and benzodiazepines.

OPIOIDS

Given the current so-called "opioid epidemic," we are paying greater attention to the use of opioids in a therapeutic context because this scenario can give rise to abuse/addiction.

Applicants may be asked about opioid use based on application disclosures and Rx use reports, especially when the report indicates that an opioid prescription was filled and the applicant does not report this.

A growing number of carriers are embracing urine-based opioid screening, which includes most prescription opioids and diacetylmorphine (heroin).

DSM-5 DRUG USE DISORDERS

DSM-5 has specific criteria for disorders related to the use of cannabis (marijuana), hallucinogens (psychedelics), inhalants, opioids, sedative-hypnotics/anxiolytics, stimulants (cocaine, methamphetamine) and other/unknown drug use.

In each case the diagnosis is based on specific criteria pertaining to duration of use, time spent in drug procurement/usage, craving, effects on the patient's life in all domains and attempts to quit.

Underwriting of most of these disorders are similar to that in alcohol use disorders: decline for a period of years, followed by ratings for an additional interval and eventually standard risk status provided there have been no significant persistent consequences or relapse to use.

MARIJUANA (CANNABIS SATIVA, POT)

Occasional recreational as well as medicinal use of marijuana by adults used to be underwritten on the same basis as tobacco use. This is changing, with more companies accommodating non-smoker rates and even preferred non-smoker based on volume of use and other criteria.

This change is long overdue considering that there is little if any association between cannabis use on these bases and serious diseases or extra mortality risk.

While marijuana use prior to driving does increase the risk of accidents, its impact pales by comparison with alcohol. Moreover, testing for marijuana use in the context is worthless because the test may be positive on the basis of a single episode of use weeks prior to driving.

A small percentage of companies do marijuana use testing. Some have reported that it correlates with excess mortality, but given what we know about marijuana, this is probably due to factors other than the marijuana use per se.

COCAINE

Cocaine is associated with considerable health risk and thus screening is virtually universal in all urine and oral fluid testing in for life insurance.

All positive screening results are confirmed with highly sophisticated confirmation tests. When they are positive, cocaine ingestion occurred within the window period of detection.

Cocaine is derived from the coca plant indigenous to Latin America. There are also herbal teas derived from this plant.

Recent consumption of such teas can cause a true-positive cocaine test at the threshold for detection. Unlike cocaine used as a drug of abuse, there is no insurability concern with use of these teas.

A positive cocaine test will almost certainly result in a decline, in part because we do not know how often the applicant uses the drug, the chosen manner of ingestion and whether addiction is present. It would be disingenuous to argue that we can get credible answers from the applicant considering mere possession of cocaine is a criminal offense.

Methamphetamines and other illicit stimulants are underwritten more or less in the same manner.

PSYCHEDELICS/HALLUCINOGENS

This category includes plant-based substances such as peyote and psilocybin plus LSD, dimethyltriptamine (DMT) and a host of synthetic drugs (including so-called "synthetic marijuana) with varying degrees of use.

A growing body of research suggests that there is little if any extra mortality associated with the recreational use of most plant-based hallucinogens, as well as LSD and DMT. Nevertheless, a recent survey confirms that they are underwritten on more or less the same basis as other illicit drugs.

Synthetic marijuana, on the other hand, does have considerable mortality risk.

The underwriting issues with drug use are clear from the foregoing and save for marijuana, most cases are declined for a period of time whether or not a drug use disorder has been formally diagnosed.

In those with a diagnosis, the questions we would ask the applicant are akin to those used for alcohol use disorder.

QUESTIONS

- When was the applicant diagnosed with a drug use disorder?
- Which drug was involved?
- What circumstances led to the diagnosis?
- Does the applicant have a criminal record related to drug use; if yes, explain with full details?
- Was the applicant treated? If yes, how were they treated and specifically did they get inpatient treatment? Get full details regarding when and where.
- Did the applicant participate in a 12-step program as part of his recovery?
- Did the applicant take or are they taking any medication specifically related to this disorder? If yes, which medication(s)?
- Has the applicant used the drug since completing treatment; if yes, how often and when is the last time they used it?
- Did the applicant have any social, financial, occupational or legal consequences related to drug use?
- Had the applicant had any substance-related or other major driving violations in (at least) the last 5 years?
- Did the applicant experience any medical complications? If yes, what were they and what is their current status?

EATING DISORDERS

While there are at least 7 disorders nominally considered to be "eating disorders," nearly all of the cases we see are due to one of three conditions:

- Anorexia nervosa (AN)
- Binge-eating disorder
- Bulimia nervosa (BN)

ANOREXIA NERVOSA

AN can lead to life-threatening consequences and is by far the most significant in terms of mortality risk.

The diagnosis is based on three major factors:

- Restriction in energy intake relative to needs leading to significant low body weight in relation to age, gender, etc.
- Intense fear of gaining weight/becoming fat
- Disturbance in how body weight or shape is experienced.

Degree of severity is based in part on body mass index (BMI)

There is a distinction based on whether the patient also engages in episodes of binge-eating/purging (self-induced vomiting or misuse of laxatives, etc.).

Anorexia nervosa may be diagnosed at any age but is most common under age 20. Over 90% are women.

AN is most common in women engaged in activities where excessive thinness/low body weight is deemed a priority, such as gymnastics, ballet dancing, modeling and so on.

This is a difficult disorder to treat and relapses are common.

Both medication, mainly antidepressants, and psychotherapy are used, and hospitalization is a red flag for complications.

Comorbid psychiatric diagnoses are common, most notably depression and personality disorders.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Basis of diagnosis
- Current weight and pattern of weight over course of illness
- Current nutritional status
- Treatment
- Hospitalization
- Complications
- Residual symptoms/eating-related issues
- Current engagement in occupation or avocation predisposing to maintaining excessive thinness/low weight

QUESTIONS

- At what age was the applicant diagnosed with AN?
- What circumstances led to the diagnosis?
- How was the applicant treated; if Rx, which drugs and when is the last time they were used?
- Was the applicant ever hospitalized for AN; if yes:
  - What circumstances led to inpatient care on each occasion?
  - How many times did it occur?
  - When was each episode?
- Did the applicant experience any physical complications; if yes, which ones and full details?
- Does the applicant have any other psychiatric diagnoses; if yes, full details?
- Does the applicant engage in binge-eating/purging; if yes, when was the last time and is it still ongoing?
- Is the applicant engaged in any occupation or avocation where thinness or low body weight is a perceived priority?

BINGE-EATING DISORDER

Binge-eating disorder centers on recurrent bingeing on food in amounts out of proportion to needs and a perceived lack of control over this behavior. There are additional criteria but not purging per se as seen in bulimia nervosa. Severity depends on the number of episodes per week. There is little mortality risk.

BULIMIA NERVOSA (BN)

This diagnosis requires both binge eating as described above plus compensatory behaviors such as laxative and diuretic abuse, etc.

In BN, the patient's self-assessment is unduly influenced by body shape and weight, albeit usually not to the same degree as in anorexia nervosa.

BN is most common in younger persons and disproportionately so in women.

Some patients with BN subsequently develop AN, as well as vice versa.

Hospitalization is rarely needed and while these behaviors are difficult to control, there is little extra mortality risk.

The main underwriting concerns are whether inpatient treatment was needed and if the condition is still present.

ELECTROCARDIOGRAM (EKG, ECG)

The electrocardiogram is a device that creates a two dimensional graphic representation of each heartbeat.

It consists of P, Q, R, S, T and (rarely) U wave deflections from a baseline. These deflections are measured on 12 leads connected to the body over the left chest (leads V1-V6) and limbs (leads I, II, III, aVR, aVL and aVF).

By measuring the direction and magnitude of these deflections as well as specific intervals between them (e.g., PR and ST segments), one can identify a wide range of disorders related to cardiac impulse transmission, heart rate and rhythm, current or prior cardiac damage/malfunction and so on.

The resting 12-lead ECG is used routinely in clinical medicine and life underwriting. This said, ECG screening continues to decrease in underwriting as more companies use NT-proBNP to screen for cardiac disorders.

Given the pros and cons of each test, it is likely that ECG screening will largely if not wholly disappear in the years ahead.

Certain prevalent ECG abnormalities are covered individually or in context with heart disorders where they are significant.

An ECG may also be done during exercise or chemically induced stress (heart rate increase). This is discussed further Treadmill Stress Testing.

EPILEPSY/SEIZURES

A seizure is a transient disturbance in some aspect of brain function due to an abnormal discharge within the brain's electrical system.

Epilepsy is a term used for any disorder characterized by recurrent unprovoked seizures.

There are many varieties of epilepsy collectively affecting one in every 200 persons. Onset may occur at any time but is most common under age 40.

The leading causes of epilepsy are congenital abnormalities, trauma, metabolic and autoimmune disorders, tumors and other mass lesions, vascular diseases, degenerative disorders and infectious disease. In many cases, no cause can be determined.

Seizures are sometimes confused with other events such as syncope, panic attacks, TIAs and rage reactions.

Epilepsy may be focal or generalized. Included in the latter are petit mal (absence attacks), grand mal (tonic-clonic seizures) and myoclonic epilepsy.

The diagnosis is made with a neurological workup based on seizure features, neurological examination, lab tests, electroencephalography (EEG) and brain imaging.

Over 20 antiseizure (anticonvulsant) drugs are available to treat epilepsy. If one drug does not control the seizures, a second may be added. There are also non-pharmaceutical inventions including nerve stimulation techniques and surgery.

Most of the antiseizure drugs are also used for other disorders. For example, there are over 25 potential uses for just one of them, gabapentin. Indeed, some are more often used in other conditions (such as bipolar disorder) than in epilepsy. Therefore, no assumptions should be made based on taking all but a few of these drugs.

Most epileptic patients achieve satisfactory control of their seizures. In adults, Rx may be discontinued after a period of several years but it is impossible to predict whether there will be future episodes.

There is definite extra mortality in most types of epilepsy and this often includes cases where the seizure activity is controlled. Part of this is due to comorbid conditions.

Most applicants with a history of epilepsy that is largely or wholly controlled will be insured on some basis. A critical issue is the underlying cause, which may matter more (e.g. brain tumor) than the epilepsy itself.

KEY UNDERWRITING ISSUES

- Age at onset
- Underlying cause if known or suspected
- Type of epilepsy
- Frequency pattern and severity of episodes
- Treatment
- Complications

QUESTIONS

- At what age was the applicant diagnosed with epilepsy – or – if no epilepsy diagnosis, when did the applicant have their first seizure?
- Was a cause determined; if yes what is it?
- What type of epilepsy was diagnosed? If name unknown or epilepsy not diagnosed, ask applicant to briefly describe their seizures.
- How often does the applicant have seizures and when was the last seizure?
- If last seizure is within 2 years, what has the pattern been (stable, increasing or decreasing frequency)?
- What medication has the applicant been prescribed? Include names of drugs and any changes in last 2 years.
- Has any non-medical treatment been taken or advised? If yes, full details.
- Has the applicant experienced any complications or has any activity restrictions from their epilepsy, most notably loss of driving privileges? If driving privileges, have they been restored?

The 3 main types of female organ cancer are carcinomas of the cervix, uterus and ovaries. Cancers arising in the vagina, vulva and fallopian tube are all far less common and are underwritten in essentially the same manner.

Sarcomas arise primarily in the muscular wall of the uterus (myometrium). They are relatively rare.

Gestational trophoblastic disease is a rare disorder presenting as a hydatidiform mole (benign mass, sometimes called a "molar pregnancy") and often resulting in an aggressive malignancy (choriocarcinoma) that is uniquely responsive to chemotherapy.

ADDITIONAL CONSIDERATIONS

Cervical Cancer

Most patients at risk for cervical carcinoma are identified and treated during the premalignant or in situ phase thanks to widespread use of Pap smears and human papillomavirus (HPV) screening.

The incidence of invasive cervical cancer has decreased substantially in the last several decades for this reason.

Tumors are mainly either squamous cell carcinomas or adenocarcinomas.

Uterine Cancer

Screening has also reduced the incidence of uterine cancer but less so than cervical cancer.

Tumors of the endometrium (lining of the uterus) account for 95% of cases and may be adenocarcinomas, squamous cell carcinomas or adenosquamous (both types present).

The other 5% are myometrial sarcomas, mainly leiomyosarcoma.

Ovarian Cancer

Ovarian cancer is often asymptomatic or causes vague, nonspecific symptoms until it has metastasized. For this reason, disease-free survival rates are lower in ovarian than other female organ malignancies.

Screening for ovarian cancer is hampered by the lack of a convenient option. Higher risk women may be screened periodically with a combination of ultrasound imaging and the tumor marker CA-125.

There are over 20 different varieties of ovarian cancer. The most common are carcinomas.

So-called "borderline tumors" are low-grade carcinomas that are typically slow growing with amore favorable prognosis than other carcinomas.

There are also various distinctive but uncommon hormone-producing and nonfunctioning neoplasms with varying degrees of malignancy and, for the most part, better prognoses than carcinoma.

KEY UNDERWRITING ISSUES

The underwriting of all 3 main types is based on the usual cancer risk assessment criteria:

- Age at diagnosis
- Specific type of cancer
- Grade (degree of differentiation of tumor)
- Presence of adverse pathological features such as vascular invasion
- Stage at diagnosis
- Treatment
- Complications of treatment
- Adequacy of followup care
- Recurrence of cancer, if any

QUESTIONS

- When was the tumor discovered?
- What was the exact diagnosis (precise name of the tumor)?
- Was it in situ or invasive?
  - If invasive what was the stage at inception of treatment?
  - If unknown, was it localized or had it spread to adjacent organs, lymph nodes or other sites?
- How was it treated? List all forms of treatment including whether lymph nodes were removed during surgery.
- Did it recur? If yes, when and where, and what additional treatment was given?
- How often does the applicant see their physician for followup care related to the tumor?

GLOMERULONEPHRITIS

The glomerulus is the functional unit of the kidney where waste products are filtered from the blood.

Glomerulonephritis is a general term for inflammation of this region of the kidney. It may be acute or chronic. It may be described as focal or diffuse, proliferative or mesangioproliferative.

There are many potential underlying causes including infection, lupus erythematosus, diabetes, hepatitis C and IgA nephropathy syndrome. Biopsy is sometimes done to establish the exact diagnosis.

Glomerulonephritis is often accompanied by hypertension and edema. Treatment depends on cause and severity, including high doses of steroids or cytotoxic drugs.

Some acute episodes resolve and others progress to chronic disease. The prognosis depends on the extent of kidney damage, the severity of comorbidities and the underlying cause.

KEY UNDERWRITING ISSUES

- Exact diagnosis (type of glomerulonephritis)
- Acute or chronic
- Underlying cause if any
- Extent of kidney damage
- Biopsy pathology report if any
- Results of kidney function tests
- Complications and their severity
- Treatment given and response to treatment
- Current status (resolved, stable, progressive)

QUESTIONS

- When was the applicant diagnosed with glomerulonephritis?
- How was the diagnosis made (if biopsy, need pathology report or summary)?
- Is the underlying cause known; if yes, what is it with full details?
- Does the applicant know the results of their kidney tests at diagnosis and/or subsequently; if so, what were they?
- What treatment was the applicant given?
- Did the treatment cure the condition or is it still present?
- Did the applicant have high blood pressure or develop edema as a result of the glomerulonephritis; if yes, did the condition resolve or is it still present, with full details?
- Has the applicant been advised to have further followup; if yes, how often?
- Has the applicant been advised to have any tests or treatment that has not been done; if yes, what and why not done?

GOUT

Gout is a metabolic disease caused by urate deposition in joints and at other sites, resulting in the formation of distinctive lesions call tophi.

Urate is a salt derived from uric acid and elevated uric acid (hyperuricemia) is the hallmark laboratory finding in gout.

Hyperuricemia is often asymptomatic.

Marked hyperuricemia may be due life-threatening conditions including various kinds of cancer and kidney disease.

Gout is often diagnosed as acute gouty arthritis and may progress to a chronic state. The big toe is often the first site and it is usually exquisitely painful during an acute attack. Gout may also induce uric acid kidney stone formation.

Acute attacks usually last from a few days to several weeks, depending in part on response to treatment. Intervals between attacks may be lengthy but shorten if the disease progresses.

Gout occurs most often in middle-aged men. Major risk factors include hypertension and heavy alcohol use.

There are 4 components to gout treatment:

- Reducing inflammation, leading to resolution of an acute attack, which is accomplished with high-dose nonsteroidal antiinflammatory drugs (NSAIDS), colchicine, steroids and other drugs.
- Prophylaxis against future attacks, which is usually done with colchicine.
- Lowering uric acid levels, which may be accomplished with a number of drugs including allopurinol, probenecid, febuxostat and a potent drug called pegloticase used when chronic tophaceous gout is present.
- Dietary modification and cutting back on alcohol use.

Gout is a cardiovascular disease risk factor and gout victims have an increased incidence of heart attacks.

Given the increased prevalence of heavy drinking, underwriters may screen these applicants with carbohydrate-deficient transferrin (CDT).

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Extent of symptoms
- Resolution of attack
- Evidence of chronic disease
- Treatment given
- Latest uric acid level and pattern of readings
- Comorbid conditions including CV risk factors
- Admitted alcohol use
- Alcohol-related tests (GGT, MCV, CDT)

QUESTIONS

- When was the applicant diagnosed with gout?
- What symptoms did they have?
- Was this an isolated episode or has the applicant had more attacks; if yes, how many and when?
- Does the applicant have any gouty arthritis present at this time?
- Did the applicant have any complications such as kidney stones; if yes, which ones and full details?
- What treatment was the applicant given for the gout attack(s)?
- What treatment was the applicant given to lower their uric acid?
- Was the applicant advised to change their diet due to high uric acid; if yes, has the applicant done so?
- Does the applicant know the results of their most recent uric acid test?
- Is the applicant still taking any medication related to gout? If yes, which ones and has there been any Rx change in the last 2 years?
- Did the applicant's doctor say that their gout was related to their alcohol consumption? If yes, how much did the applicant drink per day/week prior to their first gout episode and has their intake changed?

GUILLAIN-BARRÉ SYNDROME

This disorder is also called acute idiopathic polyneuropathy.

It manifests as weakness that begins in the legs and moves upward to often involve the muscles of the arms and face.

Various other features may be present including paresthesias (numbness tingling and pain) and adverse effects on the heart (tachycardia, arrhythmias), blood pressure changes and lung dysfunction.

Some cases are fatal but most resolve, sometimes after many months and 20% are left with persistent disability. Late relapses are rare.

Treatment with a procedure called plasmapheresis is done in severe and/or rapidly progressive cases.

The main underwriting issues are any underlying cause (such as HIV infection) and whether the applicant has recovered completely or has significant residual issues.

HEAD AND NECK CANCER

Carcinoma of the head and neck region may arise any of these discrete sites: lip, tongue, inner lining of the check, tonsil, soft palate, hard palate, nasal cavity (paranasal sinuses), pharynx (nasopharynx, oropharynx, hypopharynx), epiglottis, larynx and esophagus.

Overall, the most common causes are cigarette smoking, other forms of tobacco use and heavy drinking.

Oropharyngeal, tonsillar and base of tongue cancer may also be induced by human papillomavirus type 16.

Most cases occur over age 60 but 28% arise prior to age 55. All cases may be preceded by premalignant dysplasia and carcinoma in situ. White (leukoplakia) and red (erythroplasia) in the mouth are often premalignant, especially in smokers.

The upper aerodigestive tract is lined with squamous epithelium and all sites in this region are at increased risk due to tobacco use, etc. An applicant who develops a premalignant, in situ or invasive tumor anywhere in this region is at high risk for not only a recurrence but also second and even subsequent cancers in this region.

Treatment of localized disease typically involves a combination of surgery and radiation therapy. When radiation therapy is used alone, this raises the question of surgically incurable disease as well as significant comorbid conditions.

Lymph node dissection is often done for more than minimally invasive carcinomas. Chemotherapy is usually reserved for advanced/metastatic disease.

Unfavorable factors include tumors > 4 centimeters, high-grade (III/IV) cancer, stage III or higher, lymphovascular or perineural invasion, ongoing post-treatment weight loss and continued tobacco use.

Prognosis differs markedly by site. Cancers of the lower lip are nearly always cured and survival is better in tumors at sites that are visible during oral examinations and/or that cause symptoms early in the course of the disease.

* Note: if the applicant's smoking/tobacco use history was not adequately elicited elsewhere on the application, clarify it in this context including routes of consumption (smoking, chewing, snuff), average mount consumed daily, duration of use, quitting (tried and failed or succeeded and if so how long off tobacco use)?

KEY UNDERWRITING ISSUES

- Tumor site
- In situ or invasive
- Exact diagnosis
- Stage
- Specific pathological features
- Type(s) and extent of treatment
- Extent of followup
- Recurrence
- Prior and subsequent premalignant lesions
- Weight status post-treatment and ongoing
- Nutritional and other functional issues
- Tobacco and alcohol use practices

QUESTIONS*

- When was the applicant diagnosed with head/neck cancer?
- At what precise site did the tumor arise?– the better the site is defined (top, side or bottom of tongue vs. simply tongue), the more helpful in underwriting.
- Was the tumor preinvasive (in situ) or invasive?
- What was the tumor stage at diagnosis?
- What forms of treatment were administered? If surgery, could the entire tumor be removed and were lymph nodes also removed?
- Has the cancer recurred; if yes, when and where, and what additional treatment was given?
- How often does the applicant see their physician for followup related to the cancer?
- What tests has the physician done during the last several visits?
- Has the applicant maintained their weight adequately following treatment?
- Has the applicant had any issues with food intake and nutrition?
- Has the applicant ever had any other tumors affecting their head and neck region?

HEART BLOCK

Cardiac electrical impulse formation and transmission precedes and stimulates mechanical actions of the heart muscle during systole and diastole.

The impulse initiates in the sinoatrial (SA) node, proceeds down several intraatrial pathways, coalesces in the atrioventricular (AV) node, then travels through the bundle of His and down the intraventricular pathways (right bundle branch, left anterior and posterior branches) to the Purkinje fibers reaching all cardiac ventricular cells.

Heart block refers to partial or complete interruption of impulse transmission. This occurs more than rarely at a number of specific sites including the SA and AV nodes and intraventricular pathways. It is diagnosed on an ECG.

AV block may be designated as 1st degree, 2nd degree (Mobitz I/Wenckebach and Mobitz II) or 3rd degree (complete heart block).

1st degree heart block is defined as extent of prolongation of the PR interval on the ECG. Mild 1st degree HB is insignificant as an isolated finding.

2nd degree heart block is usually associated with underlying heart disease. Mobitz II is typically more severe and may require a pacemaker. Complete heart block may be congenital or acquired and requires a pacemaker.

Right bundle branch block (RBBB) may be incomplete (insignificant) or complete. It may be an isolated finding or associated with a heart attack or other significant pathology.

Left bundle branch block (LBBB) is somewhat more likely to be pathological and its status also depends upon context.

Left anterior hemiblock (LAH) is far more common and somewhat less significant than left posterior hemiblock (LPH).

Bifascicular block is present when there is a combination of a complete RBBB plus either a LAH or LPH.

In trifascicular block combines a 1st degree AV block and a bifascicular block.

The significance of any heart block depends primarily on two factors:

- Consequences of its impact on cardiac function
- Known or probable association with underlying heart disease/damage

HEART FAILURE

Heart failure is defined as the inability to maintain adequate cardiac output.

HF is the result of cardiac remodeling with progressive chamber enlargement. It is a chronic disease with acute episodes of symptomatic worsening called decompensation.

Prevalence increases with age from < 1% under age 50 to 10% after age 80.

The American College of Cardiology identifies four stages (A through D). Stage A is "pre-heart failure" because there is no significant structural damage. The patient is asymptomatic. This stage is characterized by diastolic and/or systolic dysfunction.

The American Heart association classifies heart failure by functional status (class 1 through 4). In class 1, no activity limitations are yet present and ordinary activity does not cause undue fatigue or shortness of breath, both of which become progressively worse in classes 2-4.

Diastolic dysfunction (DD) manifests as impaired cardiac distensibility, filling and/or relaxation. When present, it doubles the risk of progression to overt failure.

Systolic dysfunction (SD) is impaired cardiac contraction with a reduction in let ventricular ejection fraction (LVEF), the cardinal finding in systolic failure. Normal resting LVEF is at least 50%. LVEF < 50% constitutes SD.

The resting ECG is not useful here and the diagnosis of dysfunction/failure is initially made by echocardiogram, ideally Doppler echo because it is more precise in identifying the diagnostic parameters.

NT-proBNP is almost always elevated in SD, usually increased in DD and invariable quite high in overt failure. Liver enzymes are also elevated in many cases. Ultimately the diagnosis is confirmed by cardiac catheterization if necessary.

Dysfunction and subsequent failure can be provoked by many disorders affecting the heart and circulation. Heart failure can be a consequence of myocardial infarction, pulmonary hypertension and cardiomyopathies.

Risk factors include hypertension (leading cause of DD), obesity, diabetes, longtime smoking, sleep apnea, anemia and the use of certain chemotherapy drugs, mainly doxorubicin, to treat cancer (often decades prior to onset of dysfunction and then irreversible failure).

Various cardiac drug classes may be used in managing systolic and diastolic failure. These include angiotensin-related hypertension medications, beta-blockers, loop diuretics, spironolactone and digitalis. Digitalis is a red flag because it is most often used when atrial fibrillation is also diagnosed.

In DD, OD and early HF cases deemed potentially insurable, underwriters will order the NT-proBNP test.

KEY UNDERWRITING ISSUES

- Precise diagnosis
- Symptoms if present
- Precipitating cause/risk factors
- Test results
- Degree of impairment
- Stable or progressive
- Treatment
- Exacerbations/hospitalizations
- Current NT-proBNP

QUESTIONS

- When was the applicant diagnosed with diastolic/systolic dysfunction or heart failure?
- What was the precise diagnosis (DD, SD, systolic HF, diastolic HF or both)?
- What symptoms did the applicant have at diagnosis and/or in the interim; are they decreasing, stable or increasing?
- If the applicant did not have symptoms, what lead to them to being diagnosed with this condition?
- Is the applicant aware of any other medical condition that has precipitated their cardiac dysfunction/heart failure; if yes, full details?
- Has the applicant been hospitalized for this condition; if yes, when, how many times and full details?
- Does the applicant know their stage or AHA class?
- What treatment was the applicant given and has it changed in the past 2 years; if yes, full details.
- Does the applicant have any current restrictions or limitations on his capacity for physical activity; if yes, what are they?

The heart has four valves. Two are between the atrium and ventricle (mitral valve on the left side and tricuspid valve on the right). The other two are between the ventricle and its inflow (pulmonic valve on the right side) or outflow (aortic valve on the left side) tract.

There are two basic types of valvular dysfunction/damage that can occur in each of them: regurgitation (also called insufficiency) and stenosis (narrowing of the opening).

DIAGNOSIS

These disorders may be distinguished on the basis of heart sounds, most notably murmurs resulting from how they impact blood flow. The timing (systolic or diastolic), location, loudness/intensity and pattern of sound transmission help to identify them and aid in determining their significance.

Mitral stenosis and aortic regurgitation/insufficiency are diastolic murmurs and often more difficult to hear than the systolic murmurs caused by aortic stenosis and mitral insufficiency.

Heart valves are evaluated with a variety of tests. The first one is usually echocardiography because it is non-invasive and less costly than other imaging studies

Blood flow through the heart valves is best demonstrated on the Doppler ultrasound test. Because this test is highly sensitive, very minimal/trivial degrees of regurgitation are often reported but seldom significant.

Subacute bacterial endocarditis (SBE) prophylaxis may be given to prevent this highly lethal complication.

SPECIFIC VALVE DISORDERS

Three right-sided heart valve disorders are very uncommon: tricuspid stenosis and significant degrees of tricuspid regurgitation/insufficiency and pulmonic regurgitation/insufficiency.

Pulmonic stenosis is mainly congenital, often discovered incidentally and in these cases usually insignificant.

Mitral stenosis is mainly a consequence of rheumatic fever-induced heart damage and its incidence has declined sharply. It is usually rated highly or declined.

Mitral regurgitation/insufficiency may be congenital, due to mitral valve prolapse or arise as a consequence of rheumatic fever, endocarditis or heart attack. More severe cases are treated surgically with repair or replacement.

Mitral value prolapse (MVP) is a fairly common disorder. In most cases it is asymptomatic and discovered incidentally based on midsystolic click and late systolic mitral heart murmur. These cases usually have little excess mortality risk. MVP also occurs as a consequence of some heart attacks and in this context may have significant implications.

Aortic regurgitation/insufficiency and aortic stenosis may be congenital, arise due to a bicuspid aortic valve or occur as a result of rheumatic fever, endocarditis and other diseases, or because of age-related calcium deposition (aortic sclerosis).

Severe aortic stenosis has a poor prognosis unless valve replacement is undertaken.

This type of surgery is becoming more common especially on a transcatheter (TAVR) basis. Some cases have a reasonably favorable prognosis after a waiting period.

Bicuspid aortic valve (BAV) is a hereditary congenital defect wherein the valve has two instead of the normal three leaflets. It is present in roughly 1% of persons.

Coarctation of the aorta is a congenital disorder present in 35% or more of bicuspid valve cases. BAV may also be associated with decreased elasticity of the aorta leading to aortic dilatation (widening). This may require aortic root replacement surgery.

HEART VALVE DISORDERS

KEY UNDERWRITING ISSUES

- Involved valve(s)
- Cause
- Extent of valve dysfunction/damage
- Asymptomatic vs. extent of symptoms
- Type of treatment, if needed
- Impact of treatment on valve and overall cardiac function
- Cardiac and other comorbidities

QUESTIONS

- What valve disorder does the applicant have?
- Is it congenital (present at birth) or acquired?
- Was the diagnosis made due to assessment of symptoms and if yes, what symptoms were present?
- Does the applicant have any other cardiac-related conditions; if yes, full details?
- Has this disorder been treated? If yes:
  - In what way, with full details.
  - Was the treatment deemed successful?
  - Has he had any symptoms or complications in the interim?
- Has the applicant's physician restricted their activities in any way; if yes, full details?
- Has the applicant been advised that they may require treatment/ further treatment in the future; if so what and when?

HEMOPHILIA

Hemophilia is a congenital deficiency in clotting factors predisposing to bleeding either spontaneously or after some degree of typically minimal trauma.

The two main types are hemophilia A and B. Type A occurs in one in 25,000 live male births. Type B is present in one in 25,000. Females are carriers of the genetic defect.

Most cases are mild and in these bleeding only occurs with surgery and significant trauma. Severity depends on the % of activity of the affected clotting factor.

Hemophilia is treated with replacing the needed clotting factor. Minor bleeding in mild cases may be managed with intravenous or intranasal DDAVP (a form of the PITUITARY hormone vasopressin).

In addition, some patients get periodic infusions of clotting factors or DDAVP as prophylaxis against bleeding episodes as well as clot-preserving medications, etc.

Mild cases have a near normal life expectancy.

von Willebrand disease is the most common inherited bleeding disorder. There are several types of vWD with differing degrees of mortality risk.

Type 1 has the lowest risk and milder cases can be managed with DDAVP. In all other cases vWF replacement is needed.

Both mild Von Willebrand disease (Type 1) and mild hemophilia have near-norm average life expectancies, but serious bleeding events can happen at any time.

All applicants with clotting disorders should be tested for HIV-1 infection and hepatitis C.

KEY UNDERWRITING ISSUES

- Exact diagnosis
- Severity based on type/extent of clotting factor deficiency
- Detailed history of bleeding episodes, if any
- Treatment, including prophylaxis, if any
- Test results for HIV-1 and hepatitis C viruses

QUESTIONS

- What is the applicant's exact diagnosis?
- What circumstances led to the diagnosis being made?
- Has the applicant had any significant bleeding episodes; if so, how many times and full details?
- What treatment was given for bleeding episodes, if any?
- Is the applicant currently using any form of prophylaxis or other forms of treatment, if no, when was the last time other forms of treatment were prescribed?

HEPATITIS

Note: *hepatitis B and hepatitis C are addressed separately. This section covers other types of hepatitis.*

Hepatitis is liver inflammation. It can be acute (lasting less than 6 months) or chronic.

There are dozens of potential causes of hepatitis, including five major hepatitis viruses. Two of these – hepatitis B and C – account for most cases of significant hepatitis seen in underwriting.

Other causes include hepatitis viruses A, D and E, other viruses, autoimmune hepatitis, alcoholic hepatitis (see Alcoholic Liver Disease), nonalcoholic steatohepatitis (NASH, discussed separately), drug-induced, etc.

Hepatitis is often asymptomatic and suspected based on elevated ALT and AST tests. Other cases range from mildly symptomatic to fulminant and potentially lethal.

Treatment is based on the underlying causes and insurability depends on recovery from acute disease or the extent of chronic hepatitis and its prognosis.

Hepatitis A occurs on an acute basis only and there are no insurability issues after complete recovery.

Hepatitis D arises only in persons already infected with hepatitis B and the incidence is quite low. It is not curable, causes significant excess mortality due to cirrhosis and liver failure and will be rated or declined.

Acute hepatitis E is usually asymptomatic, except in pregnant women (where it can be life-threatening). The diagnosis of chronic hepatitis E is being more common. Most cases are discovered when asymptomatic and the long-term implications remain to be clarified.

AUTOIMMUNE HEPATITIS

In most cases, this is a chronic disease that often arises insidious and is first detected on routine lab testing. It is most common in younger women but can occur at any age.

There are two types with distinctive features. In each, liver enzymes are dramatically elevated and liver biopsy is usually needed to establish the degree of liver pathology.

Treatment is with prednisone in high doses plus azathioprine, with 60% getting an initial remission. However, over 90% relapse.

Best cases are diagnosed between 20 and 60, free of more than mild/moderate fibrosis and with complete normalization of liver enzymes on Rx. Overall mortality is twice expected.

DRUG-INDUCED HEPATITIS

There are hundreds of medications than can induce hepatitis, ranging from asymptomatic with minimally elevated liver tests to fulminant and fatal.

In most cases, withdrawal of the offending drug leads to recovery with complications. In others, the liver damage persists and may worsen despite stopping the drug.

Underwriting is based on how this sorts out and only asymptomatic cases with minimal liver test elevation are insurable until the problem resolves.

CRYPTOGENIC HEPATITIS

In a small % of cases, no cause can be determined for liver inflammation and subsequent transient/permanent damage.

These are called cryptogenic and underwriting is based on what we do know. If cirrhosis is present, as it often is, it is difficult to identify those few potentially insurable cases.

HEPATITIS

KEY UNDERWRITING ISSUES

- Precise diagnosis/cause
- Basis of diagnosis
- Symptoms
- Liver test results
- Biopsy findings
- Treatment
- Rx response
- Liver and extrahepatic complications

QUESTIONS

- When was the applicant diagnosed with hepatitis?
- What is the cause; if unknown, what did the applicant's doctor say was the most likely cause?
- What symptoms did the applicant have?
- How was this diagnosis made (which tests)?
- Did the applicant have a liver biopsy; if yes, how many, when was the most recent and full details?
- Was the applicant ever told he has cirrhosis of the liver?
- What medical treatment was the applicant given?
- Is the applicant still on treatment?
  - If yes, what is the applicant taking now and has the Rx changed in the last 2 years; if yes, what was the applicant taking previously?
  - If no, when did the applicant stop and was the decision made by their doctor?
- Was the applicant hospitalized; if yes, when, how many times, with full details?
- Has the applicant made a complete recovery? If not, what problems remain?

HEPATITIS B

Hepatitis B (HBV) is the second leading cause of infectious hepatitis in this country with an estimated 1.25 million chronic HBV carriers.

HBV infection may be acquired from an infected mother and this route of acquisition has the highest risk of chronic hepatitis B. It is also a sexually transmitted disease and may arise via injected drug use, household exposure to infected persons, etc.

Acute hepatitis B may resolve spontaneously or progress to chronic disease. Most acute cases are asymptomatic or have mild symptoms.

The diagnosis is made with serological (blood) markers for viral antigen or antibodies to the virus. The hepatitis B surface antigen test (HBsAg) is positive in nearly all cases when acute or chronic infection is present. When the virus clears, the patient usually has a positive test for HBV antibodies (anti-HBs).

The results of the 7 main serological tests are vital to assessing insurability.

The ALT and AST enzymes may be elevated consistently or intermittently or even normal in some cases. They should be normal once the viral infection has resolved.

Liver biopsy is often done to determine the extent of liver damage in chronic HBV infection. Liver disease may resolve, improve, stabilize or progress whether or not the virus is cleared from the body.

The two major complications are cirrhosis and liver cancer.

Patients at high risk may be screened on a regular basis with the liver cancer test alfa-fetoprotein (AFP) and liver ultrasound.

The main drugs used for hepatitis B are injected (interferons, pegylated interferons) or oral (lamivudine, adefovir dipivoxil, entecavir and zidovudine).

The goal is to achieve and then maintain a complete sustained viral remission (SVR). The success of treatment depends on a variety of factors. In some cases, cirrhosis may regress or even disappear, but then recur and progress if the Rx is stopped.

There are five main factors in underwriting chronic hepatitis B:

- Extent of liver disease
- Serological status based on past and most recent/current testing for antigen and antibodies
- Clearance of the infection
- Results of liver enzyme and related lab tests
- Impact of treatment, if given

KEY UNDERWRITING ISSUES

- Age at onset
- Mode of transmission (becoming infected)
- Acute and resolved or chronic
- Symptoms and physical findings at any time
- Results of all tests
- Current serological status
- Extent of disease/liver biopsy findings
- Treatment and response
- Ongoing screening for liver cancer

QUESTIONS

- At what age was the applicant diagnosed?
- Does the applicant know how they became infected?
- Did the applicant have any symptoms during the acute phase?
- Did the acute hepatitis infection resolve within 6 months or did the applicant progress to chronic hepatitis B?
- Does the applicant know the results of their most recent serological tests?
- Has the applicant had a liver biopsy; if yes, how many, when was the most recent one and full details?
- Was the applicant treated? If yes:
  - When were they treated (note if more than once)
  - Which drug(s) were used?
  - How long were they treated?
  - Did they attain a remission on treatment?
  - If yes, the applicant is still in remission?
- Is the applicant having ongoing screening for liver cancer? If yes, how often and with what tests?

HEPATITIS C

Hepatitis C virus (HCV) causes acute hepatitis, in most cases without signs or symptoms. 15-20% of patients clear HCV spontaneously or treatment within 6 months. The rest have chronic hepatitis C.

Many insurers now screen with and/or selectively order the anti-HCV (hepatitis C antibody) test. Positives are confirmed with an antigen-based test, which is positive if the virus is present.

At ages 50 and older, most cases are due to blood transfusions prior to onset of blood donor screening in 1991.

Most younger age cases are due to other modes of transmission including drug abuse.

There can be an interval of decades between acute infection and first clue to chronic infection, which is detected mainly persons with unexplained elevated liver enzymes.

Symptoms are uncommon until the onset of advanced liver disease.

Until recently, treatment was with interferons and pegylated interferons. New antiviral drugs have greatly increased the % of patients attaining a sustained viral remission (SVR) with excellent prospects for cure of the infection.

However, it is essential to understand that cure of the infection is not the same as resolution of any prior liver damage. That damage may resolve, stabilize or increase. The key question is whether the applicant already has advanced fibrosis or cirrhosis.

Some patients also have extrahepatic manifestations (conditions occurring outside the liver due to HCV infection). These include arthritis, chronic kidney disease and an autoimmune disorder called cryoglobulinemia. The risk of diabetes is increased in chronic hepatitis C.

There are a number of noninvasive tests for fibrosis. The latest is called liver elastography. The only way to accurately assess the status of the liver is by biopsy, which many patients refuse for various reasons.

Chronic hepatitis C is now the leading cause of cirrhosis, liver cancer and need for liver transplantation. The prevalence of these events is expected to continue to increase until the mid-to-late 2020s and then decline.

Applicants with fibrosis/cirrhosis should be screened periodically for liver cancer with alfa-fetoprotein and liver ultrasound.

KEY UNDERWRITING ISSUES

- Age at onset
- Mode of transmission (becoming infected)
- Signs and symptoms
- Test results
- Biopsy findings
- Treatment
- Response to treatment
- Ongoing screening for liver cancer

QUESTIONS

- At what age was the applicant diagnosed?
- Does the applicant know how they became infected?
- Has the applicant had any symptoms; if yes, which ones and when?
- Does the applicant know the results of their most recent lab tests?
- Has the applicant had a liver biopsy; if yes, how many, when was the most recent one and full details?
- Was the applicant treated? If yes:
  - When was the applicant treated (note if more than once)
  - Which drug(s) were used?
  - How long was the applicant treated?
  - Did the applicant attain a remission on treatment?
  - If yes, is the applicant still in remission?
- Is the applicant having ongoing screening for liver cancer? If yes, how often and with what tests?

HEPATOMEGALY

Hepatomegaly is liver enlargement. In many cases, liver enlargement is due to a potential serious disorder. It may also be caused by simple nonalcoholic steatosis (fatty liver), which usually does not confer excess risk.

The fact that a liver is palpable does not mean that it is enlarged. In very slender persons, the liver may initially appear to be enlarged because so much of it is palpable.

During a medical exam, the physician will palpate the liver, checking its consistency and use percussion to determine if it is likely enlarged. The results may be reported in fingers' breadths or centimeters.

Mild/moderate liver enlargement cannot be reliably confirmed with palpation and liver ultrasound is usually done in this setting. In some cases, ultrasound will also provide a clue as to the cause (for example, a "bright" liver strongly suggests steatosis).

If enlargement is confirmed and the cause is not known, the physician is obliged to do a workup. Normal liver enzymes do not rule out the possibility of potentially serious liver disease.

Low serum albumin, very low BUN (blood urea nitrogen), very low cholesterol and elevated serum globulin are associated with an increased risk of liver disease.

The consistency of the liver is also important. Under normal conditions the liver should be firm and have a smooth, non-tender edge. If the liver is hard, irregular, unduly soft or tender, further assessment is needed.

When due to potentially serious disease, hepatomegaly is often accompanied by spleen enlargement (splenomegaly).

Other exam findings of concern include:

- Spider telangiectasias (often called spider angiomas or simply "spiders") on the face, neck and chest
- Excess fluid in the abdominal cavity (ascites)
- Unduly redden palms (palmar erythema)
- Testicular atrophy
- Male breast enlargement (gynecomastia)
- Dupuytren contractures of the palm and fingers

Any of these findings in the presence of liver enlargement should lead to further clinical assessment…but we see many cases where they were ignored.

HEREDITARY HEMOCHROMATOSIS

Hemochromatosis is excessive deposition of iron in bodily organs. It may occur as a primary disorder or due to various underlying conditions. The latter are underwritten based on the cause.

Primary hemochromatosis is known as hereditary hemochromatosis because it is caused by gene mutations, mainly the C282Y mutation.

Inheriting the gene from one parent results in heterozygous HH and is not significant. If both parents have this mutation, the result is homozygous HH.

Homozygous HH is present in 0.5% of Caucasian Americans. Less than half experience iron overload; 28% of men and 1% of women have potentially serious consequences.

Onset of clinical disease is usually around age 50. Early symptoms are nonspecific. The first clue is usually elevated ALT and AST liver enzymes. If HH is suspected based on ethnicity, etc., iron studies are done. The two key findings are elevations of transferrin saturation and ferritin.

Iron overload consequences include serious liver disease culminating in cirrhosis, liver cancer, diabetes, arthritis, heart damage and characteristic slate-gray skin pigmentation.

Treatment is with phlebotomies and chelating agents such as deferoxamine to deplete iron stores. Successful treatment can reduce the impact of existing organ damage as well as prevent its onset. Prognosis depends on the extent of organ damage and blood ferritin levels. Advanced liver disease may require liver transplantation and post-transplant survival rates are favorable.

KEY UNDERWRITING ISSUES

- Gene mutation status
- Age at diagnosis
- Symptoms and physical findings
- Test results including liver biopsy
- Organs affected and extent of damage
- Treatment
- Post-treatment test results
- Current liver enzyme and glucose test results

QUESTIONS

- When was the applicant told they had hemochromatosis?
- Did the applicant inherit the gene mutation from one or both parents?
- What symptoms did the applicant have?
- What tests were done?
- Did the applicant have a liver biopsy; if yes, when and do they know the results?
- Has the applicant been diagnosed with liver disease, diabetes, arthritis or any cardiac condition; if yes, full details?
- What kinds of treatment has the applicant received and if phlebotomies, how often did/do they have them?
- Is the applicant still being treated; if not, when was the last time they were treated?

HIV-1 INFECTION

A growing number of companies will insure HIV-positive applicants on a moderate-to-high substandard basis, in some cases adding a flat extra premium. Maximum face amounts range to $1-2 million and many companies will write permanent and term on this basis.

Coverage is typically available between ages 30 and 65 to individuals on antiretroviral drug therapy, with adequate evidence of adherence to taking the drug(s) as prescribed.

Other criteria may include:

- Minimum interval on Rx
- Current and recent viral loads undetectable
- Currently favorable CD4 count at least >200 to >500
- Negative tests for hepatitis B and C infection
- No AIDS-related conditions, most of which are infectious diseases and malignancies
- No history of substance abuse

And no other major ratable conditions such as heart disease, diabetes, psychiatric disorders, etc.

The high cost of drug therapy may be a limiting factor for applicants not covered by health insurance for these medications.

HODGKIN LYMPHOMA

Hodgkin lymphoma (HL) has features distinct from all other lymphomas; the latter are known collectively as non-Hodgkin lymphoma (NHL).

There are 5 types of HL. The most common are nodular sclerosing (ND), mixed cellularity (MC) and nodular lymphocyte predominant (NLP).

ND and MC have far better prognoses than NLP and the rare lymphocyte depletion type that occurs mainly over age 60.

HL is usually diagnosed by biopsy of suspicious enlarged lymph nodes and when the classic Reed-Sternberg cell is present.

Staging is based on the number of lymph node and/or non-nodal sites involved and their location (above vs. below the diaphragm. The letter A is added if there are so-called "systemic symptoms" not present whereas B denotes their presence.

Stages I and IIA are considered "early" HL, whereas IIB, III and IV constitute advanced disease.

HL is usually treated with both radiation and chemotherapy.

Long-term survival in lower stage HL now exceeds 90% under age 45 but is less than 50% over age 65.

The risk of relapse increases with stage at diagnosis. Many relapsed patients can now be curatively treated with additional chemotherapy and stem cell transplantation.

Very late recurrence – as long as 20+ years after diagnosis and treatment – is more common in HL than most other malignancies.

The other concern is the late effects of treatment, most notably radiation and doxorubicin chemotherapy.

This is particularly important in patients diagnosed under age 30, who are at significant increased relative risk of both cancer and cardiac disease due to the delayed treatment effects.

Given the late recurrence and treatment-related consequences, HL requires lifelong followup by physicians and careful underwriting of all cases no matter when they were diagnosed.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Type of HL
- Stage
- Treatment
- Response to treatment
- Recurrence and retreatment
- Adequacy of followup
- Late treatment effects

QUESTIONS

- When was the applicant diagnosed with HL?
- What was the stage or extent of disease (sites involved and locations) at diagnosis?
- Does the applicant know the type of HL?
- What types of treatment did the applicant have?
  - What parts of their body had radiation therapy?
  - What chemotherapy drugs did they get?
  - Did the applicant attain a complete remission?
- Did the applicant have a relapse or recurrence? If yes:
  - How many times?
  - When did they occur?
  - What additional treatment did they get?
  - How long has the applicant been free of known disease?
- How often does the applicant see their oncologist or personal physician for followup related to HL and when was the last time?
- Has the applicant experienced any late effects of their HL treatment? If yes:
  - What were they?
  - When were the diagnosed?
  - How were they treated?

This term encompasses elevated levels of any blood lipid.

The key ones are:

- Total cholesterol (TC)
- Low-density lipoprotein cholesterol (LDL-C)
- Non-HDL cholesterol (TC minus HDL-C)
- Triglycerides

High-density lipoprotein cholesterol (HDL-C) is also considered in all cases, with low readings being favorable and high ones, in most contexts, desirable.

Lipid profiling has been expanding in recent years and other lipids that may also be reported clinically in this context include:

- Lipoprotein Lp(a)
- Remnant cholesterol (TC minus both LDL-C and HDL-C)
- Very low density lipoprotein cholesterol (VLDL-C)
- Apolipoproteins, mainly AI and B-100
- Various subtypes of LDL-C and HDL-C

TOTAL CHOLESTEROL

Hypercholesterolemia may be due to familial hypercholesterolemia and nearly all of these are heterozygous (gene inherited from one parent) or it be deemed an acquired condition due to various factors including diet.

In familial cases the applicant may have xanthelasma (tiny eyelid lesions) and/or xanthomas (tumor-like nodules associated with muscle tendons).

The greater the elevation, the higher the baseline debits. However, most insurers use the TC:HDL-C ratio as the driver in this context. The higher this ratio is, the greater the coronary disease risk.

Cholesterol mortality is described as "U-shaped" or sometimes as "J-shaped" because there is excess risk in low as well as high readings.

Most of the adversity with low readings is in the elderly where a TC of 100 has greater risk implications than a mild-to-moderate elevation. Cholesterol plays a number of essential roles in maintaining good health and when the amount is chronically insufficient, mortality goes up. The same is true for rapidly falling cholesterol in the absence of lipid lowering Rx.

LDL-C

This is a calculated rather than directly measured test, which has implications for its value relative to TC. The implications are the same as for TC from an underwriting perspective.

HDL-C

Long referred to as "good cholesterol," we now know that while higher HDL-C levels are generally favorable there are scenarios where it does not correlate with favorable mortality.

HDL-C can be broken down into its subsets, where smaller particles are more favorable than larger ones. This is not routinely done in clinical medicine.

Most insurers continue to treat higher HDL-C up to some maximum as favorable and it is the driver of lower (more favorable) TC:HDL-C ratios.

Very high HDL-C (over 80 in men and 100 in women) can be due to robust alcohol consumption as well as favorable lifestyle and genetic factors. For this reason, many companies order the CDT alcohol marker test at some HDL-C elevation threshold.

TRIGLYCERIDES (TG)

TG is one of the most misunderstood tests in underwriting. This is because many people cling to the mistaken belief that only fasting elevations have mortality implications. Abundant evidence shows that not only is this false but also that elevated postprandial (after eating) TG may be more significant to insurability status than fasting TG.

Hypertriglyceridemia has implications for the risks of coronary disease, diabetes and pancreatitis. Levels of 1000 or higher are largely a marker for pancreatitis, not CV risk.

Nevertheless, there continues to be an ongoing debate as to the relative significance of elevated TG. Most insurers debit elevated TG.

The TG:HDL-C ratio is an impressive marker but it is not often cited in medical records and not used in underwriting.

NON-HDL-C CHOLESTEROL

This test as emerged as a major player in lipid analysis. It is reported routinely on most screening blood profiles.

There is considerable evidence that elevations of this test are a better marker than TC, LDL-C and the TC:HDL-C ratio in terms of the risk of higher CAD and all-cause mortality.

Because it is a simple calculation (TC minus HDL-C) it could easily be used in underwriting.

LIPID MANAGEMENT

Elevated TC and LDL-C is treated primarily with the statins. The three most often used are atorvastatin, rosuvastatin and simvastatin.

The statins are also used in managing post-MI patients and diabetics despite normal TC and LDL-C levels, as well as dozens of other cardiovascular and non-CV contexts. Therefore, we cannot assume that someone taking a statin has hypercholesterolemia.

Some statins also exert favorable effects on HDL-C, triglycerides and other lipid components as well.

The drugs of choice for hypertriglyceridemia are the fibric acid derivatives such as fenofibrate.

Ezetimibe may be used alone or, more often, with statins. Its contribution is dubious.

There are also a number of 2nd line drugs:

- Niacin – effective for raising HDL-C, etc., but seldom used due to side effects such as severe flushing
- Bile acid sequestrant resins – colestipol and colesevelam: effective in reducing LDL-C levels but hampered by side effects
- PCSK9 inhibitors – Alirocumab and evolocumab: potent impact on LDL-C, injected and expensive
- Mipomersen and lomitapide – also potent impact on LDL-C and, for lomitapide, an even greater favorable effect on very high triglycerides levels. Their use is a red flag for treatment resistant hyperlipidemia.

There are over-the-counter remedies widely used to lower lipids, such as omega-3 fish oils, red yeast rice and spirulina.

Severe cases, mainly familial hypercholesterolemia, may be treated with apheresis, a procedure wherein LDL-C is literally removed from the blood.

In rare intractable cases of mainly homozygous familial hypercholesterolemia, surgical insertion of a portacaval shunt or liver transplantation may be done.

Most underwriting manuals now use lipid calculators to determine underwriting debits/credits.

The goal of calculator advocates is to maximize consistency in decisions. The Achilles heel in using them is overlooking or disregarding mitigating factors that do not fit the calculator's paradigm.

When underwriting lipids, we look at current and historic levels as well as patterns (rising, stable or falling) over intervals of months to years.

The other critical concern is CONTEXT (the most important concept in life underwriting):

- At what age did elevated TC or LDL-C arise; younger ages favor hereditary origin and potentially greater difficulty in controlling lipid levels with Rx?
- Is there an obvious/likely non-cardiovascular cause for the abnormal lipid level and if so is adequate treatment of that condition likely to resolve the lipids issue?
- Is the lipid elevation not responding to what should be adequate treatment and if so is the problem nonadherence to taking medication? Studies have demonstrated that upwards of 50% of patients on statins who have not already had a heart attack do not take the drug as prescribed.

HYPERLIPIDEMIA

KEY UNDERWRITING ISSUES

- Age at hyperlipidemia diagnosis
- Familial or sporadic
- Possible non-cardiac cause
- Lipids involved
- Recent and current readings
- Treatment
- Control on Rx
- Applicant adherence to Rx

QUESTIONS

- At what age was the applicant diagnosed with hyperlipidemia?
- Which lipids are affected?
- Do the applicant's (natural) parents and/or (natural) siblings have this problem as well; if yes, which ones and at what ages were they diagnosed?
- Was the applicant told that there was a specific cause; if yes, what was it and full details?
- What treatment does the applicant take for their lipid problem; list all drugs and any changes in past 2 years?
- How well have the applicant's lipids been controlled since starting treatment or at least in the last 2 years?

Blood pressure is measured in millimeters of mercury (mm Hg) using a device called a sphygmomanometer.

Hypertension may be primary (essential hypertension) or due to an underlying cause (secondary hypertension). Over 95% of cases are primary.

There are a variety of causes of secondary hypertension including tumors such as a tumor called a pheochromocytoma (95% benign), coarctation of the aorta (a congenital heart disorder), etc. Insurability depends primarily on the cause.

When SBP is elevated and DBP is normal, this may be referred to as isolated systolic hypertension (ISH) and if DBP is elevated in the presence of normal SBP, the corresponding term is isolated diastolic hypertension (IDH).

There is sound evidence that, broadly speaking, high DBP is somewhat more significant than elevated SBP under age 50 whereas, later in life SBP comes a better risk predictor than DBP.

In 2017, the American Heart Association and American College of Cardiology published their new guidelines for defining and managing high blood pressure. What they did is rather radical:

Category	Criteria
Normal	< 120 and < 80
Elevated	120-129 and < 80
Stage 1 HTN	130-139 and 80-89
Stage 2 HTN	≥ 140 and ≥ 90

They abandoned the “prehypertension” concept. Instead, they made what has always been “normal” BP either “elevated” BP or “stage 1 hypertension.”

How this will play out in underwriting remains to be seen. Hopefully, it will be realized that what we are doing now with preferred guidelines is adequate and we do not need to get tougher, so to speak, in this regard.

This problem will be magnified because there will be a push to treat patients with stage 1 hypertension and use at least two drugs in stage 2, a conservative position than previously. This could result in millions more people taking antihypertensive drugs.

Pulse pressure (PP) is defined as the difference between the systolic and diastolic readings. Thus, an applicant with a BP of 170/70 would have a PP of 100 mm Hg. The weight of evidence shows that PP > 80 has significant adverse mortality implications.

The American Heart Association has set 10 criteria for properly taking blood pressure readings. Experience teaches that they are not consistently adhered to clinically or during paramedicals for various reasons. Failure to adhere to those criteria can result in false positive BP readings.

Furthermore, stress, pain and excess stimulants (especially smoking and energy drink consumption) prior to BP measurement may also cause transient elevations in persons who do not have true hypertension. These effects can be great enough to result in debits.

Most companies now use BP calculators to determine debits for elevated blood pressure. These are advocated because they improve consistent in underwriting decision-making. On the other hand, they increase the likelihood that we will overlook or understate the significance of key considerations not included in the calculator paradigm.

SBP and DBP respond differently to exercise in healthy persons. SBP increases but generally does not exceed 210 in men or 190 in women. If readings are higher, this is called a hypertensive response to exercise.

On the other hand, DBP should not increase significantly and if it does go up ≥ 10-15 mm Hg the mortality risk is higher regardless of the SBP.

If systolic BP does not increase sufficiently during exercise, this is although an unfavorable finding.

These exercise-mediated effects on BP are discussed under Treadmill Stress Testing.

Both patient-measured home blood pressure readings and ambulatory BP measurements are being used increasingly in establishing a clinical diagnosis of hypertension as well as tracking BP readings in patients being followed for established HTN.

Ambulatory refers to the patient wearing a portable device during regular activities and while sleeping.

White coat hypertension (WCH) is defined as elevated BP readings when taken by a physician (hence the white coat) but consistently normal readings when recorded in other settings. Some studies show an increased risk of progressive to true hypertension in WCH. The overall mortality impact is minimal to nil.

Masked hypertension is defined as high BP during home (ambulatory) measurement despite consistently normal clinical BP readings. Unlike WCH, masked hypertension has a significantly increased risk of CV events and excess mortality. It is diagnosed far less often than WCH.

Other significant blood pressure considerations include:

- Day-to-day variability – a high degree of variability increases mortality even when readings are not in the hypertensive range.
- Difference in readings between arms – when this difference is substantial (≥ 10 mm Hg), there is a greater risk of circulatory disease events.
- Elevated nocturnal blood pressure – nighttime BP should be lower that daytime BP. If the patient's readings do not decrease at night, he is said to be a "non-dipper" and there is notably excess mortality in this context.
- In elderly applicants, SBP ≤ 110 and DBP ≤ 65 are risk factors for significantly increased mortality.

The three main organs at risk for damage from longstanding hypertension are the heart, kidneys and eyes.

The first manifestation of HTN-mediated heart damage is left ventricular hypertrophy (LVH). This may be roughly determined using ECG criteria or more accurately with an echocardiogram. This is covered under Left Ventricular Hypertrophy.

Hypertensive kidney disease has the same risk implications is diabetic nephropathy (kidney damage). Therefore, we consider all kidney related tests on screening blood and urine profiles.

Hypertensive eye disease is also quite similar to diabetic retinopathy.

Hypotension is low blood pressure.

This term is most often used in the context of blood pressure dropping steeply when standing up from a lying or sitting position (postural hypotension). Hypotension on this basis is underwritten based on the underlying cause and whether it is severe enough to require treatment.

TREATMENT OF HYPERTENSION

There are six basic classes of 1st line BP lowering Rx:

- Thiazide diuretics
- Angiotensin converting enzyme inhibitors
- Angiotensin receptor blockers
- Beta-blockers
- Calcium channel blockers
- Direct renin inhibitors

In addition there are over 30 compounds containing two or three of these drugs.

Therefore, hypertensive patients are often treated with two BP drugs. The need for 3+ drugs suggests a less favorable risk.

The same is true if the applicant requires spironolactone or loop diuretics, because they are largely reserved for patients unresponsive to 1st line drugs.

Patient nonadherence to HTN medication is common and has exceeded 50% in some studies. In fact, failure to take Rx is the leading cause of "treatment-resistant" hypertension.

Persistent failure to take HTN drugs as prescribed is associated with sufficient adverse implications to justify adding debits.

HYPERTENSION

KEY UNDERWRITING ISSUES

- Age at HTN diagnosis
- Primary or secondary; cause if secondary
- Average of appropriate past readings (within some interval) and current readings, if any, weighted on some basis
- Home and/or ambulatory BP monitoring
- Treatment
- Control of BP on Rx
- Applicant adherence to Rx
- Complications

QUESTIONS

- At what age was the applicant diagnosed with hypertension?
- Was the applicant told that there was a specific cause; if yes, what was it?
- When did the applicant begin treatment for hypertension?
- Does the applicant monitor their blood pressure at home? If yes, what has been the pattern of their readings over the past 12 months?
- Has the applicant had ambulatory blood pressure assessment? If yes:
  - When?
  - How many times?
  - Does the applicant know if their overnight (nocturnal) BP was lower, the same or higher than their daytime blood pressure?
- What treatment is the applicant taking for high blood pressure? List all drugs and any changes in past 2 years?
- How often does the applicant see their physician for follow-up related to their blood pressure?
- How well has the applicant's blood pressure been controlled since starting treatment or in the last several years?
- Has the applicant ever needed to seek out emergency care for symptoms related to their blood pressure; if yes, when, how many times and full details?
- Has the applicant had any hypertensive complications affecting their heart, eyes or kidneys; if yes, what were they and full details?

HYPERTROPHIC CARDIOMYOPATHY

This is the most common cardiac muscle disorder (cardiomyopathy).

Hypertrophic cardiomyopathy (HCM) is a hereditary condition and the prognosis is in part tied to the specific gene mutation.

It is present when any left ventricular wall including the intraventricular septum is significantly thickened (> 1.5 cm) on an echocardiogram.

In some cases, HCM results in obstructed outflow via the aortic valve. In others it does not and these cases are less likely to produce characteristic symptoms.

The two main presenting symptoms are dyspnea and chest pain. Syncope is also a prominent feature with increasing outflow obstruction. Cardiac arrhythmias are common and ventricular arrhythmias may result in sudden death.

The heart murmur caused by HCM can sometimes be distinguished from other causes based on specific findings.

LVH is present on the ECG in 75% of cases and Q waves may mimic a prior MI.

While onset is most common in early adulthood, diagnosis may occur at any age. Cases diagnosed at age 50 and over tend to be less severe and more apt to be insurable on a favorable basis than those arising under age 30.

There are several approaches to management of HCM.

Beta-blockers and calcium channel blockers are often prescribed, especially when there are symptoms and/or outflow obstruction. Diuretics are also often used.

Nonsurgical ablation of a thickened cardiac septum improves symptoms and lessens complications in many cases.

Excision of a portion of the septum (myotomy/myomectomy) has been effective in some cases with severe symptoms that do not respond to medication. Use of an implantable cardioverter defibrillator (ICD) is a red flag for high risk of ventricular arrhythmias, syncope and sudden death.

The prognosis in HCM varies widely.

Mild cases diagnosed mainly later in life may accommodate issue at standard rates whereas those arising in childhood are generally uninsurable. Outcome depends in part on the gene mutation and family history as well as the extent of outflow obstruction and cardiac damage incited by the disorder.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Specific gene mutation if known
- Family history, especially cardiac sudden death
- Symptoms at diagnosis and subsequently
- ECG, echocardiogram and other test findings
- Extent of cardiac structural and functional impairment
- Mode(s) of treatment used and their impact
- Comorbid conditions that may act synergistically to increase symptoms and risk of complications

QUESTIONS

- At what age was the applicant diagnosed with HCM?
- Did this happen on the basis of screening or because of symptoms?
- Does the applicant have a family history of this condition and if yes, do they know the precise gene mutation involved?
- Have the applicant's parents or siblings died suddenly on a cardiac basis; if yes, which ones and at what ages?
- What symptoms did the applicant experience; if symptoms, how often do they occur and when was the last time?
- What cardiac tests has the applicant had and what were the results?
- What treatment has the applicant received?
  - If medication, which ones, in what doses and has the medication changed in the last 5 years?
  - If surgery, which procedure, when and what was its impact?
  - Any other forms of treatment; if yes, describe.
- Does the applicant have any activity restrictions; if yes, what are they?

INTELLECTUAL DISABILITY

This is defined as having below average intelligence/ mental ability, often accompanied by a lack of capacity for independent daily living.

The main causes are genetic conditions such as Down syndrome, consequences of pregnancy/childbirth, certain infections, severe head injury, near-drowning, toxic substances (including brain-related treatment of childhood cancers), environmental toxins and severe abuse/neglect.

No definite cause can be established in the majority of cases.

More than minimal intellectual disability is associated with significantly foreshortened life expectancy in medical studies. In addition, there are insurability implications related to the capacity to live in a wholly independent and self-sufficient manner.

KIDNEY CANCER

Nearly all kidney malignancies are renal cell carcinomas (RCC).

The incidence of RCC increases steeply with age and is higher with cigarette smoking, longstanding hypertension and obesity.

The % of RCC cases detected on the basis of classic symptoms (flank pain, palpable mass and hematuria) has decreased markedly as more are being found incidentally on imaging done for other reasons.

There are several varieties of RCC, the main ones being clear cell (70%), papillary (10-15%) and chromophobe (5%). Papillary and chromophobe tumors have higher cure rates than clear cell cancers.

Tumor size and whether the tumor is confined to the kidney or invades adjacent structures are the keys to staging RCC, and stage is the primary determinant of insurability.

T1 and T2 tumors free of metastases are most likely to be insurable. In terms of size, those < 2 cm have over 90% 5-year survival as compared to 50% that are at least 7 cm in diameter.

Grade I and I carcinomas have over 80% 5-year survival as compared to 60% in grade III. Grade IV tumors have a dismal prognosis.

Other adverse pathology findings with higher mortality are vascular invasion, tumor necrosis, and when the tumor's DNA is reported as aneuploid (abnormal) vs. diploid (normal). Mortality also doubles in ongoing cigarette smokers.

Surgery is the only potentially curative treatment in most cases. This may be accomplished with full or partial nephrectomy and occasionally with new ablation procedures.

Incidentally discovered RCC presents as a so-called "small renal mass" < 2 cm in diameter. In most cases, the tumor requires ongoing surveillance rather than excision. The reasons for this are:

- Some are actually benign growths that cannot be distinguished from early malignancies without biopsy
- Others are technically malignant but behave indolently, either growing slowly or remaining unchanged for years

There are many questions that need to be resolved in order to insure "small renal masses," especially within the first 3 years after discovery.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Current smoking
- Symptomatic at diagnosis or incidentally discovered
- Tumor size/stage
- Type of RCC
- Specific pathologic features (see above)
- Treatment
- Followup care

QUESTIONS

- At what age was the applicant diagnosed with kidney cancer?
- Was the cancer discovered based on symptoms or discovered unexpectedly on imaging tests done for other reasons? If incidentally:
  - Does the applicant know the size of the tumor?
  - Has the applicant had blood in the urine or any other symptoms since the tumor was discovered; if yes, what symptoms?
  - Was the incidental tumor biopsied/excised or is it being observed only? If observed, how often is followup done and when was the last time?
  - Is the applicant aware of any definite or probable intent to biopsy or remove the tumor; if yes, when?

Note: if it was incidentally discovered and not removed, the remaining questions do not need to be asked.

- Was the tumor localized or did it spread? If spread, where?
- What treatment was given for the tumor?
- How often does the applicant see the oncologist or their personal physician for followup specifically pertaining to this history?
- When was the last followup visit?

Albuminuria/proteinuria is not a kidney function test but if often used in this context. It is covered under Albuminuria

There are 4 main kidney function tests used in life underwriting:

- Estimated glomerular filtration rate (eGFR)
- Serum creatinine
- Blood urea nitrogen (BUN)
- Cystatin C

EGFR

It is too costly to directly measure the glomerular filtration rate. Hence, one of several methods of estimating GFR is used clinically and, if reported, in underwriting.

"If reported" means that while eGFR is routinely calculated, it is not reported unless specifically requested by the insurer. The reason for this is that eGFR is a rather imprecise determination with common factors such as obesity and older age capable of distorting the results.

Both high and abnormally low (< 60) eGFR are significant.

High readings, generally regarded as > 120, reflect a process called kidney hyperfiltration. It can be a precursor to diabetic kidney disease (nephropathy).

When eGFR is between 45 and 59, the adverse impact on mortality is significantly less than when it is 44 or lower.

The eGFR decreases with age and 10-15% of healthy persons ≥ age 60 will have readings consistent with "chronic kidney disease" (CKD). For this reason, the clinical diagnosis of CKD is often made in cases where the patient does not a significant renal impairment.

CREATININE

Creatinine is a byproduct of the breakdown of skeletal muscle that is filtered by the kidney. In kidney damage/disease, blood creatinine typically increases.

Urinary creatinine, on the other hand, is not directly significant to insurability. Rather, it is used to enhance the accuracy of urine protein/albumin measurement. It also helps to detect cases where the applicant uses a substitute for urine when asked to provide a urine specimen.

Elevated creatinine strongly correlates with a significant degree of kidney impairment.

In the elderly, sarcopenia – accelerated loss of skeletal muscle – is a common and often significant adverse finding. Because sarcopenia reduces the amount of skeletal mass, less creatinine is found in the blood.

The result is that persons age 70 and over with kidney damage often have false-negative creatinine readings.

Another issue with creatinine is that it can be elevated by transient mechanisms such as heavy intake of red meat and use of certain dietary supplements used in bodybuilding.

CYSTATIN C

Cystatin C is a relatively new kidney disease marker. It has a huge advantage over creatinine, especially at older ages, because it is not impacted by skeletal muscle mass and the other transient mechanisms cited above.

Cystatin C has also been shown to be a credible marker for circulatory disease, for mild cognitive impairment/early dementia and premature physical frailty. An argument could be made to stop using cognitive and frailty tests in favor of screening with cystatin C.

Cystatin C is available from industry labs and its use is beginning to increase.

BUN (BLOOD URINE NITROGEN)

BUN is a marker for renal impairment that contributes little to underwriting. For the most part, we use the BUN:creatinine ratio in lieu of the BUN reading as a separate factor.

Below normal BUN – a rare finding on screening tests – is a red flag for chronic alcoholism and/or undiagnosed advanced liver disease.

KIDNEY TRANSPLANTATION

This is now the most common major organ transplantation procedure.

It is the only therapeutic option for patients with end-stage renal disease (ESRD) other than the stopgap intervention known as hemodialysis.

Up to 50% of ESRD patients are healthy enough for this procedure.

Roughly two-thirds of transplanted kidneys come from cadavers and the rest from live donors. There is no mortality risk inherent in being a live donor.

Long-term survival rates are better in life donor cases, exceeding 80% overall after 5 years. In cadaver donor cases, 5-year survival is approximately 66%.

Because of the high prevalence of cardiovascular disease in ESRD, the most important insurability issues in kidney transplantation, other than the reason for the procedure, are the applicant's CV history and risk factor profile.

The 3 main keys to underwriting are:

- Reason for transplant (underlying kidney impairment)
- Donor source – usually standard if identical twin
- Length of time since transplant – usually at least 5 years to standard rates
- Current renal function

Most cases are moderate to high substandard.

KLINEFELTER SYNDROME

This uncommon (1 in 660 newborn males) disorder is due to an extra X chromosome.

Affected individuals usually have a normal appearance before puberty. Thereafter, they have disproportionately longer arms and legs, breast enlargement (gynecomastia) sparse body hair and small testicles. Intellectual performance may be impaired.

The risks of diabetes, osteoporosis and breast cancer are increased significantly.

Treatment is with testosterone.

Insurability depends on age, intellectual capacity and the presence of complications.

Leukemia is a general term for malignancy arising in white blood cells, mainly lymphocytes and neutrophils.

Leukemia may be acute or chronic. Mortality risk differs widely depending on the type of leukemia, the stage at which it was diagnosed, treatment used and response to treatment

With the advent of more effective drugs and especially hematopoietic stem cell transplantation (HSCT), survival rates have improved for some but not all of the major verities of leukemia.

MYELODYSPLASTIC SYNDROME (MDS)

MDS is the most common acquired bone marrow failure syndrome, with as many as 40,000 cases annually based on the last studies.

It is a precursor to acute myeloid leukemia (AML). However, only 30% of patients develop AML and the majority of deaths are due to effects of the MDS as well as CV disease in longer-term survivors. AML may arise at any time during the course of the illness and survival is poor when this happens.

MDS is usually diagnosed incidentally based on findings on a complete blood count (CBC) done for other reasons. Most cases are asymptomatic at diagnosis and the average age is 70. There are 7 major subtypes of MDS with significant differences in prognosis.

Asymptomatic cases are often initially observed rather than treated. Treatment commences with blood transfusions and chelating agents. Hematopoietic growth factors such as epoetin and darbepoetin as well as immunosuppressive drugs may be used palliatively.

Less than 10% of cases are candidates for HSCT, the only curable treatment.

ACUTE LYMPHOCYTIC LEUKEMIA (ALL)

In terms of prognosis, ALL is divided into childhood cases vs. those diagnosed at older ages.

Childhood ALL is usually curable, with prompt remission induction, 90-95% 10-year disease-free survival and relatively few late relapses in the best cases.

There are late deaths due to effects of therapy and other factors, and mortality in long-term survivors of childhood ALL is greater than that in age-matched healthy individuals.

Treatment is with steroids, chemotherapy drugs and in the highest-risk cases with HSCT. Central nervous system radiation therapy, associated with the greatest incidence of serious long-term health consequences, has now been largely replaced with chemotherapy.

Adult onset ALL continues to have a relatively unfavorable long-term survival in the range of 30% at ages 50-59 trailing off steeply thereafter. The main therapeutic breakthrough here has been HSCT, with 75% long-term survival rates in some studies.

CHRONIC LYMPHOCYTIC LEUKEMIA (CLL)

There are 15,000 CLL diagnoses every year, making it the most common form of chronic leukemia. It is usually asymptomatic at diagnosis and discovered incidentally based on unexpected lymphocytosis on a CBC.

There is a precursor to CLL known as monoclonal B-cell lymphocytosis (MBL). The lowest stage of CLL (Raj 0) is now included in the diagnostic spectrum of MBL.

MBL is invariably detected incidentally and is asymptomatic. The risk of progression to overt CLL is based on various aspects of MBL and most cases do not go on to leukemia.

CLL is incurable.

However, because it is usually diagnosed at older ages (median age 70) and often follows a relatively indolent course, 10-year survival is not uncommon. This allows for insurability consideration in selected older age cases.

Treatment is eventually initiated with immunochemotherapy. HSCT is used in a small portion of more aggressive cases and 2-year post-HSCT survival is just 60%.

ACUTE MYELOID (MYELOGENOUS) LEUKEMIA (AML)

Roughly 20,000 AML cases are diagnosed annually. It can arise at any age.

AML is an aggressive disease. The 5-year survival is just 35% at ages 50-59 and 16% at older ages. Overall, 26% live 5 years and those who are free of disease with interim remission are considered by many experts to be cured.

Disease-free 5-year survival can be achieved with chemotherapy or HSCT.

CHRONIC MYELOID (MYELOGENOUS) LEUKEMIA (CML)

Roughly 8500 cases of CML are diagnosed annually, mainly at older ages. Half of patients are asymptomatic and initially discovered on the basis of incidental findings.

There are three stages: chronic, accelerated and blast. The disease is curable without stem cell transplantation in the chronic stage.

The advent of a drug class called tyrosine kinase inhibitors has changed the survival landscape in CML. Over 85% of 15-44 year-old patients survive 5-years and 75% of those age 45-64 do likewise. Survival rates at older ages are close to those in the general population.

HSCT is now limited to patients with advanced disease, with 94% 3-year post-transplant survival.

Best cases of AML are readily insurable after sufficient relapse-free survival.

KEY UNDERWRITING ISSUES

- Precise diagnosis
- Age at diagnosis
- Incidentally found vs. symptomatic
- Disease subtype based on gene mutations and other markers
- Treatment
- Duration of sustained relapse-free survival
- Extent of followup care
- Adverse effects of treatment

QUESTIONS

- What type of leukemia was diagnosed?
- When was the diagnosis made?
- Was the disease discovered unexpectedly on laboratory tests or were symptoms present?
  - If discovered unexpectedly, did the applicant have symptoms subsequently; if yes, when and what symptoms?
  - If symptomatic at diagnosis, what symptoms were present?
- How was the applicant treated?
  - If drug therapy, which drugs were used and when was the last time they were given?
  - If radiation therapy, what sites were irradiated and when was radiation therapy administered?
  - If hematopoietic stem cell transplant, when was it done?
- Has the applicant relapsed or experienced a disease recurrence since completion of initial treatment; if yes, when and what additional treatment was given?
- How often does the applicant see their doctor for followup related to leukemia and/or Rx side effects; when was the last visit?
- Has the applicant experienced any delayed adverse treatment effects; if yes, full details.

LIVER CANCER

Most cases of liver cancer are hepatocellular carcinoma (HCC).

HCC is usually diagnosed when it is no longer curable. The main exception is cases detected in screening of high-risk individuals.

The key risk factor for HCC is longstanding chronic liver diseases, most notably:

- Chronic hepatitis C
- Alcoholic liver disease
- Chronic hepatitis B
- Nonalcoholic steatohepatitis (NASH)

If severe fibrosis or cirrhosis is present, these disorders should be routinely screened at intervals with alfa-fetoprotein (AFP) and liver ultrasound.

While most cases of HCC arise in the presence of cirrhosis, this cancer can also occur in any of these conditions in the absence of cirrhosis.

The few HCC cases that may be insurable are small, localized lesions amenable to curative may be surgical resection or ablation. Even in these cases, the risk of eventual recurrence is high over at least the next 5 years.

Moreover, because the underlying precancerous condition is still present, the patient remains at high risk of forming second and subsequent malignancies. And furthermore, if cirrhosis is present, there is extra mortality in the absence of HCC.

KEY UNDERWRITING ISSUES

- Underlying liver disorder, with full details
- Age at diagnosis
- Tumor stage
- Tumor grade
- Treatment
- Followup care

QUESTIONS

- What form of chronic liver disease does the applicant have, if any?
- Was the liver cancer said to be due to alcohol abuse or alcohol-related liver damage?
- Does the applicant have cirrhosis?
- At what age was the applicant diagnosed with liver cancer?
- Did the applicant have symptoms or was the tumor detected by screening?
- What was the stage of the tumor; if uncertain, was the tumor confined to the liver or did it spread?
- What type of treatment was done?
- Was the applicant treated once only or did they have subsequent additional treatment; if yes, what was that additional treatment and when was it given?
- Was the tumor completely removed or completely eradicated?
- Did the cancer ever recur?
- How often does the applicant have followup with a physician related to the history of liver cancer?
- When was the applicant's last followup and what studies were done at that time?

LIVER-RELATED TESTS

There are 5 liver-related tests used in insurance screening:

- Alanine aminotransferase (ALT, formerly SGPT)
- Aspartate aminotransferase (AST, formerly SGOT)
- Gamma glutamyltransferase (GGT – not GGTP)
- Alkaline phosphatase (AP)
- Total bilirubin (TB)

With the exception of GGT, these tests are also used routinely in clinical medicine for screening and when doing a baseline assessment of suspected liver disease.

These tests are often erroneously called "liver function tests." Only total bilirubin reflects any aspect of liver function and it does so indirectly. The other four tests are enzymes that may elevate in liver/bile duct diseases as well as other contexts.

AMINOTRANSFERASES (ALT AND AST)

In most cases of liver damage/disease, both tests will elevate. Extreme elevations (> 10-15 times normal) are mostly seen in acute liver damage.

When ALT is the only elevated test or the ratio of AST-to-ALT is < 1, the cause is likely unrelated to alcohol and the leading liver-related explanations are nonalcoholic fatty liver disease, chronic hepatitis C and chronic hepatitis B in that order.

When AST is the only elevation or the ratio is > 1, the odds favor alcohol, and the greater the magnitude of this ratio, the higher the probability that alcohol is the culprit.

Both enzymes may be raised significantly as a result of vigorous physical activity and remain elevated up to 5-7 days in some cases of extreme exertion such as a long distance bicycle race.

Applicants should be admonished not to do an extensive workout the night before or morning of a paramedical. Jogging does not have any significant impact.

Underwriting depends on the cause of the elevation. If that cause is not determined, ratings will be assessed at some magnitude of elevation, potentially adjusted for the extent of clinical workup, pattern and duration of elevations and other evidence favoring liver pathology.

Below normal ALT is a highly significant marker for frailty and excess all-cause mortality in the elderly (≥ age 70).

GAMMA-GLUTAMYLTRANSFERASE (GGT)

GGT may elevate as a result of:

- Liver cell or bile duct cell damage/disease
- Insufficient antioxidant protection against disease-causing free radicals
- Metabolism of alcohol via the microsomal oxidase system.

The third mechanism explains the well-known association between elevated GGT and heavy alcohol intake.

GGT does not increase as a result of an episode of heavy alcohol ingestion. Rather it requires a pattern of heavy drinking over a period of weeks. It also normalizes slowly after cutting down or discontinuing alcohol intake.

An isolated GGT elevation with all other liver-related tests normal is most likely reflects chronic excessive alcohol indulgence; that is, in the absence of current use of certain pharmaceuticals.

There are 3 groups of drugs associated with frequent and potential substantial GGT elevations:

- Certain anticonvulsants, most notably Dilantin (hydantoin) and carbamazepine
- Barbiturates – which are seldom prescribed
- Kava – an herbal remedy for anxiety and insomnia

GGT is also a robust marker for the risks of diabetes and coronary artery disease. Overall, its impact in this context is probably greater than in alcohol abuse, although this is not widely recognized in clinical medicine.

GGT is seldom used in patient care. The one context where it is recommended is unexplained alkaline phosphatase elevation. See alkaline phosphatase below for more on this.

Clinical and insurance studies have consistently shown significant extra mortality in isolated elevation of GGT. Some companies now use GGT as a preferred risk criterion, which makes sense because its mortality impact is greater than some other commonly used preferred criteria.

When GGT elevates in tandem with the aminotransferases this greatly increases the odds of significant liver disease. Elevated GGT is an adverse mortality marker in chronic hepatitis C.

ALKALINE PHOSPHATASE (AP)

AP can be elevated in several contexts. The two dominant ones are bone and hepatobiliary system disease.

This is a critical underwriting distinct because most of the bone-related elevations are associated with conditions having no or little extra mortality such as Paget disease (osteitis deformans). These cases are also often suspected based on signs and symptoms.

Elevations caused by hepatobiliary disorders are highly significant to mortality and largely depend upon the causative mechanism. Among the more important causes are primary biliary cirrhosis, primary sclerosing cholangitis and any disease or condition involving the intra- and extra-hepatic bile ducts.

Alkaline phosphatase can be fractionated into its bone and biliary subsets. This is an expensive test. The “poor man’s equivalent” is GGT, because when both GGT and AP are elevated, the odds strongly favor a liver/bile duct disorder,

When both tests are elevated and the cause has not been investigated adequately, the mortality risk may justify postponing the application.

As an isolated finding, persistently and/or substantially elevated AP confers excess mortality.

TOTAL BILIRUBIN (TB)

Bilirubin is a by-product of the breakdown of senescent red blood cells. It converted into a water-soluble state in the liver so that it can be excreted.

There are two distinct fractions making up total bilirubin: unconjugated (indirect) and conjugated (direct). The latter is far more likely to be associated with liver disease.

The leading cause of isolated TB elevations in life insurance applicants is a hereditary condition called Gilbert syndrome (GS). It has no excess mortality. In fact there is now evidence that GS decreases mortality risk.

Gilbert syndrome is present in 4-7% of healthy persons. Elevated TB may only manifest during periods of fasting.

Because it is largely due to high levels of unconjugated bilirubin, isolated TB elevation – assuming the absence of other liver-related findings or unexplained anemia – is not significant to insurability.

Insurers do not distinguish between indirect and direct bilirubin and this is also not routinely done clinically unless a significant cause is suspected.

A plethora of studies over the last 5 years have proven that mortality is inverse to TB levels in healthy persons. In other words, the higher the TB, the lower the risk of death. Below normal TB has significant extra mortality.

LUNG CANCER

Despite being one of the most common invasive cancers, lung carcinoma is seldom seen by underwriters.

This is because of the poor overall survival rates in the most prevalent types of lung cancer: squamous cell carcinoma, adenocarcinoma and small cell carcinoma.

Two uncommon lung cancers, bronchoalveolar carcinoma and pulmonary carcinoids, have a generally more favorable prognosis.

Mesothelioma is a pleural rather than pulmonary malignancy. It has a dismal prognosis.

Lung cancer may be detected after investigation of symptoms such as hemoptysis (bleeding from the lungs) and a persistent dry cough. By the time these symptoms occur, most lung cancers are difficult to cure with existing therapies.

Some cases are discovered incidentally on imaging tests done for other reasons. These are more likely to be smaller and localized than those causing symptoms.

With the increase in CT scan screening of high-risk individuals, more cases are being diagnosed when they are asymptomatic and thus more amenable to cure. This should result in more lung tumors among life insurance applicants.

Except for small cell carcinoma, which is treated mainly with chemotherapy, surgery is the mainstay of management. Surgery may be extensive (pneumonectomy, lobectomy) or more limited, depending on the size and spread of the tumor.

Insurability depends on tumor stage and grade, certain pathological features and whether potentially curative treatment was undertaken.

Lung cancer occurs disproportionately in smokers who have COPD. Extensive surgical resection will result in a further reduction in respiratory capacity in these individuals.

KEY UNDERWRITING ISSUES

- Type of lung tumor
- Tumor stage
- Tumor grade
- Treatment including extent of resection
- Post-treatment lung function
- Followup
- Presence of COPD

QUESTIONS

- At what age was the applicant diagnosed with lung cancer?
- Did the applicant have symptoms or was the tumor discovered incidentally or in a screening program?
- Does the applicant know the kind of lung tumor they had?
- Was the tumor confined to the lung or did it spread?
- What treatment was given?
  - If medical, include all drugs.
  - If surgical, how extensive was the surgery (whole lung, portion of lung) and was the entire tumor removed?
- Did the treatment adversely affect the applicant's post-surgical breathing capacity; if yes, to what extent are they currently impaired?
- How often did/does the applicant see their physician for followup and when was the last time they saw the physician for this reason?

LUNG NODULE

Most lung nodules are discovered unexpectedly on imaging studies such as CT scans. Hundreds of thousands are found each year and 99% are not malignant.

Factors associated with an increased likelihood of cancer are a long history of cigarette smoking, age 70+, prior history of cancer disposed to lung metastases, family history of lung cancer, COPD and, most importantly, specific features of the nodule:

- Size > 0.5 cm and the risk increases with size
- Doubling in size in 1 year
- Irregular vs. smooth borders
- Ground glass appearance
- Absence of calcification
- Increasing in size on CT and/or PET scans

The intensity of smoking, whether the applicant continues to smoke or quit, is also a key consideration. This is best determined by making a simple calculation of how many pack-years of smoking he has had.

Pack-years are determined by average number smoked per day times years of smoking. If the applicant smokes 1 pack per day for 20 years, he had accumulated 20 pack-years. If he smoked 2 packs/day he would have 40 pack-years after 20 years of smoking and so on.

Nodules with features increasing the cancer risk or with risk factors such as smoking, etc., may be followed at intervals with imaging studies, have their sputum checked for cancer cells and/or undergo bronchoscopy (and biopsied during the procedure in many cases).

These cases are usually postponed until the nodule is stable for a number of years or the nodule is benign on biopsy.

KEY UNDERWRITING ISSUES

- Age
- Smoking history
- Medical history
- Family history of lung cancer
- Size and appearance of the nodule
- Symptoms
- Imaging studies and other tests
- Followup duration
- Compliance with followup

QUESTIONS

- When was the nodule first detected?
- Did the applicant have any symptoms at the time the nodule was discovered?
- Has the applicant had any symptoms such as coughing up blood, chronic cough or unexplained chest discomfort in the interim?
- How many pack-years of cigarette smoking has the applicant accumulated, whether they smoke currently or quit smoking?
- Does the applicant have a personal or family history of cancer?
  - If personal, what cancer did they have and when was it diagnosed?
  - If family, was it lung cancer?
- What tests did the applicant have to evaluate the lung nodule and when were they done?
- Did the applicant have bronchoscopy or other procedures; if yes, was a biopsy done?
- Is the applicant continuing to have followup care for this condition; if yes, when was the last time they saw their doctor for this reason and when is their next scheduled visit?

LUPUS ERYTHEMATOSUS (LE)

LE is an autoimmune disorder. It may be confined to the skin (cutaneous lupus, CLE) or be systemic involving internal organs (systemic lupus, SLE).

Most cutaneous LE is discoid lupus erythematous (DLE). Only 5% of DLE cases progress to DLE.

There are 3 other main types of skin lupus. All of them are uncommon and have a substantial risk of eventual SLE.

The diagnosis of SLE is based on specific criteria (at least 4 of 11 must be present) and the results of autoantibody blood tests.

The first test used is the antinuclear antibody (ANA) test. This test is often done in other contexts and may be positive in persons with other disorders as well as healthy individuals. ANA results are reported as a titer (number of specimen dilutions at which the test becomes negative).

A titer of 1:40 is usually considered abnormal but ANA is suspicious for lupus only if the titer is > 1:160.

If the ANA test is positive, additional more specific tests are done include anti-DS-DNA, anti-SS-DNA, anti-SM and anti-NCS. If one or more are positive, the likelihood of SLE is quite high.

The antiphospholipid (APL) test is also used and the highest incidence of positive tests is in SLE. This is a red flag test because it is associated with increased organ damage.

There is a wide range of drugs used to treat SLE. The most common ones are hydroxyurea (main drug for mild cases), biological agents, immunosuppressive drugs (mainly used in worst cases) and steroids. Half of SLE patients do not take their medication as prescribed, largely because of side effects.

SLE can affect almost any organ in the body. The most serious outcomes are associated with neuropsychiatric (especially seizures, cognitive dysfunction and psychosis) and kidney (lupus nephritis) involvement.

The extent and persistence of disease activity is a major mortality concern. The Severity of Disease Index (SDI) is used to determine the extent of disease activity. A minimum remission of 2 years is needed to significantly reduce the risk of further organ damage.

Coronary artery disease is substantially more common in SLE mainly due to chronic inflammation.

Milder cases without major organ damage have mortality only modestly higher than the general population. However, several large mortality study reviews reveal that overall SLE mortality is 2 to 3 times higher than expected.

KEY UNDERWRITING ISSUES

- Age at onset (childhood onset has high mortality)
- Duration of disease
- Results of autoantibody tests
- Extent of disease activity vs. remissions
- SDI score > 4
- Disabling symptoms
- Neuropsychiatric features present
- Comorbid major depression
- Kidney lupus including results of all kidney-related blood and urine tests
- Medication and adherence to its use
- Need for inpatient treatment
- Current functional status: degree of disability and activity limitations
- Coronary disease risk factor profile

QUESTIONS

- At what age was the applicant diagnosed with lupus?
- Is the lupus limited to the skin only or does it also involve other parts of the body (SLE)?

Note: if limited to the skin, does the applicant know what type of skin lupus was diagnosed? No further questions are needed in skin-only cases.

- What symptoms has the applicant had?
- Are these symptoms stable, decreasing or increasing?
- When was the last time the applicant was in remission and how long was that remission?
- Are the applicant's kidneys affected by lupus?
- Has the applicant had seizures/epilepsy due to lupus?
- What drugs is the applicant currently taking for lupus?
- Has the applicant's medication changed in the last 3 years; if yes, what were they taking previously?
- Has the applicant ever had inpatient treatment for lupus; if yes, how many times and when?
- Does the lupus limit the applicant's daily activities at home or work/school; if yes, get full details.

LYMPHADENOPATHY

This is the term for enlarged lymph nodes.

Enlarged nodes may occur many sites. Some are detectable visually and assessed initially based on their features. Others are internal and can only be found with imaging.

The most common sites are the neck (cervical) armpits (axillary) and groin (inguinal).

The main concern with enlarged lymph nodes is that they may harbor cancer. Pathological enlarged lymph nodes may also be due to other serious disorders including HIV/AIDS, rheumatoid arthritis, sarcoidosis and many other conditions.

Malignant nodes may be metastases from a tumor at another site or be a manifestation of a primary lymphoma or leukemia.

Features associated with malignancy include:

- Palpable nodes at multiple sites
- Multiple enlarged nodes at one site
- Absence of infection and other causes associated with benign enlargement
- Size > 1.5 centimeters; the larger the node, the higher the likelihood of malignancy
- Hard lymph node vs. firm/soft
- Lymph node fixed to underlying structures vs. freely movable
- Multiple nodes matted together
- Continuing enlargement over a period of observation
- Palpable nodes adjacent to a clavicle (supraclavicular) or at the elbow (epitrochlear)
- History of invasive cancer at any time in the past

Malignant nodes may be tender if they are rapidly enlarging but also when due to current infectious diseases.

Minimally suspicious nodes may be observed at intervals. All others will be biopsied, typically with a needle.

Those that are likely malignant based on a needle biopsy are usually excised for a more accurate pathological analysis.

In a small portion of cases, it is impossible to be certain if an atypical node is definitely benign versus possibly malignant.

Underwriting of biopsied or excised nodes depends on the pathological findings and underlying cause

MARFAN SYNDROME

This is a rare inherited systemic connective tissue disorder.

Predominant features include skeletal, cardiovascular and eye conditions. Affected individuals are usually tall with long arms, legs and fingers (called arachnodactyly). A chest deformity called pectus excavatum and scoliosis are usually present.

Other findings include severe myopia, mitral valve prolapse and, most importantly, dilation of the aorta route with aortic valve regurgitation (insufficiency).

Treatment may be medical or surgical depending on the conditions present and their severity. Over 50% of patients experience at least one cardiothoracic event. The main causes of premature death are aortic dissection and heart failure due to progressive aortic and/or mitral valve disease.

Ongoing periodic surveillance with echocardiography is needed to detect early pathological changes in the aorta and heart valves

Although cardiac Rx and prophylactic surgery can extend life by several decades, there is considerable excess mortality.

MELANOMA

The term "malignant melanoma" is redundant because all melanomas are cancers by definition.

Melanoma may arise on the skin (cutaneous), eye (ocular), mucous membranes (mucosal) and, rarely, as a primary internal organ tumor.

With the exception of those arising in the iris of the eye, all the other sites are less likely to be insurable than cutaneous melanomas.

The incidence of cutaneous melanoma increases steeply with age. Melanoma is rare in children. Females have a somewhat better survival rate than men.

There are 4 main types of skin melanoma:

- Superficial spreading (SSM) – over 70% of cases
- Nodular (NM)
- Lentigo maligna melanoma (LMM) – mainly on the face
- Acral lentiginous (ALM) – mainly on the soles (plantar) and under the fingernails (subungual)

Nodular melanomas have the worst prognosis based on type of tumor because they are more likely to be deeply invasive at diagnosis. Acral lentiginous tumors also have a worse prognosis than SSM and LMM but this is mainly due to delays in diagnosis.

Amelanotic melanomas lack the pigmentation present in all other melanomas. They have a somewhat higher morality overall due to late detection.

Melanomas on the trunk and at certain head/neck sites (especially the scalp) have poorer survival than those found on the extremities.

Melanomas are distinguished by the extent to which they involve successive layers of the skin and the subcutaneous fat. This is called level of invasion.

Level 1 melanoma is in situ and thus incapable of metastasis. Once it is excised, the only concern is a somewhat increased risk of having a second melanoma in the future.

Level 2 melanoma is limited to upper portion of the skin's papillary dermis. Most have a radial growth pattern and those do not metastasize.

Level 3 lesions extend throughout the papillary dermis and are in the vertical growth phase, with a much greater risk of metastasis.

Level 4 (in the lower/reticular dermis) and level 5 (involving the subcutaneous fat) melanomas have progressively less favorable prognoses.

Despite these associations with risk of metastasis, level of invasion is no longer considered a major prognostic factor, having been superseded by depth of tumor invasion.

Invasive (level II to V) melanomas are carefully measured to determine their thickness. In the absence of metastasis, measured (sometimes called Breslow) thickness is the #1 prognostic factor in cutaneous melanoma.

There are 4 major thickness categories:

- ≤ 1.00 millimeter (mm) – these are called "thin melanomas"
- 1.01-2.00 mm
- 2.01-4.00 mm
- > 4.00 mm – also called "thick melanomas"

Prognosis is progressively worse as thickness increases, ranging from 95% 10-year survival in thin tumors to < 50% in thick melanomas.

There are a number of other unfavorable pathology report prognostic factors:

- Ulceration – doubles the mortality risk
- Mitotic rate – number of melanoma cells undergoing mitosis (cell division), reported in square millimeters, with a rate ≥ 1/mm2 considered unfavorable
- Vascular invasion – melanoma cells found in lymphatic or blood vessels
- Regression - extensive/complete regression of the melanoma, which is only significant in level III and IV thin melanoma
- Satellitosis and in-transit skin metastases – both have a poor prognosis

The fact that any of these pathological features was not mentioned on a pathology report does not guarantee it was not present. The only way we can be sure than ulceration, vascular invasion, etc., were not present is if the pathologist specifically acknowledges their absence.

MELANOMA

Mistakes in melanoma pathology analysis are the 2nd leading cause of cancer-related malpractice suites. Therefore, it is common for local pathologists to seek out 2nd opinions from experts at major melanoma treatment centers.

It is not uncommon for the expert to change key elements of the path report, which in turn may affect insurability. For this reason, all 2nd opinions must be accounted for.

Melanoma staging is based on 4 factors: thickness, ulceration, mitotic rate and metastases.

- Tis is melanoma in situ
- The best risk invasive cases are stage T1a. defined as thin, no ulceration and mitotic rate < 1/mm2
- Thin melanoma with ulceration and/or mitotic rate ≥ 1/mm2 is stage T1b. Their prognosis is significantly less favorable than T1a.
- T2, T3 and T4 are progressively thicker lesions, without (a) or with (b) ulceration.
- N1 to N3 denote lymph node metastases and M1 is used for distant metastases.

When melanomas metastasize, they usually do so first to the local area lymph nodes. For this reason, a sentinel lymph node biopsy is often done. The sentinel node is the most likely one to have metastatic disease, based on its location.

Melanoma is notorious for widespread dissemination to almost any part of the body. It can also recur as long as 20 years after diagnosis and excision.

The only curative treatment for melanoma at this time is complete surgical excision.

Several new monoclonal antibody drugs have been shown to increase long-term survival. They may potentially cure some cases of advanced melanoma.

Melanoma patients and most notably those with a family history of melanoma are at significantly increased risk for additional melanomas. Therefore, lifelong followup is necessary to detect new tumors when they are most amenable to cure.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Gender
- Family history
- Type of melanoma
- Location
- In situ vs. invasive
- Level of invasion
- Depth of invasion in millimeters
- Other pathological features
- Stage
- Local, regional or distant spread
- Any treatment other than excision
- Followup surveillance and patient adherence
- 2nd opinion sought and findings by expert

QUESTIONS

- At what age was the applicant diagnosed with melanoma?
- Does the applicant have a family history of melanoma among their parents or siblings; if yes, which family members had melanoma and what age?
- Where was the melanoma located on the applicant's body?
- Did the melanoma spread within the adjacent skin, to lymph nodes or to other sites; if yes, full details?
- Did the applicant get any treatment other the surgical removal of the melanoma; if yes, full details?
- Does the applicant see their physician for periodic followup and skin examination; if yes, how often and when was the last time?

METABOLIC SYNDROME

This is a construct made up of CV risk factors rather than a discrete disorder. It consists of 5 criteria and the syndrome is diagnosed if at least 3 are present:

- Abdominal obesity defined as waist circumference ≥ 40 inches in a male or ≥ 35 in a female
- Triglycerides ≥ 150 or on Rx for hypertriglyceridemia
- HDL-C < 40 in a male or < 35 in a female, or on Rx for low HDL-C
- Blood pressure ≥ 130/85 or on Rx for hypertension
- Fasting glucose ≥ 100 or on Rx for elevated fasting glucose

Total cholesterol and LDL-C are not included.

The value of the metabolic syndrome is the synergistic relationship between its variables and increased risk of cardiovascular disease.

A number of addition disorders are disproportionately present in those with metabolic syndrome. Each is a proven risk factor for CVD:

- Proteinuria/albuminuria
- Nonalcoholic fatty liver disease
- Polycystic ovary syndrome

Because the degree of abnormality of the 5 criteria is not considered in determining the presence the syndrome, underwriting is mainly based on the findings for each criterion.

Given today's liberal contemporary underwriting of these criteria, an applicant could – at least in theory – have 3 metabolic syndrome criteria present and nevertheless qualify for preferred risk status.

MIGRAINE

Migraine headaches are fairly common and most cases pose no significant life underwriting issues.

Our major concern is whether migraine episodes are accompanied by aura.

Aura consists of neurologic disturbances that either precede or manifest during the head pain. They include numbness, clumsiness, difficulty speaking and visual disturbances such as seeing sparks, light flashes, etc.

On rare occasions, patients will have a transient ischemic attack during a migraine with aura and therefore these migraines are a risk factor for stroke.

Treatment of migraine may the directed at the lessening symptom severity as well as preventing new episodes. One class of medication used to treat acute episodes, called the triptans, includes several drugs with potentially significant side effects.

Uncomplicated migraine poses no mortality risk. Migraine with aura has been consistently linked to higher risk of death.

KEY UNDERWRITING ISSUES

- Aura absent vs. present
- Frequency and severity of migraine with aura
- Treatment and response to treatment
- Complications, especially neurological events (TIA, stroke)

QUESTIONS

- How often does the applicant have migraine headache episodes?
- Has the pattern of episodes been stable, decreasing or increasing over the last few years?
- Does the applicant experience aura with prior to or during their migraine attack; if yes, which aura symptoms occur?
- Has the applicant ever had a transient ischemic attack or stroke-like symptoms associated with a migraine; if yes, how many times and when?
- Has the applicant ever sought emergency care because of numbness, dizziness or difficulty speaking in conjunction with a migraine attack; if yes, how many times and when?
- What medication(s) has the applicant been prescribed for use during episodes?
- Does the applicant also take migraine medication between episodes; if yes, which drugs?

MULTIPLE MYELOMA AND MGUS

Multiple myeloma is an incurable plasma cell cancer. However, there have been major advances in treatment leading to longer survival in many cases.

Waldenstrom macroglobulinemia is a plasma cell cancer similar multiple myeloma. It is also incurable.

Solitary plasmacytoma is a rare solid plasma cell tumor that arises at a specific site.

Monoclonal Gammopathy of Uncertain Significance (MGUS) is a premalignant plasma cell disorder that sometimes progresses to asymptomatic (called "smoldering") multiple myeloma and then most of those patients eventually become symptomatic.

MGUS is present in 3% of persons age 60-69 and 6.6% over age 80. The median age at diagnosis is 70.

MGUS is usually discovered incidentally and diagnosed by clinical assessment of elevated serum total protein on a blood profile. The key tests are protein, immunoglobulin and urine electrophoresis, and the serum free light chain (sFLC) assay.

MGUS is usually not treated. In a small portion of cases, organ damage occurs due to toxic effects of malignant plasma cells. MGUS is also a risk factor for osteoporosis, neuropathy, kidney damage and various infections.

Patients with MGUS are followed indefinitely to detect progression to multiple myeloma. MGUS can also culminate in Waldenstrom macroglobulinemia, non-Hodgkin lymphoma or myelodysplastic syndrome.

MGUS patients develop myeloma or one of these other cancers at a rate of approximately 1% per year. The risk of progression can be partially determined by specific criteria.

There is no peak interval when progression occurs. The risk is continuous and lifelong.

MGUS cases free of significant comorbidities and factors associated with high risk of progression to malignancy are readily insurable.

Overall, MGUS mortality is only 17% greater than expected.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Symptoms
- Test results
- Risk of progression
- Comorbidities
- Adequacy of followup surveillance
- Applicant adherence to followup

QUESTIONS

- At what age was the applicant diagnosed with monoclonal gammopathy of uncertain significance?
- Did the applicant have any symptoms; if yes, what symptoms?
- Has the applicant had any interim symptoms or complications since their diagnosis; if yes, full details?
- Has the applicant been treated for MGUS? If yes when and in what manner?
- What was the applicant told by their physician regarding their risk of progressing to cancer/myeloma?
- How often does the applicant have followup testing related to MGUS?
- When was the applicant's last followup testing?

MULTIPLE SCLEROSIS

MS is a chronic autoimmune disease affecting the central nervous system. MS autoantibodies break down myelin, a protein that insulates and protects white matter in the brain, spinal cord and optic nerve. This process is called demyelination.

The average age at diagnosis is 31; onset over age 55 is rare. MS is 3 times more common in females.

There is a wide array of signs and symptoms including vision loss (optic neuritis), diplopia (double vision), abnormal reflexes, impaired coordination/balance, gait disturbances, tremor, numbness/tingling, weakness, spasticity, pain, fatigue, depression and cognitive difficulties.

There is no definitive diagnostic test. Rather, the MS diagnosis is made when there is evidence that demyelination has occurred at more than one site and on at least two separate occasions. The key test used for this is the gadolinium-enhanced MRI.

The first attack of suspected/possible MS is called a "clinically isolated syndrome." The average interval between the first and second attacks is 2 years. Therefore it may take years to make a definite MS diagnosis.

The course of MS is largely unpredictable at least in the early years. There are four subtypes with significantly different long-term outcomes:

- Relapsing-remitting (70-80%)
- Secondary progressive (12-30%)
- Primary progressive (8-10%)
- Primary relapsing (< 6%)

Relapsing-remitting MS has the best prognosis. Many patients have latency periods of 20+ years before progression.

Primary progressive MS has the worst prognosis Instead of having periods of remission, these patients experience progressively worsening symptoms and complications from disease onset.

There is no cure for MS. The three goals of treatment are to limit acute exacerbations, minimize/alleviate specific symptoms and reduce relapses to slow the course of the disease.

The most widely used medications are beta interferons, glatiramer, mitoxantrone, dalfampridine, fingolimod and natalizumab.

Over 50 additional drugs may be used to manage specific symptoms and complications. Medical marijuana is also effective in MS.

The average MS patient's life expectancy is reduced by seven years. The most favorable relapsing-remitting MS cases have little or no extra mortality. The problem is identifying these cases reliably within five to ten years after onset.

The other types have less favorable prognoses. Primary progressive MS is uninsurable.

MULTIPLE SCLEROSIS

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Definite vs. probable or possible MS
- Signs and symptoms at diagnosis
- Pattern of interim signs and symptoms
- Imaging and related test findings
- Type of MS
- Treatment and adherence to treatment
- Functional limitations and use of appliances
- Cognitive function
- Other complications

QUESTIONS

- At what age was the applicant diagnosed with MS?
- Was it a definite diagnosis or did the physician refer to it as probable MS, possible MS or clinically isolated syndrome?
- What symptoms did the applicant have at diagnosis?
- What symptoms has the applicant had in the interim?
- Have the frequency of attacks been increasing, decreasing or remained stable over the last several years?
- Has the severity of symptoms increased, decreased or remained stable over that interval?
- What medication does the applicant take for MS; list all drugs and any changes at least in the last 2-3 years?
- Does the applicant have any functional limitations; if yes, describe and include any use of appliances needed for walking, etc.?
- Has the applicant experienced any other complications; if yes, what are they and when did they commence/occur?
- How often does the applicant see the physician who is managing their MS care?
- Has the frequency of visits decreased, increased or remained stable in the last 2-3 years?
- Has the applicant sought emergency care for MS symptoms; if yes, when, how often and for what specific reason(s)?
- Has the applicant been hospitalized as an inpatient for MS; if yes, when, how often and for what specific reason(s)?

NARCOLEPSY

Narcolepsy is a chronic, disabling sleep disorder characterized by daytime sleepiness (hypersomnia) and sudden episodes of irresistible onset of sleep.

Two types of narcolepsy are now recognized. Type 1 patients typically also have cataplexy and low levels of a substance called hypocretin-1 in their cerebrospinal fluid.

Cataplexy is sudden episodes of complete paralysis of voluntary muscles triggered by emotions.

Type 2 narcolepsy patients never have cataplexy and they have normal hyprocretin-2 levels in the CSF.

The narcolepsy diagnosis is made with the sleep test overnight polysomnography (PSG), followed the next day by the multiple sleep latency test (MSLT).

Narcolepsy is associated with high risks of major depression, bipolar disorder, obsessive-compulsive disorder and eating disorders.

The leading drugs used for narcolepsy are modafinil, armodafinil and methylphenidate (Ritalin). Sodium oxybate is a highly sedating drug taken in liquid form at bedtime. It is effective in controlling cataplexy and sleep problems in narcolepsy.

There is no cure for narcolepsy. Type 1 cases do not experience remissions but may have fewer attacks with treatment. Type 2 cases can achieve a sustained remission with Rx.

The mortality risk in narcolepsy is unclear, mainly because few studies have ever been done.

It appears that comorbidities account for much of the risk, most notably major psychiatric disorders, sleep apnea and COPD. Narcoleptics have four times greater risk of obstructive sleep apnea than non-narcoleptics.

Underweight, persistent daytime hypersomnolence, heavy drinking and nonadherence to Rx are also unfavorable risk factors.

Narcoleptics also have at least three times more car accidents than persons free of this disorder.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Type 1 vs. 2
- Frequency of attacks
- Treatment and adherence to Rx
- Effect of Rx on frequency of attacks
- Motor vehicle record
- Comorbidities

QUESTIONS

- How old was the applicant when they were diagnosed with narcolepsy?
- What tests were done to make this diagnosis?
- Does the applicant also have cataplexy?
- How often does the applicant have sleep attacks (per week or month)?
- What medication does the applicant take for narcolepsy; if it has changed in the last 2 years, include drug(s) taken prior to the change?
- Is the pattern of attacks increasing, stable or decreasing?
- Does the applicant have persistent sleepiness in the morning?

NONALCOHOLIC FATTY LIVER DISEASE (NAFLD)

There are two distinct types of NAFLD:

- Simple fatty liver (steatosis), now designated as NAFL, free of inflammatory disease but occasionally with mild fibrosis. This accounts for 80% of cases
- Nonalcoholic steatohepatitis (NASH) consisting of steatosis plus inflammatory disease and in most cases some degree of liver fibrosis.

The distinction "nonalcoholic" is based on what the patient admits to in terms of alcohol use. Some patients lie about their alcohol use. This is significant because pathological changes caused by alcohol also include steatosis, inflammation and fibrosis. It is sometimes impossible to distinguish these cases from non-alcohol induced pathology. Therefore, some applicants diagnosed with NAFLD actually have ALD (alcoholic liver disease).

NAFLD is usually asymptomatic. There may be mild right upper quadrant fullness/tenderness due to liver enlargement, and possibly nonspecific GI symptoms. Most patients are obese, but NAFLD can occur in slender/underweight persons.

The diagnosis is often made presumptively based on lab tests, obesity and a positive liver ultrasound test showing a "Bright liver." This does not tell us if the applicant has simple fatty liver or NASH.

The most likely elevated liver-related test is ALT. The ratio of AST-to-ALT should be < 1 except in NASH with significant liver damage. Some NAFLD cases have normal liver enzymes.

If GGT is elevated, the odds of NASH increase. The fact that it is a marker for alcohol abuse does not mean that an elevation contradicts a diagnosis of NAFLD. GGT readily rises in teetotalers who have significant liver disease.

In simple steatosis, GGT, alkaline phosphatase and bilirubin should all be normal.

There are many algorithms to detect fibrosis/cirrhosis without a biopsy, the best being hepatic elastography to measure liver hardness.

Confirming a NASH diagnosis requires liver biopsy. Many patients decline to have this procedure because of the discomfort and side effects.

If more than one biopsy has been done, the underwriter should ideally see the path reports of all of them. A biopsy specimen constitutes 1/100,000th of the liver. Therefore, unless the condition is diffuse across the whole organ, biopsy results may differ. The pattern of progression vs. stability or even regression in NASH is also significant.

Weight loss is the most effective NAFLD remedy. Bariatric (weight loss) surgery can largely or wholly eradicate NAFLD.

There is no approved drug to treat NAFLD. The ones we see most are the pioglitazone and metformin. A number of other diabetic drugs and vitamin E may also be used.

The only underwriting concern in simple steatosis (NAFL) cases is its status as a major CVD risk factor. It is on par with high cholesterol and hypertension in this regard.

NASH is a major predictor of substantial liver disease mortality due to decompensated cirrhosis and liver cancer. It is important to note that one does not need to have cirrhosis in order to develop liver cancer in NASH.

Applicants with biopsy-proven NASH should be followed clinically with periodic liver cancer screening using the tumor marker alfa-fetoprotein and, ideally, liver ultrasound.

Most studies show excess mortality in NASH. Test results, biopsy findings, other evidence of liver damage and ongoing cancer surveillance are the drivers of NASH insurability.

NONALCOHOLIC FATTY LIVER DISEASE (NAFLD)

KEY UNDERWRITING ISSUES

- Simple steatosis or NASH
- Basis for diagnosis
- Presence of fibrosis/cirrhosis
- Extent of fibrosis if biopsy done
- Biopsy pathology reports
- Lab test results
- Other test results (elastography, etc.)
- Weight loss/bariatric surgery
- Treatment
- If NASH, surveillance for liver cancer

QUESTIONS

- When was the applicant told they had NAFLD?
- Did the applicant have any symptoms at the time of their diagnosis; if yes, what were they?
- What tests did the applicant have and do they know the results?
- Was the applicant advised to have a liver biopsy? If yes:
  - Was it done?
  - If not, why not?
  - Did the applicant have more than one biopsy?
  - When was it/were they done?
  - Does the applicant know what the findings were?
- Has the applicant had treatment for NAFLD; if yes, what was it and do they still take it?
- Has the applicant's doctor asked them to return periodically for further testing or screening with blood tests or other test procedures; if yes:
  - How often is the applicant supposed to have these tests?
  - Which specific tests are done?
  - Has the applicant had these tests done as recommended?

NON-HODGKIN LYMPHOMA

NHL consists of over 30 pathologically distinct neoplastic diseases. The most common are diffuse large B cell lymphoma, follicular lymphoma and MALT lymphoma.

75% arise in lymph nodes and the rest at extranodal sites throughout the body.

The diagnosis is made by biopsy. The precise type is determined by tests called immunophenotyping, polymerase chain reaction and fluorescent in situ hybridization. Cell markers play a key role in this process.

Staging in based on the number of involved sites on one or both sides of the diaphragm, supplemented by letters to denote the presence of constitutional symptoms, bulky disease, mediastinal mass and involvement of the spleen and/or other extranodal sites.

The main adverse findings are Stage III/IV, bulky disease and constitutional symptoms present at diagnosis.

NHL treatment modalities are radiation, single drug or multidrug chemotherapy, immunotherapy and stem cell transplantation. Surgery is used for biopsy in cases arising in lymph nodes and for isolated extranodal disease.

Lifelong post-treatment care is essential because of the risk of late relapse as well as the delayed effects of radiation and certain chemotherapy drugs.

FOLLICULAR LYMPHOMA

This lymphoma is indolent but incurable. It may transform into aggressive B-cell lymphoma at any time but many patients live 15-20 years and even longer.

In one large study, 20-year disease-specific survival was 63%.

In some studies, there is little difference in survival for many years whether or not treatment is given. Eventually treatment is needed, typically with chemotherapy and rituximab.

Keys to prognosis in follicular lymphoma are stage at diagnosis, presence of constitutional symptoms, lymph node diameter at diagnosis and results of specific cell marker tests.

DIFFUSE LARGE B-CELL LYMPHOMA

This disease usually presents with rapidly-enlarging painless lymph nodes and/or constitutional symptoms such as persistent fevers, soaking night sweats, weight loss, etc. Most are diagnosed over age 60.

Treatment is with multidrug chemotherapy and radiation. The latter may be confined to just the node group where the disease is diagnosed (stage I/II) or much more extensive.

Stem cell transplantation is used in treatment-resistant and relapsed cases.

Combination therapy cures 75%+ of patients including many stage III and IV cases. Because it is aggressive, most recurrences occur within 5 years after completing treatment.

MALT LYMPHOMA

MALT means mucosa-associated lymphoid tissue.

MALT tumors arise in extranodal aggregates of lymphocytes.

Over 60% occur in the stomach. There are many other potential sites ranging from the thyroid gland and orbit of the eye to the breast and testes.

MALT lymphoma is indolent. Over 75% are diagnosed in stage I or II.

Most gastric MALT lymphomas are incited by Helicobacter pylori (HP) infestation. In early stage cases, eradication of HP may be sufficient to induce a sustained remission.

Relapsing cases may be treated with radiation therapy.

In localized cases, 90% or more are disease-free after 15 years, making this the most curable form of NHL.

HP-negative cases are more aggressive and difficult to cure.

The key mortality risk factors are stage III/IV, HP-negative, over age 60 at diagnosis, constitutional symptoms present at diagnosis and an elevated LDH (lactic dehydrogenase) test.

NON-HODGKIN LYMPHOMA

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Precise diagnosis
- Site(s) involved
- Stage at diagnosis
- Presence of “B” constitutional symptoms
- If MALT, Helicobacter pylori (HP) status
- Other prognostic factors including LDH, cell markers, etc
- Treatment
- Recurrence
- Surveillance for late effects of treatment where indicated (radiation and certain drugs, most notably doxorubicin)

QUESTIONS

- At what age was the applicant diagnosed with NHL?
- What (exact) type of NHL does the applicant have?
- At what site or sites did the tumor manifest (if it is extranodal, the exact location is important)?
- Did the applicant have symptoms such as fevers, night sweats or weight loss at the time they was diagnosed?
- What treatment was the applicant given, with sufficient detail as to extent of radiation and drug names?
- Did the applicant attain a remission after treatment?
- Did the disease recur? If so when and full details.
- What followup care has the applicant had and is that care continuing?

There are 3 kinds of NMSC:

- Basal cell carcinoma
- Squamous cell carcinoma
- Merkel cell carcinoma

BASAL CELL CARCINOMA (BCC)

BCC is not an insurability issue 99.9% of the time.

These are the characteristics of the 0.1% that have mortality concerns:

- Diagnosed under age 30 and due to an underlying predisposing cause such as xeroderma pigmentosum
- With metastasis (exceedingly rare)
- Deeply invasive tumors that cannot be completely resected.

SQUAMOUS CELL CARCINOMA (SCC)

SCC arising in the skin is sometimes more problematic.

Those found on sun-exposed skin surfaces that are not deeply invasive and have not metastasized are almost always cured surgically.

When SCC occurs at non-sun exposed sites, it may be called "de novo." These cases tend to be more aggressive.

Adverse survival factors are:

- Deep invasion of the dermis (and sometimes beyond)
- High pathological grade (poorly differentiated or undifferentiated)
- Post-excisional recurrence
- Metastases
- Arising in burn scars (called Marjolin ulcers and highly aggressive)
- Diagnosis under age 30
- Applicants who repeatedly form SCC tumors

MERKEL CELL CARCINOMA

This is a rare neuroendocrine skin cancer.

It has a prognosis more akin to melanoma than SCC, with 70% 5-year survival in localized cases and < 30% survival in high stage/metastatic disease.

Treatment usually involves more than just surgery.

Our chief concern is mistaking Merkel cell carcinoma for BCC or SCC and approving the case without essential medical records!

QUESTIONS - BASAL CELL CARCINOMA

- At what age was the BCC diagnosed; if multiple episodes, when was the first one diagnosed?
- Was it effectively treated and cured?
- Did it spread?

QUESTIONS - SQUAMOUS CELL CARCINOMA

- When was SCC diagnosed; if multiple episodes, when was the first one diagnosed?
- Where did it arise (clarify that the site was not one where a burn scar is present)?
- How was the tumor treated?
- Did it recur or metastasize; if yes, full details?

QUESTIONS - MERKEL CELL CARCINOMA

- At what age was the applicant diagnosed with Merkel cell carcinoma?
- At what skin site did it arise?
- What treatment was done for this tumor?
- Did it recur or spread; if yes, full details?

OBESITY AND UNDERWEIGHT

Obesity, underweight and unexplained significant weight loss are the 3 underwriting issues with "build."

BMI is the usual benchmark for weight. This is the accepted way of reporting weight in relation to height in medicine, and increasingly in underwriting (rather than build).

Most "build" tables are quite liberal in stage one obesity (BMI 30-34.9), begin adding ratings in stage two obesity

(35-39.9) and invariably rate or decline in stage three (≥ 40), Stage 3 is also called "morbid obesity" and confers progressively higher mortality as BMI increases into the 50's etc.

In obese (BMI ≥ 30) applicants, the dominant mortality issue is whether the excess weight is carried in the abdomen (abdominal obesity) vs. in the hips, thighs and back (truncal obesity).

BMI is useless in this context. It is ideal to have the waist circumference (WC). Unfortunately WC is seldom reported clinically and done at most sporadically paramedicals.

BARIATRIC SURGERY

The use of bariatric (weight loss) surgery has increased dramatically in the last 5 years and is now done at BMI as low as 32.5 albeit mainly in diabetics.

There are four main bariatric procedures:

- Roux-en-Y gastric bypass - #1 procedure used now
- Gastric banding – use decreasing
- Sleeve gastrectomy – use in increasing
- Biliopancreatic diversion – more complications, used mainly at BMI ≥ 50

Bariatric surgery is far more effective than any diet in terms of weight loss. Maintaining the weight loss is critical for the advantages to be sustained. These advantages include improvement in or complete resolution of:

- Prediabetes and Type 2 diabetes
- Hypertension
- Hyperlipidemia
- Nonalcoholic fatty liver disease
- LVH
- Sleep apnea
- Degenerative joint disease symptoms

The risk of coronary disease decreases as much as 40% and long-term survival is substantially greater as compare to the advantages conferred by weight loss dieting alone.

UNDERWEIGHT

Underweight is defined as BMI < 18.5.

Many studies have shown that the mortality in "build" is U-shaped. This means it is significantly elevated at the extreme ends of the spectrum. Mortality increases as BMI decreases below 18.5.

The driver in assessing risk in underweight is the context in which is occurs. The issues are underlying diseases, which may be otherwise asymptomatic, and the association between significant underweight and physical frailty in the elderly.

Marked underweight is also a concern in adolescents, especially females, because of anorexia nervosa.

WEIGHT LOSS

The critical issue in weight loss is whether it was voluntary or unintended (involuntary). Voluntary weight loss is rarely a concern other than in suspected anorexia nervosa.

Involuntary weight loss is an underwriting issue when it is at least 5% of premorbid (pre-loss) weight over the past year or > 10% over a longer interval.

The main causes of unexplained weight loss are cancer, major psychiatric disorders including dementia, malnourishment, heavy smoking, alcoholism, elder abuse, COPD, chronic infections, Parkinson disease, opiate abuse and chronic circulatory disease. In addition, 30% of cases cannot be explained despite a clinical workup.

Weight loss in cancer is more likely to occur in the past 12 months whereas in coronary disease weight loss can be insidiously gradual over a half decade or longer.

These are the main lab tests relevant in unexplained weight loss (especially in the elderly because life-threatening causes are more abundant):

- Low normal/below normal serum albumin
- Below normal lipids, especially total cholesterol
- ALT < 10
- Elevated alkaline phosphatase

In addition, a pattern of progressive decreases in serum albumin is a marker for unintended weight loss and associated excess mortality. The same is true for cholesterol in the absence of taking lipid-lowering drugs.

Unexplained weight loss is linked to significant excess mortality in the elderly, whereas unexplained > 5% weight gain in non-obese elders has been shown to improve mortality.

OBSESSIVE-COMPULSIVE DISORDER (OCD)

Obsessions are recurring/persistent thoughts, images and urges that are unwanted and intrusive. Compulsions are repetitive behaviors or mental acts undertaken in response to obsessions.

For example, fear of contamination is a common OCD obsession. One common compulsive response is excessive hand washing.

OCD patients almost always have both obsessions and compulsions.

Religious and aggression-related obsessions/compulsions confer significantly greater risk of adverse outcomes.

Over half of OCD patients also experience significant depression. The risks of many other psychiatric disorders are also substantially higher than in the general population, including 16-20% of OCD sufferers with a substance use disorder and 10% with psychosis.

Antidepressants are the main drugs used in OCD. More severe cases require antipsychotics. Over half of OCD patients do not take Rx as prescribed.

In addition, at least 15% attempt suicide and half of the survivors make a second attempt.

OCD without psychiatric comorbidities has over 85% higher mortality than expected and this reaches 2.5-fold greater in those who also have persistent depression.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Types of obsessions/compulsions
- Suicidal and self-harming behaviors
- Substance abuse
- Other psychiatric comorbidities
- Treatment
- Adherence to Rx use
- Inpatient care

QUESTIONS

- At what age was the applicant diagnosed with OCD?
- What type of obsessions and/or compulsions does/did the applicant experience?
- Have the obsessions/compulsions increased, remained stable, decreased or stopped entirely over the last 5 years?
- Has the applicant had any occupational, social or legal consequences associated with their OCD?
- What treatment does/did the applicant receive for OCD; list all forms of treatment within at least the least 5 years and any changes over that interval?
- Has the applicant ever had inpatient OCD treatment; if yes, when, how many times and when was the last episode?
- Has the applicant been diagnosed with any other mental/nervous conditions? If yes, full details.
- Has the applicant ever engaged in self-injurious behaviors; if yes, which ones and are they still present?
- Has the applicant ever attempted suicide; if yes, when and how many times?

OSTEOARTHRITIS

OA is a chronic degenerative disorder involving joints in the fingers, hands, wrists, hips, knees, etc. It is strongly associated with aging and the risk is increased in those who are obese or have manual occupations.

X-ray evidence of even extensive OA does not necessarily correlate with the presence or severity of symptoms.

In life underwriting we have only two concerns:

- There is an increased risk of coronary artery disease, most notably in those with hip or knee OA.
- There is modest extra mortality mainly in OA affecting weight-bearing joints (hip and knee).

Most of the CAD and mortality risks in hip and knee OA occur in those with moderate/severe pain and reduced mobility.

Most of the increased mortality risk is negated by successful arthroplasty procedures that reduce/eliminate symptoms and restore mobility.

QUESTIONS

- Does the OA involve the hips and/or knees?
- What is the severity of the pain and other symptoms?
- Does the applicant's OSA significantly impact their mobility?
- Has the applicant had surgical treatment; if yes, has the procedure reduced their symptoms and restored their mobility?

OSTEOPOROSIS

Osteoporosis is characterized by a decline in bone mineral density (BMD), predisposing to fractures. The most common facture sites are the ribs and hips.

Osteoporosis is usually asymptomatic prior to a fracture. It is diagnosed with bone densitometry, the test called dual-energy x-ray absorptiometry (DEXA).

The DEXA report shows T and Z scores that are used to determine if osteoporosis (significantly reduced BMD) is present. Osteopenia is a precursor to osteoporosis with less severe decreases in BMD at various skeletal sites.

There are many potential causes of osteoporosis. The most common are aging and hormone deficiencies (estrogen in women and androgen in men). Serious causes such as alcoholism, multiple myeloma, chronic liver disease and drugs used to treat cancer need to be ruled out.

Osteoporosis in young people may be caused by anorexia nervosa (mainly adolescent and young adult women), uncontrolled diabetes and various genetic disorders.

The main treatment is bisphosphonate drugs along with adequate calcium and vitamin D. These drugs may be taken orally or injected. In some cases, surgery (vertebroplasty, kyphoplasty) is needed for osteoporotic compression fractures.

The excess mortality is centered mainly in two areas:

- Serious underlying causes
- Hip fractures, primarily in the elderly.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Severity (T and Z scores on DEXA)
- Stable or progressing
- Underlying cause
- Fracture history
- Treatment
- Side effects of Rx, mainly osteonecrosis of the jaw

QUESTIONS

- At what age was the applicant diagnosed with osteoporosis?
- How severe is the condition; does the applicant know their DEXA T and Z scores?
- Has the cause of the osteoporosis been determined?
- Has the condition been stable or progressing over the last 3-5 years?
- Has the applicant sustained any factures; if yes, where and when?
- What medication has the applicant received?
  - Names of drugs currently or most recently taken.
  - If stopped, when and why.
  - Any Rx changes in last 2 years?
  - Has the applicant ever had jaw pain or been diagnosed with osteonecrosis of the jaw as a result of this treatment?

PANCREATITIS

Pancreatitis is inflammation of the pancreas. It can be acute or chronic.

Acute pancreatitis is mainly caused by gallbladder disease or alcohol abuse. The former is not an issue once the patient has recovered and the gallbladder problem has been managed. Our main concern once the patient has recovered is those cases induced by alcohol, which is more common in middle-aged and older males.

Less commonly, acute pancreatitis can hereditary, autoimmune or induced by mega elevations (at least four figures) of triglycerides. In 10-20% a definite cause is never established.

The two lab markers for pancreatitis are amylase and lipase. Lipase is more specific. Both are elevated in acute pancreatitis but not consistently in chronic pancreatitis. When the ratio of AST-to-ALT is > 1 and/or GGT is elevated, the risk of alcohol as the cause increases.

Overall mortality is acute pancreatitis is between 2% and 10% and mainly in severe hospitalized cases.

Chronic pancreatitis (CP) is a potentially serious disease. Alcohol abuse/alcoholism accounts for 70% of cases and most of the rest are idiopathic (cause unknown).

The pancreas makes insulin as well as various digestive enzymes. CP is a risk factor for pancreatogenic diabetes. *See DIABETES.*

If CP affects digestive enzymes the condition called exocrine insufficiency and must be treated.

CP may cause severe abdominal pain or be asymptomatic and discovered incidentally. The latter scenario usually involves finding unexpected pancreatic calcifications on imaging studies.

Newly detected chronic pancreatitis requires careful clinical evaluation because the symptoms and imaging findings may also occur in pancreatic cancer.

Treatment may be behavioral modification, medication or surgery. If surgery is one we must see the pathology report because tumors (carcinoma or otherwise, not all pancreatic cancer is carcinoma) are found unexpected in up to 20% of patients.

Treatment is mainly with pancreatic enzyme replacement and nutritional supplementation.

There is extra mortality in chronic pancreatitis. The main driver is failure to abstain from continued alcohol abuse. In a large study, actual-to-expected mortality was 360% after 7 years. In others, it has been more modestly increased.

PANCREATITIS

KEY UNDERWRITING ISSUES: ACUTE PANCREATITIS

- Cause
- Severity
- Complete recovery
- Relapse/recurrence

QUESTIONS

- When was the applicant diagnosed with acute pancreatitis?
- Did he have more than one episode; if yes, when and dates?
- What was the cause of the applicant's pancreatitis?
- What treatment did the applicant get; if medication, what was it and is he still taking it?
- Did he make a complete recovery from the episode?
- Has the applicant ever been told he has subacute or chronic pancreatitis; if yes, full details?

KEY UNDERWRITING ISSUES: CHRONIC PANCREATITIS

- Cause
- Symptoms
- Test results
- Complications: diabetes, exocrine insufficiency
- Treatment
- Pathology report if surgery
- Current liver-related tests
- Other evidence consistent with alcohol use disorder (MVR, Rx, etc.)

QUESTIONS

- When was the applicant diagnosed with chronic pancreatitis?
- Did the applicant have symptoms at the time they were diagnosed; if yes, what were they?
- Does the applicant know the cause of their chronic pancreatitis?
- Does the applicant take any medication for this condition; if yes, what Rx, are they still taking it and if not, why not?
- Has the applicant had surgery for this condition: if yes, when and what surgical procedure?
- Did the applicant develop diabetes; if yes, when and full details?
- Does the applicant continue to have symptoms related to this condition; if yes, what are they and when is the last time the applicant experienced them?
- When is the last time the applicant saw their doctor because of chronic pancreatitis or its complication?
- Has the applicant been asked to have further followup with their doctor for this reason?
- Was the applicant advised to make any behavioral changes; if yes, what was advised and did they comply?

PARATHYROID DISORDERS

The two main disorders of the parathyroid glands are hyperparathyroidism and hypoparathyroidism.

Hyperparathyroidism is more common and is diagnosed most often in older age females who have elevated serum calcium levels. This is caused by excess release of parathyroid hormone.

The result is a tumor, which is almost always benign.

The main issue is ruling out other possible causes of elevated calcium. This is done with lab tests and imaging.

Treatment may be surgical or medical. Medication is mainly used to treat side effects.

Surgery for a benign tumor usually resolves the condition. However, there is also an increased risk of CV disease, mainly in those with hypertension and other significant CV risk factors.

When the tumor is malignant, those without metastases or inadequate surgery have an 80% 5-year survival. The prognosis is poor in the other cases.

Hypoparathyroidism can occur for a variety of reasons with differing mortality implications.

It arises after 18% of thyroidectomies because of the proximity of the four parathyroid glands to the much larger thyroid gland. It can also develop after surgery for hyperparathyroidism.

There are many other potential causes and insurability depends largely on the cause and its treatability.

Blood testing shows a low calcium reading and a high phosphorous level. Life-threatening complications can occur in severe acute as well as longstanding chronic cases.

Mild cases do not require treatment, just periodic monitoring. Calcium and vitamin D supplements may be given.

The prognosis is favorable in successfully treated as well as asymptomatic cases. However, there is an increased incidence of major depression and other psychiatric disorders.

For underwriting purposes our concerns are basically the same for both hyper- and hypo- parathyroid disease.

KEY UNDERWRITING ISSUES

- What was the underlying cause?
- How was it treated?
- Were there any complications?

PARKINSON DISEASE

Parkinson disease (PD) is a progressive neurological disease that typically begins between ages 45 and 65.

The most common symptoms at diagnosis are tremor (initially confined to one limb), rigidity, bradykinesia (slow movement) and postural instability. Depression and sleep disturbances are common. The clinical diagnosis is usually easy to make as the disorder progresses.

There is no cure. Treatment is directed at minimizing the symptoms. Among the more widely used drugs are amantadine (helpful in mild cases only), levodopa with carbidopa, pramipexole, ropinirole, rasagiline, tolcapone and entacapone.

There is no consistent association between the drugs prescribed and the extent of symptoms. Use of more than either the levodopa/carbidopa combination or one other drug suggests greater symptom severity and/or complications.

Antipsychotic drugs are often needed due to psychosis-like symptoms and confusional states.

In addition, deep brain stimulation techniques and ablative surgical procedures have been successful in managing certain symptoms.

The main risk factors for early mortality are cognitive dysfunction/dementia, psychotic features, need for surgical intervention and progression in motor symptoms, such as postural instability resulting in a substantial fall risk.

In one study, 60% of PD patients had mild cognitive impairment (MCI) after 8 years of followup. MCI in PD has a high probability of progression to dementia.

In two recent studies median survival in Parkinson disease was 16 years from diagnosis.

Roughly 25% of patients have a stable course with long survival. Some may be deemed insurable on a substandard basis. Prevalent comorbidities such as diabetes and psychiatric disorders could adversely impact insurability in these cases.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Symptoms and their severity
- Treatment
- Rate of disease progression
- Functional disability
- Psychotic features
- Cognitive impairment

QUESTIONS

- At what age was the applicant diagnosed with PD?
- What symptoms lead to the diagnosis?
- What treatment has the applicant had for PD?
  - If medication, what drug(s) do they take now?
  - If medication, how did their medication change over the last 5 years?
  - Has the applicant had non-drug treatments such as brain stimulation or surgery
  - If yes, when?
- Has the applicant had any mental or nervous problems with their PD; if yes, full details?
- Have the applicant's PD symptoms progressed or remained stable since diagnosis?
- Is the applicant limited in their daily occupational or functional activities due to PD; if yes, in what ways?

PEPTIC ULCER DISEASE

The two types of PUD are duodenal and gastric ulcers.

Both occur mainly in persons with *Helicobacter pylori* infestation. Medical treatment eradicating *H pylori* dramatically reduces the recurrence rate in treated peptic ulcers.

The most common other cause is use of nonsteroidal antiinflammatory drugs (NSAIDs).

Peptic ulcers usually present with epigastric pain. The main concern is ruling out other serious causes. The presence of anemia is a concern in this context.

Diagnosis is established by esophagogastroduodenoscopy.

Duodenal ulcers are never malignant and do not require biopsy. Gastric ulcers are usually biopsied because 5% that appear benign are malignant. Biopsy is often repeated after an interval of treatment because nonhealing gastric ulcers are suspicious for harboring cancer.

In addition to eradicating *H pylori*, most patients are treated with either proton pump inhibitors or histamine-receptor antagonists. Patients usually respond to these drugs.

Besides the risk of malignancy in gastric ulcers, our main underwriting concerns are complications, which include bleeding, perforation and bowel obstruction. Most of these cases are now effectively managed and eligible for standard rates after a modest waiting period.

Zollinger-Ellison syndrome is present in 1% of cases. It is caused by tumors called gastrinomas, the majority of which are malignant. Most gastrinomas behave in an indolent manner and are amenable to treatment if they have not metastasized to the liver, etc.

KEY UNDERWRITING ISSUES

- Type of ulcer
- Cause
- Treatment
- If duodenal: complications
- If gastric: complications and ruling out cancer

QUESTIONS

- Did the applicant's ulcer arise in their stomach or duodenum?
- Did the applicant have a biopsy of their ulcer? If yes:
  - How many times?
  - When were the biopsies done?
  - Did the doctor confirm that cancer was not found on the biopsy?
- What medical treatment was given for the ulcer?
- Did the applicant also get treated for Helicobacter pylori?
- Did the applicant have any treatment other than medication; if yes, what and when?
- Was the applicant hospitalized because of the ulcer; if yes, when and how many times?
- Did the applicant have intestinal bleeding, bowel perforation, or bowel obstruction due to their ulcer; if yes, full details?
- When did the applicant fully recovered from their ulcer?
- Does the applicant continue to take any medication for this condition including specifically for prevention of ulcer recurrence? If yes, what drug(s)?

PERICARDITIS

Pericarditis is inflammation of the pericardium, which surrounds and protects the heart.

The majority of cases are viral in origin. Other causes include bacterial infection, autoimmune syndromes (most notably systemic lupus erythematosus), malignancy, pericardial injury and the effects of certain drugs.

The most common symptoms are chest pain and dyspnea. These may initially be mistaken for a heart attack or other serious cardiac disorder. The presence of a pericardial friction rub heard with a stethoscope helps confirm the diagnosis. The ECG usually shows nonspecific ST-T wave changes than normalize after recovery.

Pericardial effusion may occur and the contents may be examined via needle biopsy to rule out cancer and other serious causes.

In acute viral pericarditis, the treatment is rest and pain medication as needed. Symptoms usually subside in anywhere from a few days to several weeks. Steroids may be needed in severe cases and colchicine is used to prevent recurrences.

Chronic constrictive pericarditis is an uncommon complication. In some cases, this may require pericardiectomy (removal of the pericardium).

Most cases of pericarditis pose no issues for insurability because they are viral in origin, free of complications and result in a complete recovery.

Insurability of all other cases depends on the cause and response to treatment of both the cause and the pericardial disease.

KEY UNDERWRITING ISSUES

- Cause
- Number of episodes
- Severity of symptoms
- Effusion
- Treatment
- Complications

QUESTIONS

- When was the applicant diagnosed with pericarditis?
- Has the applicant had more than one episode; if yes, when was each episode?
- Does the applicant know the cause of their pericarditis?
- Did the applicant have a biopsy; if yes, when?
- What treatment was the applicant given; if medication, what drug(s) and when did they stop taking it/them?
- Did the applicant make a full recovery?
- Were there any complications; if yes, what were they?

Nearly all PAD cases are due to chronic atherosclerotic disease arising in the arteries of the lower extremities.

The other type of PAD is thromboangiitis obliterans (Buerger disease). It is rare and almost always arises in younger male heavy smokers, mainly of Asian descent. The only effective remedy is complete cessation of tobacco use.

The risk of atherosclerotic PAD increases steeply with age and it is most common in heavy smokers and diabetics.

Over 90% of PAD cases are asymptomatic at diagnosis mainly because of screening for the disease using the ankle:brachial index (ABI). This is the ratio of blood pressure in the ankle to the arm on the same side of the body. An abnormal low ABI makes the diagnosis of PAD.

Normal ABI is 1.00-1.30 or 1.40; the lower the reading, the greater the extent of arterial obstruction. Elevated ABI may also be due to PAD and this is most commonly found in diabetics.

The pulses in the legs are usually reduced in intensity in PAD. Intensity is typically reported on a scale of 0-4 and patients with symptomatic PAD have scores of 0-1.

The absence of dorsalis pedis pulses is not uncommon in heathy persons. The other pulses should not be significantly diminished/absent in someone without PAD. The presence of an arterial bruit heard is suggestive of PAD.

There are various symptoms in PAD, the best known being intermittent claudication (IC).

IC is a cramping pain in the calves, thighs or buttock induced by walking and relieved by rest. Patients sometimes use the term “charley horse” to describe IC.

It usually begins with stabbing pains in the toes and feet, is worse at night and relieved by hanging the leg over the side of the bed.

IC-like pain at rest is indicative of more advanced PAD

Patients with PAD usually also have coronary artery disease. Much of the excess mortality in PAD is due to coexisting CAD.

Treatment is aimed at relieving symptoms, preventing complications and reducing the risk of MI and stroke. It may be medical or surgical.

Cilostazol is the main drug used for reducing symptoms. Statins are invariably prescribed because they improve PAD symptoms and reduce the risk of CV events. Antiplatelet drugs such as aspirin and clopidogrel are also often given because they lower the risk of an MI.

The four main types of surgical treatment are:

- Endovascular revascularization (angioplasty, etc.)
- Bypass grafting
- Endarterectomy – excision of focal obstructive lesion
- Amputation.

Critical limb ischemia is a serious PAD complication causing leg ulcerations and potentially resulting in gangrene and subsequent toe, foot or leg amputation.

PAD confers substantially extra mortality, the degree of which depends on the extent and severity of disease, response to treatment and any complications.

Treatment is palliative, not curative. The long-term prognosis depends largely on the control of risk factors, especially diabetes, and discontinuance of smoking.

In some studies the mortality in PAD is higher than that in CAD. Mortality in patients requiring amputation is formidable with overall 5-year survival of just 35%.

NT-proBNP should be ordered routinely when underwriting PAD cases.

PERIPHERAL ARTERIAL DISEASE (PAD)

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Tobacco use
- CV risk factor profile
- Symptoms at diagnosis and thereafter
- ABI readings
- Extent of disease
- Treatment
- Adherence to taking Rx as prescribed
- Complications, especially critical limb ischemia, gangrene and amputation
- Evidence of atherosclerotic disease affecting the aorta, coronary and cerebrovascular arteries

QUESTIONS

- At what age was the applicant diagnosed with PAD?
- What lead to the diagnosis (symptoms, ABI screening)?
- Did the applicant have intermittent claudication or resting ischemic pain?
- Does the applicant still have symptoms? If yes, which ones and how severe?
- Does the applicant know their most recent ABI reading?
- How extensive is the applicant's PAD; which arteries are involved?
- What types of treatment has the applicant had for PAD?
  - If medical, what Rx are they taking?
  - If surgical, what procedures were done and at what sites (ankles, thighs, abdominal aorta)?
- Has the applicant ever had leg ulcerations or gangrene; if gangrene, did the applicant have any amputations and if yes, to what extent?
- Has the applicant ever been diagnosed with or advised to be tested for coronary artery disease; if yes, full details?

PERSONALITY DISORDERS

Personality disorders are defined as an enduring pattern of inflexible and pervasive behaviors involving cognition, perception, emotion, interpersonal functioning and impulse control.

They tend to be chronic, resistant to treatment and associated with a high prevalence of other psychiatric conditions including mood disorders, anxiety disorders, substance use disorders and, in some types, psychoses.

Personality disorders are collected in three clusters encompassing 10 specific conditions. Most are uncommon and rarely encountered in underwriting.

The four we see more than rarely as clinical diagnoses are the borderline, antisocial, obsessive-compulsive and avoidant personality disorders.

Borderline personality disorder is characterized by unstable interpersonal relationships and marked impulsivity. There is a considerable risk of intentional self-injury and suicide attempts. Some patients make a compete recovery.

Antisocial personality disorder is strongly associated with violence and criminality. It is often preceded by conduct disorder and other impulse control disorders arising in adolescence, has a high suicide risk and is seldom insurable on any basis.

Obsessive-compulsive personality disorder manifests as an intense preoccupation with orderliness, control and perfectionism. It is sometimes seen in workaholics. It is distinct from obsessive-compulsive disorder although both diagnoses may be made in the same individual.

Avoidant personality disorder often occurs in patients with social anxiety disorder. It has few mortality implications but high occupational morbidity.

KEY UNDERWRITING ISSUES

- Specific disorder
- Factors leading to diagnosis
- Symptoms
- Psychiatric comorbidities
- Treatment and adherence to treatment
- Occupational and social functioning
- Risk taking behaviors
- Suicidality
- Criminality in antisocial PD

QUESTIONS

- Which personality disorder was diagnosed?
- When was the diagnosis?
- What symptoms and other factors led to the diagnosis being made?
- Does the applicant have a history of any other nervous and mental disorders? If yes, which ones and when were they diagnosed.
- To what extent does this disorder interfere with the applicant's occupational and social functioning?
- Has the applicant been prescribed medication for this disorder? If yes:
  - What was prescribed at the time of the diagnosis?
  - What drugs are currently being taken?
  - If medication has changed in the last 5 years, when were the changes and what changes were made?
- Has the applicant had psychotherapy for this PD; if yes, when and are they still undergoing this therapy?
- Has the applicant ever been hospitalized for his PD? If yes:
  - How many times?
  - What are the dates of hospitalizations?
  - What treatment was given while in the hospital?
- Has the applicant ever intentionally harmed themselves; if yes, in what ways and when?
- Has the applicant ever attempted suicide; if yes, how many times and when?

PHEOCHROMOCYTOMA

This rare tumor arises mainly in the adrenal glands. Those occurring elsewhere are called extra-adrenal and may be diagnosed as paragangliomas.

It is distinctive because it can induce severe and even life-threatening hypertension. There are many additional manifestations affecting a wide range of organs

Most pheochromocytomas are benign; malignant pheochromocytoma has an unfavorable prognosis.

They may also occur as one manifestation of certain hereditary tumor-forming syndromes.

There are the 5 underwriting concerns:

- Was the tumor completely removed?
- Was it benign or malignant?
- Did it cause hypertension and if yes, did the hypertension resolve with effective treatment of the tumor?
- Did it have additional manifestations with residual post-treatment complications; if yes, full details?
- Has the applicant had any other tumors or does he have a family history of pheochromocytoma?

PITUITARY ADENOMA

This benign tumor often causes the excessive release of various pituitary hormones, resulting specific syndromes. Some pituitary adenomas are hormonally inactive.

By far the most common disorder associated with pituitary adenomas is hyperprolactinemia (excessive production of the hormone prolactin). The tumors that induce excess prolactin secretion are sometimes called prolactinomas.

There are many other causes of hyperprolactinemia that must be excluded with a clinical workup.

In addition to hormone-related effects, pituitary adenomas may cause some degree of vision impairment and damage the sinuses and other nearby structures. The risk of most of these effects depends on the size of the adenoma at diagnosis and whether it is continuing to enlarge.

Microadenomas are less than one centimeter in diameter. Because of their small size, they rarely result in damage to nearby structures.

Macroadenomas are larger pituitary adenomas. They may require surgical resection to prevent local area complications.

Excess prolactin secretion is treated medically with bromocriptine or other dopamine agonist drugs. This treatment can also inhibit the growth of the tumor.

Rarely, macroadenomas will be aggressive and require treatment with cancer chemotherapy drugs.

KEY UNDERWRITING ISSUES

- Symptoms
- Tumor size and local area effects
- Treatment used and its impact
- Complications

QUESTIONS

- When was the applicant's pituitary adenoma discovered?
- Was the tumor causing symptoms due to release of prolactin and/or its size, or was it discovered incidentally?
- How large was the tumor?
- Was the applicant treated medically? If yes,
  - What drug was use?
  - Is medical treatment still being taken to manage the excess prolactin excretion?
  - Was there any medical treatment for reasons other than controlling the prolactin release, such as tumor chemotherapy; if yes, when?
- Did the applicant have surgery? If yes:
  - Was the tumor completely removed?
  - Does the applicant have any residual problems related to the local effects of the tumor?

POLYCYSTIC KIDNEY DISEASE

Simple cysts are common in the kidney. The only underwriting issue is making sure they are carefully distinguished from malignancies, which sometimes have a cystic component.

Autosomal dominant polycystic kidney disease (ADPKD) is one of the most common hereditary diseases, affecting 500,000 Americans.

Kidneys are enlarged and often palpable. First symptoms generally arise around age 30 and include back/flank pain and urinary tract infections. Hematuria is the most common laboratory finding prior to substantial decline in kidney function. Diagnosis is made by kidney ultrasound.

ADPKD is considered a systemic disease. Cystic disease may also develop in other organs including the liver, pancreas and arachnoid membrane. Pancreatitis, peptic ulcer disease and cirrhosis are significantly more common in polycystic kidney disease.

Most patients develop hypertension with LVH and primary aldosteronism is also more prevalent. At least 10% have a cerebral aneurysm. Aortic valve disease and aortic aneurysms are significantly more common in ADPKD patients.

There is considerable variance in the degree of renal impairment in this disorder. Nevertheless, the majority of patients develop end-stage renal disease (ESRD). ADPKD accounts for 10% of dialysis patients. Unilateral nephrectomy is sometimes done and transplantation is often required.

There is no cure. Medical treatment may low down the rate of cyst formation but cannot prevent progression to ESRD.

Overall, ADPKD patients have somewhat better survival than those with ESRD due to other causes. In an Australian study, 84% were alive after 5 years. ADPKD post-transplantation mortality is lower than when it is done for ESRD in diabetics.

Medical records are essential in milder cases deemed potentially insurable.

KEY UNDERWRITING ISSUES

- Extent of disease
- Comorbidities
- Treatment

QUESTIONS

- Does the applicant have symptoms due to their polycystic kidney disease; if yes, what are they and when did they begin?
- Has the applicant had or been advised to have any type of treatment for this disease; if yes, what specific types of treatment have been done or recommended?
- Does the applicant have high blood pressure; if yes, what treatment are they taking for this condition?
- Does the applicant have complications such as aneurysms and heart valve damage?

POLYCYTHEMIA

Polycythemia (erythrocytosis) is defined as elevated hemoglobin (Hb). There are three main types:

- Primary – known as polycythemia vera
- Secondary – called secondary erythrocytosis
- Relative

RELATIVE POLYCYTHEMIA

This is also called stress polycythemia. It is not a true polycythemia state. Rather, it is present when the hematocrit is elevated and Hb is normal.

Relative polycythemia occurs mainly in heavy smokers and is also called smokers' polycythemia and Gaisbock syndrome. Obstructive sleep apnea is common in these patients. The main underwriting concerns are the increased risk of thrombotic events and undiagnosed sleep apnea.

SECONDARY ERYTHROCYTOSIS

This condition is characterized by excess red blood cell production due to an underwriting disease or other circumstances. Inciting mechanisms include chronic pulmonary disorders, congenital heart disease and various kidney diseases and cancers.

Being in a high altitude location can induce secondary erythrocytosis but mainly on a transient basis. This has no risk significance.

Insurability in all other cases depends primarily on the underlying cause.

POLYCYTHEMIA VERA (PV)

PV is the most common of the malignant myeloproliferative diseases.

The JAK2V617F (abbreviated JAK2) gene mutation is present in nearly all cases. This finding plus a persistently elevated Hb are used to make the diagnosis. Most patients also have elevated white blood cell (leukocytosis) and platelet (thrombocytosis) counts.

Symptoms include fatigue, pruritus (generalized itching, often inducing by water when bathing), night sweats, bone pain, shortness of breath, headaches and a burning pain in the extremities called erythromelalgia.

There are four main consequences in PV:

- Thrombotic episodes, including MIs and strokes
- Bleeding/hemorrhagic events, mainly from the GI tract
- Progression to myelofibrosis
- Transformation into acute myelogenous leukemia

Treatment is with periodic phlebotomy and drug therapy. The latter includes hydroxyurea, anagrelide, interferon alpha and pipobroman.

Some cases are quite indolent, requiring fewer phlebotomies and less/no use of Rx. These cases are less likely to culminate in myelofibrosis or acute leukemia.

There is significant excess mortality in PV. However, favorable cases have 15-year survival rates only modestly higher than those in the general population.

POLYCYTHEMIA

KEY UNDERWRITING ISSUES

- Age at onset (ideally < 60)
- Magnitude of recent hemoglobin, hematocrit, white blood cell and platelet levels
- Thrombotic events and bleeding episodes
- Frequency of phlebotomy
- Other treatment
- Ongoing followup care

QUESTIONS

- At what age was the applicant diagnosed with polycythemia vera?
- What symptoms and findings led to this diagnosis?
- Has the applicant ever had episodes of clotting in their blood vessels; if yes, at which site, when and how often?
- Has the applicant had episodes of significant bleeding or hemorrhaging; if yes, from what orifice, when and how often?
- How often does the applicant have phlebotomy treatment?
- What other kinds of treatment has the applicant had for PV. If medication, include names of drugs used and when they were administered.
- Does the applicant still have symptoms due to PV? If yes, what are they and how often do they occur.

POLYMYALGIA RHEUMATICA

Polymyalgia rheumatic (PR) is a clinical diagnosis based on a pattern of pain and stiffness in the shoulders and hips. It mainly arises after age 50 and lasts for a period of weeks.

PR is treated with prednisone, sometimes accompanied by methotrexate, and it usually resolves in less than 12 months.

There is no excess mortality in polymyalgia rheumatica.

In 1/3rd of cases, polymyalgia rheumatic occurs in conjunction with giant cell arteritis, an inflammatory condition characterized by headaches, jaw pain and visual problems. Giant cell arteritis can also arise with comorbid polymyalgia rheumatica.

Giant cell arteritis mainly affects the temporal artery and is also sometimes called temporal arteritis for this reason.

The erythrocyte sedimentation rate (ESR) inflammation marker test is substantially elevated (> 50 mm/h) in 90% of cases.

There is an increased risk of aortic valve insufficiency (regurgitation), aortic dissection and thoracic aneurysm formation. It can also cause permanent blindness if not promptly managed with oral or intravenous steroids.

Most patients respond to treatment and in the absence of major complications, there are seldom any underwriting concerns after the patient recovers.

POSTTRAUMATIC STRESS DISORDER (PTSD)

PTSD is the most common chronic stress-related disorder.

The DSM-5 diagnostic criteria for PTSD include:

- Exposure to actual/threatened death injury or violence
- At least one of each of the following: intrusive symptoms, avoidance of stimuli linked to the event, mood/cognitive alterations and marked arousal and reactivity.

PTSD is most common in victims of sexual abuse and persons exposed to war/combat. However, it can arise as a consequence of any psychologically or physically threatening circumstances such an earthquake, being bullied or in a serious car crash, and even as a result of immigrating.

Onset may be shortly after the inciting event or there may be a latency period, (especially in childhood abuse) of decades before PTSD first becomes manifest.

PTSD has a high prevalence of comorbid psychiatric and physical disorders. Major depression, heavy smoking and substance use disorders are more common in PTSD than the general population.

Treatment is with psychotherapy and medication. The latter is mainly antidepressants and 20% of PTSD patients are also prescribed antipsychotics at some point during the course of their symptomatic illness.

The risk of non-medical mortality, especially suicide and fatal accidents, is notably increased. There is also a higher risk of cardiovascular disease. PTSD may arise in patients with persistent angina pectoris or following an MI.

Most excess mortality is in those PTSD cases with psychiatric comorbidities, especially major depression, substance use disorders and personality disorders.

It is also increased in those who engage in violence and risk-taking behaviors. Motor vehicle reports and criminal records are therefore essential to properly assess the risk in PTSD.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Traumatic event leading to diagnosis
- Latency interval from event to diagnosis
- Severity based on number of symptoms
- Comorbid conditions
- Risk-taking behaviors
- Treatment and response to therapy
- Suicidality

QUESTIONS

- At what age was the applicant diagnosed with PTSD?
- What traumatic event caused the disorder?
- How long after the inciting event did the PTSD symptoms begin?
- What kinds of treatment has the applicant had for PTSD?

  If medical:
  - What drugs were prescribed when it was diagnosed?
  - Is the applicant still on Rx?
  - If not, when did they stop?
  - If the applicant stopped, did they do so based on advice from the treating physician?

  If psychotherapy:
  - Is the applicant still having psychotherapy?
  - If not, when did they have it and for how long?
  - Did they stop against the advice of his doctor?
- Has the applicant ever been diagnosed with any other mental and nervous disorder; if yes, full details?
- Has the applicant had any physical symptoms associated with their PTSD; if yes, which ones and are they still present?
- Has the applicant had any occupational, social, familial or legal consequences stemming from PTSD; if yes, what were they and when did they occur?
- Has the applicant ever attempted suicide; if yes, when and how many times?

PREDIABETES

There are three disorders that predispose to type 2 diabetes:

- Gestational diabetes mellitus (GDM)
- Impaired fasting glucose (IFG)
- Impaired glucose tolerance (IGT)

Gestational diabetes mellitus is defined as onset of a diabetic state during pregnancy. There is no excess mortality but there is an increased risk of a later type 2 diabetes diagnosis.

IFG is elevated fasting blood sugar in the absence of known diabetes or another cause. IFG is common in persons with obesity, metabolic syndrome and/or a positive diabetes family history.

IGT is elevated postprandial blood sugar in the absence of known diabetes or another cause. IGT is also common in same contexts as IFG.

Some applicants will have both IFG and IGT.

Most studies show minimally increased mortality in IFG and IGT. There is also a heightened risk of developing diabetic-type eye, nervous system and kidney damage prior to a subsequent diabetes diagnosis.

When IFG or IGT are present on an insurance screening blood profile or there is a history of either condition, insurability is usually resolved with the glycosylated hemoglobin (glycohemoglobin, HbA1-c) test.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Traumatic event leading to diagnosis
- Latency interval from event to diagnosis
- Severity based on number of symptoms
- Comorbid conditions
- Risk-taking behaviors
- Treatment and response to therapy
- Suicidality

QUESTIONS

- At what age was the applicant diagnosed with PTSD?
- What traumatic event caused the disorder?
- How long after the inciting event did the PTSD symptoms begin?
- What kinds of treatment has the applicant had for PTSD?

  If medical:
  - What drugs were prescribed when it was diagnosed?
  - Is the applicant still on Rx?
  - If not, when did they stop?
  - If the applicant stopped, did they do so based on advice from the treating physician?

  If psychotherapy:
  - Is the applicant still having psychotherapy?
  - If not, when did they have it and for how long?
  - Did they stop against the advice of his doctor?
- Has the applicant ever been diagnosed with any other mental and nervous disorder; if yes, full details?
- Has the applicant had any physical symptoms associated with their PTSD; if yes, which ones and are they still present?
- Has the applicant had any occupational, social, familial or legal consequences stemming from PTSD; if yes, what were they and when did they occur?
- Has the applicant ever attempted suicide; if yes, when and how many times?

PSA AND PROSTATE CANCER

PSA

Prostate specific antigen (PSA) is the tumor marker for prostate cancer. It is used both for screening as well as in the care of patients with prostate cancer.

The normal range is 0-4.0 ng/mL and the higher the PSA above 4.0, the greater the likelihood of prostatic carcinoma. However, benign prostatic hyperplasia (BPH), prostatitis and other benign mechanisms can also modestly elevate PSA.

When we compare PSA readings over time, an increase of at least 0.75 ng/mL in one year or less is suggestive of prostate cancer even if both readings are within the normal range.

Screening for prostate cancer is done with PSA and a digital rectal examination (DRE).

PSA is used to follow prostate cancer patients after completion of treatment.

- If the patient had a radical prostatectomy, the PSA should become undetectable. Thereafter, detectable PSA may represent a recurrence at the surgical site or metastatic disease.
- If the treatment is radiation therapy, PSA should fall to a low level. If it rises too rapidly or too high thereafter, this is also consistent with recurrence/metastasis.

When PSA readings are deemed significant after treatment, this is called a biochemical recurrence. The actual disease recurrence may be in the area of the prostate gland, in local/regional lymph nodes or at distant sites.

Testing is done to detect the recurrence, mainly with a PET scan. New PET scan methods are highly sensitive but in some cases the site of the disease recurrence may be initially undetectable.

PROSTATE CANCER

Prostatic carcinoma (PC) is the most common cancer in men. The incidence rises steeply with age.

Staging is based on the extent of the tumor in the gland and any local extension beyond the gland, ranging from stage T1 to T4. N is used for lymph node status and M for distant metastasis. Stage is a major prognostic factor.

Tumor grade is reported as the Gleason score (GS), which is a summed score consisting of the two most prominent differentiation pattern.

When GS is < 7, most prostate cancers behave indolently. On the other hand, those with a GS of 8-10 tend to be aggressive tumors.

The 3 key determinants of prognosis in localized PC are Gleason score, PSA level at diagnosis and stage:

- Low risk = PSA ≤ 10, GS ≤ 6 and stage T1c to T2a
- Intermediate risk = PSA 10-19.9, GS 7 and stage T2b
- High risk = PSA ≥ 20, GS 8-10 and stage ≥ T2c

Other significant prognostic markers include surgical margins, perineural invasion and lymphovascular invasion.

The patient is usually given 3 primary treatment choices:

- Radical prostatectomy
- Radiation therapy
- Careful ongoing observation, called active surveillance. This is mainly used in low risk cases.

Radiation is usually done by external beam. Another option is brachytherapy, which involves inserting radioactive implants into the gland.

Patients opting for active surveillance are followed closely with PSA tests, etc. If there is anything to suggest that the tumor is progressing, surgery or radiation therapy is done.

Androgen deprivation therapy (ADT) suppresses androgen (testosterone) levels. This is undertaken in high-risk localized cases and almost always for metastatic disease.

Most patients respond to ADT for a variable interval of time. ADT has some adverse side effects including increased risk of cardiovascular events, depression, cognitive dysfunction and osteoporosis.

Patients on ADT are often prescribed a bisphosphonate drug to reduce the risk osteoporosis. The main ones used in this context are denosumab and zoledronic acid.

Immunotherapy and chemotherapy is reserved for patients that are not responsive to ADT or have internal organ metastases (M1/M2).

Mortality is usually lowest in patients having radical prostatectomy and a bit higher with radiation. In most studies, active surveillance cases have 15-30% higher 10-year mortality.

PSA AND PROSTATE CANCER

KEY UNDERWRITING ISSUES

- Stage
- Gleason score
- PSA at baseline
- Other pathology report factors
- Treatment initially and thereafter
- Adequacy of followup care
- PSA response
- Biochemical/clinic recurrence
- Metastases
- Side effects of treatment

QUESTIONS

- At what age was the applicant diagnosed with prostate cancer?
- Does the applicant know the stage of the PC at the time they were diagnosed?
- Does the applicant know their Gleason score and/or their PSA at the time they were diagnosed?
- What type(s) of treatment has the applicant had for PC?
- When was each type of treatment administered?
- What side effects did the applicant incur from each type of treatment?
- How often does the applicant see the physician providing their care for prostate cancer?
- Has the applicant had a PC recurrence? If yes:
  - Was it in the area of the prostate gland, in the lymph nodes or at another site?
  - If other site, which one(s)?

PSORIASIS

Psoriasis is a chronic inflammatory skin disease. It is now considered a systemic disorder.

There are several presentations. The most common is plaque psoriasis, accounting for 80% of cases. The palmar-plantar pustulosis, generalized and erythrodermic varieties have excess mortality.

Psoriasis closely resembles cutaneous T-cell lymphoma and biopsy is sometimes necessary to rule out malignancy.

Between 10%-20% of psoriasis patients develop psoriatic arthritis. This is underwritten essentially in the same manner as rheumatoid arthritis.

Both heavy smoking and heavy drinking are several times more common in moderate-to-severe psoriasis as compared to the general population. Diabetes, metabolic syndrome and various major psychiatric disorders are also more prevalent in psoriasis patients.

Severe psoriasis confers a 70% increased risk of both MI and stroke. The odds of MI under age 40 are three times greater than in persons free of psoriasis.

The main drug used to treat moderate-to-severe psoriasis is methotrexate. It is also often treated with biological agents and even anticancer drugs.

The largest mortality study done on psoriasis showed over 2-fold greater risk of death in severe cases under age 50. The leading causes of excess deaths are kidney disease, suicide, lung disease, liver disease, cardiovascular disease and infections.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Type of psoriasis
- Results of biopsy, if done
- Severity of disease
- Treatment
- Coexisting psoriatic arthritis
- CV risk factor profile

QUESTIONS

- At what age was the applicant diagnosed with psoriasis?
- Did the applicant have a biopsy?
- How extensive is the applicant's psoriasis (in terms of percentage of body affected)?
- What treatment has the applicant been given for psoriasis; list all drugs taken currently and any Rx changes in the past 2 years?
- How has the applicant's psoriasis responded to treatment?
- Has the applicant also been diagnosed with psoriatic arthritis; if yes, full details akin to rheumatoid arthritis?
- Has the applicant experienced any other complications from their psoriasis; if yes, full details?

RAYNAUD PHENOMENON

RP may also be called Raynaud syndrome or Raynaud disease.

RP is a vasoconstrictive disorder incited by cold or emotional stress and affecting primarily the fingers and to a lesser degree the toes, nose and ears. It occurs in 3% to 5% of adults, mainly arising before age 50 and more often in women.

RP may be primary or secondary. The substantial majority of cases are primary. There is little mortality in primary RP except in rare cases with digital gangrene.

The secondary type has major underwriting implications because of potential underlying causes. The most common one (35% of cases) is scleroderma. Others include occult cancer, hypothyroidism, carpal tunnel syndrome and systemic lupus erythematosus.

The keys to underwriting are identifying the secondary cases and determining their cause. The clues include:

- Frequent severe episodes
- Onset at age 40 or over
- A strongly positive antinuclear antibody (ANA) test
- Abnormal capillaries under the fingernails
- Coexisting hepatitis C, where the RP is due to cryoglobulinemia

Secondary RP will be underwritten on the basis of the known or suspected cause.

RHEUMATOID ARTHRITIS

RA is an autoimmune disease affecting the synovial lining of the finger, wrist, toe, hip and knee joints. Persistent inflammation leads to damage to the joint (articular) cartilage and bone, often resulting in functional disability.

The diagnosis is based on signs and symptoms together with autoantibody test findings. Misdiagnosis is common in primary care.

The two key autoantibody tests are rheumatoid factor (RF) and anti-citrullinated protein antibodies (ACPA, anti-CCP). High readings on one or both tests are associated with excess mortality.

Disease activity and severity levels are also key prognostic factors. Activity is usually reported with the SDAI (Simplified Disease Activity Index) or the CDAI (Clinical Disease Activity Index). High scores on either index are adverse mortality markers.

RA may also have extra-articular manifestations, most notably subcutaneous rheumatoid nodules (20-30%) and lung diseases. These nodules are predictive of severe RA.

RA is treated with four classes of drugs:

- Nonsteroidal antiinflammatory drugs (NSAIDs)
- Corticosteroids
- Non-biological disease activity modifying drugs (DMARDs) – 12 different drugs
- Biological DMARDs – also 12 different drugs

The most widely used drugs in mild-to-moderate RA are methotrexate and the biological DMARD etanercept.

They may be used alone or in combination with a second DMARD or NSAIDs.

The tumor necrosis factor (TNF) inhibitor biological DMARDs are highly effective in moderate-to-severe RA but confer a significantly increased risk of infections.

Tocilizumab is effective in cases resistant to other DMARDs. It elevates ALT and AST in the majority of cases, with readings elevated up to 3- to 5-fold. There is also a significant risk of liver damage.

Because it is a chronic inflammatory disease, RA is linked to a considerable risk of premature coronary artery disease. In a literature analysis, the likelihood of having an MI was 69% higher than in persons free of RA.

There is a "lipid paradox" in RA. This means that low total cholesterol and high HDL-C are unfavorable findings.

RA is also linked to higher risks of diabetes, hepatitis C, COPD, asthma, lung cancer and lymphoma.

RA onset over age 60 is of concern because malignancy can mimic rheumatoid arthritis and the correct diagnosis may be challenging, especially in primary care.

The average RA case has two to four tables of extra mortality risk.

KEY UNDERWRITING ISSUES

- Age at onset
- Criteria used to make the diagnosis
- Extent of disease activity in terms of number of joints involved
- Disease severity
- Results of RA-related tests at diagnosis and thereafter
- Treatment
- Extra-articular manifestations
- CV risk profile

QUESTIONS

- At what age was the applicant diagnosed with rheumatoid arthritis?
- What symptoms did the applicant have at diagnosis?
- How many joints are currently affected?
- How would the applicant rate the severity of their RA (mild, moderate or severe)?
- Does the applicant have any complications affecting their skin, lungs, heart or other organs; if yes, full details?
- What treatment is the applicant currently taking?
- How has the applicant's treatment changed in the last 5 years? Include all changes in medication over that interval.
- To what extent has rheumatoid arthritis impacted the applicant's mobility and activity levels?
- Has the rheumatoid arthritis had an adverse occupational impact? If so, full details.

SARCOIDOSIS

Sarcoidosis in a systemic disorder characterized by the formation of discrete lesions called granulomas. The most common site is the lung but it can affect nearly all organs in the body.

Sarcoidosis is often asymptomatic at diagnosis or presents with nonspecific symptoms such as malaise, fever and shortness of breath. A common first clue is enlarged hilar lymph nodes discovered incidentally on a chest x-ray.

Biopsy is sometimes needed to rule out other granulomatous disorders and lymphoma.

Asymptomatic/mild cases confined to the skin, lymph nodes or liver may resolve spontaneously. Others require treatment with steroids and immunosuppressive drugs, often for extended intervals.

Lung involvement leads to progressive fibrosis and other serious complications in 20% of cases. The myocardium is affected in 5% and may result in arrhythmias, conduction defects and cardiomyopathy.

Patients with persistent organ involvement require careful long-term followup with annual medical exams, lab tests and imaging tests.

Mortality is based on extent and severity of disease, organs involved, response to treatment and post-Rx activity limitations.

KEY UNDERWRITING ISSUES

- Basis for diagnosis
- Symptoms
- Organs involved, especially lungs, heart and central nervous system
- Severity including organ damage
- Treatment history
- Complications/activity limitations

QUESTIONS

- At what age was the applicant diagnosed with sarcoidosis?
- What symptoms or other findings led to the diagnosis?
- What parts of the body have been affected by sarcoidosis?
- Did the applicant have a biopsy; if yes, at what site was it done?
- Did the applicant require treatment? If yes:
  - When did treatment commence?
  - What medications were taken over the course of this illness?
  - Is the applicant still taking any medication; if yes, which one?
  - If the applicant stopped, when was the last time they needed medical treatment?
- Did the applicant have any complications from sarcoidosis; if, yes, what were they?
- Does the applicant currently have any symptoms or activity limitations due to sarcoidosis?

SCHIZOPHRENIA

Schizophrenia is the most common psychotic disorder. It is part of a spectrum that also incudes schizoaffective disorder, schizophreniform disorder, schizotypal personality disorder and brief reactive psychotic disorder.

DSM-5 schizophrenia diagnostic criteria require at least two of these five symptoms: hallucinations, delusions, disorganized speech, grossly disoriented behavior and diminished emotional response.

Heavy smoking, substance abuse, cardiovascular disease and other chronic diseases are more common in schizophrenia than in the general population.

Treatment is with antipsychotic drugs. Rx adherence is generally poor. Less than 20% achieve a sustained complete remission and relapse can occur at any time.

Inpatient treatment is required in the majority of cases.

Several major studies reveal overall three to seven times expected, greatest under age 30 and decreasing steeply at older ages but in outpatients only.

There are also financial underwriting issues including capacity to live independently on a protracted basis with stable employment and third party sources of funds to pay premiums.

Occasional outpatient cases are insurable with a substantial extra premium, after full underwriting including medical records, court records and ideally drug use screening, CDT and hepatitis B and C.

SCLERODERMA

Scleroderma is a rare, chronic and progressive connective tissue disorder. It is also known as progressive systemic sclerosis (PSS).

There are two major kinds of scleroderma: localized and systemic.

Localized scleroderma is subdivided into morphea and linear scleroderma. It may progress to involve internal organs, remain stable or regress/disappear, with or without treatment. Many cases are readily insurable in the absence of disease at sites other than the skin.

Systemic scleroderma may be limited or diffuse.

Diffuse scleroderma invariably involves multiple internal organs leading to pulmonary hypertension, lung fibrosis and kidney disease.

The limited form is sometimes referred to as CREST syndrome. This syndrome has many manifestations including hardening of the skin, mainly on the hands and face, Raynaud phenomenon, esophageal dysmotility, etc. It may progress to cardiac, pulmonary and bowel involvement.

There is no cure for systemic scleroderma. Treatment is given for symptomatic manifestations. Steroids and cancer chemotherapy drugs may also be used along with transplantation procedures.

Based on a number of recent studies, the standardized mortality ratio in systemic scleroderma is approximately 3.5, with average life expectancy raging from 16 to 34 years less than in age- and sex-matched populations free the this disease.

The latest investigation found that women lost an average of 22 years of life expectancy and men lost 26 years.

In a large European study, 54% who died over 7 years had the diffuse systemic form and 41% had the limited systemic type. Thus both the limited and diffuse forms have substantial excess mortality.

Cases of limited systemic scleroderma (CREST syndrome) may be insurable on a substandard basis if all of the following are true:

- Skin disease limited to hands and face
- No digital ischemia or other serious manifestations of Raynaud phenomenon
- No proteinuria and normal kidney-related blood tests
- No dyspnea or cardiac symptoms
- Normal echocardiogram without evidence of diastolic dysfunction and restricted chamber sizes
- Right heart catheterization with pulmonary artery pressure < 25 mm Hg
- Negative NT-proBNP
- Pulmonary function testing with FVC at least 80% and diffusing capacity (DLCO) normal
- No history of pneumonia, GI complications or other evidence of significant internal organ involvement
- No Rx consistent with major complications, no high-dose or sustained steroid use and no immunosuppressive drug
- Normal current NT-proBNP test

SJÖGREN SYNDROME

Sjögren syndrome (SS) is a systemic autoimmune disorder arising predominantly in middle-aged females.

The principal manifestation is dryness of the mouth and eyes, called the sicca complex. The issue with the eyes is lack of adequate tear production and this is known as keratoconjunctivitis sicca.

When the disorder is more widespread it may cause difficulty with swallowing (dysphagia), lung disease, peripheral neuropathy and pancreatitis. There is also a significantly increased risk of scleroderma, vasculitis and a 3-10% risk of non-Hodgkin lymphoma.

The risk of lymphoma is increased if there are suspicious/ enlarged lymph nodes or enlargement of the parotid gland.

Dry eyes are treated topically with artificial tears and other agents. Inflammation is managed with prednisone and immunosuppressive Rx. Other treatments are directed at the affected internal organs.

There is no excess mortality in cases free of systemic features or internal organ compromise.

KEY UNDERWRITING ISSUES

- Extent of disease
- Biopsy findings
- Treatment
- Comorbidities

QUESTIONS

- What symptoms does the applicant have due to SS?
- What treatment has the applicant been given; list all drugs taken and any changes in the last 5 years?
- Has the applicant had any complications affecting their internal organs; if yes, which organs have been affected and what were the manifestations?
- Has the applicant ever had a biopsy of their lymph nodes or parotid (salivary) gland; if yes, when and does the applicant know the findings?

SLEEP APNEA

Sleep apnea is the dominant form of sleep-disordered breathing (SDB).

There are two kinds of sleep apnea: obstructive (OSA) and central (CSA). Over 90% of cases are OSA and some have both obstructive and central features.

Obstructive sleep apnea (OSA) is defined as recurring episodes of reduction (hypopnea) or cessation (apnea) in airflow despite continued respiratory effort.

CSA is distinguished from OSA by the absence of respiratory effort. Most CSA cases are associated with serious underlying causes such as heart failure.

OSA severity is based on the apnea/hypopnea index (AHI), which represents the combined number of apnea and hypopnea events per hour sleep:

Mild	AHI 5-14 events per hour
Moderate	AHI 15-29 events per hour
Severe	AHI ≥ 30 events per hour

Less than 5 apneas/hypopneas per hour is considered normal. However, most individuals with more than occasional episodes are obese and at high risk for eventual OSA.

OSAS is defined as obstructive sleep apnea syndrome. The distinction is that these individuals have an AHI ≥ 5 plus daytime hypersomnolence (excessive sleepiness).

The "gold standard," so to speak, for OSA diagnosis is polysomnography (PSG) done overnight in a sleep clinic. Portable PSG monitors may be used for home testing.

Snoring is common in OSA. However, the OSA diagnosis should never be made based on a snoring history alone. Most habitual snorers do not experience daytime hypersomnolence and they not satisfy the PSG test criteria for having sleep apnea.

The main underwriting issue with OSA is the high prevalence of comorbidities with considerable insurability significance.

These include:

- Class 2 or greater obesity
- Hypertension,
- Coronary artery disease/MI – risk is increased 2-fold
- Cardiac arrhythmias
- Stroke
- Major depression
- Type 2 diabetes
- Nonalcoholic fatty liver disease
- Mild cognitive impairment
- Certain malignancies (kidney, pancreas, etc.).

The most effective OSA treatment is overnight continuous positive airway pressure (CPAP) using a motor that pushes air through a facemask and counteracts the adverse effects of airway obstruction.

Bilevel positive airway pressure (Bi-PAP) is more likely to be used in central sleep apnea or OSA patients with cardiac disease.

The main issue with CPAP is poor adherence to its use. The majority of patients fail to use it at the minimum threshold for adherence (≥ 75% of nights for ≥ 4 hours per night).

CPAP greatly minimizes many symptoms and improves sleep quality. However, several recent studies show that it does not significantly reduce the risk of cardiac disease.

Patients that refuse or do not adhere to CPAP may use an appliance called a mandibular advancement device (MAD) to improve breathing or have a surgical procedure to reduce airway obstruction. MAD therapy is effective and has better adherence than CPAP.

There are over a dozen surgical procedures involving the nasal septum, pharynx, tonsils, etc. The most widely used procedure has been the uvulopalatopharyngoplasty (UPPP), which, as its name implies, involves multiple sites in the oral cavity.

Some OSA patients are prescribed antidepressants although there is no evidence of value other than in managing comorbid depression.

OSA is a major risk factor for motor vehicle crashes. In truck drivers the crash risk from untreated/inadequately managed OSA is equivalent to that with a blood alcohol level > 0.5 (consistent with DWI in most jurisdictions).

Mortality is moderately increased in severe OSA and some of that is mitigated by adherent CPAP use. The greatest mortality concern is the presence of significant comorbidities (see above).

KEY UNDERWRITING ISSUES: OSA

- Severity (AHI)
- Polysomnography findings
- Treatment
- Adherence to CPAP or appliance use
- Impact of any surgical procedure
- Comorbidities
- Motor vehicle record

QUESTIONS

- What symptoms led to the diagnosis of OSA?
- Did the applicant have overnight polysomnography; if not, what tests were done to make the diagnosis?
- Does the applicant know their most recent apnea/hypopnea index (AHI)?
- Does the applicant frequently experience excessive daytime sleepiness?
- What treatment has the applicant had?
  - If CPAP, on average how many nights per week does the applicant use the machine and how many hours per night?
  - If oral appliance, which appliance do they use and do they use it on a nightly basis?
  - If surgery, what procedure was done and how would the applicant describe its impact on their symptoms and quality of sleep?
  - If medication, which drugs are currently used or have been used in the last 2 years?
- Has the applicant experienced any complications from his OSA; if yes, which ones?

SPINAL CORD INJURY

Severe traumatic spinal cord injury is usually due to fracture-dislocation causing compression or angular deformity of the cervical, thoracic or upper lumbar regions.

Total cord transection results in immediate loss of sensation below the level of the lesion. Reflex function returns over a period of days to weeks and spastic paraplegia or quadriplegia develops

The patient may have incomplete (some use of limbs) or complete (no use of limbs) paraplegia due to thoracic or lumbar vertebrae injury, or quadriplegia from injury involving cervical spine.

Two studies report standardized mortality ratios of 3.80 and 4.90 in females and 2.70 and 1.80 in males.

Mortality is nearly twice as high in complete vs. incomplete SCI. It is also almost 35% to 80% greater in quadriplegia as compared to paraplegia. The mortality curve is relentlessly downsloping with no plateau or leveling off even after 30 years.

The leading causes of excess deaths are respiratory disease/ pneumonia, cardiovascular disease and suicide.

Based on a review of published studies, these are appropriate favorable risk criteria in potentially insurable cases:

- Male
- Incomplete, not complete
- If complete, paraplegia, not quadriplegia
- No pre-injury cardiac or pulmonary disease
- Non-smoker or < 20 pack years if former smoker
- Injury occurring < age 60
- Normal kidney function
- No major psychiatric disorder or need for psychiatric Rx
- No suicidal ideation or attempts
- No history of substance abuse
- No history of significant infections since injury
- Participation in rehabilitation with full adherence
- Employed if otherwise functionally able
- Socially engaged with no social isolation

STROKE

A Stroke is a rapidly developing loss of brain function due to a disturbance in the blood supply to that organ.

Stroke is the 4th leading cause of death and there are an estimated 5 million stroke survivors in this country.

There are two main types of stroke: ischemic and hemorrhagic. Ischemia accounts for 80%+ of those strokes where the cause is determined.

The majority of hemorrhagic strokes are due to intracerebral hemorrhage and the remainder to subarachnoid hemorrhage.

Most intracerebral hemorrhages are related to hypertension. The fatality rate in hemorrhagic stroke is twice that in ischemic stroke.

The three main causes of ischemic stroke are large artery embolus/thrombosis, small vessel (lacunar) disease and cardioembolic events (embolus from heart or aorta to brain).

30% of strokes are called cryptogenic because the cause is unknown.

Atrial fibrillation plays a role in 25% of strokes. There is a strong link between ischemic stroke and coronary disease, with 20% of stroke victims having a prior MI.

The symptoms of an impending stroke are neurological. They differ depending on whether the stroke is in the anterior (carotid) verses posterior (vertebrobasilar) circulation.

When a patient presents with sudden onset neurological deficits, imaging tests are done to distinguish ischemic and hemorrhagic strokes as well as to rule out potential stroke mimics.

Immediate interventions include thrombolytic (clot dissolving) drugs and various endovascular procedures to restore blood flow.

After a stroke most patients will be prescribed aspirin, clopidogrel (or a similar drug), a statin and whatever additional Rx is needed for hypertension, etc.

Between 15% and 30% of stroke survivors are permanently disabled and 20% remain in institutional care three months after the event. The likelihood of regaining full independence decreases with age from 69% under age 50 to 46% over age 70.

In stroke patients age 40 to 69, the risk of a second stroke within 5 years is 13% in men and 22% in women.

The main risk factors for a second event are uncontrolled hypertension, diabetes, significant CAD and/or peripheral arterial disease (PAD) and atrial fibrillation.

Most stroke-related deaths occur in the first 90 days. The death rate after 12 months is roughly 4.8% per year and in one study 40% of stroke survivors were living 5 years later.

These outcomes are conspicuously worse than in myocardial infraction.

There are two interesting anomalies in mortality risk factors affecting stroke survivors:

1. 10-year mortality is lower in obese individuals than those with a BMI in the “normal” range and 20% higher in underweight vs. normal weight persons.
2. Stroke mortality is greater in ex-drinkers than in robust social drinkers.

KEY UNDERWRITING ISSUES: OSA

- Age at time of stroke
- Cause of stroke
- Discharge to home vs. care center
- Complete recovery vs. residual deficits
- Functional status
- Post-stroke Rx
- Adherence to Rx
- Management of cardiometabolic cause, if any
- Extent of cerebrovascular disease, if present
- History of CAD or PAD
- CV risk profile

QUESTIONS

- At what age did the applicant have their stroke?
- Does the applicant know what caused their stroke?
- Was the applicant discharged to home or to a care facility; if a care facility, how long before they were able to return home?
- Did the applicant make a complete recovery or do they have residual deficits; if the latter, what are these deficits and how do they affect the applicant's functioning?
- If the applicant was employed before their stroke, were they able to return to full employment; if not, why not?
- What treatment was the applicant given after their stroke; list all drugs taken and any interim changes?
- Has the applicant made any lifestyle or health habit changes in the wake of their stroke; if yes, please specify?
- Is the applicant going to have any further tests or evaluation in the wake of their recovery; if yes, full details.

SYNCOPE

Syncope is a sudden-onset, brief and self-terminating loss of consciousness. It may be described as a fainting spell.

Syncope occurs at all ages and at least 30% of people will experience one or more syncopal episodes in their lifetime.

The most common cause is vasovagal syncope (so-called "simple faint"). These episodes may be triggered by a variety of circumstances including emotional upset, fear and pain. The tile table test is often positive in these cases. Vasovagal syncope is rarely significant to mortality.

Other causes of syncope include situational, carotid sinus syndrome, orthostatic hypotension (drop in blood pressure when rising), psychogenic syncope, cardiac arrhythmias and structural heart disease.

Situations provoking syncope include coughing, urination, having blood drawn and so on. Psychogenic syncope occurs mainly in persons with anxiety disorders.

Carotid sinus syncope (CSS) is incited by manipulation of the carotid artery in the neck. This can occur during shaving or fastening a tight collar. There is no excess mortality except the risk of falls in elderly CSS cases.

The risk implications of orthostatic hypotension depend on the underlying cause (of which there are no fewer than 35).

Roughly 30% of patients hospitalized with syncope are discharged without a cause being determined, even after a thorough workup.

Most of the mortality risk in syncope is centered in those events known or suspected to be due to cardiac causes.

Therefore, the most important aspect of syncope assessment is the results of cardiac tests.

A key component is ambulatory ECG monitoring with a Holter monitor or implantable loop recorder. Echocardiograms are also important because they can identify most structural lesions inducing syncope, such as hypertrophic cardiomyopathy.

Factors associated with a high risk of cardiac origin include:

- Positive family history of cardiac sudden death under age
- Syncope induced by exertion or when lying down
- Syncope is associated with chest pain or an irregular heart beat.

Cardiac syncope is treated with antiarrhythmic drugs, catheter ablation of specific arrhythmia-inducing lesions, pacemakers, implantable cardioverter-defibrillators (ICDs) and both antianginal and heart failure drugs.

NT-proBNP is the ideal test for underwriting suspected cardiac syncope and syncopal events after age 50.

SYNCOPE

KEY UNDERWRITING ISSUES

- Age at onset – the older the applicant, the higher the risk of a cardiac cause
- Circumstances present at the time of and/or inducing the episode
- Cause if known or suspected
- Frequency of episodes
- Tests used to identify the cause and their results
- Hospitalization
- Treatment
- Activity restrictions
- CV risk profile

QUESTIONS

- At what age did the applicant have their first, or only, syncopal episode?
- Has the applicant had more than one syncopal episode; if yes, how many and when was the last one?
- Does the applicant know what induced the episode(s)?
- What tests were done?
- Does the applicant know the results of those tests?
- Was the applicant hospitalized as a result of the episode?
- Does the applicant have a family history syncopal episodes or current sudden death involving parents or natural siblings; if yes, full details.
- Was the applicant treated?
  If yes:
  - What drug was prescribed?
  - Is the applicant still taking it?
  - If not, when did the applicant stop?
  - If the applicant stopped, was it their doctor's decision or did the applicant stop on their own initiative?
- Does the applicant have activity restrictions imposed or recommended by their physician due to their history of syncope?
- Has the syncope affected the applicant's driving privileges; if yes, in what manner?

TESTICULAR CANCER

Testicular cancer accounts for only 1-2% of all malignancies in men but is the most common cancer at ages 25 to 33.

There are two most common types are embryonal cell carcinoma and seminoma.

Staging is based on the extent of local area disease at diagnosis and then modified by lymph node status, the absence vs. presence of distant metastases and the results of three tumor markers: alfa-fetoprotein, LDH and beta human chorionic gonadotropin (ß-hCG).

Primary treatment is radical orchiectomy (removal of the affected testicle), often with retroperitoneal lymph node dissection. Radiation is typically done for seminoma. Chemotherapy is needed for metastatic disease.

The survival rates in testicular cancer are among the highest in all malignancies. Nearly all localized cases are cured with surgery plus radiation therapy in seminoma.

The 5-year relapse-free survival rates in tumors that have spread to the lymph nodes is well over 90% and 5-year survival is tantamount to a cure with two caveats.

Even in advanced disease the long-term survival is 50% to 90% depending on the metastatic site(s) and with two caveats. Mortality is greater when these tumors are diagnosed at age 50 and over.

One caveat is post-chemotherapy retroperitoneal masses. These residual masses may be benign, malignant or change from benign to malignant over an interval of years. This is the source of most late recurrences and deaths after 3 years. The mainstay of management of these masses is, when feasible, surgical excision.

The other caveat is second tumors and late effects of radiation. In a huge 40-year followup study, testicular cancer patients had a 50% increased risk of a second malignancy.

During follow-up care, the patient will have periodic tumor marker tests done. If any are abnormal, this could represent a recurrence.

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Type of tumor
- Stage
- Treatment
- Recurrence if any
- Retroperitoneal mass present or suspected
- Extent of followup
- Adherence to followup care

QUESTIONS

- At what age was the applicant diagnosed with testicular cancer?
- What type of testicular cancer did he have?
- Was the cancer confined to the testicle?
- If not, to what sites did it spread?
- What treatment did the applicant have?
- Did the applicant have any abnormal cancer-related laboratory tests after completion of treatment; if yes, full details?
- Did the applicant have any biopsies and/or additional treatment at a later time; if yes: what was done?
- Did the applicant have any prolonged or delayed-onset side effects from his treatment?
- Is the applicant still seeing his oncologist for followup; if yes, how often?

THROMBOCYTOPENIA

Thrombocytopenia is a low platelet count.

There are many possible causes. Most cases are drug induced or provoked by immune thrombocytopenia

Immune thrombocytopenia (also called idiopathetic thrombocytopenic purpura/ITP) may be primary or secondary. Secondary ITP is due to serious causes such as systemic lupus, lymphomas, HIV and hepatitis C.

The main thrombocytopenia symptom is bleeding. It may be from the gums or nose, blood in the urine or stool, heavy menstrual flow or occur as purpura or petechiae (distinctive lesions due to bleeding into the skin).

Laboratory testing shows an isolated low platelet count and, if significant bleeding has occurred, anemia may also be present.

Treatment is necessary if the platelet count is markedly low or there has been significant bleeding. The main Rx is a short course of steroids. Patients typically respond initially and then relapse, often resulting in chronic thrombocytopenia in adult patients.

Other causes of chronic low platelet counts are thrombotic thrombocytopenic purpura (TTP), disseminated vascular coagulation (DTIC) and primary bone marrow failure.

Underwriting in all thrombocytopenia cases is based on the cause and severity of the platelet deficit.

THROMBOCYTOSIS AND ESSENTIAL THROMBOCYTHEMIA

THROMBOCYTOSIS

This is the term for an elevated platelet count. It may be primary (essential thrombocythemia) or secondary.

Secondary thrombocytosis may be transient or sustained.

Transient causes include acute blood loss, infection, drug reactions, trauma, major surgery or as a rebound effect when treating thrombocytopenia. These are not important once the cause has been determined and corrected.

Underwriting of secondary thrombocytosis depends mainly on the cause. Significant causes include:

- Iron deficiency anemia, which may be due to GI cancer at older ages.
- Hemolytic anemia
- Other cancers
- Connective tissue disease
- Inflammatory bowel disease

When thrombocytosis is found unexpectedly and does not resolve in a matter of weeks, further clinical investigation is needed before the case is realistically insurable.

ESSENTIAL THROMBOCYTHEMIA (ET)

ET is a malignant myeloproliferative disease.

The diagnostic criteria are a sustained platelet count ≥ 450,000, biopsy-proven excessive proliferation of platelet precursors in the bone marrow and a specific gene mutation known as JAK2V6167F.

The spleen is usually enlarged.

Mild cases are usually asymptomatic and discovered incidentally on a CBC done for other reasons. In more severe cases, symptoms include fatigue, generalized itching (pruritus), night sweats and bone pain.

There are four main consequences in ET:

- Thrombotic episodes (clot formation obstructing blood flow) such as deep venous thrombosis and even heart attacks/strokes
- Bleeding/hemorrhaging episodes
- Progression to myelofibrosis, a leukemia precursor
- Transformation into acute myelogenous leukemia

Some cases require treatment with periodic phlebotomy and/or various cancer drugs.

Asymptomatic cases usually require only periodic observation, with treatment initiated only when there are progressively higher platelet counts or symptoms.

ET patients diagnosed under age 60 and free of major complications have roughly 75% 20-year survival. This is not much different than in the general population.

On the other hand, those diagnosed at older ages have more thrombotic events and far greater risk of conversion to myelofibrosis or leukemia, and thus considerable excess mortality.

THROMBOCYTOSIS AND ESSENTIAL THROMBOCYTHEMIA

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Degree of thrombocytosis
- Other blood cell findings (leukocytosis, anemia)
- Symptoms
- Thrombotic and bleeding episodes
- Treatment
- Extent of followup

QUESTIONS

- At what age was the applicant diagnosed with essential thrombocythemia?
- Has the applicant had any symptoms; if yes, which ones and when?
- Has the applicant had any blood clotting episodes; if yes, at what site(s) and when?
- Has the applicant had any bleeding or hemorrhaging episodes; if yes, when?
- What treatment is the applicant taking for ET?
  - If phlebotomy, how often?
  - If medication, which ones did they take or are they taking?
- How often does the applicant see their hematologist for followup? If the applicant no longer sees their hematologist, when was the last time they did so and are they still being followed by their personal physician?

There are 4 main types of thyroid cancer:

- Papillary, including the mixed papillary-follicular subtype
- Follicular, including the Hürthle cell subtype
- Medullary carcinoma
- Anaplastic carcinoma

WELL-DIFFERENTIATED THYROID CARCINOMA

Papillary and most follicular carcinomas are the well-differentiated malignancies, with far better prognoses than the other two varieties. They also account for 95% of cases.

The papillary form has an excellent survival rate in 95%+ of cases, mainly because most tumors are relatively small at diagnosis and the disease is sluggish.

Over half are microcarcinomas (< 1 cm) and there are virtually no deaths in this cohort, even if lymph node metastases are found.

However, there are subsets of papillary carcinoma with definite extra mortality. These are higher risk features:

- Arising over age 45 at diagnosis
- < 4 centimeters in diameter
- Tall cell and hobnail cell variants
- Areas of poorly-differentiated/anaplastic cells as "islands" with an otherwise papillary tumor
- Extensive extrathyroidal extension/invasion beyond the thyroid gland capsule into adjacent structures
- Extensive regional lymph node metastases
- Distant metastasis

We also need to distinguish between papillary microcarcinoma and micropapillary carcinoma.

Micropapillary carcinoma is an aggressive malignancy with an unfavorable prognosis.

Well-differentiated follicular carcinomas have a somewhat higher mortality risk, especially those that are not encapsulated, have vascular invasion present on the pathology report or arise at older ages.

Uncommon poorly differentiated follicular carcinoma has a 10-year survival rate between 50-80%.

Staging is based on tumor size and whether the lesion is limited to the gland or has extrathyroidal extension/invasion.

The main forms of treatment are total/near-total thyroidectomy, lymph node dissection and postoperative radioactive iodine.

Recurrence is not uncommon even decades after treatment. Long-term followup is a critical underwriting consideration except in papillary microcarcinomas.

MEDULLARY CARCINOMA

Medullary carcinoma may be hereditary or sporadic. It arises in a different thyroid cell population and is more aggressive than well-differentiated carcinoma.

Overall long-term survival is roughly 50% and nearly all potentially curable cases are free of metastases.

ANAPLASTIC CARCINOMA

Anaplastic carcinoma is an aggressive, rapidly enlarging cancer that is usually unresectable at diagnosis.

Anaplastic thyroid carcinoma is lethal with rare 5 years survivors.

KEY UNDERWRITING ISSUES: PAPILLARY AND FOLLICULAR CASES

- Age at diagnosis
- Exact name of tumor
- Tumor size
- Extent of invasion/metastases
- Adverse pathological features
- Recurrence and further treatment
- Treatment
- Follow-up care

QUESTIONS

- At what age was the applicant's thyroid cancer diagnosed?
- Does the applicant know what kind of thyroid cancer they had?
- Does the applicant have a family history of thyroid cancer?
- Did the tumor spread beyond the applicant's thyroid gland; if yes, where?
- What type of treatment did the applicant get?
  - If surgery, did they also remove lymph nodes in the neck?
  - If medication, what drugs were given?
- Did the cancer recur at any time; if yes, when and what additional treatment was done when it recurred?
- How often does the applicant see a physician for followup because of their thyroid cancer history?
- If the applicant has stopped doing so: when was the last time they saw a doctor for this reason?

THYROID DISORDERS

There are 3 main thyroid disorders:

- Hypothyroidism
- Hyperthyroidism, which includes Grave Disease
- Thyroid nodule

HYPOTHYROIDISM

This is decreased output of thyroid hormones. Most cases are mild and asymptomatic. We seldom see those with severe disease called myxedema.

The screening test is serum thyroid stimulating hormone (TSH), which is elevated when the main thyroid hormone T4 is low. Some cases have normal T4 with elevated TSH. This is called subclinical hypothyroidism.

Hashimoto thyroiditis, an autoimmune disease, may cause the hypothyroid state. This disorder is seldom significant in underwriting unless thyroid cancer is suspected or the applicant has other autoimmune conditions.

Most hypothyroid cases are treated with synthetic levothyroxine. If the hypothyroid state is due to a thyroidectomy, it is used as replacement therapy and generally taken life-long.

The incidence of coronary disease and other disorders is increased in both overt and subclinical hypothyroidism. Nevertheless, there is no significant overall mortality risk unless the severity warrants treatment that has not been given or when myxedema is present.

HYPERTHYROIDISM

Hyperthyroidism is the opposite of hypothyroidism. TSH is below normal and thyroid hormone levels are increased. There are many potential causes and when the underlying mechanism is significant, they are underwritten based on the cause.

Subclinical hyperthyroidism is present when thyroid hormone levels are normal but TSH in below normal.

When there are symptoms or other clinical features of thyroid hyperfunction are present, this may be referred to as thyrotoxicosis. It can cause a wide range of symptoms including nervousness, restlessness, heat intolerance, fatigue and weight loss. In some cases, the patient will also experience atrial fibrillation (AF) and angina.

Cardiac complications are most important. Some may progress to persistent AF or even heart failure.

Graves disease is the most common cause of hyperthyroidism, accounting for 50-80% of cases. It is most distinctive for inducing exophthalmos (bulging eyes), which is present 20-40% and does not remit despite effective treatment of the hyperthyroid state.

Treatment may involve a variety of Rx including propranolol for symptom relief, methimazole, propylthiouracil and radioactive iodine (131I). In some cases thyroidectomy may be needed.

In recent years, a number of studies have shown modest excess overall mortality in the range of 30-60% increased in untreated subclinical hyperthyroidism, especially severe cases. Part of the reason for this is that most subclinical cases are not treated.

Once hyperthyroidism has been adequately managed, there is no significant mortality in most cases.

THYROID NODULES

One has a 10% lifetime risk of developing a detected thyroid nodule and the incidence of those not detected except at autopsy is several times greater. Nodules are four times more common in women.

The main concern with a newly discovered thyroid nodule is the small but definite risk of carcinoma. The prevalence of cancer is between 4-6% and does not vary greatly by nodule size.

The workup of a thyroid nodule is based mainly on ultrasound with fine needle biopsy of suspicious lesions.

The main risk factors for cancer are:

- Solid rather than cystic nodule
- Mixed solid/cystic nodule
- Presence of microcalcifications
- Nodule tall rather than wide in dimension
- Vascularity in the nodule
- Enlarged lymph nodes

The fine needle biopsy is 95% accurate in identifying the definite or at least probable cause. Some are deemed intermediate and they may be treated surgically or followed with repeat biopsies, especially if they enlarge.

The only time we are concerned about thyroid nodules is when they have been recently discovered or show worrisome features (symptoms, rapid growth and/or the features cited above) but have not been adequately investigated.

TOURETTE SYNDROME

Tourette syndrome (TS) is the most common tic disorder.

In DSM-5 a tic is defined as “a sudden, rapid, recurrent nonrhythmic motor movement or vocalization.” Examples include shoulder shrugging, blinking and various utterances, the most disconcerting of which are echolalia (repeating verbatim, over and over, what someone has just said) and coprolalia (bouts of unprovoked swearing).

Tourette patients express both motor and vocal tics that persist at least one year. Onset must be before age 18.

There is no approved medication for Tourette syndrome or any of the other tic-related conditions. Treatment may involve psychotherapy and/or various psychotropic drugs, mainly antidepressants, and antipsychotics in severe cases.

TS is often accompanied by other psychiatric conditions, most notably obsessive-compulsive disorder and impulsive behavior (ADHD, etc.).

This syndrome can lead to adverse social, occupational and even legal consequences.

Nevertheless, there is no overall excess mortality in TS unless the patient also has a significant comorbid condition.

TRANSIENT ISCHEMIC ATTACK

A TIA is a short-lived focal episode of neurological dysfunction due to ischemia.

Unlike a stroke, there is complete resolution of all manifestations without residual impairment. Unfortunately, despite this clear distinction, TIA may be called a "mini-stroke."

Although a TIA can officially last 24 hours, most resolve in less than 10 minutes. Longer duration TIA is associated with greater risks of underlying cerebrovascular disease and later stroke.

Over five million Americans have experienced at least one TIA. The cause cannot be determined in at least 50%.

TIA can arise as a consequence of migraine syndrome when that syndrome is accompanied by aura. Other non-cerebrovascular conditions that may induce a TIA include hypoglycemia in diabetics, inner ear/vertigo-related disorders, multiple sclerosis, brain tumors and cervical disk disease. TIA may also be confused with a seizure.

The most common symptoms are sudden change in speech, visual loss, diplopia (double vision), paralysis or weakness, etc. The nature of the symptoms may be helpful in distinguishing a cerebrovascular disease episode from TIAs induced by other causes.

The ABCD system is used to predict the short-term risk of a subsequent stroke. It uses a scoring method ranging from low risk (0-3) to high risk (6-7). A high ABCD score increases the risks of stroke and death over the ensuing 4-5 years.

In TIAs due to cerebrovascular disease, there is an increased risk of stroke lasting at least a decade. This is why patients whose TIAs are thought to be incited by this disease are apt to be treated with antiplatelet drugs and statins.

Hospitalization raises the risk that the TIA was due to cerebrovascular disease or other stroke-related mechanisms such as cardiac embolism.

There is significant extra mortality in TIA unless an insignificant cause is diagnosed. The risk is less than in stroke.

The main cause of death is cardiac disease, making the overall CV risk profile a critical consideration in TIA underwriting.

KEY UNDERWRITING ISSUES

- Age
- Number of TIAs
- Symptoms
- Duration of episode(s)
- ABCD score, if known
- Treatment including hospitalization
- Final diagnosis vs. cause unknown
- Medical history of migraine with aura or other conditions related to TIA risk
- CV risk profile
- Restrictions imposed by physician, if any

QUESTIONS

- At what age did the applicant experience their TIA?
- Has the applicant had more than one event; if yes, how many and when?
- What symptoms were present during the TIA?
- How long did the episode(s) last?
- Was a cause determined; if yes, what was that cause?
- Was the applicant hospitalized?
- Was the applicant prescribed medication specifically for this reason at any time?
  If yes:
  - What medications were they prescribed?
  - Is the applicant still taking them?
  - If no, when did the applicant stop and did they do so on the advice of a physician?
  - If yes, has the applicant's medication changed in the last 3 years?
  - If yes, what was the applicant taking previously?

TRAUMATIC BRAIN INJURY

Traumatic brain injury (TBI) ranges from a mild concussion to coma (complete unresponsiveness). TBI can occur after a wide range of potential causes of head trauma. The incidence of this diagnosis has increased in recent years especially in military personnel engaged in combat.

Severity is based on the Glasgow Coma Scale and imaging test findings.

Mild TBI has no mortality implications after recovery. In more severe concussive episodes, the post-concussion syndrome may persist 12 months or longer.

Chronic traumatic encephalopathy is a consequence of repeated heads trauma. It has gained wider recognition with the high prevalence of this insidious disorder in boxers and football players.

Moderate to severe TBI may result in permanent cognitive and motor impairment. There is an increased risk of dementia and epilepsy may also arise after more severe episodes.

TBI is strongly associated with posttraumatic stress disorder (PTSD) and major depression, both of which often arise in TBI survivors and adversely impact mortality.

KEY UNDERWRITING ISSUES

- Cause of the trauma
- Need for hospitalization
- Glasgow Coma Scale score and imaging findings
- Severity of TBI
- Extent of recovery vs. residual impairment
- Cognitive function
- Social and occupational issues
- Post-recovery Rx
- Psychiatric comorbidities
- Risk of future TBI

QUESTIONS

- What was the nature of the traumatic event that led to the diagnosis of traumatic brain injury?
- When did it occur?
- Has the applicant had more than one TBI; if yes, how many and when, with full details?
- What was the applicant told about the severity of their TBI; if not known, was the applicant in a coma or did they experience amnesia?
- Does the applicant have any remaining physical or cognitive problems from their TBI; if yes, what are they and to what extent do they impact the applicant's life?
- Was the applicant diagnosed with posttraumatic stress disorder or depression; if yes, complete details?
- Was the applicant prescribed any medication; if yes, what was the applicant prescribed and do they still take it?
- Is the applicant at an increased risk of future TBI events based on their current occupation, avocations, or other circumstances?

TREADMILL STRESS TEST

Most treadmill stress tests (TST) are treadmill exercise ECGs.

The reason for using the treadmill is to increase the patient's heart rate, which unmasks significant findings typically absent on resting ECGs.

Heart rate increase can also be achieved by using certain chemicals in lieu of exercise.

Treadmill ECGs are used in 4 main contexts:

- Assess fitness status before participating in exercise programs, etc.
- Screening for CAD in high risk individuals
- Diagnostic evaluation of known or suspected CAD
- Prognostic assessment in CAD

The analysis of TST ECG and other findings must be done in context with the subject's age, gender, medical history, etc.

For example, false positive tests are far more common in women. Therefore, in a woman without a history of CV disease or an adverse risk profile, especially under age 60, the odds that a positive test represents obstructive coronary disease is significantly lower than in a male with similar risk circumstances.

Other critical contextual issues include:

- Age
- Asymptomatic vs. chest pain and other suspicious symptoms
- Pretest probability of CAD based on the Framingham Risk Score or the sum of known risk factors
- Medications such as beta-blockers (slowing heart rate response), digitalis, diuretics, etc.
- Mitral valve prolapse
- Psychiatric disorders, especially mood and anxiety related

Analysis of TST results is divided into two domains:

- What is found on the ECG tracings
- A host of non-ECG findings that can be as predictive (if not more so) of coronary disease than what is on the ECG tracings.

Positive ECG criteria:

- ≥ 1 millimeter (mm) of horizontal or downsloping ST segment depression or with a duration of ≥0.08 seconds
- Slowly-upsloping junctional ST depression is also considered by many experts to be ischemic, typically using criteria of 1.5 mm to 2 mm of ST depression at a duration of 0.06 to 0.08 seconds
- Deep T wave inversions induced by exercise may also be deemed to represent a positive TST

The timing of positive ECG changes is significant. The earlier they occur, the greater the probability that they are due to pathological ischemia. Even the healthiest individuals often manifest physiologic ischemic TST ECG changes if they exercise long enough.

Ischemic changes persisting into or arising during the post-exercise recovery phase are as significant as those that occur with exercise.

There are situations where analysis of the ECG tracings is difficult if not impossible:

- Left bundle branch block
- Wolff-Parkinson-White (WPW) preexcitation syndrome
- Left ventricular hypertrophy

A treadmill scoring system such as the Duke Treadmill Score may be used as it includes factors other than just ischemic ECG changes.

Positive TST ECG changes correlate with excess mortality and the degree of mortality increases with the magnitude of these ischemic changes.

There are number of other key components to the TST that are always considered in underwriting test results:

METABOLIC EQUIVALENTS (METS)

METs are used as an index market for the subject's functional capacity. The significance of the number of METS achieved during the test is based on age and gender.

A 40 year-old male with ≤ 7 METs and a female with ≤ 6 METS would be considered to have poor functional capacity. At age 70, these thresholds are ≤4.5 and ≤3.5 respectively.

Those with poor functional capacity have significant excess mortality even if the ECG tracings are normal.

CHRONOTROPIC INCOMPETENCE (CI)

This is defined as the failure of the heart rate to increase in a normal manner with exercise. CI manifests as a blunted or attenuated HR response to exercise.

The expected HR response is adjusted downward if the subject is taking a beta-blocker.

CI is not associated with an increased risk of ECG ischemia. Nevertheless, it is a mortality consideration in context with all other findings.

POST-EXERCISE HEART RATE RECOVERY (HRR)

This is the amount of time it takes for the subject's heart rate to return to its baseline resting level.

A delayed (abnormally slow) HRR is a major mortality concern with implications equivalent to major ECG ischemia.

CI and delayed HRR often occur together and their impact is synergistic.

BLOOD PRESSURE RESPONSE TO EXERCISE

Systolic blood pressure should rise progressively as the test goes on, whereas diastolic blood pressure should not increase more than minimally.

There are various BP responses that have significant excess mortality; once again independent of ECG ischemia:

- Failure of systolic BP (SBP) to rise adequately
- More than minimal increase in diastolic BP (DBP)
- Drop in SBP of at least 10 mmHg during exercise
- Rise in SBP during the recovery phase that is greater than the maximum BP at peak exercise

A peak SBP ≥ 220 mmHg is generally regarded as a hypertensive response to exercise. It is associated with an increased risk of developing essential hypertension but does not have the same significance as the four BP changes previously cited.

PREMATURE VENTRICULAR CONTRACTIONS (PVCS)

PVCs that occur only during post-exercise recovery have been strongly associated with excess mortality in a number of major studies.

SYMPTOMS

Onset of anginal-type chest pain during a TST is essentially equivalent to a positive test, especially at older ages.

There are additional TST related findings that also have insurability implications, but a review of all of them is beyond the scope of these guidelines. They include exercise-induced LBBB, abnormal P wave amplitude/duration, R and T wave changes, inverted U wave, etc.

The best test to further underwrite an applicant with a borderline or equivocal TST is NT-proBNP.

ULCERATIVE COLITIS

Colitis is a nonspecific term for inflammation of the colon.

If the rectum is also inflamed, this may be called proctitis when limited to the rectum or it may be a manifestation of a more extensive colitis process.

There are many potential causes of colitis. Some have little or no underwriting significance and others may have mortality implications. The three most common forms of colitis with an increased risk of death are:

- Ulcerative colitis,
- Crohn colitis – see Crohn Disease
- Ischemic colitis - relatively rare high risk disorder of vascular origin

Ulcerative colitis (UC) is a chronic inflammatory disorder limited to the colon and rectum. Unlike Crohn disease, it never involves the small intestines or other GI sites.

UC may occur at any age. Childhood onset is a risk factor for more extensive/severe disease.

The disease process may be limited to the rectum (ulcerative proctitis), involve the last portion of the colon (sigmoid colon) or be more extensive. Pancolitis is used to describe UC that affects the entire colon. Pancolitis has a high risk of complications.

UC may be mild, moderate or severe based on the extent of disease, the frequence and intensity of symptoms and the presence of complications.

In most cases the diagnosis is based on colonoscopy findings. A biopsy may be done to distinguish between potential other causes, mainly Crohn disease.

Treatment is used to terminate acute attacks as well as to reduce the odds of future symptomatic episodes.

In mild-to-moderate UC, the main drugs used are oral aminosalicylates such as mesalamine and sulfasalazine. Corticosteroids such as prednisone may be used in patients that do not respond. Immunosuppressive drugs (mercaptopurine, azathioprine, cyclosporine) and biological agents (vedolizumab, etc.) are required in more severe cases.

Surgery is required in 25% of cases, mainly because of inadequate response to medical management. A total colectomy is usually done, although some patients prefer a procedure that maintains use of the rectal sphincter than an ileostomy or external appliance.

There is an increased risk of colon cancer. It may be preceded by dysplasia detected on a biopsy during colonoscopy. Dysplasia mandates total colectomy.

Recent studies have shown little or no overall extra mortality in ulcerative colitis. However, there is an increased risk of death in severe cases.

ULCERATIVE COLITIS

KEY UNDERWRITING ISSUES

- Age at diagnosis
- Extent of disease
- Severity of symptoms
- Complications
- Treatment
- Response to treatment
- If surgery: reason and pathology report review

The importance of seeing the pathology report cannot be overstated. Occult invasive cancer is sometimes found unexpectedly and no additional treatment may be undertaken even if the tumor is invasive.

QUESTIONS

- At what age was the applicant diagnosed with ulcerative colitis?
- What was the extent of the disease process at diagnosis?
- What symptoms did applicant have at the time of diagnosis?
- Does the applicant still have symptoms; if yes, what are they and how often do they occur?
- Has the applicant had any complications?
  If yes:
  - What were they?
  - When did they
  - How were they treated?
  - Are they still present?
- Was the applicant prescribed medication?
  If yes:
  - What was prescribed?
  - Is the applicant still taking it?
  - If no, when and why did the applicant stop?
  - If yes, has medication changed in the last 3 years?
  - If yes, what changes were made?
- Did the applicant have surgery? If yes:
  - When was the surgery done?
  - Why was it done?
  - What procedure did the applicant have?
  - If unknown, does the applicant have an ileostomy?

VENTRICULAR ARRYTHMIAS

Premature ventricular contractions (PVCs) and ventricular tachycardia are the two main ventricular arrhythmias.

PVCs are common. Everyone has them periodically because they can be induced by widely consumed stimulants, inadequate sleep, stress and other self-limited mechanisms.

PVCs may be distinguished in various ways.

- Number per minute - > 7 is considered by some to be a significant number as is 10% or more PVCs during a 30-second interval
- Pattern – this may be called bigeminy (PVC every 2nd beat is a PVC), trigeminy (PVC every 3rd beat); both are fairly common
- Consecutive – mainly couplets (2 PVCs in a row), triplets (3 PVCs in a row, also referred to as salvos); 4 or more in a row is ventricular tachycardia
- Number of sites in the ventricles giving rise to PVCs – PVCs may be unifocal (one site) or multifocal (2 sites); multifocal PVCs are usually pathological
- At rest vs. exercise-induced – the latter are more apt to be significant and more so if there are no resting PVCs

Some studies show significant excess mortality associated with frequent PVCs and others do not. Therefore, the key consideration is context.

Their insurability implications are greater if the applicant has a history of significant arrhythmias, known cardiac disease or a high-risk CV profile

Ventricular tachycardia (VT) may be sustained or non-sustained.

Sustained VT is almost always due to underlying cardiac disease. Torsades de Pointes is a potentially lethal form of sustained VT.

Non-sustained VT, while uncommon, can arise in otherwise healthy persons. Nevertheless, anyone with VT on any basis should have a thorough cardiac evaluation.

VENTRICULAR HYPERTROPHY

Ventricular hypertrophy is defined as an increase in wall thickness and muscle mass.

It begins as a physiologic response to myocardial stress incited by volume or pressure overload. Subsequent cardiac remodeling due to chronic overload induces a compensatory increase in wall thickness.

Hypertrophy may occur in the left (LVH) or right (LVH) ventricle and, rarely, in both (biventricular hypertrophy).

LVH is far more common than RVH.

RVH is mainly due to right heart dysfunction and can be induced by chronic lung diseases such as COPD. The magnitude, impact on right heart function and symptoms induced are key risk considerations in addition to the known/suspected underlying cause.

LVH is most often encountered in patients with longstanding and/or poorly controlled hypertension. It may also occur in other cardiac disorders such as aortic stenosis. In all contexts it is a notably adverse finding.

There are various sets of ECG criteria for identifying LVH. The most widely used are the Romhilt-Estes, Cornell and Sokolow-Lyon criteria.

ECG LVH should be confirmed with echocardiography and then MRI. The reason for doing the MRI is that the substantial majority with echo-"proven" LVH will be negative on an MRI.

LVH substantially increases mortality in hypertension and other contexts, in part by culminating in heart failure and increasing the risk of arrhythmias.

LVH may regress if the underlying cause is effectively treated. This reduces the mortality risk.

Several factors on the ECG increase the mortality implications of LVH:

- LV strain pattern
- Isolated inverted T waves
- Wide QRS complex duration
- Left axis deviation (LAD)

NAILBA University

FIELD UNDERWRITING GUIDE Version 4.0

SUPPLEMENTAL FORMS SECTION

ALCOHOL USAGE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Does client presently consume alcoholic beverages? ☐ No ☐ Yes, If yes, please list
   - ☐ Beer: Quantity _____ oz. per day ☐ week ☐ month (select one)
   - ☐ Wine: Quantity _____ oz. per day ☐ week ☐ month (select one)
   - ☐ Liquor: Quantity _____ oz. per day ☐ week ☐ month (select one)
2. What was the date of initial treatment or diagnosis? _____ / _____ / _____
3. Were there any relapses from sobriety/abstinence? ☐ No ☐ Yes; please provide details and dates

_____

_____

_____

4. Were there any legal problems (such as DUI) or other? ☐ No ☐ Yes; please provide details and dates
5. Have there been physical complications or additional psychiatric problems? ☐ No ☐ Yes; please provide details and dates, including use of other substances such as marijuana or cocaine

_____

_____

_____

6. Does client currently participate in a group such as Alcoholics Anonymous? ☐ No ☐ Yes
7. Please list current medications (accurate name, dosage, and reason):

(Accurate) Name of Medication	Dosage	Reason

8. What is client's: Martial status: _____

Occupation: _____ Length of employment: _____

9. Are there any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

ANGIOPLASTY

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List the date(s) of the angioplasty (PTCA): _____

2. How many vessels required the procedure? _____

3. Why was an angioplasty done? (give specific details)

_____

_____

_____

4. Does client's family have any history of heart disease? ☐ No ☐ Yes

5. Has client had either of the following? ☐ Heart attack_____ (date) ☐ Bypass surgery _____ (date)

6. Has a follow-up stress (exercise) ECG been completed since procedure?

☐ Yes. normal _____ (date) ☐ Yes. abnormal _____ (date) ☐ No

7. Has client had any chest discomfort since the procedure? ☐ No ☐ Yes; please give details

_____

_____

_____

8. Has client had any of the following?

☐ abnormal lipid levels ☐ diabetes ☐ overweight ☐ elevated homocysteine ☐ high blood pressure

☐ peripheral vascular disease ☐ irregular heart beats ☐ cerebrovascular ☐ carotid disease

9. Please list current medications (including aspirin), (accurate name, dosage, and reason):

(Accurate) Name of Medication	Dosage	Reason

10. Are there any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

_____

ANXIETY DISORDERS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis: _____

2. ☐ Generalized anxiety disorder ☐ Panic disorder
   ☐ Obsessive compulsive disorder ☐ Post-traumatic stress syndrome
   ☐ Agoraphobia ☐ Other anxiety disorder _____

3. Indicate the number of episodes and date of last episode/recovery:

4. Is client on any medications: ☐ No ☐ Yes; please provide name and dosage _____

5. Has client been hospitalized or seen in the emergency room for treatment of anxiety or other psychiatric illness? ☐ No ☐ Yes, please give dates and lengths of stay. _____

6. Does client have a history of any of the following associated conditions? (check all that apply)
   ☐ Depression ☐ Suicidal thought/attempt
   ☐ Substance abuse (alcohol or drugs) ☐ Other psychiatric disorder _____

7. Is the client currently working? ☐ No ☐ Yes (occupation)_____

8. Has any time been lost from work as a result of condition? ☐ No ☐ Yes; please give full details

_____

_____

_____

9. Please list current medications (including aspirin), (accurate name, dosage, and reason):

(Accurate) Name of Medication	Dosage	Reason

10. Are there any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

_____

ARTHRITIS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. What type of arthritis is it? (Example: rheumatoid, osteo, gouty, etc.) _____

2. When was it initially diagnosed?_____

3. Are the joints involved? ☐ No ☐ Yes

4. What is the type of treatment, and does it include cortisone?

5. Please list current medications, (accurate name, dosage, and reason):

(Accurate) Name of Medication	Dosage	Reason

ATRIAL FIBRILLATION

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of first diagnosis: _____

2. Is the atrial fibrillation/flutter: ☐ Chronic (permanent) ☐ Proxysmal (intermittent)

3. Are there any symptoms with the irregular heart beat?

☐ Black-out ☐ Dizziness (light-headedness)/faint feeling

☐ Palpitations ☐ Chest discomfort

4. Have any of the following tests been done? If so, please give date and results:

☐ ECG _____

☐ Stress test _____

☐ Echocardiogram _____

☐ Holter monitor _____

5. Please list current medications (including aspirin), (accurate name, dosage, and reason):

(Accurate) Name of Medication	Dosage	Reason

6. The cause of the atrial fibrillation/flutter is due to:

☐ Coronary heart disease ☐ Alcohol

☐ Thyroid disease ☐ Cardiomyopathy

☐ Mitral valve disease ☐ Unknown

☐ Other, give details _____

7. Are there any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

_____

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

MOUNTAIN CLIMBING

Kind of climbing: ☐ Mountain ☐ Rock ☐ Trail ☐ Ice Years of experience: _____

Number of climbs in the last 24 months: _____ Number of climbs in the next 12 months: _____

Climbs Outside the Continental U.S.	Date	Climbs Inside the Continental U.S.	Date

UNDERWATER DIVING

How long have you been diving? _____ yrs. _____ mth(s). What certification(s) do you hold? _____

What kind of equipment do you use? _____ Do you ☐ Cave ☐ Wreck ☐ Salvage dive? ☐ No

Dive Depths	During the Past 12 Months		Contemplated in the Next 12 Months	
Under 75 ft.				
76 ft. to 150 ft.				
150 ft. or deeper				

SKY DIVING

What kind of license do you hold? _____ How many jumps have you logged? _____

What events do you participate in? Please explain: _____

Do you jump professionally or use experimental equipment? Please explain: _____

Number of jumps in the last 24 months: _____ Number of jumps in the next 12 months: _____

HANG GLIDING, ULTRA LIGHT FLYING, AND HOT AIR BALLOONS

Type of craft flown _____ Type of terrain _____

Number of flights in the next 12 months: _____ Maximum flight altitude: _____

Do you participate in competitive or stunt events? ☐ No ☐ Yes Are you a licensed pilot? ☐ No ☐ Yes

What certification(s) do you hold? _____

With the avocation above, do you belong to any organized clubs? ☐ No ☐ Yes, please list _____

Additional notes:

_____

_____

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

☐ Yes: Increase_____lbs. Decrease_____lbs.

☐ No

1. Has client ever had any weight reduction surgery? ☐ No ☐ Yes; please give details

_____

_____

_____

2. Please check if your client has had any of the following: (If any of the listed is checked off, request the specific questionnaire)
   - ☐ Coronary artery disease
   - ☐ Diabetes
   - ☐ High blood pressure
   - ☐ Elevated cholesterol or triglycerides (lipid Levels)

3. Is client on any medications? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

4. Has a stress electrocardiogram (treadmill test) been completed within the past year?
   - ☐ Yes—normal Date:
   - ☐ Yes—abnormal Date:
   - ☐ No

5. Are there any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

_____

BUNDLE BRANCH BLOCK

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Please check type of BBB present:
   ☐ CLBBB ☐ CRBBB ☐ LAHB or LPHB ☐ IRBBB ☐ Bifascicular block
2. How long has this abnormality been present? _____ (years)
3. Has there been any recent change in the ECG? ☐ No ☐ Yes; please give details

_____

_____

_____

4. Please check if your client has had any of the following: (check all that apply)
   ☐ Chest pain or coronary artery disease
   ☐ Cardiomyopathy
   ☐ High blood pressure
   ☐ Congenital heart disease
   ☐ Valvular heart disease
5. Have any cardiac studies been completed?
   a. Exercise treadmill or thallium: ☐ No ☐ Yes—normal ☐ Yes—abnormal
   b. Resting or exercise echocardiogram: ☐ No ☐ Yes—normal ☐ Yes—abnormal
   c. Other: ☐ No ☐ Yes—normal ☐ Yes—abnormal
6. Is your client on any medications? (accurate name, dosage, and reason):

(Accurate) Name of Medication	Dosage	Reason

7. Does your client have any other major health problems? (ex: cancer, etc.) ☐ No ☐ Yes; please give details

_____

_____

_____

CANCER

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. What type of cancer was diagnosed? _____

2. List date of first diagnosis: _____

3. Is there a family history of cancer? ☐ No ☐ Yes; please give details

_____

_____

_____

4. How was the cancer treated?

☐ Surgery ☐ Chemotherapy ☐ Radiation therapy ☐ Hormonal therapy ☐ Immunotherapy

☐ Other (give full details): _____

5. List date treatment was completed: _____

6. What was the stage and grade of the cancer? _____

7. Has there been any evidence of reoccurrence? ☐ No ☐ Yes; please give details

_____

_____

_____

8. What did the pathology report reveal?

_____

_____

_____

9. What medications is client taking? (accurate name, dosage, and reason details)

(Accurate) Name of Medication	Dosage	Reason

CANCER—BLADDER

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. How was the cancer treated? (check all that apply)

☐ Endoscopic resection only ☐ Radical cystectomy (removal of the bladder) ☐ Systemic chemotherapy

☐ Endoscopic resection and chemotherapy instilled in the bladder ☐ Radiation therapy

3. What stage was the cancer?

☐ Tis ☐ T ☐ T4

☐ Ta ☐ T2 ☐ T3b

4. Has there been any evidence of recurrence? ☐ No ☐ Yes; please give details

_____

_____

5. Please give the date and result of the most recent cystoscopy and urine cytology:

_____

6. What medications is client taking? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required)

_____

_____

8. Has there been any evidence of recurrence? ☐ No ☐ Yes; please give details

_____

_____

9. Are there any other health problems? ☐ No ☐ Yes; please give details

_____

_____

CANCER—BREAST

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. How was the cancer treated?
   - ☐ Excisional biopsy only
   - ☐ Lumpectomy or wide excision
   - ☐ Mastectomy
   - ☐ Radiation therapy
   - ☐ Chemotherapy
   - ☐ Hormonal therapy (tamoxifen)

3. List date treatment was completed: _____

4. Is client on any medications? ☐ No ☐ Yes; please give details

_____

_____

5. What stage was the cancer?
   ☐ Stage 0 (in-situ) ☐ Stage I ☐ Stage II ☐ Stage III ☐ Stage IV

6. Were lymph nodes involved? ☐ No ☐ Yes; If yes, how many? _____

7. Has there been any evidence of recurrence? ☐ No ☐ Yes; please give details

_____

_____

8. Date and results of last mammogram: _____

9. Are there any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

CANCER—CERVICAL

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. What stage was the cancer?

☐ Stage 0 (in-situ) ☐ Stage I ☐ Stage II ☐ Stage III ☐ Stage IV

3. How was the cancer treated? (check all that apply)

☐ Cone surgery
☐ Total hysterectomy
☐ Radiation therapy
☐ Chemotherapy

4. Indicate date treatment was completed: _____

5. Has there been any evidence of recurrence? ☐ No ☐ Yes; please give details

_____

_____

_____

6. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

_____

CANCER—OVARIAN

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. What stage was the cancer?

☐ Stage I ☐ Stage II ☐ Stage III ☐ Stage IV

3. How was the cancer treated? (check all that apply)

☐ Surgery

☐ Radiation

☐ Chemotherapy

4. Has there been any evidence of recurrence? ☐ No ☐ Yes; please give details

_____

_____

5. Please give the date and result of the most recent CA 125 (if available):

_____

_____

6. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

_____

CANCER—PROSTATE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. What was the pretreatment PSA? _____

3. How was the cancer treated? (check all that apply)

☐ Observation only ☐ Radical prostatectomy

☐ TURP (transurethral prostatectomy) ☐ Radiation therapy (seed implant or external beam radiation)

4. What is date and result of the most current PSA test?

_____

_____

5. What was the Gleason score? _____

6. What stage was the cancer?

☐ Stage 0 (in-situ) ☐ Stage I ☐ Stage II ☐ Stage III ☐ Stage IV

7. Is there a family history of cancer? ☐ No ☐ Yes

8. What medications is client taking? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

9. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

_____

CANCER—SKIN

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date(s) of diagnoses: _____

2. What was the type of cancer was diagnosed? ☐ Basal cell carcinoma ☐ Squamous cell carcinoma ☐ Malignant melanoma

3. Where was the skin cancer located?

4. Has the cancer metastasized (spread) beyond the skin? ☐ No ☐ Yes; please give details

5. Has there been any evidence of recurrence? ☐ No ☐ Yes; please give details

6. For malignant melanoma only, what stage was the cancer?

☐ Clark I/in situ ☐ Clark II/Breslow < 0.75mm ☐ Clark III/Breslow .75–1.5mm

☐ Clark IV/Breslow 1.51–4.0mm ☐ Clark V/Breslow > 4.0mm

7. What medications is client taking? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

8. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

CANCER—TESTICULAR

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date(s) of diagnoses: _____

2. What was the type of testicular cancer? _____

3. Is there a family history of cancer? ☐ No ☐ Yes; please give details

_____

_____

4. How was the cancer treated? ☐ Surgery ☐ Chemotherapy ☐ Radiation therapy

5. Date treatment was completed: _____

6. What stage was the cancer? ☐ Stage I ☐ Stage II ☐ Stage III

7. Has there been any evidence of recurrence? ☐ No ☐ Yes; please give details

_____

_____

8. Please give the date and result of the most recent AFP or HGC test:

_____

9. Is client on any medications? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

10. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

CEREBRAL PALSY

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. At what age was it first diagnosed? _____

2. Is client disabled? ☐ No ☐ Yes; please give details

_____

_____

_____

3. Is client on any medications? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

4. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

_____

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. What is the type of lung disease? ☐ Chronic bronchitis ☐ Emphysema ☐ Restrictive lung disease ☐ Asthma

2. Date first diagnosed: _____

3. Has your client ever been hospitalized for this condition? ☐ No ☐ Yes; please give details

_____

_____

4. Has your client ever smoked?

☐ Yes, and currently smokes _____ (amount per day)

☐ Yes, smoked in the past but quit _____ (date quit)

☐ Never smoked

5. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Have pulmonary function tests (a breathing test) ever been done? ☐ No ☐ Yes; please give details

_____

_____

7. Client's build: Height: _____ ' _____ " Weight: _____

8. Does your client have any abnormalities on an ECG or X-ray? ☐ No ☐ Yes; please give details

_____

_____

9. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

CONGESTIVE HEART FAILURE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of first diagnosis: _____

2. What is the cause of the CHF? _____

3. Has the client had surgical heart repair? ☐ No ☐ Yes;

Type _____ Date: _____

4. Does client have a history of any of the following? (provide details)

☐ Hypertension _____

☐ Coronary artery disease _____

☐ Chronic obstructive pulmonary disease _____

☐ Pacemaker _____

5. Has an angiogram, echocardiogram, stress test, or heart scan been done? ☐ No ☐ Yes; please give details and provide a copy if available

_____

_____

6. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

CORONARY ARTERY DISEASE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List date(s) of diagnosis and type of coronary artery disease:

_____

_____

2. Does client's family have any history of heart disease? ☐ No ☐ Yes; list family member(s) and details

_____

_____

3. Has client had any of the following?:

☐ Heart attack Date: _____ /_____ /_____

☐ Coronary angioplasty (PTCA) Date: _____ /_____ /_____

☐ Heart failure Date: _____ /_____ /_____

☐ Valve surgery Date: _____ /_____ /_____

☐ Bypass surger Date: _____ /_____ /_____

4. Has client had any of the following?:

☐ Abnormal lipid levels ☐ Diabetes

☐ Overweight ☐ Elevated homocysteine

☐ High blood pressure ☐ Peripheral vascular disease

☐ Irregular heart beats ☐ Cerebrovascular or carotid disease

☐ Elevated cholesterol

6. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

CORONARY ARTERY DISEASE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List date(s) of diagnosis and type of coronary artery disease:

_____

_____

2. Does client's family have any history of heart disease? ☐ No ☐ Yes; list family member(s) and details

_____

_____

3. Has client had any of the following?:

☐ Heart attack Date: _____ /_____ /_____

☐ Coronary angioplasty (PTCA) Date: _____ /_____ /_____

☐ Heart failure Date: _____ /_____ /_____

☐ Valve surgery Date: _____ /_____ /_____

☐ Bypass surger Date: _____ /_____ /_____

4. Has client had any of the following?:

☐ Abnormal lipid levels ☐ Diabetes

☐ Overweight ☐ Elevated homocysteine

☐ High blood pressure ☐ Peripheral vascular disease

☐ Irregular heart beats ☐ Cerebrovascular or carotid disease

☐ Elevated cholesterol

6. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

CORONARY BYPASS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List date(s) of diagnosis and type of coronary artery disease:

_____

2. Does client's family have any history of heart disease? ☐ No ☐ Yes; list family member(s) and details

_____

_____

3. Has client had any of the following?:

☐ Heart attack Date: _____ /_____ /_____ ☐ Heart failure Date: _____ /_____ /_____

☐ Coronary angioplasty (PTCA) Date: _____ /_____ /_____ ☐ Valve surgery Date: _____ /_____ /_____

4. Number of vessels by-passed?

5. How badly were the vessels occluded (percentage 0.00%)? _____

6. Has a follow-up stress (exercise) ECG been completed since procedure?

☐ No ☐ Yes, Normal Date: _____ /_____ /_____ ☐ Yes, Abnormal Date:_____ /_____ /_____

7. Has client had any chest discomfort since the procedure? ☐ No ☐ Yes; please give details

_____

_____

8. Has client had any of the following?:

☐ Abnormal lipid levels ☐ Irregular heart beats ☐ Elevated homocysteine ☐ Overweight ☐ Elevated cholesterol

☐ High blood pressure ☐ Diabetes ☐ Peripheral vascular disease ☐ Cerebrovascular or carotid disease

9. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

10. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

CROHN'S DISEASE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of first diagnosis: _____

2. Blood in stools? ☐ No ☐ Yes

3. What type of treatment is client on?

☐ Diet

☐ Medication—if so, what? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

4. How often does client have attacks?

5. Is condition asymptomatic? ☐ No ☐ Yes

7. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

CUSHING SYNDROME

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List date(s) of diagnosis and type of coronary artery disease:

_____

_____

2. What evaluation was done? Please give date and results.

☐ MRI, CT Date: _____ / _____ / _____

☐ Blood Test Date: _____ / _____ / _____

☐ Urine Test Date: Date: _____ / _____ / _____

3. Has your client ever been hospitalized for Cushing syndrome? ☐ No ☐ Yes; please give details

_____

_____

4. Has your client been prescribed steroids for any other illness? ☐ No ☐ Yes; please give details

_____

_____

5. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

DEMENTIA—ALZHEIMER'S

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List the type of dementia: _____

2. Date of onset of symptoms: _____ /_____ /_____ Date of diagnosis: _____ /_____ /_____

3. Note functional status:
   - ☐ Minimal cognitive changes, fully functioning
   - ☐ Needs supervision outside the home
   - ☐ Assistance needed on any ADL (Activities of Daily Living)
   - ☐ Custodial care

4. Is there also a history of depression? ☐ No ☐ Yes; please give details

_____

_____

5. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

DEPRESSION

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List the diagnosis: _____

2. Please indicate: Number of episodes _____ Date of last episode: _____

3. Has client been hospitalized for psychiatric treatment? ☐ No ☐ Yes; please give details

_____

_____

4. Does client have a history of any of the following associated conditions? Please check all that apply. (Additional questionnaires may be required)
   - ☐ Personality disorder
   - ☐ Psychotic disorder
   - ☐ Suicidal thought/attempt
   - ☐ Substance abuse (alcohol or drugs) (complete questionnaire)
   - ☐ Other psychiatric disorder

5. Is the client currently working? ☐ No ☐ Yes; please list occupation

_____

_____

6. Has any time been lost from work as a result of condition? ☐ No ☐ Yes; please give details

_____

_____

7. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

8. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

DIABETES

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date first diagnosed: _____ /_____ /_____

2. How often does your client visit his/her physician?

   When was the last visit? _____ / _____ /_____

3. The client's diabetes is controlled by:

   ☐ Diet alone

   ☐ Oral medication (medication and doses)_____

   ☐ Insulin (amount and units/day) _____

4. Please give the most recent blood sugar reading:_____

5. Does client monitor his/her own blood sugar?_____

6. If available, please give the most recent glycohemoglobin (BhA1C) or fructosamine level: _____

7. Please check if your client has (had) any of the following:

   ☐ Chest pain or coronary artery disease ☐ Protein in the urine ☐ Elevated lipids

   ☐ Overweight ☐ Neuropathy ☐ Kidney disease

   ☐ Retinopathy ☐ Abnormal ECG ☐ Hypertension

8. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

9. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

DOWN SYNDROME / INTELLECTUAL DISABILITY

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. What is applicant's IQ? _____

2. Is there also a history of depression? ☐ No ☐ Yes; please give details

_____

_____

3. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

DOWN SYNDROME

1. What is applicant's social and economic situation?

_____

_____

2. Are there any cardiovascular or pulmonary problems? ☐ No ☐ Yes; please give details

_____

_____

INTELLECTUAL DISABILITY

1. At what age was the applicant diagnosed? _____

2. Is the disability chromosomal? ☐ No ☐ Yes; please provide as much detail as possible

_____

_____

_____

_____

_____

DRIVING

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. In the past 5 years, has client's drivers license been suspended or revoked? ☐ No ☐ Yes; please give details

_____

_____

2. In the past 5 years, has client been convicted of, or pled guilty or no contest to, reckless driving or driving under the influence of alcohol or drugs?

☐ No ☐ Yes; please give details

_____

_____

3. What is applicant's occupation? _____

4. Is applicant married? ☐ No ☐ Yes

DRUGS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of the initial treatment or diagnosis? _____

2. What is client's: ☐ Martial status: _____ ☐ Occupation: _____
☐ Length of employment: _____

3. Is client an active member of a drug use recovery group? ☐ No ☐ Yes; how long?_____

4. Has client ever joined and then left a drug use recovery group? ☐ No ☐ Yes; please give details

_____

_____

5. What drug(s) were used or abused? (name of drug and dates of usage)

_____

_____

6. Were there any relapses from sobriety/abstinence? ☐ No ☐ Yes; please list dates

_____

_____

7. Has client ever been convicted of any drug-related activity? ☐ No ☐ Yes; please give details

_____

_____

8. Have there been physical complications or additional psychiatric problems? ☐ No ☐ Yes; please give details

_____

_____

9. What is client's current level of alcohol consumption? _____

10. Is client taking any medications? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

11. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

EATING DISORDERS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Please give the diagnosis: ☐ Anorexia nervosa ☐ Bulimia nervosa

2. Please indicate the number of episodes and date of last episode/recovery:

_____

_____

3. Please note client's current _____ height _____ weight

4. Has weight remained stable for at least 1 year? ☐ No ☐ Yes; please give details

_____

_____

5. Has client been hospitalized for treatment of an eating disorder? ☐ No ☐ Yes; please give details

_____

_____

6. Does client have a history of any of the following associated conditions? (Please check all that apply.)

☐ Substance abuse (alcohol or drugs) ☐ Personality disorder
☐ Psychotic disorder ☐ Suicidal thought/attempt
☐ Depression ☐ Anxiety disorder

7. Is client on any medications? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

8. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

EMPHYSEMA

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. What is the cause? ☐ Asthma ☐ Occupation ☐ Smoking

2. What is the degree of severity? _____

3. Does client use oxygen? ☐ No ☐ Yes

4. Has client ever been hospitalized? ☐ No ☐ Yes; please give details

_____

_____

5. Have pulmonary function tests been done? ☐ No ☐ Yes; what were the results?

_____

_____

6. Are there any restrictions of activities? ☐ No ☐ Yes; please give details

_____

_____

7. Is client on any medications? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

8. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

ENLARGED HEART

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. When was the condition first diagnosed? _____

2. Have any of the following symptoms occurred?
   - ☐ Chest discomfort
   - ☐ Fainting spells or dizziness
   - ☐ Shortness of breath
   - ☐ Palpitations (irregular heart beat)

3. Please check if your client has had any of the following:

Chest X-ray	☐ No	☐ Yes, Normal	☐ Yes, Abnormal
Exercise treadmill or thallium	☐ No	☐ Yes, Normal	☐ Yes, Abnormal
Resting or exercise echocardiogram	☐ No	☐ Yes, Normal	☐ Yes, Abnormal
MUGA	☐ No	☐ Yes, Normal	☐ Yes, Abnormal
Cardiac catheterization	☐ No	☐ Yes, Normal	☐ Yes, Abnormal

4. Is there a history of any heart disease (problems with valves, coronary artery disease, cardiomyopathy, etc.)? ☐ No ☐ Yes; please give details

_____

_____

5. Is client on any medications? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Does client have any other health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

EPILEPSY

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of first diagnosis: _____

2. Indicate the type of seizure:

☐ Complex/partial seizure ☐ Tonic-clonic seizure ☐ Absense seizure ☐ Myoclonic seizure

3. Indicate the number or frequency of episodes and date of last episode:

_____

_____

4. Has client been hospitalized for treatment of epilepsy? ☐ No ☐ Yes; please give details

_____

_____

5. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. What is client's occupation? _____

7. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

GLOMERULONEPHRITIS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Please note type of Glomerulonephritis: _____

2. Please list date of first diagnosis: _____

3. Was a kidney biopsy done? ☐ No ☐ Yes; please give date and diagnosis

_____

_____

4. Please provide the client's most recent readings for:

☐ Blood pressure_____

☐ BUN_____

☐ Creatinine_____

☐ Urinalysis_____

5. Is client on any medications? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

HEART ATTACK—MYOCARDIAL INFARCTION

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List date(s) of the heart attack(s): _____

2. Has the client had any of the following:

☐ Echocardiogram Date: _____
☐ Coronary catheterization Date: _____
☐ Coronary angioplasty Date: _____
☐ Bypass surgery Date: _____
☐ Heart failure Date: _____
☐ Arrhythmias Date: _____

3. Has a follow-up stress (exercise) ECG been completed since the heart attack? ☐ No ☐ Yes; please give details

_____

_____

4. Please check if your client has had any of the following:

☐ Abnormal lipid levels ☐ Irregular heartbeats* ☐ Peripheral vascular disease*
☐ Overweight ☐ Diabetes; age of onset: _____ ☐ Cerebrovascular or carotid disease
☐ High blood pressure ☐ Elevated homocysteine

**These conditions require an additional questionnaire to be completed, please request.*

5. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

HEART FAILURE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. What was the cause of heart failure? _____

2. When was the diagnosis made? _____

3. Has client had surgical heart repair? ☐ No ☐ Yes; please give date and diagnosis

_____

_____

4. Does client have a history of any of the following (please provide details or complete the questionnaire for the condition):

☐ Hypertension _____

☐ Coronary artery disease _____

☐ Chronic obstructive pulmonary disease _____

☐ Pacemaker _____

5. Has client had surgical heart repair? ☐ No ☐ Yes; please give date and diagnosis

_____

_____

6. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

HEART MURMUR

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. What type of murmur does client have?

☐ Aortic stenosis ☐ Aortic regurgitation ☐ Aortic insufficiency
☐ Mitral stenosis ☐ Mitral regurgitation ☐ Mitral insufficiency
☐ Pulmonic stenosis ☐ Flow murmur ☐ Innocent murmur

2. When was the heart murmur first discovered? _____

3. Does client have a history of rheumatic fever? ☐ No ☐ Yes

4. When was the client last seen by a physician for the heart murmur? _____

5. When was the last echocardiogram done? _____

What were the results? _____

6. Was a cardiac catheterization ever done? ☐ No ☐ Yes; please give date _____

7. Does client have any symptoms or any limitation of activities? ☐ No ☐ Yes; please give details

_____

_____

8. Has client had any heart surgery or has surgery been discussed? ☐ No ☐ Yes; please give details

_____

_____

9. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

10. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

HEMOCHROMATOSIS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of first diagnosis: _____

2. What organs are involved? (check all that apply)
   - ☐ Liver
   - ☐ Pancreas (diabetes)
   - ☐ Joints
   - ☐ Heart
   - ☐ Pituitary

3. When was the last phlebotomy treatment? _____

4. Was a liver biopsy done? ☐ No ☐ Yes; please provide a copy

5. If available, please provide the most recent serum ferritin result: _____

6. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

HEPATITIS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of first diagnosis: _____

2. What type of hepatitis: ☐ A ☐ B ☐ C

3. Was the hepatitis due to:

☐ Hepatitis A ☐ Hepatitis C (non-A/non-B ☐ Hepatitis B, resolved ☐ Hepatitis B, carrier or chronic infection

☐ Other, please specify _____

4. Please give the date and results of the most recent liver enzyme tests:

☐ AST/SGOT Date:_____ ☐ ALT/SGPT Date:_____ ☐ GGTP Date:_____

Result:_____ Result:_____ Result:_____

5. Does the client drink alcohol? ☐ No ☐ Yes; please give details_____

6. Please check if any of the following studies have been completed:

☐ Liver ultrasound or CT scan ☐ normal ☐ abnormal

☐ Liver biopsy ☐ normal ☐ abnormal

☐ No further evaluation

7. Has client been diagnosed with any of the following: ☐ Chronic hepatitis ☐ Cirrhosis

8. Was there any treatment done? ☐ No ☐ Yes; what type?_____

9. When did treatment start _____ and terminate _____

10. Was treatment successful in eliminating the virus? ☐ No ☐ Yes

11. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

12. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

HYPERCOAGULABLE DISORDER

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis: _____

2. Please note type of treatment:
   - ☐ Hospitalization Date: _____
   - ☐ Coumadin
   - ☐ Aspirin
   - ☐ Heparin

3. Was there a thromboembolic event?
   ☐ MI ☐ CVA ☐ DVT ☐ DVT ☐ Other ☐ None

4. Has there been any evidence of recurrence? ☐ No ☐ Yes; please give details

_____

_____

5. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

HYPERGLYCEMIA

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis: _____

2. What were the last 4 levels for:

   ☐ Glycohemoglobin: _____

   ☐ Glucose: _____

   ☐ Microalbumin: _____

3. Is condition controlled? ☐ No ☐ Yes; please give details

_____

_____

4. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

5. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

HYPERTENSION

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis: _____

2. What was the most recent blood pressure reading? _____

3. Please check any of the below that client has had:
   - ☐ Chest pain or coronary artery disease
   - ☐ Diabetes
   - ☐ Family history of: heart disease, high blood pressure, stroke
   - ☐ Abnormal lipid levels
   - ☐ TIA or stroke
   - ☐ Enlarged heart
   - ☐ Aneurysm
   - ☐ Peripheral vascular disease
   - ☐ Kidney disease
   - ☐ Overweight

4. Has a stress electrocardiogram (treadmill test) been completed within the past year?
   ☐ No ☐ Yes; normal Date:_____ ☐ Yes; abnormal Date: _____

5. Has client ever had an echocardiogram? ☐ No ☐ Yes

6. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

IRREGULAR HEARTBEAT

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date first diagnosed: _____

2. Is the irregular heatbeat due to (check all that apply):
   - ☐ Premature supraventricular atrial beats (PACs)
   - ☐ Premature ventricular beats (PVCs
   - ☐ Multifocal
   - ☐ Bigeminy or trigeminy
   - ☐ Ventricular tachycardia

3. Are there any symptoms with the irregular heartbeat?
   ☐ Black-out ☐ Dizziness (lightheadedness)/faint feeling ☐ Palpitations ☐ Chest discomfort

4. Have any of the following tests been done? (If so, please give date and results)
   - ☐ ECG Date: _____ _____
   - ☐ Stress Date: _____ _____
   - ☐ Echocardiogram Date: _____ _____
   - ☐ Holter monitor Date: _____ _____

5. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

KIDNEY FUNCTION TESTS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date first diagnosed: _____

2. Please check if any of these conditions are present (complete questionnaire for each condition checked):
   - ☐ Diabetes
   - ☐ Polycystic kidney disease
   - ☐ Glomerulonephritis
   - ☐ Nephrosclerosis
   - ☐ Systemic lupus erythematosus
   - ☐ Other: _____

3. Give most recent results of kidney function tests:
   - ☐ BUN _____
   - ☐ Serum creatinine _____
   - ☐ Urinalysis _____

4. Have any of the following occurred (check all that apply):
   - ☐ Frequent infection
   - ☐ High blood pressure
   - ☐ Cardiovascular disease (complete questionnaire for this condition)

5. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

KIDNEY TRANSPLANT

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of the transplant: _____

2. ☐ Single or ☐ multiple transplant?

3. What was the cause of the end stage renal disease which led to the transplant? (Cause for the transplant)
   ☐ Diabetes ☐ Glomerulonephritis ☐ Nephrosclerosis ☐ Systemic lupus erythematosus
   ☐ Polycystic kidney disease ☐ Other:_____

4. What was the source of the donor kidney?
   ☐ Cadaver ☐ Living related donor ☐ Identical twin ☐ Other:_____

5. Please give most recent results of kidney function tests:
   ☐ BUN_____
   ☐ Serum creatinine_____
   ☐ Urinalysis_____

6. Have any of the following occurred (check all that apply):
   ☐ Frequent infection ☐ Rejection episodes ☐ Toxicity from treatment ☐ High blood pressure
   ☐ Polycystic kidney disease ☐ Cancer ☐ Disease recurrence

7. How often are checkups? _____

8. Are there any disabilities since the transplant? ☐ No ☐ Yes; please give details

_____

9. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

10. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

LEUKEMIA

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. What is the current stage of the leukemia?
   - ☐ Stage 0
   - ☐ Stage I
   - ☐ Stage II
   - ☐ Stage III
   - ☐ Stage IV

3. Please provide results of the most recent CBC (complete blood count):
   - ☐ Date _____
   - ☐ Hemoglobin _____
   - ☐ White blood cell count _____
   - ☐ Platelet count _____

4. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

5. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

LIVER TESTS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. How long has this abnormality (elevated liver enzymes) been present?

3. Please give the date and results of the most recent liver enzyme tests.

   a) AST/SGOT Date: _____ _____

   b) ALT/SGPT Date: _____ _____

   c) GGTP Date: _____ _____

   d) ALP Date: _____ _____

   e) Billirubin Date: _____ _____

4. Have these results been :

   ☐ Increasing

   ☐ Decreasing

   ☐ Fluctuating up and down

   ☐ Stable

   ☐ Unknown

5. Does client drink alcohol? (answer all that apply)

   ☐ No ☐ Yes; please note amount and frequency _____

   ☐ Drinking pattern changed recently _____

6. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

LUNG DISEASE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. Type of lung disease:
   - ☐ Interstitial lung disease; type _____
   - ☐ Chronic bronchitis ☐ Emphysema ☐ Asthma

3. Was a biopsy done? ☐ No ☐ Yes

4. Has client improved since diagnosis? ☐ No ☐ Yes

5. Has client ever been hospitalized for this condition? ☐ No ☐ Yes

_____

_____

6. Has client ever smoked?
   - ☐ Yes; currently smokes_____(amount/day)
   - ☐ Yes; smoked in the past but quit _____(date)
   - ☐ Never smoked

7. Have pulmonary function tests (breathing test) ever been done? ☐ No ☐ Yes; please give most recent test results

_____

_____

8. Does client have any abnormalities on an ECG or X-ray? ☐ No ☐ Yes; please give details

_____

_____

9. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

10. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

LUPUS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. Type of lupus diagnosed?
   ☐ Systemic lupus erythematosus (SLE) ☐ Discord lupus ☐ Drug-induced SLE

3. Please note if the lupus is:
   ☐ in remission (list date of last exacerbation) Date: _____
   ☐ currently present

4. Check if client has had any of the following:
   ☐ Low blood counts ☐ Neurologic disorder
   ☐ Lung involvement (pleuritis) ☐ Heart involvement (pericarditis)
   ☐ Proteinuria ☐ Renal insufficiency or failure
   ☐ High blood pressure

5. What type of treatment has client had? _____

6. When was treatment terminated? _____

7. Have steroids ever been prescribed? ☐ No ☐ Yes; please give details

_____

_____

8. Is client presently on medication? (accurate name, dosage, and reason) ☐ No ☐ Yes; please give details

(Accurate) Name of Medication	Dosage	Reason

9. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

LYMPHOMA

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnoses: _____

2. Indicate the type of lymphoma:
   - ☐ Hodgkin's Lymphoma __Non-Hodgkin's Lymphoma—low grade
   - ☐ Non-Hodgkin's Lymphoma—intermediate-grade
   - ☐ Non-Hodgkin's Lymphoma—high grade

3. What was the staging at the time of diagnosis?
   ☐ Stage I ☐ Stage II ☐ Stage III ☐ Stage IV

4. Please note if any of the following were present at time of diagnosis (check all that apply):
   - ☐ Type B symptoms (fever, weight loss, and/or night sweats)
   - ☐ Large mediastinal (chest) disease (tumor > 7.5 cm)
   - ☐ Elevated LDH (blood test)
   - ☐ More than 1 extranodal site involved

5. What treatment did client receive? (check all that apply)
   ☐ Chemotherapy ☐ Radiation ☐ Surgery
   What was the date of the last treatment? _____

6. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

MENTAL DISORDERS

(BIPOLAR DISORDER, SCHIZOPHRENIA, EATING DISORDERS, PANIC ATTACKS, PARANOIA, SUICIDE ATTEMPTS)

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Describe client's condition. Give the diagnosis.

_____

_____

2. Date of first symptoms? _____

3. When did client last see doctor for this condition? _____

4. Has client been hospitalized? ☐ No ☐ Yes; (list all)

Date _____ _____

Date _____ _____

5. Is client currently employed? ☐ No ☐ Yes

6. Has condition interfered with work? ☐ No ☐ Yes; If so, how long?_____

7. Is client disabled? ☐ No ☐ Yes; please give details

_____

_____

8. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

9. When was the last medication adjustment made?

Details _____

10. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

MITRAL VALVE DISORDER

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. How long has this abnormality been present? _____

2. Please check the type(s) of valve disorder present:

☐ Mitral stenosis ☐ Mitral regurgitation ☐ Mitral valve prolapse

3. Have any of the following occurred?

☐ Chest pain ☐ No ☐ Yes

☐ Trouble breathing ☐ No ☐ Yes

☐ Heart failure ☐ No ☐ Yes

☐ Palpitations ☐ No ☐ Yes

☐ Atrial fibrillation/flutter ☐ No ☐ Yes

4. Is there a history of any other heart disease in addition to the mitral valve disorder (problems with other valves, coronary artery disease, etc.)?

☐ No ☐ Yes; please give details

_____

_____

5. Have additional studies been completed? (check all that apply)

☐ Echocardiogram Date: _____

☐ Cardiac catheterization Date: _____

☐ None

6. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

MITRAL VALVE PROLAPSE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. How long has this abnormality been present? _____

2. Have any of the following symptoms occurred? (check all that apply)

   ☐ Fainting or dizziness ☐ No ☐ Yes

   ☐ Palpitations ☐ No ☐ Yes

   ☐ Shortness of breath ☐ No ☐ Yes

   ☐ Chest pain ☐ No ☐ Yes

3. Is there a history of any other heart disease in addition to the mitral valve prolapse (problems with other valves, coronary artery disease, etc.)?

   ☐ No ☐ Yes; please submit a copy of the report

4. Has an echocardiogram (ultrasound of the heart) been done? ☐ No ☐ Yes; please submit a copy of the report

5. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

MULTIPLE SCLEROSIS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List date of first diagnosis: _____

2. Indicate number of episodes: _____

3. Date of last episode: _____

4. Please note current neurological status and/or symptoms.

   ☐ Normal

   ☐ Minimal residual impairment (please specify)_____

   ☐ Moderate residual impairment (please specify) _____

   ☐ Severe residual impairment (please specify) _____

5. What are client's current symptoms?

_____

_____

6. What therapy is client on?

_____

_____

7. Does client have any problems with extremities, kidneys, or bladder? ☐ No ☐ Yes; please give details

_____

_____

8. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

9. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

NEUROMUSCULAR DISORDER

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List date of first diagnosis: _____

2. Name of neuromuscular disorder: _____

3. Describe condition with diagnosis: _____

4. What is your condition?

5. Is client disabled? ☐ No ☐ Yes

6. Does client use a cane or a wheelchair? ☐ No ☐ Yes

7. Does client have a caregiver? ☐ No ☐ Yes

8. Is client receiving any treatment? ☐ No ☐ Yes; what type? _____

9. When did client last see doctor for this condition? _____

10. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

11. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

PACEMAKER

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date the pacemaker was implanted: _____

2. The pacemaker was implanted for:
   - ☐ Heart block associated with coronary artery disease
   - ☐ Complete heart block or sick sinus syndrome
   - ☐ Chronic underlying atrial flutter/fibrillation
   - ☐ Other; give details_____

3. Does client have another heart disease? Give details:

_____

_____

4. Have any of the following pacemaker complications occurred?
   - ☐ Infection ☐ Blood clots ☐ Pacemaker malfunction ☐ Perforation
   - ☐ Other; please give details_____

5. Are there any continuing symptoms since the pacemaker was implanted? ☐ No ☐ Yes; please give details

_____

_____

6. When was client's last checkup? _____

7. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

8. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

PANCREATITIS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List the date when first diagnosed: _____

2. What type of pancreatic disorder was diagnosed?

   ☐ Cyst, Pseudocyst ☐ Abscess ☐ Pancreatitis ☐ Stone

   ☐ Other; give details _____

3. Was client incapacitated from work due to the pancreatic disorder? ☐ No ☐ Yes; please give details

_____

_____

4. Was client hospitalized? ☐ No ☐ Yes; (give dates and how long below)

   Date: _____ Duration _____

   Date: _____ Duration _____

   Date: _____ Duration _____

5. Was any surgery performed? ☐ No ☐ Yes; please give details

_____

_____

6. If pancreatitis, describe frequency of attacks and date of most recent attack:

_____

_____

7. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

8. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

PANHYPOPITUITARISM

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. When was client diagnosed with pituitary dysfunction?_____

2. What was the cause of the pituitary dysfunction?

_____

_____

3. What kind of hormone replacement therapy is required?

_____

_____

4. Please list dates of any hospitalizations, radiation treatments, or surgeries.
   If there was a tumor, please provide a pathology report and the results of any scans.

   Date: _____ _____

   Date: _____ _____

   Date: _____ _____

5. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

PARALYSIS—SIMILAR PHYSICAL DISABILITY

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date disability occured? _____

2. What was the cause (e.g., congenital, injury, polio)?

_____

_____

3. What parts of the body are affected?

_____

_____

4. Does client have limitations in walking, driving, speech or other activities? ☐ No ☐ Yes

5. Has surgery been performed or planned? ☐ No ☐ Yes

6. Has client's bowel or bladder function been affected? ☐ No ☐ Yes

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

PARKINSON'S DISEASE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of first diagnosed: _____

2. Please note the functional stage of the client currently:
   - ☐ Stage I unilateral involvement
   - ☐ Stage II bilateral involvement but normal stance
   - ☐ Stage III bilateral involvement with mild postural imbalance, but able to lead an independent life
   - ☐ Stage IV bilateral involvement with postural instability; requires substantial help
   - ☐ Stage V severe disease; restricted to bed or wheelchair

3. Has there been any evidence of progression? ☐ No ☐ Yes; please give details

_____

_____

4. Please note if any of the following have occurred (check all that apply):
   - ☐ Dementia
   - ☐ Memory problems
   - ☐ Aspiration
   - ☐ Pneumonia
   - ☐ Recurrent infections
   - ☐ Falls
   - ☐ Recurrent injuries
   - ☐ Depression

5. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

PERSONALITY DISORDERS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis? _____

2. Please note which type of personality disorder has been diagnosed:

☐ Antisocial ☐ Narcissistic
☐ Borderline ☐ Histrionic
☐ Paranoid ☐ Dependent
☐ Schizoid ☐ Obsessive/Compulsive
☐ Schizotypical ☐ Avoidant

3. Has client been hospitalized for a psychiatric illness? ☐ No ☐ Yes; please give dates and details

_____

_____

4. Does your client have any of the following associated conditions?

Substance abuse (alcohol or drugs): ☐ No ☐ Yes; please give details _____
Mood disorder (e.g., depression): ☐ No ☐ Yes; please give details _____
Suicidal thought/attempt: ☐ No ☐ Yes; please give details _____
Other psychiatric disorder: ☐ No ☐ Yes; please give details _____

5. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

PHEOCHROMOCYTOMA

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis? _____

   ☐ Benign vs. ☐ Malignant

   ☐ Single vs. ☐ Multiple

2. What evaluation was done? Please give date and results.

   ☐ MRI, CT Date: _____

   ☐ Urine Test Date: _____

   ☐ Blood Test Date: _____

3. Has your client had surgery to remove a pheochromocytoma? ☐ No ☐ Yes; please give dates and details

_____

_____

4. List all medications client is taking. (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

5. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

POLYCYSTIC KIDNEY DISEASE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Do any other family members have ADPKD? ☐ No ☐ Yes; please give details

_____

_____

2. Was ADPKD diagnosed by ultrasound? ☐ No ☐ Yes

3. What are your current blood pressure readings? ☐ No ☐ Yes

4. Please provide the results and date of your most recent urinalysis.

Protein _____ Date: _____

Red blood cell (RBC) _____ Date: _____

White blood cell (WBC) _____ Date: _____

Protein/creatinine ratio _____ Date: _____

5. Please provide the date and results of the most recent kidney function tests.

BUN _____ Date: _____

Serum Creatinine _____ Date: _____

6. Is client taking any medication? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

POLYP, CYST, TUMOR, OR GROWTH

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. What type of growth did client have? _____

2. When was it discovered? Date: _____

3. What is the specific location in or on the body where it is located?

_____

_____

4. How many were present or removed? _____

5. What type of treatment has client had? _____

6. If removed surgically, what was the pathological diagnosis? ☐ Benign ☐ Malignant
   If you have pathology report available, please provide it.

7. Is client taking any medication? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

8. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

PROSTATE BENIGN

(BENIGN PROSTATIC HYPERTROPHY AND PROSTATITIS)

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date when first diagnosed: _____

2. If any of the following have been done, please give details and result(s):

   ☐ Bladder catheterization _____

   ☐ Prostate biopsy _____

   ☐ Prostate ultrasound _____

   ☐ TURP (transurethral prostatectomy) _____

3. Please give result and date of most recent PSA test:

   Date: _____ _____

4. Is client taking any medication? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

5. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

PROTEINURIA (PROTEIN IN URINE)

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. How long has this abnormality been present? _____ years

2. Has a specific cause for the proteinuria been found? ☐ No ☐ Yes; please give details

_____

_____

3. Give the date and results of the most recent urinalysis:
   a. Protein _____ Date: _____
   b. Red blood cells (RBCs) _____ Date: _____
   c. White blood cell (WBC) _____ Date: _____
   d. Protein/creatinine ratio _____ Date: _____

4. Give the dates and results of the most recent kidney function tests:
   BUN _____ Date: _____
   Serum Creatinine _____ Date: _____

5. If any of the following urinary tests have been completed, give the date and result:
   a. Microalbumin _____ Date: _____
   b. 24-hr. protein _____ Date: _____
   c. 24-hr. creatinine clearance _____ Date: _____
   d. Other: _____ Date: _____

6. Is client taking any medication? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

PSA—ELEVATED

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. How long has the PSA been elevated? _____

2. What is the diagnosis?_____

3. Please give the date and result(s) of all recorded PSA value(s):

_____

_____

4. Have these results been:
   - ☐ Increasing
   - ☐ Decreasing
   - ☐ Stable
   - ☐ Fluctuating up and down
   - ☐ Unknown

5. If any of the following have been done, please give the details and result(s):
   - ☐ TRUS _____
   - ☐ PSAD _____
   - ☐ Free PSA _____
   - ☐ Prostate biopsy_____

6. Is client taking any medication? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

SARCOIDOSIS

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of first diagnosis: _____

2. Was a biopsy done? ☐ No ☐ Yes

3. Stage: _____

4. How was the sarcoid treated? ☐ No treatment ☐ Prednisone

5. Date treatment was completed: _____

6. What organs were involved? (check all that apply)

☐ Lung ☐ Kidney ☐ Heart ☐ Central nervous system
☐ Liver or spleen ☐ Skin ☐ Eyes ☐ Lymph nodes

7. Give results of the most recent pulmonary function tests:

FVC _____

FEV1 _____

8. Has there been any evidence of recurrence/progression? ☐ No ☐ Yes; please give details

_____

_____

9. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

10. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

SCLERODERMA / CREST

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Please note type of scleroderma:
   - ☐ Localized scleroderma-morphea or linea
   - ☐ Limited scleroderma/CREST
   - ☐ Progressive systemic sclerosis-diffuse scleroderma
2. Please list date of first diagnosis: _____
3. Please check if client has had any of the following:
   - ☐ Weight loss
   - ☐ Heart disease
   - ☐ Lung disease
   - ☐ Reyaud's disease
   - ☐ Biliary cirrhosis
   - ☐ Liver enzyme abnormality
   - ☐ Kidney disease
   - ☐ Trouble swallowing
4. Please list functional ability:
   - ☐ Fully active
   - ☐ Sedentary
   - ☐ Uses walker, cane, etc.
   - ☐ Uses wheelchair
5. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

SEIZURE DISORDER (EPILEPSY)

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of first diagnosis: _____

2. When did client have the first and last attack? _____

3. Are the attacks ☐ grand mal or ☐ petit mal in character?

4. What is the frequency of the attacks?

_____

_____

5. What type of treatment is indicated?

_____

_____

6. When did client last see his/her physician for this condition?

_____

_____

7. What is client's occupation? _____

8. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

9. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

SICKLE CELL ANEMIA

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis: _____

2. What type of sickle cell anemia does client have?
   - ☐ Sickle cell (SS)
   - ☐ Sickle cell (SC)
   - ☐ Sickle cell trait (SA)
   - ☐ Hemoglobin C

3. Is there a history of complications? ☐ No ☐ Yes; please check those that apply and give the date of the last episode.
   - ☐ Painful crisis Date: _____
   - ☐ Aseptic necrosis of bones Date: _____
   - ☐ Leg ulcers Date: _____
   - ☐ Lung scarring Date: _____
   - ☐ Thrombosis Date: _____
   - ☐ Enlarged heart Date: _____
   - ☐ Other: _____ Date: _____

4. What is the current hemoglobin? _____

5. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

SLEEP APNEA

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis: _____

2. Was the sleep apnea diagnosed as:
   ☐ Obstructive ☐ Central ☐ Mixed ☐ Unknown

3. How is the sleep apnea being treated?
   ☐ Observation alone
   ☐ Weight loss
   ☐ CPAP mask; if CPAP given, date use was terminated:_____
   ☐ Surgery; Date of surgery: _____
   ☐ Other; please give details _____

4. If surgery was done, was sleep apnea corrected? ☐ No ☐ Yes; please give details

_____

_____

5. Has client had any of the following?
   ☐ Lung disease ☐ Overweight ☐ Chest pain or coronary artery disease
   ☐ Depression ☐ Stroke ☐ Arrhythmia

6. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

SPINAL CORD INJURY (PLEGIC)

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis: _____

2. At what spinal cord level was the injury? (list specific vertebrae, if available)
   - ☐ Cervical spine _____
   - ☐ Thoracic spine _____
   - ☐ Lumbrosacral spine _____

3. Note current level of function:
   - ☐ Incomplete paraplegia ☐ Complete paraplegia
   - ☐ Incomplete quadriplegia ☐ Complete quadriplegia

4. Have any of the following occurred? (check all that apply)
   - ☐ Pneumonia
   - ☐ Skin ulcers
   - ☐ Urinary tract infection
   - ☐ Kidney impairment
   - ☐ Depression

5. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

STENT

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. When and where was the stent put in? _____

2. What type of stent was put in? _____

3. Why was the stent put in?

_____

4. How many vessels were involved? _____

5. Has the applicant had an imaged stress test done? ☐ No ☐ Yes; if yes, when and what were the results?

_____

_____

6. What type of follow-up testing has been done and what were the results?

_____

7. Was there a heart attack prior to the stent being put in? ☐ No ☐ Yes

8. Is there family history of heart disease? ☐ No ☐ Yes; please give details

_____

_____

9. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

10. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

STROKE, TIA

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date(s) of the episode(s)? _____

2. Were any of the following studies completed?
   - ☐ Carotid ultrasound Date: _____
   - ☐ Head CT scan or MRI scan Date: _____
   - ☐ Echocardiogram Date: _____

3. Was client hospitalized? ☐ No ☐ Yes; please give details

_____

4. When did client last see their doctor for evaluation? _____

5. Please check any of the of the following that your client has had:
   - ☐ Elevated cholesterol ☐ Stroke ☐ Diabetes ☐ Heart attack
   - ☐ High blood pressure ☐ Peripheral vascular disease ☐ Coronary artery disease

6. Has surgery ever been done on any carotid artery(ies)? ☐ No ☐ Yes; please give details

_____

7. Give the date and result of the most recent blood pressure readings: _____

8. Are there any residuals (limitation of movement, speech, or vision)? ☐ No ☐ Yes; please give details

_____

9. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

10. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

THROMBUS (HYPERCOAGULABLE CLOTTING DISORDER)

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis: _____

2. Note the type of treatment:
   - ☐ Coumadin
   - ☐ Aspirin
   - ☐ Heparin
   - ☐ Hospitalization Date:_____

3. Was there a Thromboembolic event?
   - ☐ MI
   - ☐ DVT
   - ☐ CVA
   - ☐ PE
   - ☐ Other _____
   - ☐ None

4. Has there been any evidence of recurrence? ☐ No ☐ Yes; please give details

_____

_____

5. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

THYROID DISEASE

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. Date of diagnosis: _____

2. Was the thyroid disease diagnosed as (more than one is possible)?
   - ☐ Goiter
   - ☐ Thyroid nodule
   - ☐ Hyperthyroidism
   - ☐ Hypothyroidism

3. How is the thyroid disease being treated?
   - ☐ Surgery
   - ☐ Radioactive iodine
   - ☐ Medication

Please give details: _____

4. Has a biopsy or fine needle aspiration (FNA) been done? ☐ No ☐ Yes; please provide a copy of the report.

5. Has client had an ultrasound or radioactive scan of the thyroid? ☐ No ☐ Yes; please provide a copy of the report.

6. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

7. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

T WAVE CHANGES

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. How long has this abnormality been present? _____

2. Has there been any recent change in the ECG (last 12 month)? ☐ No ☐ Yes; please give details

_____

_____

3. Please check if your client has had any of the following: (check all that apply)

   a) Chest pain, coronary artery disease, or other cardiovascular impairment ☐ No ☐ Yes; please give details

   _____

   _____

   b) Diabetes ☐ No ☐ Yes

   c) Elevated cholesterol ☐ No ☐ Yes

   d) High blood pressure ☐ No ☐ Yes

4. Have any other studies been completed?

   a) Exercise treadmill or thallium: ☐ No ☐ Yes, normal ☐ Yes, abnormal

   b) Resting or exercise echocardiogram: ☐ No ☐ Yes, normal ☐ Yes, abnormal

5. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

6. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

VALVULAR HEART SURGERY

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height: _____ ' _____ " Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. When was the surgery completed? _____

2. Please note type of valve surgery:
   - ☐ Valve replacement
   - ☐ Valvuloplasty
   - ☐ Commissurotomy
   - ☐ Other _____

3. Please check the type (s) of valve disorder:
   - ☐ Aortic stenosis ☐ Mitral stenosis ☐ Mitral valve prolapse
   - ☐ Aortic insufficiency ☐ Mitral insufficiency

4. Please note type of valve used if replaced: ☐ Prosthetic (mechanical) ☐ Tissue (porcine or pig)

5. Have any of the following occurred?
   - ☐ Chest pain ☐ Heart failure ☐ Palpitations ☐ Dizziness/fainting ☐ Trouble breathing

6. Is there a history of any other disease in addition to the valve disorder (coronary artery disease, etc.)? ☐ No ☐ Yes; please give details

_____

_____

7. Is client taking any medication, including inhalers? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

8. Are there any other health problems? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

GENERAL USE QUESTIONNAIRE

(IF THERE IS NOT A SPECIFIC IMPAIRMENT QUESTIONNAIRE, THEN PLEASE COMPLETE THIS FORM)

CLIENT NAME: _____ **Date:** _____

☐ Male ☐ Female Date of birth:_____ Height:_____' _____" Weight: _____

Tobacco Use: ☐ Never used ☐ Totally stopped Date stopped:_____ ☐ Use now Type of nicotine product:_____

Type of Coverage: ☐ Term ☐ UL ☐ Survivor **Type of Coverage:** ☐ Term ☐ UL ☐ Survivor

Coverage Amount: _____ **Anticipated Premium:** _____

FAMILY HISTORY

Has proposed insured had a parent, brother or sister who had cancer, diabetes, stroke, heart or kidney disease or who committed suicide?

If yes, use separate sheet to provide this information, including age of onset and date of death.

PROPOSED INSURED'S EXISTING INSURANCE			
Full Name of Company	Face Amount	Year Issued	Is Policy to be Replaced?

1. List impairment: (Give as much detail as possible, include when the condition was diagnosed, how it was contracted, and current prognosis)

_____

_____

_____

_____

2. Has there been any treatment? ☐ No ☐ Yes; (Please provide start and end dates, name of treatment.)

_____

_____

_____

_____

3. Is client on any medications now? (accurate name, dosage, and reason)

(Accurate) Name of Medication	Dosage	Reason

4. Does client have any other major health issues? (additional questionnaires may be required) ☐ No ☐ Yes; please give details

_____

_____

Authorization to Release Results

Date: MONTH DAY 20 99

To: (Carrier Name and Address)

From: (Client Name and Address)

RE: File Number:

Date of Birth: MONTH DAY 19 99

Social Security #: - -

Please fax my insurance exam, lab results (blood and urinalysis), and resting EKG to me at:

Fax:

Phone:

Thank you for your prompt attention to my request.

Sincerely,

Authorization for Release of Information – *SAMPLE ONLY*

NOTE: CONTACT YOUR AGENCY FOR AGENCY APPROVED HIPAA FORM

For the purpose of obtaining the insurance coverage that I have requested, I hereby authorize YOUR AGENCY HERE and its af- filiated agencies, to disclose my personal financial and health information to the insurance companies listed below.

I authorize any health plan, physician, health care professional, hospital, clinic, laboratory, pharmacy, medical facility, Pharmacy Benefit Manager or other health care provider that has provided treatment or services to me or on my behalf within the past 10 years ("my Providers") to disclose my entire medical record and any other information that may be considered protected health information under the Health Insurance Portability and Account- ability Act of 1996 ("HIPAA") concerning me to my Representa- tive and its staff, affiliated companies and/or entities, insurance companies and their re-insurers. This includes information on the diagnosis or treatment of Human Immunodeficiency Virus (HIV) infection and sexually transmitted diseases. This also includes information on the diagnosis and treatment of mental illness and the use of alcohol, drugs, and tobacco, but excludes psychotherapy notes.

By my signature below, I acknowledge that any agreements I have made with my Providers that restrict disclosure of my medical records and any associated HIPAA protected health information do not apply for purposes of this authorization and I instruct my Providers to release and disclose my entire medical record with- out restriction to YOUR AGENCY HERE . I understand that any information that is disclosed pursuant to this authorization may be re-disclosed and no longer covered by certain federal rules governing privacy and confidentiality of health information.

The information contained in these medical and financial records will be held in confidence and may be used only for the purpose of the procurement, or the evaluation or underwriting for the possible procurement, of life, health, long term care, or other insurance products. The contents therein may be reviewed and assessed by a qualified staff consisting of medical directors, underwriters, underwriting assistants, or other related employees involved in the submission, receipt or evaluation of insurance applications or prospective applications of the insurance companies listed below and their re-insurers as well as YOUR AGENCY HERE and its staff, employees and affiliated companies.

This authorization shall be valid for twelve (12) months from the date below. A copy of this authorization shall be as valid as the original. I understand that I am entitled to receive a copy of this authorization.

I understand that I may write to my Representative to revoke this authorization and that the revocation will take effect when my Representative receives my written request. I understand that any action already taken in reliance on this authorization cannot be reversed, and my revocation will not affect those actions. I understand that the medical provider to whom this authorization is furnished may not condition its treatment of me on whether or not I sign the authorization.

I understand that if I refuse to sign this authorization, YOUR AGENCY HERE may not be able to provide full and complete in- formation about the insurance coverage and its cost that may be available to me. I also understand and acknowledge that each of the insurers listed on this form or to which I may formally apply, may require me to sign a similar authorization used exclusively by such insurer before they will process my application or offer insurance coverage. I understand that my Providers may not re- fuse to provide treatment or payment for health care services if I refuse to sign this authorization.

_____

PROPOSED INSURED'S NAME

_____

PROPOSED INSURED'S SIGNATURE

_____

SIGNED AND DATED ON AT (CITY, STATE, ZIP CODE)

_____

AGENT/WITNESS

_____

_____

_____

CARRIERS TO WHOM CARRIERS MAY RELEASE INFORMATION