C&P CLINICIAN GUIDE

April 10, 2001

Chapter 1 - INTRODUCTION TO COMPENSATION AND PENSION

1.1 WHAT IS THE CLINICIAN'S GUIDE?

"The Clinicians Guide and any of its parts (worksheets) are intended solely as a guide for clinicians, and it is not legally binding on a clinician to perform all portions of the examination protocol. However, there are requirements for certain examinations, e.g., specific audiologic testing for hearing impairment and a METs measurement by stress testing, or, if not feasible, a METs estimate, for certain heart diseases that must be provided by the examiner to make the examination sufficient for rating purposes. A clinician should understand the specific questions being asked by the Veterans Benefits Administration (VBA) or the Board of Veterans' Appeals (BVA) for rating purposes and then determine the type of examinations and which clinicians should perform them. Clinicians are expected to use good clinical judgment in deciding which examinations are most appropriate to answer the specific questions asked, and they should utilize appropriate textbooks of medicine as guidelines when making diagnoses."

1.2 WHAT IS THE COMPENSATION AND PENSION PROGRAM?

Compensation and Pension (C&P) includes several different programs, which provide monetary and other benefits to veterans.

1.3 HISTORY OF U.S. COMPENSATION AND PENSION PROGRAMS.

In 1776 the Continental Congress established disability pensions for United States veterans in order to increase enlistments and to raise morale. At that time, the states were asked to pay these pensions, although not all did. By 1789, veterans' benefits were paid out of the Federal budget as a reward for service. Until 1818, pensions were granted only to veterans who were disabled by injuries in service. The amount of pension (now called disability compensation) was originally based on the military rank of the veteran.

Since 1818, disability compensation has been paid by the U. S. Department of Veterans Affairs to veterans for injuries or diseases incurred in or aggravated by military service, for conditions that are proximately due to or the result of a service-connected (SC) condition, and for incremental worsening of a non-service-connected (NSC) condition aggravated by a service-connected condition. Some conditions are also considered "presumptive" service connected conditions because they are presumed, under certain regulations, to have started in service, even if they did not manifest for some time after the veteran's discharge from the military.

Disability pension is paid for those veterans with wartime service who meet income threshold requirements and who are permanently and totally disabled either as a result of non-service-connected conditions(s) or by a combination of service-connected and non-service-connected disabilities.

1.4 WHAT IS COMPENSATION?

Compensation is money paid to veterans who are disabled by service-connected conditions related to military service. It compensates veterans for loss of average earning potential due to disabilities, diseases, or injuries, which incurred in or were aggravated (pre-military conditions) by active military service.

1.5 WHAT IS PENSION?

Pension is a needs based program for wartime veterans (veterans with 90 days or more of active military service, at least one day of which was during a period of war) who are permanently and totally disabled by conditions which are not the result of their military service or are the result of a combination of conditions, some due to military service and some not.

1.6 Common Terms

1.6.1 Aid and Attendance (A&A)

An additional amount of money payable monthly to a veteran receiving compensation or pension, or to a surviving spouse, who needs the aid and attendance of another person to assist with activities of daily living.

1.6.2 Board of Veterans' Appeals (BVA)

Directly responsible to the Secretary of the Department of Veterans Affairs, the Board adjudicates de novo the decision made by a Regional Office (RO) on a claim. If a claimant still disagrees with a BVA decision, he or she may timely appeal it to the Court of Appeals for Veterans' Claims (CAVC).

1.6.3 Code of Federal Regulations (CFR)

The regulations applying to veterans' benefits, including compensation, are contained in title 38 of the Code of Federal Regulations. The statutes established by Congress that apply to veterans' benefits are contained in title 38 of the United States Code.

1.6.4 Claims File or Folder (C-FILE)

Folder which contains the veteran's or claimant's service medical records, claim correspondence, evidence including medical records and documentation of all benefit awards. This folder is confidential and the veteran may not have access to this claims folder without the presence of a Veterans Service Representative (VSR). Claims folder may not be given to veterans to carry from one clinic to another or from the Medical Center to the Regional Office.

1.6.5 Court of Appeals for Veterans Claims (CAVC)

CAVC (previously called the United States Court of Veterans Appeals or COVA) has exclusive jurisdiction to review decisions of the BVA. The Court's precedent decisions are binding upon the entire Department of

Veterans Affairs and are effective on the day they are issued. Failure to comply with the Court's decisions and orders is punishable by law.

1.6.6 Decision Review Officer (DRO) - formerly Hearing Officer

A Veterans Service Center employee who may conduct personal hearings with veterans, who disagree with a VSC decision and have requested a personal hearing to present testimony and evidence to support their claim. The DRO may also overturn a decision made by the rating agency on a difference of opinion or if the decision is erroneous.

1.6.7 Housebound

An additional amount of money payable monthly to a veteran receiving compensation or pension or to a surviving spouse. The housebound payment may be paid if the claimant, due to disability, is factually housebound, that is substantially confined to his or her dwelling and the immediate premises or, if institutionalized, to the ward or clinical areas, and it is reasonably certain that the disability and confinement will continue throughout his or her lifetime. Alternately, the housebound allowance may be paid if there is a permanent disability rated at 100 percent and there is additional disability ratable at 60 percent or more, separate and distinct from the disability rated at 100 percent.

1.6.8 Non Service Connected (NSC)

A condition which is not incurred in or aggravated by military service.

1.6.9 Rating Veterans Service Representative (RVSR) – Previously Rating Specialist

A Veterans Service Center (VSC) employee who, based on service and medical records, determines whether or not a claimed disability exists, the relationship of the disability to military service, and the degree to which it renders the claimant disabled.

1.6.10 Veterans Service Center (VSC) - Formerly called Regional Office – (VARO or RO)

A field office of the Veterans Benefits Administration which adjudicates claims to VA benefits and delivers other services to veterans. There are currently 58 such offices, at least one in each state.

1.6.11 Remand

Appeals returned (remanded) by the BVA to the Veterans Service Center or by CAVC to BVA for additional evidence or action, including new examinations or medical opinions.

1.6.12 Service Connected (SC)

A disability which was incurred in or aggravated by a period of active military service from which the veteran was discharged under conditions other than dishonorable and which are not the result of willful misconduct of the veteran. A service-connected disability evaluated 10% or more disabling entitles a veteran to disability compensation.

1.6.13 United States Code (U.S.C.)

Statutes of Title 38 U.S.C. apply to VA benefits.

1.6.14 Veterans Benefits Administration (VBA)

Administration responsible for a wide variety of benefit programs authorized by Congress including disability compensation, disability pension, burial assistance, rehabilitation assistance, education and training assistance, home loan guarantees and life insurance coverage.

1.7 WHAT ARE THE STEPS IN THE DISABILITY EVALUATION PROCESS?

1. Veteran Files a Claim: A veteran files a claim with the Veterans Service Center (VSC) submitting statements or evidence to substantiate the claim.

2. RVSR Initial Review: A Rating Veterans Service Representative reviews the claim, service medical records and other evidence of record and any past disability or pension decisions. A decision must be made on the medical and lay evidence in the claims file.

3. Compensation and Pension Examination Request: If the Rating Veterans Service Representative determines that a medical examination is needed to decide the claim, he or she submits an appropriate examination or opinion request to a VHA medical facility or to a contract examination company.

4. Compensation and Pension Examination Performed: Clinicians conduct an examination following the appropriate worksheets to perform a complete and adequate (for rating purposes) examination, answering all questions and opinions requested.

5. Rating Veterans Service Representative Determination: The Rating Veterans Service Representative uses the Rating Schedule, a guide for determining disabilities, percentage ratings, and impairment in earning capacity, to make a final decision. This person must interpret all examination reports in the context of the veteran’s entire recorded history, reconciling the various reports so the current rating accurately reflects the current disability, reflecting the impairment on the claimant’s ability to work. A claimant’s disability claim may require re-rating in accordance with changes in laws, new medical knowledge, and the changing physical or mental condition of the claimant. When reasonable doubt exists, that is, the evidence for and against an issue is in equipoise, that doubt will be resolved in favor of the veteran. (38 CFR 4.3)

6. Appeal to the Veterans Service Center (VSC): If a veteran is dissatisfied with the decision made by the Veterans Service Center, he/she may appeal the decision. The appeal must be filed within one year of notification of the decision by submitting a Notice of Disagreement (NOD). An appeal may result in a new examination (particularly if the veteran submits additional evidence with the appeal).

7. Appeal to the Board of Veterans' Appeals (BVA): If a veteran disagrees with the final rating decision of the Veterans Service Center (VSC), he or she can appeal it to the BVA. The BVA can make a ruling or remand (send) it back to the VSC for further development of the evidence. The VSC, after gathering additional information and evidence, including requesting another medical examination from the local medical center, renders another decision and sends it back to the BVA for its review.

8. Appeal to the U.S. Court of Appeals for Veterans' Claims (CAVC): If a veteran disagrees with the decision of the BVA, he can appeal it to CAVC, which can make a ruling or remand (send) it back to the BVA for more information or evidence. The BVA, after gathering additional information or evidence, including requesting additional information or evidence from the VSC or another medical examination, renders a decision. Any party to a decision made by CAVC may appeal it to the U.S. Court of Appeals for the Federal Circuit with respect to the validity of any statute or regulation or their interpretation that was relied on by CAVC.

9. Appeal to the U.S. Supreme Court: A Federal Circuit Court decision may also be appealed to the U.S. Supreme Court, under its prescribed rules.

1.8 WHAT IS A COMPENSATION AND PENSION EXAMINATION?

Many of the claims filed by veterans for compensation and/or pension necessitate a medical examination. The report of the examination, together with service medical records and other evidence, is used by the Veterans Service Center to determine the veteran's eligibility for benefits and the level of compensation.

1.9 HOW IS A C&P EXAMINATION DIFFERENT FROM A MEDICAL EXAMINATION?

Although a traditional medical examination requires diagnoses for treatment purposes, a C&P disability examination requires diagnoses to prove whether or not a claimed disability actually exists and the functional effects of the disability on the veteran. The purpose of the C&P exam is to provide very specific information in order to ensure a proper evaluation of the claimed disability rather than to provide medical treatment. A treatment examination is written for clinicians to understand, but a compensation and pension examination is written for Veterans Service Representatives, lawyers and judges to understand.

1.10 HOW DO I PERFORM A C&P EXAMINATION?

1. Read the VSC request, including any remarks, specific questions, directions or requested opinions.

2. Review the claims file, service records, medical records, previous C&P examinations and BVA Remand if available. BVA Remand instructions generally require the examiner to review the claims file and the BVA Remand instructions and to so state in the final report.

3. Explain the examination process to the veteran and confirm the claimed conditions.

4. Examine the veteran following the appropriate worksheets for all claimed conditions.

5. Order any required tests and procedures to establish diagnoses for rating purposes unless the diagnosis is already well established.

6. Prepare a complete typed report, including claimed conditions, specific requests of the VSC or BVA, and whether or not the claims file was available and reviewed by the examiner.

1.11 HOW MUCH INFORMATION SHOULD BE INCLUDED IN THE REPORT?

Include all the important history and physical findings required to substantiate diagnoses for all claimed conditions unless the diagnosis is already well established. Describe current signs and symptoms, and include any limitation of activity imposed by the disabling condition. Report current treatment and any side effects. If, during the examination, the examining physician gives the veteran any advice as to treatment, including advice as to discontinuance or curtailment of ordinary activities, such advice should be recorded in the report of examination. Do not include any unnecessary, redundant, or expansive narratives. If an examination report does not contain sufficient details to adequately support the diagnoses (unless the diagnosis is already well established) or sufficient information about the current findings and effects on functioning, the veterans service representative will return the report as inadequate for rating purposes. (38 CFR 4.2)

1.12 DIAGNOSES DO'S (Also see diagnoses don'ts)

1. Definite diagnosis: Give a definite diagnosis or use the previously established diagnosis.

2. No Diagnosis found: If no diagnosis is found for any claimed condition, state this. For example, state "Lower back pain: There is insufficient evidence to warrant a diagnosis of an acute or chronic low back disorder or its residuals." Explain in detail the reason why a diagnosis cannot be established for the condition claimed.

3. Diagnosis of Unknown Etiology: If a disability does exist but a definite diagnostic name cannot be given to it, state this. For example, state "Muscle strain of unknown etiology". (See Gulf War Examination Worksheet concerning "undiagnosed illnesses" in Gulf War veterans.)

4. Support each diagnosis: Support each diagnosis with subjective (history) and objective (physical) data.

5. Effect on daily activities and work: Comment on the disability's effect on the veteran's daily activities and his ability to work.

1.13 DIAGNOSES DON'TS (Also see diagnoses do's)

1. Non-committal diagnosis: Don't use phrases such as "possible," "probable," "may be due to," "could be," or "rule out."

2. Symptoms or signs: Don't use symptoms (pain) or findings (tenderness) for a diagnosis.

3. Opinion for further studies, evaluations, or laboratory tests: If further studies, evaluations or tests are necessary, perform them before making a final decision. Otherwise the examination is incomplete and will returned as inadequate.

4. Additional comments following the diagnoses: Don't add caveats to the final diagnoses, since they might undermine the diagnoses.

5. Change the previously established service connected diagnoses: Don't change previously established diagnoses unless you carefully explain the discrepancy and adequately substantiate the new diagnoses.

1.14 How Do I Perform Special Examinations?

1.14.1 MUSCULOSKELTAL EXAMINATION

A musculoskeletal examination for compensation and pension purposes differs from a traditional medical examination in that it requires specific detailed assessment of functioning of all areas to be examined. Include anatomical damage to muscles and joints and any atrophy, skin changes or absence of normal callosity. Since disabilities of the musculoskeletal system affect the ability of the body to perform normal working movements such as excursion, strength, speed, coordination and endurance, the Court now requires every musculoskeletal examination to include the degrees of functional loss due to pain, weakened movement, excess fatigability, or incoordination. (from 38 CFR 4.40, part of the basis of the Court's DeLuca v. Brown precedent opinion).

1.14.2 BOARD OF VETERANS' APPEALS (BVA) REMAND EXAMINATION

The Board of Veterans' is one of the appellate levels available to veterans after an initial decision has been made by a Veterans Service Center (VSC). Veterans Service Center and BVA adjudicators require sufficient medical information to be able to assess the merits of a claim. A substantiated claim for service connection has medical evidence of a current disability, occurrence or aggravation of a disease or injury in service, and established injury, disease, or event in service and a nexus (connection) between the in-service injury, disease or event and the current disability. Additional examinations may be requested when the available examination report contains insufficient details for rating purposes or does not adequately reveal the current state of the claimant's disability, or when no definite diagnosis is given. Examiners must review the claims folder and any BVA remand instructions carefully before examining the veteran and clearly state this fact in the written summary report. The examiner should answer all questions, using the same wording used in the remand. Because of CAVC decisions, examiners

are now being asked for medical-legal opinions, and they need to express their opinions and diagnoses so that they will stand up to the scrutiny of the Court (CAVC).

1.14.3 BOARD OF TWO (OR THREE) EXAMINERS

Many claims involve complicated questions of causality, diagnosis, or relationship, or contrary opinions of previous examiners. The Veterans Service Center (VSC) or the Board of Veterans' Appeals (BVA) may request an examination by a Board of two (or, rarely, three) examiners to resolve such questions. Two (or three) clinicians should examine the veteran, consider all the evidence, consult with one another, and submit a single report signed by both (or all three) containing joint diagnoses and addressing all of the questions asked. If differences cannot be reconciled, or questions cannot be answered, the report should clearly explain why.

1.14.4 COMPETENCY FOR VA PURPOSES

Competency for VA purposes means the veteran's ability to handle funds received from the federal government in his or her own best interests.

1.14.5 TOTAL DISABILITY

Total disability exists when there is impairment of mind or body, which is sufficient to render it impossible for the average person to be gainfully employed. Total disability may or may not be permanent. Total disability ratings are not generally assigned for temporary exacerbations or acute infectious diseases.

1.14.6 PERMANENT TOTAL DISABILITY

Permanent total disability exists when permanent disability is reasonably certain to continue throughout the life of the claimant. Examples are permanent loss or loss of use of both hands or of both feet or of one hand and one foot, or of the sight of both eyes, or becoming permanently helpless or bedridden.

1.14.7 AID AND ATTENDANCE BENEFITS

The need for Aid and Attendance means that the claimant is completely helpless or so nearly helpless as to require the continuing aid and attendance of another person for activities of daily living such as bathing, dressing, and eating due to such things as total blindness or being bedridden.

1.14.8 EFFECTS OF A DISABILITY ON EMPLOYMENT

The examiner should explain in detail the effects of the disability being examined on the veteran's ability to work. This should include any limitations such as inability to bend, lift, stoop, walk, sit for extended periods, etc.

1.15 SHOULD OPINIONS OF MERIT OR PERCENTAGE OF DISABILITY BE GIVEN BY THE EXAMINER?

The examining clinician must avoid expressing an opinion regarding the merits of any claim or the percentage evaluation that should be assigned for a disability. An opinion should not be given to the claimant regarding insurability, degree of disability, incurrence or aggravation by military service, or the character and sufficiency of treatment during military service or subsequently thereto. When asked about employability, the examiner should not state that an individual veteran is or is not individually unemployable, but should describe in full the effects of the conditions being examined on functioning, and how that relates to employment.

1.16 HOW DO I GIVE AN OPINION FOR NEXUS (relationship to a military incident)?

When asked to give an opinion as to whether a condition is related to a specific incident during military service, the opinion should be expressed as follows:

1. “is due to” (100% assure)

2. “more likely than not” (greater than 50%)

3. “at least as likely as not” (50%)

4. “not at least as likely as not” (less than 50%)

5. “it is not due to” (0%)

1.17 WHAT IF SYMPTOMS APPEAR OUT OF PROPORTION TO SIGNS OR TEST RESULTS?

If the examiner feels that the claimant’s symptoms are not consistent with physical signs or test results, he should state that subjective complaints are being exaggerated and the physical examination or laboratory tests do not support the severity of disability suggested by the complaints. In this case, complaints should be recorded in the veteran's own unprompted language within quotation marks, so that it will be clear that they are complaints and not the opinions of the examining physician.

1.18 WHAT IF I SUSPECT MALINGERING OR MISREPRESENTATION OF FACTS?

If malingering is detected or suspected, the examining physician should so state, together with reasons for the opinion. Any detection of evasion or misrepresentation of facts that can be substantiated by findings should also be reported.

1.19 USE OF CLINICAL PHOTOGRAPHS

Non-retouched color photographs and sketches of skin lesions should be made and properly labeled when verbal description is not adequate.

1.20 GERIATRIC VETERANS

Geriatric veterans (over 70 years old) may present a special challenge for the examiner. Not only may they have diseases and residuals of prior injuries like younger veterans, they may also have difficulty communicating or responding to questions or physical demands. The examiner should allow appropriate time and provide sufficient support to ensure that an adequate examination is performed.

CHAPTER 2 - DISEASES OF THE SKIN INCLUDING SCARS

2.1 General

In some cases, scarring will be included as part of an overall evaluation of muscle injury wounds. See Chapter 11. Scars are the most common skin condition that will be examined.

2.2 What may be important to record in the history (depending on the particular condition being examined)?

Military. Include a detailed military history, including theater of operations with dates of assignments. Report unusual exposure to chemicals, heat, cold, sunlight, irradiation, drugs, etc.

Occupational. State present and previous occupations. Give details of duties and exposure to chemicals, paints, dyes, etc.

Past and current treatment and results. Include both systemic and topical medications and describe any side effects or reactions.

Present health status. Include systemic diseases such as respiratory, gastrointestinal, circulatory, genitourinary, hepatic, hemic, metabolic, or mental disorders.

Present skin disease. Date of onset, nature and progress of the disease, including a description of the skin changes, when the disorder first appeared, and the progression of the illness since that time. Note whether remissions or exacerbations occurred and whether they were related to occupation or treatment. Include the duration of remissions and factors that may have influenced the course of the disorder.

Subjective symptoms. List the types of complaints such as itching, burning, pain, and anesthesia. Note whether environmental factors such as temperature or seasonal changes affected the severity of symptoms. Give details of any associated constitutional symptoms.

Treatment past and present. Include names of the treating clinics, hospitals, and physicians. List the types of therapy that have been used providing specific names, if known. Include treatment with physical agents such as X-ray or ultraviolet light. Mention reactions or side effects to medications.

2.3 What objective findings are useful?

Distribution. Report the overall distribution (for example, widespread, symmetric, or localized to one extremity, etc.).

Configuration and characteristics. Describe the configuration of the lesions and precise listing of their important characteristics such as size, color, consistency, shape, and outline.

Useful descriptive terms. The descriptive terms that are useful include macular, papular, nodule, plaque, vesicle, pustule, cyst, wheel, comedo, burrow, scale, crust, fissure, erosion, ulcer, excoriation, scar, and atrophy.

2.4 What is meant by the term "Dermatitis"?

The term dermatitis may be used interchangeably with eczema. It indicates a specific type of inflammatory reaction in the skin that involves the epidermis. Dermatitis may be acute, subacute, or chronic. Acute phases of eczema are characterized by blister formation, weeping, crusts, and erythema. Sub-acute and chronic forms are manifest as scaling plaques and lichenification.

2.5 What are the common forms of eczema?

Contact Dermatitis.
May be either acute or chronic. Is a reaction to an externally applied substance? If the patient shows a specific sensitivity to a chemical agent, the disorder is known as *allergic contact dermatitis*. If the inflammation is in response to an irritant to which the patient is not specifically sensitive, the reaction is known as *primary irritant dermatitis*. In cases of contact dermatitis, it is important for the physician to gather information regarding the exposure of the patient to potentially irritating or sensitizing topical agents.
A careful history and the use of patch tests are useful in identifying the specific agent involved.

Atopic Dermatitis.
A form of eczema that develops in individuals who have dry skin, a history of respiratory allergies, and who may show certain characteristics, such as atopic pleats under the eyes and an increase in skin folds on the palms. Often presents as hand eczema (dyshidrotic dermatitis), localized patches of eczema (lichen simplex chronicus) or, in rare instances, as a generalized exfoliative dermatitis.

Seborrheic Dermatitis.
Presents as a scaling erythematous reaction diffusely over the scalp, eyebrows, eyelids, nasolabial folds, and central area of the chest. Tends to be chronic and often recurs after treatment.

Stasis Dermatitis.
Develops in the lower parts of the legs secondary to chronic venous stasis. Often presents as an itching and scaling erythema that is associated with other evidence of stasis such as hyperpigmentation and varicosities.

Hand Dermatitis.
May arise from several causes, for example, may be a localized manifestation of atopic eczema or a reaction to a topically applied allergen or irritant. Chronic fungal infection of the hands may mimic hand dermatitis.

Exfoliative Dermatitis.
A widespread or universal scaling erythroderma that may appear acutely or develop slowly. Edema of the skin is widespread and pruritus is severe. The causes of generalized erythrodermatitis include psoriasis, atopic eczema, chronic contact eczema, and T-cell lymphoma of the skin (mycosis fungoides).

2.6 What are the common pyodermas?

Impetigo.
Presents as crusted erythematous plaques. Areas of dermatitis may become secondarily infected.

Folliculitis and furunculosis.
First appear as inflammatory reactions around hair follicles. Chronic folliculitis in the axillary area, groin, or other areas that contain apocrine glands is known as hidradenitis suppurativa. Cultures should be obtained to identify the specific pathogens in all cases of suspected pyoderma.

2.7 How does tinea pedis (Athlete's foot) present and how is it diagnosed?

Fungus (dermatophyte) infections of the feet may present in two distinct patterns. In the more common variety, the soles and sides of the feet present with a diffuse redness and scaling. The toenails are thickened and dystrophic. In the second, less common variety, an inflammatory reaction is found between the toes.
In both varieties, the diagnosis is confirmed by KOH examination or fungus culture.

2.8 How does tinea manus present and how is it diagnosed?

Presents as a dry, erythematous scaling reaction of one or both palms. The fingernails may be involved.
Often seen in patients who have bilateral diffuse tinea pedis. The diagnosis is confirmed by KOH examination or fungus culture.

2.9 How does tinea cruris ("jock itch") present and how is it diagnosed?

Tinea cruris is the most common cause of a groin eruption in adult males. An erythematous, scaling plaque is found on the thighs. The border is usually well demarcated with scale and redness. The diagnosis is confirmed by a KOH examination or fungus culture.

2.10 How does tinea corporis (ringworm of the body) present and how is it diagnosed?

Tinea corporis usually presents as single or multiple scaling plaques with a scaling border and a slowly clearing center. The diagnosis is confirmed by KOH examination or culture of scales from the border region.

2.11 When does onychomycosis (tinea unguium) occur?

Onochomycosis is usually found in patients who have the diffuse type of tinea pedis. It should be distinguished from nail dystrophy based on vascular insufficiency (onychogryphosis).

2.12 How does psoriasis present and what is its course?

Psoriasis is a common papulosquamous eruption that presents as well demarcated erythematous plaques covered by silvery scales. Common sites of involvement include the elbows, knees, and scalp. Patients with extensive disease may develop lesions over the trunk, extremities, face, etc. In severe cases, the nails are often involved showing both lateral and distal onycholysis and a pitting deformity of the nail plate.
May be associated with disabling rheumatoid-like arthritis. The course of the illness is irregular; remission can be induced with appropriate therapy. Treatments include topical medications, psoralen-ultraviolet-light therapy (PUVA), methotrexate, isotretinoin, and others.

2.13 What is pityriasis rosea?

Pityriasis rosea is an acute, self-limited eruption that presents as oval, scaling patches over the trunk and extremities. The generalized eruption is preceded by a herald patch 5 to 10 days before. It clears spontaneously in 6 to 8 weeks, but artificial or natural sunlight may hasten clearing.

2.14 How does lichen planus present?

Lichen planus is a chronic papulosquamous disorder. It presents as multiple small flat-topped, polygonal, violaceous papules over the volar aspects of wrists and ankles. Itching is a prominent complaint. Many patients have net-like whitish patches on the buccal mucosa opposite the molars. No treatment is needed other than symptomatic in most cases. In severe cases, systemic corticosteroids, PUVA therapy, or other medications may be needed.

2.15 What are the important elements of an examination for acne?

Areas of involvement should be described and recorded. The presence of pustular and cystic lesions should be noted, and the degree of scarring and disfigurement should be described. The response of the patient to topical and systemic therapeutic regimens should also be mentioned.

2.16 What causes pseudofolliculitis barbae and how does it present?

Pseudofolliculitis barbae is a chronic, low-grade bacterial infection associated with irritation from hair, especially tightly curly hair. It consists of small, perifollicular papules in the beard area. The papules develop when beard hairs become embedded in the infundibular portion of the hair follicles.
A change in shaving habits often can provide relief.

2.17 How does rosacea present?

Rosacea affects adults of middle age and older. Presents as diffuse erythema associated with pustules and telangiectasia in the central area of the face. Conjunctivitis and keratitis may accompany rosacea. A late consequence is enlargement of the nose (rhinophyma). Often treated with topical medications and broad-spectrum antibiotics.

2.18 What causes chloracne and how does it present?

Chloracne is an acneform rash with many comedones, cysts, and pustules primarily involving the malar areas, the angles of the jaw, and the area behind the ears. It may also appear in the axillary and inguinal areas. There may be associated itching. Straw colored epidermal inclusion cysts may form that have a tendency to progress to abscess formation. It develops after exposure to herbicides such as dioxin or certain other toxic chemicals that contain halogenated aromatic hydrocarbons. It develops a few months after swallowing, inhaling, or touching the toxic chemical and persists after exposure ends. Persistence for at least 30 years has been reported. Chloracne is distinguished from acne by the predominance of open comedones and the typical chloracne distribution.

2.19 Benign Neoplasms

The number and location of skin growths should be noted.
Benign neoplasms include seborrheic keratoses, which may range in color from black to light tan, moles, epithelial nevi, and epidermal inclusion cysts.
Residuals following treatment, such as scars, should be fully described.

2.20 What are actinic keratoses?

Actinic keratoses are common precancerous lesions.
They appear as roughened, scaly patches overlying an erythematous base.
The extent and degree of actinic damage to the skin should be described.

2.21 What are the common skin malignancies?

Cancer of the skin includes basal cell epithelioma, squamous cell epithelioma, melanoma, Bowen's disease, and carcinoma metastatic to the skin. Describe any treatment used, dates of treatment, and residuals.
In the case of melanoma, report any systemic involvement.

2.22 What are the pertinent issues in examining scars?

The exact size, shape, color, and extent of scars (including measurement of width and length) should be reported. Describe any tenderness of the scar. Mention should be made of skin texture in the area of scarring, whether scar is elevated or depressed, whether scars are attached to underlying bone, joint, muscle, or other tissues, and whether there is loss of tissue under the scar. For scars of the face, head, and neck, the degree of disfigurement should be recorded, including a description of distortion or asymmetry of any facial features. Color photographs are advisable. Tattoo or scars related to their removal also should be described in detail. In the case of burn scars, careful measurements of each scarred area should be reported, and an indication given of the burn degree. Report whether there is any scar tissue breakdown, current or intermittent.

2.23 How does scabies present and how is it diagnosed?

Scabies is caused by an infestation of mites in the skin. It presents as pruritic papules in the genital region, buttocks, and finger webs. The diagnosis is confirmed by finding evidence of the mites or eggs within burrows in the skin.

Chapter 3 - BIRTH DEFECTS IN CHILDREN OF VIETNAM VETERANS

SECTION I: Children with spina bifida who are the children of Vietnam veterans

3.1 What is the basis of payments for spina bifida in children of Vietnam veterans?

Under Public Law 104-204, VA is authorized to provide a monetary allowance, health care, and vocational rehabilitation to children with spina bifida who are the natural children of Vietnam veterans, both men and women. This in turn was based on a March 1996 report by the National Academy of Sciences (NAS) entitled "Veterans and Agent Orange: Update 1996," which noted what it considered "limited/suggestive evidence of an association"' between herbicide exposure and spina bifida in the offspring of Vietnam veterans.

3.2 When will examinations for disability due to spina bifida be needed?

In most cases, extensive private medical information dating back to infancy will be available for these individuals, and a VA examination will be unnecessary. However, in rare cases, VBA may request a disability examination. Claimants for VA benefits may be of any age, although pediatric-age patients would be examined at a non-VA facility.

3.3 What are the main findings in spina bifida?

a. Spina bifida is a birth defect that is a type of neural tube defect in which there is incomplete closure of the vertebral column. There is usually an associated defect involving the spinal cord or its membranes. A sac protruding over the vertebral defect that contains meninges only is a meningocele, one that contains the spinal cord only is a myelocele, and one that contains both is a myelomeningocele.

b. Spina bifida may be associated with other congenital abnormalities such as hydrocephalus, hare lip, and cleft palate, but only spina bifida itself and any condition directly due to spina bifida is the basis of a VA monthly monetary payment at one of three levels.

c. The signs and symptoms of spina bifida depend on the level and extent of spinal cord and nerve root involvement. Meningoceles may occur without any symptoms, but this is very unlikely with myelomeningocele.

d. If the defect is at the lumbar level, findings may include:

1) partial or complete (flaccid) paralysis of the leg muscles below the involved level with atrophy
2) abnormal gait
3) loss of deep tendon reflexes
4) abnormal bowel and bladder function with incontinence
5) decreased lumbar and sacral sensations.

e. If the defect is at higher levels, there may be signs and symptoms resembling complete or incomplete transection of the spinal cord, or combined root and cord symptoms.

f. Hydrocephalus occurs frequently and may be related to aqueductal stenosis or Arnold-Chiari malformation.

3.4 What is the basis of the monthly monetary benefit?

a. The monetary payment is based upon certain neurologic impairments and their effects on functioning. Specifically, it is based upon

intellectual impairment (as measured by IQ)
functioning of the upper and lower extremities
bowel and bladder functioning.

b. Other disabling conditions secondary to spina bifida that affect daily functioning to the same extent as the specified neurologic impairments can also affect the level of payment.

3.5 What should be included in the examination?

A general neurologic examination should be conducted. A brief overview of the course of the condition and any major medical events should be provided. For rating purposes, the examination should focus on current disability and specifically address the IQ measurement, unless already of record.

Lower extremities - whether braces or other assistive devices or a wheelchair are required as the primary means of mobility in the community.

Upper extremities - sensory and motor loss of, whether the individual is able to grasp a pen, feed him or herself, and perform self-care.

Bladder - whether the individual is continent without the use of drugs, intermittent catheterization, or other mechanical means. If not, whether incontinence is complete or not, with the extent of incontinence expressed as the duration in hours of periods of dryness, specifically how many times a week the individual is unable to remain dry for three hours at a time during waking hours.

Bowel - whether the individual is continent of feces without the use of mechanical means. If not, whether incontinence is complete or not; whether fecal leakage is severe or frequent enough to require wearing of absorbent materials, and how many days a week this is required; whether the individual regularly requires manual evacuation or digital stimulation to empty the bowel; and whether the individual has a colostomy, and, if so, whether the individual must wear a colostomy bag.

If there are additional disabling medical conditions due to spina bifida, such as seizures, hydrocephalus (include presence and status of shunt), neurocognitive disorder, visual or hearing loss, mental disorder, pressure sores or other skin problems, latex allergy, or renal insufficiency, address:

1) how the condition is related to spina bifida
2) current signs, symptoms, and treatment
3) effects of the condition on daily activities.

SECTION II: Children with birth defects who are the children of women Vietnam veterans

3.6 What is the basis of payments for certain birth defects in children of women Vietnam veterans?

a. Under Public Law 102-4, the Veterans Benefits and Health Care Improvement Act of 2000, VA is authorized to provide a monetary allowance, health care, and vocational rehabilitation to children with certain covered birth defects who are the children of women Vietnam veterans.

b. The basis of the statute is a report titled "Women Vietnam Veterans Reproductive Outcomes Health Study," a comprehensive health study of 8,280 women Vietnam era veterans that was mandated by Public Law 99-272. The study was conducted by the Environmental Epidemiology Service of the Veterans Health Administration. A report of part of the study, "Pregnancy Outcomes Among U.S Women Vietnam Veterans," was published in the American Journal of Industrial Medicine (38:447-454 (2000). The spina bifida benefits are based on a presumption of the parent's exposure to herbicides in Vietnam between January 9, 1962,and May 7, 1975, but these birth defects benefits are based solely on the fact that the mother served in Vietnam between February 28, 1961 and May 7, 1975, rather than on a specific exposure in Vietnam.

3.7 What does the statute do?

a. The statute authorizes VA to make monthly payments to children of women Vietnam veterans with certain covered birth defects at one of four levels. The level of payment will be based on the degree of disability suffered by the child, and there must be permanent physical or mental disability resulting from the birth defects to qualify.

b. The statute specifically excludes disabilities due to: 1) a familial disorder, 2) a birth-related injury, or 3) a fetal or neonatal infirmity with well-established causes.

c. Regulations implementing the legislation have not been published as of the date of completion of this document. When they are published (the deadline is December 2001), they will provide more details about which birth defects are included and which are excluded, and the evaluation criteria that will form the basis of the monthly monetary payment. The regulations will determine the needs of the examination.

CHAPTER 4 - EYE

4.1 What are the general guidelines for conducting disability examinations of the eye?

Visual functional impairment due to disease or injury of the eye is based upon losses or reductions in central visual acuity, visual fields, extraocular muscle function, binocular fusion, and related factors. If more than one loss is present, each should be measured and reported. The far and near central visual acuities for each eye (best corrected and uncorrected), their visual fields, muscle balances, phorias and/or tropias, must be measured and recorded.

a. Great care in testing is required, particularly for low vision and visual field losses as these losses may warrant disability compensation. Small inaccuracies in measurement or failure to measure the degree of low vision may produce significant changes in the disability percentage evaluation and therefore in the amount of compensation to be paid.

b. Associated conditions, such as loss of eyebrows or lashes, injuries of the adnexa, lid deformities, ptosis, lagophthalmos or lid lag, lacrimal duct or other occlusions, epiphora, deformed pupils, and other conditions, should be recorded along with indicated detailed symptomatology.

c. Errors in color and light sense that may be due to neurological or psychiatric conditions should be examined by the vision specialist in conjunction with a psychiatrist or neurologist. Examples are chromatopsia, achromatopsia, color field inversion, photopsia, metamorphopsia, as well as other visual defects, which might stem from intracranial neoplasms, inflammation, or ischemia.

d. Tonometer measurements of intraocular pressure should be made for all claimants. (A noncontact tonometer may be used). If the tonometer shows a consistent reading equal to or greater than 22 mm, or a difference exists of more than 3 mm between eyes having pressures below 22 mm, further tests for the diagnosis of possible glaucoma should be performed.

1) Special tests. When necessary, exophthalmometery or other special tests may be used.

2) Report of examination. Retinoscopic, slit lamp, ophthalmoscopic, perimetric and all other relevant findings should, in every case, be legibly recorded along with the examiner's signature, title, and date.

3) If detected, conscious exaggeration of disability will be noted and supported by appropriate tests, which will be specified by type in the report of examination.

4.2 What are the requirements for measuring central visual acuity?

a. Who can conduct examinations for impairment of central visual acuity? These examinations must be performed by a licensed vision specialist, either an optometrist or an ophthalmologist.

b. What are the required measurements for central visual acuity? The central visual acuity must be measured and recorded for both distance and near, with and without best optical correction. A notation of the manifest refraction should be made. Special test charts and greater care may be required for low vision patients.

c. Can measurements of visual acuity be made using contact lenses? The use of contact lenses may, in the presence of irregular corneal astigmatism due to injury or disease, improve central visual acuity beyond what can be achieved with conventional ophthalmic lenses alone. However, practical impairments of fitting, inability of the patient to develop tolerance, and the fact that contact lenses are at times medically contraindicated are important factors to consider. Therefore, in general, conventional ophthalmic lenses will be used to determine best corrected vision. In the absence of contraindications, however, if a patient with ketatoconus is well adapted to contact lenses and wishes to wear them, such vision may be listed as best corrected.

d. What if there is still vision reduction after best optical correction? Supporting fundoscopic, slit lamp, or other findings that might explain any vision reduction remaining should be reported.

e. What is the procedure when there are large dioptric differences between the eyes? In patients other than monocular aphakes, any difference of more than four diopters of spherical correction between the two eyes will be recorded. The best possible corrected visual acuity of the poorer eye, with a lens not more than four diopters different from that used for the better eye, will be taken as the visual acuity of the poorer eye. When a large dioptric difference exists between eyes, an explanation should be provided, and consideration should be given to a possible congenital refractive error.

f. What is the necessary level of illumination for measuring visual acuity? For determining distance visual acuity, the chart should be illuminated so as to provide adequate contrast and comfortable brightness (at least 5 foot candles). For determining near visual acuity, adequate and comfortable illumination should be diffused on the test card.

g. How should central visual acuity for distance be measured and recorded? Best-corrected and uncorrected central visual acuity for distance should be tested using a Snellen type chart and should be expressed *as* a Snellen fraction. For the numerator, record the test distance in feet (usually 20 feet). For the denominator, record the smallest line read *with no errors* and the ratio of missed to correctly read letters on the next smaller line (i.e., 20/40 + 3/5). If patients cannot read the large "E" type (i.e., 20/200) they should then be slowly walked towards the chart until they can first read the 20/200 letter. Their acuity is then recorded as x/200 where x is the distance from the chart in feet where the 20/200 letter can first be read.

h. Why are careful measurements of distance vision especially important at levels below 20/200? It is particularly important that acuities below 20/200 be very carefully measured and recorded, for they are the basis for monetary compensation and possible referral. Slight changes (e.g., 6/200 to 4/200) may produce a sizeable increase in compensation.

i. How should central visual acuity at near be measured and recorded? Best corrected and uncorrected central acuities for each eye at near shall also be tested and the results reported. A Snellen type of notation using inches instead of feet is preferred but a comparable Jaeger, Sloan, or point-type notation may be used if reported as a Snellen ratio. The distance at which the reading card is held should be 14 inches from the eye.

j. What are the additional requirements in low vision patients? In low vision patients, further and more careful examination should then be conducted to determine the greatest distance in feet at which hand movements and then finger counting can be accomplished. If only light can be perceived, this should be noted and also whether its direction can be accurately located (light projection). Only in the absence of all the above shall a finding of NLP (no light perception) be made.

k. When should a referral be made to a visual impairment service? An opinion should then be noted on the record as to whether the veteran might benefit from low vision aids (because of limited vision) in either walking about, reading, or while engaged in other ordinary or desired activities. Any necessary referral should then be made to a visual impairment service such as VICTORS, Blind Rehabilitation Center, or other low vision clinic.

l. How is visual acuity measured in patients who cannot read English? For patients unable to read English, special charts are available. These take the form of "tumbling E's" or pictographs.

4.3 How must visual fields be measured?

a. **Goldmann perimeter:** The visual field extents will be measured by a Goldmann perimeter using the target III/4e in the kinetic mode, and an examination of the 8 meridians of Table 4.1 recorded. Extents should be plotted to the nearest 5 degrees.

b. **Charting and reporting visual fields:** In all cases, perimeter type, illumination light level, test object size, color, and test distance must be recorded and testing done from unseen to seen with at least 16 meridians, about 20 degrees apart, charted for each eye. All charts are to be attached to the examination reports, singed, and dated. Two independent field recordings will be made. More detailed studies should then be done for the areas of visual loss.

c. **Scotomas:** Careful attention must be paid to scotoma or other regions of lowered or lost visual acuity located in the central field of view since these drastically lower the patient's mobility and reading ability. These areas should always be plotted with great care, going from invisible to visible, perpendicular to the boundaries so as to find any projecting scotoma. Where available, the examination for visual field extents should be supplemented by the use of other field plotters to detect and plot scotomas. Although the extent of visual field loss cannot be determined accurately for scotomas, an approximation can be obtained by subtracting the width of the scotoma from the peripheral visual field value at those same meridians. A similar estimation of visual field loss can be applied to enlargement of the blind spot.

d. **Supplementary testing as indicated:** A standard campimeter, tangent screen, or other appropriate device may be used in addition to Goldmann perimetry. The Amsler chart should be employed as a screening test for small scotoma, lesions, or retinal distortion.

e. **Testing in aphakic patients:** For aphakic patients, the Goldmann target should be the IV/4e in the kinetic mode. If the aphakic patient is well adapted to contact lens or intraocular lens implant correction, the test should be done with the Goldmann III/4e target on the Goldmann perimeter.

f. **Loss of a quadrant or half field and other defects:** Where there is loss of a quadrant or a half field, one-half the value in degrees of the boundary meridians shall be used as the loss at this meridian(s) with full loss used for each meridian between these boundary meridians. Visual field loss can be calculated for other defects in a similar manner.

Table 4.1
NORMAL VISUAL FIELD EXTENT AT 8 PRINCIPAL MERIDIANS

Meridian	Normal degrees
Temporally	85
Down temporally	85
Down	65
Down nasally	50
Nasally	60
Up nasally	55
Up	45
Up temporally	55
Total Normal Field	500

4.4 How should muscle function be examined and reported?

Binocular functions must be measured when the ocular history or phoria/tropia imbalance findings could reflect either service-connected disease or injury of the extrinsic ocular muscles or their motor nerves.

a. **Use of Goldmann perimeter chart.** If diplopia is constant and not correctable, indicate which sectors of the visual field are affected using the Goldmann Perimeter Chart and the standard III/4e target, charting actual areas of diplopia. Diplopia outside these areas is not considered disabling but can be used in evaluation of the underlying disease or injury.

Central 20 degrees

21 to 30 degrees:	down
	right lateral
	left lateral
	up
31 to 40 degrees:	down
	right lateral
	left lateral
	up

b. **Repeat examination and record of pathology.** When diplopia is found, the test should be repeated. Such impairment of binocular function should be supported in each case, if possible, by an appropriate record of the actual pathology.

c. **Tropia testing where authenticity of diplopia is suspect.** In cases where the diplopia's authenticity is suspect, specific tropia testing should be performed using other tests such as:
Alternate cover, uncover, or Worth 4 dot, other red-green tests.
Lancaster or Hess screen studies.
Demonstration and measurement of tropia by means of the phoropter's prism.
Disparity fixation or other appropriate polaroid tests.

d. **Unexplained diplopia.** When not otherwise explained, binocular diplopia should lead to investigation into possible abnormalities of the central nervous system, thyroid or endocrine dysfunction, electrolyte imbalance, psychiatric problems, neuromuscular disease (e.g., multiple sclerosis), or other nonophthalmological factors.

e. **Suspended vision or eccentric fixation.** In addition, some patients with a true longstanding tropia will have learned to suspend vision in one eye (test object appears pure white or red) or will have become an eccentric fixator, and tests for simultaneous vision are then required, since diplopia is not reported.

f. **Monocular and binocular diplopia.** A distinction must be made between monocular and binocular diplopia so that any further appropriate tests may be made.

g. **Occasional or correctable diplopia.** Usually diplopia which is only occasional or is correctable by lenses which can be tolerated in spectacles should not be considered a disability as this is transitory and compensation at work is usually possible.

Chapter 5 - EAR, MOUTH, NOSE AND THROAT

5.1 What may be needed in an examination of the oral cavity?

Lesions of mouth and tongue. A veteran with oral lesions should have a systemic history and general medical examination, including serology, urinalysis, and complete blood count because of the many possible systemic diseases that can cause oral lesions. These include leukemia, syphilis, agranulocytosis, pemphigus, skeletal diseases, erythema multiforme, dermatitis medicamentosa, hypothyroidism, pernicious or other anemia, polycythemia, pellagra, lead poisoning, epilepsy, and others.

Lips and buccal mucous membranes, gingivae, tongue, palate, floor of mouth, and ostia of the salivary ducts. Report all abnormalities and the condition of the dentition related to the gingivae.

Tongue. Report abnormal contour, mobility, or ulceration, fibrillations or atrophy.

Soft palate. Note movement on tongue depression and gagging.

5.2 What may be needed in an examination of the pharynx?

Faucial tonsils. Size, consistency, ulceration, presence of exudate in crypts, and any associated cervical lymphadenopathy should be noted. If removed, note presence and position of residual or recurrent lymphoid tissue.

Peritonsillar region and lateral wall of pharynx. Swelling or displacement of faucial tonsils may indicate a neoplasm or abscess.

Posterior pharyngeal wall. Report any mucoid, purulent, or crusted exudate. Describe hypertrophied lymphoid tissue, swelling, or ulceration.

5.3 What may be needed in an examination of the nasopharynx?

Method of examination. Full view of this region can be obtained by the use of a nasal mirror and a nasopharyngoscope. Reason for post-nasal obstruction, exudation, and bleeding may be determined solely by this examination.

What structures should be examined?
Adenoid tissue - presence and size.
Pharyngeal orifices of eustachian tubes - report excessive lymphoid tissue.
Fossae of Rosenmuller - report lymphoid tissue or evidence of neoplasm.
Vault of the nasopharynx - look for evidence of tumor mass.
Inferior turbinates - note size and appearance of posterior ends.
Posterior ends of the inferior meati or from the region of the spheno-ethmoidal recesses above - note exudates.

5.4 What may be needed in an examination of the hypopharynx and larynx?

Method of examination - laryngeal mirror. If the veteran cannot cooperate and gags excessively, anesthesia can be obtained by swabbing with an appropriate topical anesthetic. If the symptoms warrant it, and the larynx cannot be visualized adequately, the veteran should be hospitalized for a direct laryngoscopy.

What should be examined?
Base of tongue and valleculae.
Lingual tonsils.
Pyriform recesses - pooling of secretions indicates abnormal swallowing functions and should prompt further diagnostic studies
Posterior wall of hypopharyax.
Epiglottis and aryepiglottic folds.
Ventricular bands, ventricles, and vocal cords.
Subglottis larynx.
Function of the vocal cords.
Note abduction and adduction in inspiration, expiration, and phonation. If cord motion is limited, note position of cords and search for evidence of a localized cause, e.g., edema, erythema, or ulceration of the arytenoid prominences or the interarytenoid space.
Biopsy is indicated for ulcerative or proliferative lesion.
Chronic hoarseness and dysphagia should raise suspicion of a hiatus hernia with impaired esophageal sphincter tone and associated eructation. Hiatus hernia may cause esophagitis and pharyngitis.

5.5 What may be needed in an examination of the nose and sinuses?

Method of examination -
1. The anterior nose is inspected with a nasal speculum.
2. Adjuvant procedures for sinus examination include:

Transillumination - not definitive, but may be help for unilateral maxillary or frontal sinus disease. A darkened room is essential. Light is transmitted from frontal sinus floors to brows and from anterior maxillae to the palate intraorally.
Diagnostic needle puncture or natural ostium cannulization and irrigation for maxillary, frontal, and sphenoid sinusitis.
Diagnostic lavage of the maxillary antra through the inferior meati or through the natural ostia are outpatient procedures. Probing and irrigation of the frontal and sphenoid sinuses require considerable expertise.
X-rays. Routine sinus films should include an AP Water's view at 27 degrees elevation from the horizontal plane. Other projections may be indicated for individual sinuses. Radio-opaque dye studies may be used, especially in maxillary sinuses. Polytomography, electronic or photographic subtraction techniques, and arterial or venous angiography are additional techniques that may be of value.

What structures should be examined?

External nose. Note any deformity, congenital or acquired, of the nasal bones, ascending processes of the maxillae, alae, tip, and columella.

Nasal vestibule. Note any scarring, crusting, ulceration, edema, and tenderness.

Nasal cavities. Note hyperemia and edema in the region of the sinus ostia, exudate in specific areas. Cytologic study of secretions may indicate type and location of a sinus infection. Normal nasal mucosa with no intranasal drainage does not preclude the presence of sinusitis. Turbinate shrinkage by spray or small cotton tampons soaked in a vasoconstrictor solution may reveal exudate in the region of the ostia of the involved sinuses.

Septum. Look for alterations in color, thickness, ulceration, or crusting of the mucous membrane. Search for bleeding points or abnormally superficial vessels, particularly in Kiesselbach's area low and anteriorly on either side.

With a history of recent trauma, unilateral or bilateral bulging of the mucous membrane may suggest a hematoma, or abscess. Describe the position, direction, and extent of deflection of the septum from the midline. Note if there is obstruction to the airway by an inferior spur projecting into the inferior meatus or a high deviation impinging against the middle turbinate.
Floor of the Nose. If a discharge is present, note its character - serous, mucoid, purulent, or sanguinous. Remove the discharge by aspiration. If moderate or profuse in amount, examine a stained smear to determine bacteria, epithelial cells, and leukocytes present. Cultures for specific bacteria and fungi may be indicated in diffuse exudative and granulomatous disease.

Inferior Meatus. Look for neoplasms and foreign bodies. Vasoconstriction and probing may be necessary for adequate evaluation.

Inferior Turbinates. Color, size, and consistency may suggest hypertrophy or atrophy.

The Middle Meati. The mucous membrane may simulate that of the sinuses whose ostia open into this region. If polyps are present, gentle probing will assist in determining their site of origin. The inspection of the middle meati before and after shrinkage of the mucous membrane is important for evaluation of nasal accessory sinus disease. Purulent exudate from the anterior, middle or posterior meatus is a significant clinical finding.

The Middle Turbinate. Note abnormality of size, color, shape, or consistency. This structure may contain ethmoid cells and present a bulbous appearance that will not decrease in size after decongestion.
The Spheno-ethmoidal Recess. May not be visible on routine anterior rhinoscopy. It should be inspected either directly or with the nasopharyngoscope in every case of suspected posterior ethmoid or sphenoid sinus disease. Congested mucous membrane and exudate should be noted.

The Olfactory Area. Polyposis and edema may cause disturbances in the sense of smell. If no local abnormalities are found, the individual with a disturbed sense of smell should have a careful neurological examination.

The Paranasal Sinuses. Examination for sinus tenderness should include pressure applied over the anterior wall and floor of the frontal sinuses, the medial orbital walls, and the anterior maxillae. Hyperesthesia or anesthesia in the distribution of the supra-orbital or infra-orbital nerves may indicate a neoplasm. External swelling in forehead, orbit, cheek, and alveolar ridge may be associated with sinus disease.

5.6 What may be needed in an examination of the auricle, external canal, tympanic membrane, and mastoids?

Auricle. Note deformities, cicatrices, ulcerations, or other dermatologic and cartilaginous abnormalities.

External Canal. Note any abnormality in size or shape of canal. Note edema, erythema, or ulceration of the skin lining. If lumen obstructed, note whether the cause is cerumen, foreign body, or exudate. Record whether any exudate is serous, purulent, sanguinous, mucoid, odorous, profuse, scanty, or pulsating. If the external canal has a small diameter, a small speculum and adequate cleansing with a small cotton-tipped applicator or a suction tip may be necessary for adequate evaluation.

Tympanic Membrane. Remove all exudate and debris from the canal for a satisfactory examination. The entire drum membrane should be visualized. Report any abnormality in the landmarks indicating scarring, retraction, bulging, or inflammation. Use a Siegel speculum to determine membrane mobility. Note and describe any perforations and their size and position (whether marginal or central).

The Tympanum. With a perforation of the drum membrane, the status of the middle ear can often be ascertained. Particularly, reference should be made to hyperplastic tympanic mucosa, granulation tissue, cholesteatoma, and ossicle necrosis. With a cooperative patient and the gentle use of a silver probe or an attic hook, one may specifically diagnose an attic perforation. A detailed examination should allow evaluation of an infectious process in the middle ear; the type of treatment (medical or surgical) required; and often the prognosis re hearing.

The Mastoid. Information regarding the condition of the mastoid can often be determined during the examination of the middle ear. Adjuvant procedures are helpful and on occasion may be specifically diagnostic. Mastoid tenderness is elicited during acute disease by firm palpation over the mastoid process. Local erythema, induration, and a fluctuant mass may be present. Mastoid X-rays. Correlate X-ray abnormalities with clinical findings. Polytomography may reveal cellular or cortical erosion not visible with conventional techniques.

5.7 What are the essentials of an audiological examination?

What is the significance of a hearing impairment? The significance depends upon the type and degree of hearing loss. The participation restriction (handicap) a person experiences in everyday life is related both to loss of hearing sensitivity and loss of speech discrimination.

What are the methods of measuring hearing loss? Although the more desirable methods of measuring hearing loss involve quantitative procedures such as calibrated audiometry, there may be instances where qualitative tests (such as whispered voice tests and tuning fork tests) have been used in classifying hearing loss. However, qualitative procedures do not substitute for calibrated audiometry as measures of hearing impairment or disability.

Whispered or spoken voice tests were used extensively before calibrated audiometry was widely available in the military (before 1970). These tests involve a gross assessment of hearing impairment using spoken or whispered

words without visual cues. These tests are inherently insensitive to high frequency hearing loss, the type of hearing loss most commonly caused by noise exposure.

The most commonly used tuning fork tests are the Weber Test, the Rinne Test, and the Bing Test.

Weber Test. The Weber Test involves the placement of a tuning fork on the forehead. The patient is asked to indicate where the tone is heard. If the tone is heard in the middle of the head, then one may infer that the patient has normal hearing, equal sensorineural loss in both ears, or equal conductive components in both ears. If the tone lateralizes to either ear, then one may infer that there is a conductive component or lesser sensorineural hearing loss in the lateralized ear.

Rinne Test. The Rinne Test complements the Weber Test. The Rinne Test involves the presentation of tones by air conduction and bone conduction. For air conduction, the examiner presents a tone near the ear canal. For bone conduction, the tuning fork is moved to the mastoid process. The patient is asked to indicate if the tone is louder by air conduction or bone conduction. If the patient hears the tone louder by air conduction, the ear has a sensorineural hearing loss (a positive Rinne). If the patient hears the tone louder by bone conduction, the patient has a conductive component (a negative Rinne).

Bing Test. The Bing Test is also used to differentiate conductive hearing loss. The test involves the presentation of a tone via bone conduction (Weber Test). The ear is occluded by plugging the ear with a fingertip. The patient is asked if the tone changes in loudness or lateralizes. If the tone increases in loudness or lateralizes to the occluded ear, the Bing Test is positive and indicates normal hearing or a sensorineural hearing loss. If the patient reports no change in loudness or the tone does not lateralize to the occluded ear, the patient has a conductive component (negative Bing).

Because of uncertainty as to which ear is responding to a test, tuning fork tests are difficult to interpret unless effective masking is used in the non-test ear.

How are audiometric tests conducted? Audiometric examinations are quantitative and indicate the magnitude of the hearing impairment. The examination must be conducted without the use of hearing aids. Both ears must be examined for hearing impairment even if the hearing loss in only one ear is at issue.

1. Calibration. Audiometers utilized in basic audiological procedures are calibrated to the American National Standards Institute *Specifications for Audiometers* (ANSI S3.6-1989). The ANSI standard was adopted by the VA in July 1975. Prior to that time, the American Standards Association specifications (ASA 224.5-1951) were used. When reviewing audiometric results, it is important to note the date of the examination. Audiometric test results based on the ASA standards will show better hearing sensitivity than test results based on the ANSI standard.

2. Approved rooms. Tests must be conducted in approved sound treated rooms that meet the American National Standards Institute *Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms* (ANSI S3.1-1991).

3. Presentation of stimuli. Most basic tests involve the presentation of pure tones or recorded speech material through circumaural or insert earphones. Bone conduction involves the presentation of stimuli through a bone vibrator located on the mastoid process or the forehead.

4. Examiner requirement. An examination of hearing impairment must be conducted by a state-licensed audiologist (38 CFR 4.85).

5. Basic testing. The basic evaluation includes a controlled speech discrimination test using an approved recording of the Maryland CNC Test and pure tone audiometry.

6. Air and bone conduction test frequencies. Air conduction audiometry must include the following frequencies: 250, 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz. Bone conduction audiometry must include the following frequencies: 250, 500, 1000, 2000, 3000, and 4000 Hz.

7. Other tests for assessment. In addition, the basic audiometric assessment includes speech reception thresholds (SRT), tympanometry, and acoustic reflex tests.

8. Tests for non-organicity. When necessary, tests for non-organicity (such as the Stenger Test) and otoacoustic emissions (OAE) are obtained. Other more advanced tests such as auditory evoked potentials may be indicated.

9. Details of testing. Bone conduction tests are obtained when the air conduction thresholds are poorer than 15 dB HL. A modified Hughson-Westlake procedure is used to obtain thresholds. Appropriate masking is used. Stenger Tests are administered whenever pure tone air conduction thresholds at 500, 1000, 2000, 3000 or 4000 Hz differ by 20 dB HL or more between ears.

10. Speech reception threshold. The speech reception threshold (SRT) is defined as the level (in dB HL) at which the patient correctly identifies 50% of a set of two-syllable (spondee) words. The SRT should be in agreement with the average of pure tone thresholds from 500 to 2000 Hz.

11. Speech recognition tests. Speech recognition tests involve the presentation of approved monosyllabic words. Speech recognition must be obtained with a VA-approved recording of the Maryland CNC Test. The audiologist presents word lists at increasing intensity levels until no further change in speech recognition score occurs. However, presentation levels will not exceed the patient's level of discomfort or 105 dB HL, whichever is lower. This procedure is known as a Performance-Intensity function. The maximum speech recognition score is reported.

12. Other tests. In addition to the basic audiometric test battery, other electrophysiological or behavioral tests may be reported to determine the degree of hearing loss or the site of lesion.

Immittance testing (tympanometry) is a procedure, which assesses middle-ear function by measuring the mobility of the tympanic membrane and middle ear structures. Immittance equipment measures the flow of energy through the middle ear in response to a tone introduced through a probe in the external auditory canal. The amount of sound

energy reflected from the tympanic membrane is recorded by a microphone in the probe. Middle-ear pressure can be estimated by measuring the response to applied pressure variations. The results are compared to normal values and assist in differential diagnosis of middle ear disorders.

Acoustic reflex tests involve the presentation of a loud tone intended to elicit a contraction of the stapedius muscle in the middle ear. The acoustic reflex test provides objective information on the status of the middle ear as well as the integrity of the auditory nerve.

Otoacoustic emissions (OAE) are another frequently used electrophysiological measure. Otoacoustic emissions are propagated from normal cochleae by outer hair cells and are measured in the ear canal by use of a tiny microphone probe placed in the ear canal. Transient OAEs are evoked by presenting a series of clicks to the ear and recording the amplitude and time and frequency spectra of the emission response. Distortion product OAEs involve the presentation of two tones and recording the amplitude and time and frequency spectra of distortion products created in the cochlea. OAEs are not usually observed in ears with hearing losses greater than 30 dB HL or with conductive involvement.

Most other auditory tests contribute additional information about site of lesion. These tests are most effective when viewed as a battery of diagnostic tests. The selection of the appropriate audiometric tests or test batteries that should be incorporated in the assessment of the veteran's hearing impairment is predicated upon the results obtained from the basic audiometric assessment. The audiologist is best qualified to determine which tests are appropriate and to interpret such tests.

5.8 How are test results reported?

VA Forms 10-2364 or 10-2364a may be used to report the majority of audiometric tests conducted within the VA. VBA Worksheet 1305 (AUDIO), or its electronic equivalent, is used to record audiometric thresholds and rating narratives.

History. Under the Medical History section of Worksheet 1305, the audiologist reports the patient's chief complaint, the situations of greatest difficulty, pertinent medical, family, social, and military history, and history of military, occupational, and recreational noise exposure.

Physical examination section. Under the Physical Examination section, the audiologist reports the pure tone air conduction thresholds at 500, 1000, 2000, 3000, and 4000 Hz in each ear, the four-frequency pure tone average (1000, 2000, 3000, and 4000 Hz), and the maximum speech recognition score on the Maryland CNC Test in each ear.

When only pure tone thresholds should be used to evaluate hearing loss, the audiologist will certify that language difficulties or other problems make the combined use of pure tone averages and speech recognition scores inappropriate.

Tinnitus. If tinnitus is present, the audiologist should state date and circumstances of onset, whether it is unilateral, bilateral, or unlocalized, whether it is recurrent (if periodic indicate the frequency and duration), and the most likely

etiology. If hearing loss is present at any frequency, the audiologist must state if the tinnitus is due to the same etiology or causative factor(s) as the hearing loss.

Diagnostic and Clinical Tests section. In the Diagnostic and Clinical tests section, the audiologist describes the results of all tests conducted during the examination. In cases where there is poor, inter-test reliability and /or positive Stenger Test results, the audiologist obtains and reports estimates of hearing thresholds using a combination of behavioral techniques, Stenger interference levels, and electrophysiologic tests such otoacoustic emissions (OAE) and auditory evoked potentials (ABR).

Diagnosis section. In the Diagnosis section, the audiologist summarizes the audiologic test results. The audiologist also notes if medical follow-up is needed for an ear or hearing problem and whether there is a problem that, if treated, might change hearing thresholds.

5.9 When is hearing disabling for VA compensation and pension purposes?

For adjudication purposes, hearing impairment is disabling when pure tone thresholds at 500, 1000, 2000, 3000, or 4000 Hz are 40 dB HL or greater; or when pure tone thresholds for at least three of these frequencies are 26 dB HL or greater; or when speech recognition scores are less than 94%.

5.10 How is the degree of hearing impairment classified?

The degree of hearing impairment is classified in terms of the effect of the loss on the person's ability to understand speech in everyday situations. Hearing is considered to be normal when hearing thresholds are 25 dB HL or less.

Mild hearing loss occurs when the four frequency (1000, 2000, 3000, 3000 and 4000 Hz) pure tone average (PTA) is 26 to 40 dB HL. A mild hearing loss may cause difficulty hearing faint speech or normal speech in the presence of background noise.

Moderate hearing loss occurs when the PTA is 41-54 dB HL. A moderate hearing loss may cause difficulty with speech at normal conversational levels, especially when background noise is present.

Moderately severe hearing loss occurs when the PTA is 55-69 dB HL. A patient with a moderately severe hearing loss may have difficulty hearing or understanding all but loud speech. Speech recognition may be nearly impossible in the presence of background noise.

Severe hearing loss occurs when the PTA is 70-89 dB HL. A patient with a severe hearing loss may have extreme difficulty understanding spoken words, even in quiet situations.

Profound hearing loss occurs when the PTA is 90 dB HL or worse. A patient with a profound hearing loss is functionally deaf and may not understand even amplified sounds.

5.11 How are the types of hearing loss classified and what are their causes?

The type of hearing loss may be described as conductive, mixed, sensorineural, or central. Conductive hearing losses are due to lesions that reduce transmission of sound through the external auditory canal, tympanic membrane, or middle ear. In purely conductive hearing losses, cochlear function is normal. Sensorineural hearing losses occur in lesions of the cochlea and auditory nerve. Mixed hearing losses involve both conductive and sensorineural components. Central hearing losses occur in lesions of the central nervous system from the brainstem to the auditory cortex. Audiologists are qualified to perform site of lesion tests to differentiate these types of hearing loss.

Conductive hearing loss may result from congenital malformations of the auricle, external canal, and middle ear. More commonly, conductive hearing loss results from otitis media, pathologies of the tympanic membrane, or pathologies involving the ossicles. Untreated middle-ear disease may be lead to erosion of the ossicles or cholesteatomas. This type of hearing loss also results from foreign bodies, cerumen, and inflammation of the external auditory canal. Neoplasms of the ear are relatively uncommon, with glomus tumors, middle-ear polyps, and carcinomas being the most common. Otosclerosis, a localized disease of the otic capsule sometimes affecting the stapes footplate, accounts for about one half of bilateral conductive deafness in adults. Other diseases of the otic capsule are osteogenesis imperfecta, Paget's Disease, lipoid dystrophies, and Wegener's granulomatosis.

Sensorineural hearing loss may result from congenital hypoplasia of bony or membranous structures in the petrous pyramid, prenatal rubella, syphilis, Rh incompatibility, anoxia, meningitis, and cytomegalovirus. The most common causes of sensorineural hearing loss are aging and traumatic noise exposure. Sensorineural loss may also result from drug-induced ototoxicity. The most common ototoxic factors are antibiotics such as streptomycin, neomycin, kanamycin, vancomycin, polymixin B, and gentamicin, salicylates (aspirin), platinum-based anti-neoplastics such as cis-platin, and loop diuretics such as ethacrynic acid. Sensorineural loss may also result from temporal bone fracture or closed head injuries, labyrinthitis, syphilis, other viral and bacterial infections, vascular disease, meningitis, autoimmune disorders, tumors of the cerebellopontine angle, and endolymphatic hydrops (Meniere's Disease). Central hearing loss may be caused by congenital or developmental factors, trauma, space-occupying lesions, meningitis, autoimmune disorders, demyelinating diseases, and cerebrovascular disease.

5.12 What are the disabilities related to the vestibular system?

With vestibular dysfunction, an individual usually complains of dizziness, but an attempt should be made to differentiate dysequilibrium and true vertigo.

Vertigo is the illusion of motion, usually accompanied by a characteristic jerking motion of the eyes called nystagmus. If the symptoms occur in attacks, the examiner should ask the patient to describe the typical attack, premonitory signs, syncope, motion intolerance, associated nausea, vomiting, or sweating, changes in sensorium, direction of falling or spinning, duration, and after effects.

The relationship to headaches or migraines, epilepsy, hearing or tinnitus should also be noted. Any association of symptoms with fatigue, excitement, medication or drug use, tobacco, or caffeine should be noted. Psychogenic

disorders are often characterized by symptoms of weakness, faintness, nuchal or cranial pressure, malaise, or dyspnea.

If symptoms are persistent or severe, a general medical examination with emphasis on myocardial infarction, hypertension, and diabetes is indicated. A neurological examination with evaluation of cranial nerve and cerebellar function and an ophthalmologic examination of the vision and oculomotor nuclei should be performed. However, symptoms that persist for weeks or months are usually not of vestibular origin or have a psychogenic overlay.

Oculomotor function and the presence of nystagmus can be observed in the office using Frenzel lenses (20 diopter lenses) to eliminate visual fixation. If the eyes are directed $45^{?}$ or more from central gaze, physiologic or endpoint nystagmus may be induced. However, observation in the office does not substitute for complete medical evaluation including objective balance assessment using electronystagmography (ENG) or other electrophysiological techniques.

5.13 What does a vestibular examination include?

A vestibular examination includes:

Observation of gaze nystagmus. Spontaneous nystagmus occurs in the absence of a stimulus and may indicate acute or uncompensated disease. Gaze nystagmus that is strongest for gaze in the direction of the fast phase is usually caused by peripheral lesions. According to Alexander's Law, first degree nystagmus is strongest with lateral gaze in the direction of the fast phase. Second degree nystagmus occurs when gaze nystagmus is noted in the primary position and with lateral gaze in the direction of the fast phase. Third degree nystagmus occurs when gaze nystagmus is also noted with lateral gaze in the direction of the slow phase.

Congenital nystagmus is usually characterized by pendular or jerk nystagmus, but the nystagmus is usually distorted with eyes open. Congenital nystagmus may have null point at which the nystagmus decreases or disappears. Congenital nystagmus is rarely vertical. During upward gaze, the nystagmus is usually horizontal, not vertical. Congenital nystagmus also tends to decrease or disappear with convergence of the eyes on a target.

Tests of positional nystagmus. Positions include, sitting, supine, lying lateral on the right side, lying lateral on the left side, and supine with head hanging. Positional nystagmus is abnormal if the direction changes in any one position, it is present in three or more positions, it is intermittent in four or more positions, or it is greater than 6^{o} per second. Positional nystagmus is abnormal if it is enhanced with eyes open.

Direction-fixed nystagmus is usually caused by peripheral lesions. Direction-changing, particularly with eyes open, usually signifies a CNS lesion. However, the examiner needs to rule out positional alcohol nystagmus (PAN).

Positioning nystagmus is evaluated using the Hallpike maneuver in which the patient in sitting position is moved suddenly to a supine position with head hanging with right ear or left ear down. The eyes are observed for evidence of jerk or rotary nystagmus. The presence of brief, intense, delayed, fatigable nystagmus is characteristic of benign paroxysmal positioning vertigo (BPPV), a very common condition thought to be caused by dislodged otoconia in the cristae of the semicircular canals. Some examiners define direction-fixed positional nystagmus as spontaneous nystagmus. Spontaneous nystagmus is differentiated from positional nystagmus by the fact that positional nystagmus

is characterized by differences in intensity between head positions whereas spontaneous nystagmus is constant in all positions.

Other examinations. Head-shaking nystagmus may be evoked by having the patient shake his/her head vigorously for 15-20 seconds. Eye movements are observed by Frenzel lenses. If the patient has nystagmus and did not have spontaneous nystagmus, an uncompensated lesion is noted. Normally, the nystagmus beats away from the lesion side.

Tests for postural vertigo. Tests such as the Romberg, Past-pointing, tandem walking, or the Fukuda Stepping Test are useful in grossly assessing vestibular function.

The **Romberg Test** involves having the patient stand with feet together and arms folded at the chest, eyes closed. Patients with unilateral peripheral lesions will sway or fall, usually toward the lesion side.

Past-pointing involves having the patient place an index finger on the examiner's finger, extend the arm to vertical position, and return the index finger to the examiner's finger. Deviation is noted. Patients with peripheral lesions tend to past point toward the lesion side.

Tandem walking involves having the patient walk heel to toe with eyes closed and open. In the eyes closed condition, swaying or deviation may indicate a peripheral vestibular lesion. In the eyes open condition, swaying or deviations may indicate a cerebellar disturbance.

The **Fukuda Test** involves having the patient march in place (50 steps) with eyes closed. The amount of rotation is noted. Usually, the patient rotates toward the lesion side. However, the direction of deviation or rotation in these tests is a poor indicator of the side of the lesion.

Caloric stimulation. This test should be performed only on those patients with normal external auditory canals and intact tympanic membranes. Using 2 ml of ice water in a syringe with a 14 or 16 gauge needle, the examiner injects the water slowly into the ear canal. The head is hyper-extended by 60^{o} from the vertical axis if the patient is in the sitting position. If the patient is in supine position, the head is flexed 30^{o} to bring the lateral semi-circular canal into the vertical plane. The latency and duration of the nystagmus are measured with a stopwatch. Nystagmus should be observed with the patient wearing Frenzel lenses. The opposite ear is tested after a five-minute rest period. The normal duration is 80-120 seconds. If a 30-second or greater difference exists between ears, the side with the reduced duration has a hypo-reactive response.

Electronystagmography. Non-electrical recordings must be considered to be qualitative. Electronystagmography (ENG) is an electrophysiologic test battery that provides a quantitative measure of oculomotor and vestibular function and is usually performed by audiologists. ENG is usually obtained measuring eye position using the corneal-retinal potential with electrodes or infrared video recordings. Eye movements are displayed graphically on a strip chart or a video display. The typical ENG battery consists of oculomotor tests (saccades, smooth pursuit or pendular tracking, and optokinetic tests), positional and positioning tests as described above and caloric stimulation using cool and warm water or air.

Oculomotor tests evaluate the oculomotor nuclei and/or brainstem-cerebellar systems. Saccade tests involve having the patient track a light target that jumps right, left, up and down. CNS lesions may produce ocular dysmetria, saccadic slowing, or disconjugate eye movements. Tracking or pursuit tests involve having the patient track a light target moving across the visual field. Disorganized or saccadic pursuit usually indicates a CNS lesion.

Positional tests evaluate the effect of movement or gravity on vestibular responses. The diagnostic significance is the same for the observation tests described above.

Caloric tests evaluate peripheral vestibular function. Failure to suppress nystagmus with visual fixation is usually indicative of CNS disease.

Other objective measures useful in the diagnosis of balance disorders are sinusoidal vertical axis rotation testing (rotary chair), and computerized dynamic posturography. The latter test provides detailed analysis of vestibular, visual, and somatosensory integration.

5.14 What are important issues in examining for the sense of smell?

Anatomy. The olfactory area includes the upper posterior part of the nasal cavity where olfactory mucosa lines the superior turbinate and upper septum. Most inspired air travels below the olfactory area, but eddy currents are induced by sniffing, and the upward airflow makes greater contact with the olfactory mucosa. Axons of the first afferent neuron are grouped together as the olfactory nerves penetrate the cribriform plate and synapse with the secondary neuron processes of the olfactory bulbs intracranially. Proximally, from the bulbs, the axons form the olfactory tracts centrally where some fibers cross the midline to the reticular formation, anterior commissure, caudate nucleus, internal capsule, hypothalamus, and hippocampal area of the temporal lobes. There is also an efferent system by which the olfactory bulbs receive impulses from the brain, which can lower the reception threshold. The specific mechanism of the olfactory stimulus has not been described. Regression of the sense of smell is commonly associated with advancing age.

Testing olfaction. Substances used for testing olfaction should have a common odor. Coffee, benzaldehyde, tar, and oil of lemon are recommended. Each side of the nose should be tested separately, and the odor should be named. The receptacles for the odors may be a test tube or the barrel of a 10 cc. syringe. The examinee is asked to sniff as he is exposed to the test substance.

Frequently, either all or none of the test odors are identified. Since there is a marked deviation of threshold in normal individuals, the qualitative tests of the presence or absence of the loss of smell (anosmia) is practical. Quantitative testing is time consuming and of equivocal diagnostic value. A suspected hysterical loss of smell can be differentiated by presenting both irritating and pure odors. If neither is identified, a suspicion of hysteria should be entertained

Causes of anosmia. The causes of anosmia may be extra or intracranial. A genetic loss of olfaction in several generations of one family has been described. The extracranial factors are related to nasal obstruction from polypi, congested turbinates, and deviated septa. The intracranial lesions include anterior cranial fossa fractures, abscesses, tumors, and meningitis. Perversion of the sense of smell may be caused by nasal foreign bodies, sinusitis, or the above intracranial lesions.

5.15 What are important issues in examining for the sense of taste?

Anatomy. The sites of origin of the sensation are the end organs (taste buds) found mainly on the tongue; but also on the cheek, hard palate, and faucial tonsillar pillars. The taste cells are thin fusiform structures within the buds, and the peripheral end of the cell has a delicate process, which projects through the bud orifice. The mucosa of the tongue is studded with small elevations, the lingual papillae. There are three main types: filiform, fungi-form, and vallate. The filiform papillae are minute conical projections covering the anterior two-thirds of the tongue dorsum and rarely contain taste buds. The fungiform papillae are considerably larger, round, and located mainly at the tip and edges of the tongue. The vallate papillae are the largest, round with a central elevation, a surrounding sulcus, and arranged in the form of a "V" at the base of the tongue. The fungiform and vallate papillae each contain 8 to 10 taste buds.

The principal nerves of taste are the chorda tympani branch of the facial nerve and the glossopharyngeal nerve. The former supplies taste buds over the anterior two-thirds of the tongue, and the latter is distributed to the posterior one-third. The taste fibers of the chorda tympani nerve arise in cells at the geniculate ganglion and end in the sensory nucleus of the tractus solitarius. Secondary fibers arising from there ascend to the thalamus. Tertiary neurons terminate in the hippocampal gyrus cortex. The taste fibers of the glossopharyngeal nerve, which arise in the petrosal ganglion, centrally, terminate in the dorsal nucleus of the vagus and tractus solitarius. The central pathways are similar to the chorda tympani nerve.

Testing sense of taste. The oral special sensory function of taste is highly differentiated, and it can be evaluated accurately by standardized tests. A substance must be in solution to stimulate the taste cells, and its taste is related to the chemical composition. Flavors are chiefly related to the sense of smell. The specific character of orally ingested substances depends upon the stimulation of tactile sensation as well as taste.

The basic taste modalities are sweet, sour, bitter, and salt. The tip and sides of the tongue are most sensitive to sweet and sour, and the base of the tongue is most sensitive to bitter. The acuity varies among normal individuals, and in the time of day for one individual.

The recommended test substances are sugar, dilute acetic acid, quinine, and common salt. A cotton-tipped applicator moistened with each substance is applied to the lateral borders and vallate papillae of the tongue. Responses from each side of the tongue are compared. The test for the presence or absence of taste is considered to be of limited value. In recent years, the more refined electrogustrometry has permitted more accurate determination of impaired taste function. The stimulating electrode incites an acid taste, and the threshold is determined on each side of the tongue.

Value of tests for taste. The tests for taste have frequently been used to establish a prognosis in patients with facial paralysis. A disturbance in taste is believed to be an early indication of facial nerve degeneration.

Taste tests on the base of the tongue may yield confirmatory evidence of glossopharyngeal nerve paralysis. Taste sensation varies in endocrine diseases being more acute in hypocorticoadrenalism and depressed in hypercorticoadrenalism, hypogonadism, and pseudohypoparathyroidism. It is also reduced in rickets and familial dysautonomia.

Chapter 6 - Respiratory

6.1 What are the basic elements of an examination for disease or injury of the respiratory system?

This chapter supplements the disability examination worksheets titled: NOSE, SINUS, LARYNX, AND PHARYNX RESPIRATORY (OBSTRUCTIVE, RESTRICTIVE, AND INTERSTITIAL) PULMONARY TUBERCULOSIS AND MYCOBACTERIAL DISEASES
RESPIRATORY DISEASES, MISCELLANEOUS (PVD, Neoplasms, Bacterial Infections, Mycotic Lung Disease, Sarcoidosis, and Sleep Apnea)

a. **Initial examination**

1) History of present illness - onset, frequency, and severity of symptoms; past and current treatment; whether symptoms are controlled by treatment; effects of condition on daily activities.

2) General health information, as pertinent - including previous surgery and illnesses; family history; military history.

3) Respiratory history. Date of onset and course of shortness of breath, cough, sputum, hemoptysis etc.

4) Occupational and environmental history. Describe any exposure to dusts, gases, toxins etc. both in the military and before and following service, including occupational hazards.

b. **Review examination:**

For a review examination, only an interval history covering the period since the last examination is needed.

c. **Physical examination:**

See worksheets for respiratory diseases and additional information below.

d. **Usual laboratory studies:**

1) Chest x-ray is routine for lower respiratory conditions, unless report of an X-ray done within past 6 months is available in the record.

2) Pulmonary Function Tests (unless carried out within past six months and the report is either in the claims folder or will be attached to this examination report). Most respiratory conditions are evaluated primarily on the basis of the results of pulmonary function tests. Spirometric pulmonary function testing should include FVC, FEV-1, and the FEV-1/FVC ratio (ratio of Forced Expiratory Volume in one second to Forced Vital Capacity). A DLCO (diffusion capacity of the lung for carbon monoxide by the single breath method) is included in a routine battery of pulmonary function tests in some medical facilities but not in all. Both pre- and post-bronchodilation test results should be reported. If post-bronchodilation is not done, an explanation of why it was not done should be given; otherwise, the examination will not be considered adequate for rating purposes.

3) Conditions that may be evaluated on the basis of PFT's may alternatively be evaluated on the basis of maximum exercise capacity; presence of cor pulmonale, right ventricular hypertrophy, or pulmonary hypertension; or a requirement for outpatient oxygen therapy, so any of these findings that are present or known should be reported.

4) Need for DLCO or not. If the DLCO test is not included as part of pulmonary function testing, the examiner should determine whether or not it would provide useful information about the severity of pulmonary functioning in a particular case. If it was not done as part of the routine testing, and would not be useful, the examiner should explain why, e.g., by explaining that the DLCO would not be valid in this particular case because of the decreased lung volumes. Unless an explanation for its omission is provided, the DLCO should be done. It should also always be done when requested by a BVA remand unless medically contraindicated.

5) Disparity in PFT's: If there is a disparity between the results of different elements of the pulmonary function tests, e.g., if the FEV-1 indicates good functioning and the DLCO is very abnormal, the examiner should indicate which test or tests are more likely to accurately reflect the extent of impaired pulmonary functioning due to the condition and why. At times the tests may need to be repeated for clarification, for example, if there is doubt about the effort expended, or if there were technical difficulties during the test.

6.2 What specific information may be needed for the evaluation of certain upper respiratory conditions?

a. **Sinusitis:** Describe any previous surgery, current signs and symptoms. Describe the frequency and duration of any incapacitating episodes (defined as a period requiring bed rest and treatment by a physician) during the past year and whether these episodes have required antibiotic treatment and for how long. Describe any other (non-incapacitating) episodes of sinusitis and their frequency and signs and symptoms.

b. **Nasal septal deviation:** Report the percent of obstruction of nasal passage on each side.

c. **Allergic or vasomotor rhinitis:** If diagnosis has been established, report whether there are nasal polyps and the percent of obstruction of nasal passage on each side.

d. **Chronic laryngitis:** Report any hoarseness, and describe laryngeal findings, such as inflammation, nodules, polyps of cords, or any other cord abnormalities.

e. **Stenosis of larynx:** Request an FEV-1 with flow-volume loop to see if characteristic pattern of upper airway obstruction is present.

f. **Aphonia:** Report the extent to which the veteran can or cannot communicate by speech or whether there is constant inability to communicate by speech. Report whether the veteran cannot speak above a whisper and whether this inability is constant.

6.3 What specific information should be provided in examinations of certain lower respiratory conditions?

a. **Bronchiectasis:** Report current signs and symptoms, and frequency and duration of any courses of antibiotic treatment during the past year. Describe the frequency and duration of any incapacitating episodes (defined as a period requiring bed rest and treatment by a physician) during the past year. PFT's may also be used to evaluate bronchiectasis.

b. **Asthma:** Provide PFT's. Although PFT's may be important in evaluating asthma, the PFT's may be normal at some times and in some patients. Other information may therefore also be used to evaluate asthma, so the examiner should report the type of treatment, including the use of systemic (oral or parenteral) corticosteroids, (state the frequency of courses or whether used daily or intermittently and the dosage), immunosuppressive medications, bronchodilators (oral or inhalers), anti-inflammatory inhalers, or other medication.

c. **Chronic bronchitis, emphysema, COPD:** Always provide PFT's, specifically the FEV-1, FEV-1/FVC ratio, DLCO. Also report:

cor pulmonale
right ventricular hypertrophy
pulmonary hypertension
whether there have been episodes of respiratory failure
whether outpatient oxygen therapy is required
if available, the maximum exercise capacity.

d. **Interstitial lung diseases:** These include diffuse interstitial fibrosis (interstitial pneumonitis, fibrosing alveolitis), desquamative interstitial pneumonitis, pulmonary alveolar proteinosis, eosinophilic granuloma of lung, drug-induced pulmonary pneumonitis and fibrosis, radiation-induced pulmonary pneumonitis and fibrosis, hypersensitivity pneumonitis (extrinsic allergic alveolitis), pneumoconiosis (silicosis, anthracosis, etc.), and asbestosis. Provide PFT's, specifically the FVC and DLCO. Also report:
cor pulmonale or pulmonary hypertension
whether outpatient oxygen therapy is required
if available, the maximum exercise capacity

e. **Restrictive lung diseases:** These include diaphragm paralysis or paresis, spinal cord injury with respiratory insufficiency, kyphoscoliosis, pectus excavatum, pectus carinatum, post-surgical residual (lobectomy, pneumonectomy, etc.), chronic pleural effusion or fibrosis, and traumatic chest wall defect are evaluated. Provide PFT's, specifically the FEV-1, FEV-1/FVC ratio, DLCO. Also report:

cor pulmonale, right ventricular hypertrophy, or pulmonary hypertension
whether there have been episodes of respiratory failure
whether outpatient oxygen therapy is required
if available, the maximum exercise capacity.

f. **Sarcoidosis:**
Report:
the extent of pulmonary and mediastinal disease and any associated signs and symptoms
presence of cor pulmonale or congestive heart failure
type of treatment, frequency, and dosage
in detail all extra-pulmonary involvement (skin, eye, etc.) Use additional worksheets, as appropriate.
PFT's as for chronic bronchitis.

g. **Mycotic lung diseases:** These include, among others, histoplasmosis, coccidioidomycosis, blastomycosis, cryptococcosis, aspergillosis, and mucormycosis.
Report:
signs and symptoms of chronic pulmonary mycosis, such as fever, weight loss, night sweats, cough, hemoptysis and their frequency and severity
need for suppressive therapy
whether mycotic lesions are healed or disease is active.

h. **Bacterial infections of the lung, including actinomycosis, nocardiosis, and chronic lung abscess:**
Report:
for active disease: signs and symptoms, such as fever, night sweats, weight loss, hemoptysis
for inactive disease or residuals: PFT's and other findings listed above for restrictive lung disease, interstitial lung disease, or obstructive lung disease, as appropriate.

6.4 What specific information should be provided in examinations of pulmonary vascular disease?

a. Describe the type of pulmonary vascular disease and its etiology.

b. Discuss or describe, as appropriate:
chronic pulmonary thromboembolism
evidence of pulmonary hypertension, right ventricular hypertrophy, or cor pulmonale
whether anticoagulant therapy is required
obstructive disease of pulmonary arteries or veins
history of inferior vena cava surgery
symptoms following resolution of acute pulmonary embolism
PFT's if residuals of pulmonary embolism include obstructive or restrictive lung disease.

6.5 How should the diagnosis of cor pulmonale be confirmed?

Cor pulmonale, right ventricular hypertrophy, or pulmonary hypertension should be confirmed by a cardiac Echo or cardiac catheterization. They should not be diagnosed on clinical findings or X-rays only.

6.6 What should be provided for a disability examination of pulmonary

neoplasms (benign and malignant)?

Benign and malignant neoplasms are evaluated on the basis of specific residuals following treatment. If there has been a pulmonary resection, provide PFT's and other elements listed for restrictive diseases (see 6.3 e). If treatment for malignant neoplasm has been completed, describe the type of treatment and date of last treatment.

6.7 What is needed for an examination of pulmonary tuberculosis?

See disability examination worksheet titled "PULMONARY TUBERCULOSIS AND MYCOBACTERIAL DISEASES".

The diagnosis of active pulmonary tuberculosis requires 3 sputum smears and cultures.
Classification of tuberculosis;

0. No tuberculosis exposure, not infected (no history of exposure, negative reaction to tuberculin skin test).

I. Tuberculosis exposure, no evidence of infection (history of exposure, negative reaction to tuberculin skin).

II. Tuberculous infection, without disease (positive tuberculin skin test, negative bacteriological studies (if done), no clinical and/or x-ray evidence of tuberculosis.) Give history of treatment.

III. Tuberculosis: current disease.

1) Location of disease (pulmonary, pleural, lymphatic, bone and joint, genitourinary, meningeal, peritoneal, other)
2) Type of lesion (cavitary, non-cavitary, miliary)
3) Bacteriological status (microscopy and culture results and dates)
4) X-rays (reports and dates)
5) Treatment status (drugs - doses and dates)
6) Condition (stable, worsening, improving)

6.8 What are the important elements of a disability examination for sleep apnea?

Sleep apnea includes intermittent cessation of airflow at the nose and mouth during sleep, lasting 10 to 30 seconds and occurring 10 to 15 times per minute. Obstructive is due to collapse and occlusion of the upper airway of the oropharynx, and snoring is a common symptom. Central is due to a transient abolition of central ventilatory drive, which causes a chronic alveolar hypoventilation. Mixed sleep apnea combines features of both types.
Report whether there is:

a tracheostomy
chronic respiratory failure with carbon dioxide retention or cor pulmonale
breathing assistance device such as continuous airway pressure (CPAP) is required
persistent daytime hypersomnolence.

Chapter 7 - CARDIOVASCULAR SYSTEM

7.1 What are the important elements of a cardiovascular examination?

This chapter supplements the 5 examination worksheets titled: HEART; ARRHYTHMIAS; ARTERIES, VEINS, AND MISCELLANEOUS; HYPERTENSION; COLD INJURY PROTOCOL EXAMINATION.

a. **What is needed in the history for an initial examination?**

1) History of present illness - onset, frequency, and severity of symptoms; past and current treatment; whether symptoms are controlled by treatment; effects of condition on daily activities.

2) General health information - including previous surgery and illnesses; family history; military history.

b. **What is needed in the history for a review examination?**

For a review examination, only an interval history covering the period since the last examination is needed.

c. **What is needed for the physical examination?**

Follow the appropriate cardiovascular examination worksheet. Supplementary information is provided below.

d. **What laboratory studies may be needed?**

SMA-12, chest x-ray and ECG are routine; other tests such as cardiac enzymes, lipid profile, echocardiography, Doppler studies, cardiac stress tests, Holter monitor, electrophysiologic testing, computed tomography, magnetic resonance imaging, radionuclide imaging (or myocardial perfusion scan), cardiac catheterization, pulmonary artery catheterization, coronary angiography, or thallium stress test may be required.

Most of the disability evaluations of cardiovascular disease are based on objective tests. Therefore, exercise stress testing, for example, is commonly needed (unless one done within the past year is of record) since it is a primary basis of evaluation for many types of heart disease.

e. **Stress testing and METS:**

Meaning of METs: One MET is the energy cost of standing quietly at rest and represents an oxygen uptake of 3.5 milliliters per kilogram of body weight per minute. This is the resting energy requirement. With progressive activity, the number of METs required progressively increases. For example, a workload of three METs represents such activities as level walking, driving, and very light calisthenics, and a workload of between three and five METs represents such activities as walking two and a half miles per hour, social dancing, light carpentry, etc.

f. **Requirements for stress testing:**

Types of heart disease which require stress testing and the exceptions for requirements are listed on the examination worksheets (See B4 on HEART worksheet). Note that if left ventricular dysfunction is present

and the ejection fraction is 50 percent or less, or if there is chronic congestive heart failure or there has been more than one episode of acute congestive heart failure in the past year, stress testing is not needed. Many other conditions, especially during active infection or acute stages, such as valvular heart disease during active infection also do not require stress testing.

If stress testing not done: However, when stress testing is needed, an examination will be returned for completion unless there is a medical reason why the stress testing cannot be done.

g. **Estimation of METS:**

When stress testing is medically contraindicated, the examiner must then provide an estimate of the level of activity expressed in METs that results in cardiac symptoms. Charts that associate METs levels with various activities and that may be used for estimates are available in standard medical and heart textbooks.

7.2 What is a standard way of reporting a diagnosis by NYHA criteria?

Nomenclature and Criteria established by the New York Heart Association are commonly used to report a diagnosis and status of heart disease. These include the etiological, anatomical, physiological and functional capacity.

Example:

Diagnosis: Arteriosclerotic heart disease.
Anatomy: 90% left circumflex coronary artery occlusion, EF = 60%.
Physiology: Atrial fibrillation, congestive heart failure.
Functional Capacity: METS = 6.
Prognosis: Good with therapy. (Use gradations such as excellent, good with therapy, fair with therapy or poor despite therapy.)

7.3 What additional information would be useful in a disability examination for valvular heart disease (including rheumatic heart disease), endocarditis, heart valve replacement, pericarditis, or pericardial adhesions?

For all:

Report results of exercise testing in METs unless medically contraindicated or otherwise not needed. (See B4 on HEART worksheet for list of conditions/situations where exercise testing is not needed.)
Describe any episodes of congestive heart failure and whether the heart failure has resolved.
Report current treatment

Valvular heart disease or endocarditis:

Diagnosis of either should be established (unless already of record) by findings on physical examination and either echocardiogram, Doppler echocardiogram, or cardiac catheterization.
For endocarditis: Bacterial, fungal, or nonbacterial vegetations may form on the cardiac valves or endocardial surface of patients with rheumatic fever, artificial heart valve, congenital heart disease, heroin addiction involving intravenous self-medication, or dental procedures. Emboli to the coronary, renal, cerebral, or peripheral arteries may occur

when vegetations break loose from the valves. Note any petechiae, finger or toenail hemorrhages, Osler's nodes, or Roth spots in the retina. Report residual effects of any emboli, using appropriate worksheet.

Rheumatic heart disease:
History: Record attacks prior to service, during service, and after leaving the service, including results of throat cultures, antistreptolysin titers, electrocardiographic findings, skin rashes, migratory swollen joints, chorea, prolonged weakness or fever
Physical examination: Report mitral or aortic murmurs, accentuation of the mitral component of the first heart sound, decreased intensity of second aortic sound, prolongation of the P-R interval.

Some causes of pericarditis:

infection, such as AIDS or other virus
cancer from an adjacent area
myocardial infarction
trauma
rheumatoid arthritis
lupus erythematosus
renal failure.

7.4 What additional information would be useful in a disability examination for arteriosclerotic heart disease, myocardial infarction, hypertensive heart disease, coronary bypass surgery, cardiomyopathy, or syphilitic heart disease?

The diagnosis: requires documentation. For example, the diagnosis of coronary artery disease may be established by ECG, treadmill exercise testing (with or without a thallium scan), or cardiac catheterization and angiography - the "gold standard".

If the diagnosis has already been established:
Report results of exercise testing in METs unless medically contraindicated or otherwise not needed. (See B4 on HEART worksheet for list of conditions/situations where exercise testing is not needed.)
Describe any episodes of congestive heart failure and whether the heart failure has resolved.
Report current treatment.

If arteriosclerotic heart disease has been superimposed upon another type of heart disease that is related to service, explain which current signs and symptoms are attributable to each type of heart disease. If it is impossible to separate the findings due to each condition, explain why.

Untreated tertiary syphilis may be associated with aortic insufficiency, coronary artery ostial occlusion, angina pectoris, or aortic aneurysm. Any aortic regurgitation, capillary pulsation, or Duroziez's sign should be recorded. Valvular malfunction should be documented by echocardiography or cardiac catheterization.

If asked to give an opinion about the etiology of coronary artery disease in a particular veteran, be sure you take into consideration all risk factors for CAD that are present and explain the rationale for your opinion.

7.5 What is important about a diagnosis of ischemic heart disease in former prisoners of war?

Beriberi heart disease is a presumptive condition for service connection in former prisoners of war. A regulation has established that beriberi heart disease includes ischemic heart disease if the former prisoner experienced edema of the feet or legs during captivity. There is no requirement that there was ever an actual diagnosis of beriberi. Therefore you may be asked to determine whether ischemic heart disease is present in a former prisoner of war. You need not determine the etiology in these cases, only whether ischemic heart disease is present, and the current findings. The ischemic heart disease may be either absolute (e.g., coronary artery disease) or relative (e.g., cardiomyopathy with a greatly enlarged heart).
An examination for ischemic heart disease should be conducted using the HEART worksheet and the information in section 7.4.

7.6 What additional information would be useful in a disability examination for arrhythmias?

Arrhythmias may occur as part of a primary heart disease or secondary to pulmonary or metabolic disease. Record the time of onset of the arrhythmia, precipitating conditions, and responses to past and present therapy. Although an ECG is essential, it may often be necessary to record long rhythm strips or Holter monitors to document intermittent abnormalities. The diagnosis of conduction block is usually established by ECG, but it may require special conduction studies such as HIS bundle tests.

Supraventricular arrhythmias: Report number of documented (by ECG or Holter monitor) episodes per year. State whether paroxysmal or permanent. Report treatment, including pacemaker
Sustained ventricular arrhythmias: Report results of exercise testing in METs unless medically contraindicated or otherwise not needed (See B4 on HEART worksheet for list of conditions/situations where exercise testing is not needed). Report any periods of hospitalization for diagnosis or treatment. State whether there is an AICD in place. Report current treatment and results, including pacemaker. Describe any episodes of congestive heart failure and whether the heart failure has resolved.

Atrioventricular block: Report results of exercise testing in METs unless medically contraindicated or otherwise not needed. (See B4 on HEART worksheet for list of conditions/situations where exercise testing is not needed.) Describe any episodes of congestive heart failure and whether the heart failure has resolved. Report current treatment, including pacemaker.

7.7 What additional information would be useful in a disability examination for cardiac transplantation?

Report results of exercise testing in METs unless medically contraindicated or otherwise not needed. (See B4 on HEART worksheet for list of conditions/situations where exercise testing is not needed.) Describe any episodes of congestive heart failure and whether the heart failure has resolved.

7.8 What additional information would be useful in a disability examination for cor pulmonale?

Diagnosis of cor pulmonale:

clinical examination
ECG
echocardiography showing increased right ventricular size and wall thickness
right heart catheterization showing elevated right atrial, ventricular, and pulmonary artery pressures

Exam:

Record any underlying chronic lung disease as well as the cardiac symptoms and signs.
Include any hypertrophy of the right ventricle, dilation of the right atrium or ventricle and venous or hepatic congestion. Evaluation is based on the underlying pulmonary disease.

7.9 What additional information would be useful in a disability examination for endocrinopathic heart disease?

Record both endocrine and cardiac functions and past and present response to therapy. Any signs of congestive heart failure, emaciation, obesity, myxedema, circulatory insufficiency, paroxysmal atrial fibrillation, flutter, tachycardia, or mediastinal obstruction should be noted. Report heart disease findings as stated on HEART worksheet.

7.10 What additional information would be useful in a disability examination for traumatic heart disease?

Blunt trauma to the chest such as a motor vehicle accident, crush, blow or fall injury, a high velocity missile, or a stab wound may injure the heart. Record any aortic regurgitation, pericardial tamponade, pericardial fibrosis or calcification. Chest x-ray, ECG or serum enzymes may be useful. Follow guidelines on HEART worksheet.

7.11 What additional information would be useful in a disability examination for other heart disease?

Amyloid disease, sarcoidosis, metastatic neoplasm, infections such as diphtheria, typhoid fever, malaria, meningitis, melioidosis, arteriovenous fistula, renal disease, and cardiac poisons, such as herbicides, insecticides, and solvents may cause heart disease. Follow guidelines on HEART worksheet.

7.12 What additional information would be useful in a disability examination for hypertension and isolated systolic hypertension?

Diagnosis
Multiple BP readings are required to establish the diagnosis of hypertension. There must be 2 or more readings on at least 3 different days. However, once hypertension has been properly diagnosed, readings on multiple days are not required for follow-up examinations. **If the veteran is on treatment for hypertension at the initial exam, multiple readings on different days are not necessary because they would not be useful.**

Classification:
Current classification of hypertension (Sixth Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure - 1997)

Stage 1 - 140 mm Hg to 159 mm Hg systolic or 90 mm Hg to 99 mm Hg diastolic
Stage 2 - 160-179 systolic or 100-109 diastolic
Stage 3 - >180 systolic or >110 diastolic

The Committee considers a systolic pressure of <120 and diastolic pressure of <80 to be optimal, systolic pressure of <130 and diastolic of <85 to be normal, and systolic pressure of 130-139 and diastolic of 85 to 89 to be high normal.

Examination needs once diagnosis has been established:
Carefully record the blood pressure, preferably at least three times, spread throughout the examination, because the blood pressure reading is the primary basis of evaluation.
Describe in detail any complications that are present - eye, renal, cerebral, cardiac, etc - following the appropriate worksheets.
If isolated systolic hypertension is present, indicate underlying condition, if any.
Report treatment and side effects.

7.13 What additional information would be useful in a disability examination for aneurysms?

Aortic aneurysms:
Diagnosis may be made on the signs and symptoms on a routine examination, but may require abdominal x-ray, ultrasound scan, computed tomography (CT) scan, MRI scan, or aortography.
Record size, location, related symptoms, etiology (arteriosclerosis, syphilis, hypertension, trauma, etc.).
Give history of any grafting or other surgery and residuals. State any restrictions on activity. Describe any other organs affected.

Aneurysms of other large arteries:
Report location, symptoms (including claudication), history of surgical correction and residuals, ankle/brachial index (See 7.15b).

Aneurysms of small arteries:
Berry aneurysm - small (<1.5 cm diameter), congenital aneurysm of brain. Rupture leads to subarachnoid hemorrhage. Can be cured by being clipped.

Mycotic aneurysm - from infection. A typical complication of bacterial endocarditis. Involves any artery, especially the cerebral, mesenteric, renal or splenic arteries. Tend to rupture when small (< 1 cm diameter).

For any small aneurysm, report any symptoms in body part affected. If surgically corrected, report residuals.

7.14 What additional information would be useful in a disability examination for arterial embolism?

Report residual effects of embolus or emboli on particular area of body affected.
Emboli arising from the cardiac atria, ventricles, valves, or the aorta can produce anoxia, devascularization, paresthesia, anesthesia, hyperesthesia, loss of motor function, gangrene, or even auto-amputation.

Arterial pulmonary embolism (paradoxical embolus) may arise from the peripheral veins if congenital heart disease, trauma, infarction, or endocarditis has caused an abnormal communication between the right and left sides of the heart.

7.15 What additional information would be useful in a disability examination for arteriosclerosis obliterans and thromboangiitis obliterans?

Diagnosis: Angiography is required for precise localization of the obstructed vascular segments. During claudication attacks there may be coldness and pallor of the foot (particularly just following exercise), cyanosis on dependency, and altered or diminished sensation. Rest pain of the most distal parts of the involved extremity is a sign indicative of poor prognosis. In advanced cases muscle atrophy, osteoporosis, terminal ulceration, and gangrene may follow.

Examination:
Record the ankle/brachial index (using Doppler) for each affected lower extremity. Divide the ankle systolic blood pressure by the brachial systolic pressure to determine the ankle/brachial index. The ankle pressure is normally 90% of the arm pressure, or 0.9 or greater.

0.7 to 0.9 = mild arterial insufficiency or obstruction.
0.5 to 0.7 = moderate disease.
less than 0.5 = severe arterial occlusive disease.

Report how many yards of walking on level ground at 2 miles per hour a person is able to cover before claudication develops. Report color, temperature (if cool or cold, whether this is persistent), trophic changes (skin thinning, hair loss, dystrophic nails), ulceration, whether there is pain at rest.

Additional information about thromboangiitis obliterans (Buerger's disease):
Obstruction of small and medium-sized arteries and veins by inflammation. Mostly (95%) in men who smoke cigarettes. Not a type of arteriosclerosis, but an inflammatory response in the arteries, veins, and nerves, which leads to a thickening of the blood vessel walls. Symptoms begin at fingertips or toes and progress up the arms or legs.About 40% also have episodes of phlebitis. Some have Raynaud's phenomenon.
Additional residuals may include muscle atrophy in affected areas, osteoporosis of the bones of the leg and foot, regional hyperkeratosis, callus formation.

7.16 What additional information would be useful in a disability examination for arteriovenous fistulae?

Background and diagnosis:
Arteriovenous fistulae are connections between an artery and vein, often due to trauma such as a gunshot or stab wound. The missile need not penetrate the vessel wall, and blunt trauma can sufficiently weaken the wall so that arterial pulsation will create a fistula through the damaged elastic and muscle layers. Fistulae may cause delayed manifestations such as hypervolemic hypertensive heart failure with dilation of the chambers, edema, ischemia, ulcers, and even gangrene of the affected extremities.
Record any palpable thrill or bruit with pronounced accentuation in systole. When the fistula is closed by pressure, the fast heart rate and the systolic blood pressure elevation fall. Arteriography and Doppler sonography provide a precise diagnosis.

Examination:
Record blood pressure, pulse, heart size, and whether there is heart failure. Record edema, stasis dermatitis, ulceration, or cellulitis of affected extremity.

7.17 What additional information would be useful in a disability examination for Raynaud's phenomenon and Raynaud's disease?

a. **Characteristics of Raynaud's:**
Raynaud's disease and Raynaud's phenomenon or syndrome are conditions in which arterioles, usually in the fingers and toes, go into spasm, causing a characteristic attack lasting minutes to hours.
It may also affect the nose, earlobes, or lips.
Color changes in the digits of white, red, and blue occur, not necessarily in a particular order.
There is no underlying cause or Raynaud's disease. Raynaud's phenomenon or syndrome may be associated with scleroderma, rheumatoid arthritis, lupus erythematosus, atherosclerosis, nerve disorders, or reactions to certain drugs.

b. **Exam:**
Describe a characteristic attack and report frequency and duration of characteristic attacks.
Report ulcers or autoamputation of fingers.

7.18 What additional information would be useful in a disability examination

for erythromelalgia?

a. **Diagnosis**: Erythromelalgia is a pain syndrome of the skin with 5 main signs:
intense burning and tingling pain of the hands and feet
erythema
increased skin temperature at affected sites
aggravation of symptoms by warmth
there is symptomatic relief by cooling or aspirin.
It may be idiopathic, congenital, or due to myeloproliferative disorder, rheumatoid arthritis or other collagen vascular disorder, diabetes mellitus, cancer, or pernicious anemia.

b. **Exam:** Report frequency and duration of attacks and whether there is laryngeal involvement.

7.19 What additional information would be useful in a disability examination for varicose veins or post-phlebitic syndrome?

Background:
Varicosities are dilated segments of veins with thin walls, and inflammation, thrombosis, and infection may occur. The cause of varices is not known, but is probably a hereditary weakness in the walls of the superficial veins. Some are due to phlebitis. Varices are often more cosmetically disturbing than disabling; however, there may be severe and even fatal complications at times. Some experience symptoms of tired, heavy, or aching legs and a few develop dermatitis, phlebitis, bleeding, induration, ulceration or edema (post-phlebitic syndrome). The causes of thrombophlebitis include injury to the lining of the vein; an increased tendency for blood to clot, as can happen with some cancers and rarely with oral contraceptive use; slowing of the blood flow in the veins, as happens during prolonged bed rest, long flights or drives, etc. Acute thrombophlebitis will not normally present for disability examination. It is the chronic residuals, such as post-phlebitic syndrome that will be seen.The post-phlebitic syndrome may itself lead to the development of varicosities because of chronic venous insufficiency, and varicosities can lead to post-phlebitic syndrome, a chronic form of venous insufficiency due either to varicose veins or thrombophlebitis.

Exam for either varices or post-phlebitic syndrome:
Report any visible or palpable varicose veins.
Report symptoms, and level of activity that leads to symptoms.
Report edema, level of activity that leads to it, and whether it is relieved by elevation or compression hosiery.
Report other skin changes - pigmentation, eczema, ulceration.
Report whether there is subcutaneous induration or board-like edema.

7.20 What additional information would be useful in a disability examination for residuals of cold injury?

Follow the COLD INJURY PROTOCOL worksheets. They offer a detailed examination protocol.

CHAPTER 8 - DISEASES OF THE DIGESTIVE SYSTEM

SECTION I. ESOPHAGUS

8.1 General

Among the diagnostic procedures that may be useful are: cineradiographic studies of the esophagus for motor disorders or to demonstrate gastroesophageal reflux; the use of constantly perfused, open-tipped catheters to study disorders of esophageal motility in diffuse esophageal spasm, gastroesophageal sphincter incompetence, and achalasia (cardiospasm); esophagoscopy with flexible fiberoptic instruments for direct visualization with biopsy and cytology; the acid barium swallow to study the activity of the esophagus in response to the direct presence of acid; and manometry of the esophagus to distinguish among diffuse esophageal spasm, achalasia, and malignant disease.

Primary symptoms of esophageal disease:
Dysphagia (difficulty in swallowing) with accompanying pain or discomfort usually located at the lower end of the sternum

"Heartburn" (usually a consequence of acid gastroesophageal reflux into the esophagus) which is generally an unmistakably distinct burning sensation most likely to occur 10-20 minutes to an hour after eating. Describe the specificity and frequency of heartburn, whether it occurs while eating or afterwards, and, if afterwards, how long afterwards.

Regurgitation may be a prominent symptom of achalasia and consists of the appearance of esophageal or gastric contents in the mouth from below without the effort of vomiting. Report whether regurgitation is lessened in the upright position.

Weight loss and *cough* are other possible symptoms.

8.2 What are the usual findings in stricture of the esophagus?

There may be a history of previously swallowing a caustic substance resulting in scarring and contraction of the esophagus. Stricture may also result from severe reflux esophagitis.

Exam: Describe the cause of the stricture and the forms of therapy used, including frequency of dilation. Report any difficulty of liquid or food passage through the esophagus and the weight curve.

8.3 What are the main features of carcinoma of the esophagus?

Dysphagia is the most important symptom of carcinoma of the esophagus. At first, there is progressive difficulty swallowing solid foods. As the lumen is progressively encroached upon, (usually over no more than a 6-month period) food must be increasingly soft to be swallowed. Finally only liquids can be taken. Raising of blood or mucus

may occur. Weight loss is progressive as food intake lessens. The X-ray is often diagnostic, but biopsies are indicated to make the diagnosis of esophageal malignancy conclusive.

Exam: Report type of treatment, residuals or side effects of treatment, and current signs and symptoms due to residual or recurrent tumor. Report date of last treatment, if completed.

8.4 What are the notable findings about achalasia?

Symptoms: The primary symptom is chronic dysphagia gradually progressive over months to years. Achalasia is characterized by massive dilatation in the lower two-thirds of the esophagus and consequent collection of swallowed liquids and food in the dilated portion. There is also an accompanying spastic esophagogastric sphincter. If the patient lies down before emptying of the esophagus, regurgitation of esophageal contents occurs, with the swallowed material moving effortlessly back into the pharynx and mouth. Weight loss may be progressive over the years.

Cause: The condition is caused by absence of peristaltic waves in the lower two-thirds of the esophagus. Accompanying this is greatly increased gastrin induced tone of the esophagogastric sphincter with its consequent inability to relax after swallowing.

Diagnosis: X-ray study with barium is characteristic, showing a smooth marked dilatation of the esophageal wall with a conically shaped or beak-like narrowing of the distal portion of the esophagus. Endoscopy confirms the esophageal dilatation, but the diagnosis usually requires confirmation by esophageal manometry to show absence of peristalsis and other findings.

Complications: Achalasia may be complicated by aspiration pneumonia caused by regurgitation of the food into the trachea and bronchi.

Treatment: Current major treatments are pneumatic dilatation (via endoscopy), injection of botulinum toxin (also by endoscopy), and surgery (mainly myotomy, sometimes via laparoscopy).

Exam: Report current signs and symptoms, any diet restriction, and details of current treatment or residuals of past treatment, plus any complications, such as aspiration.

8.5 What are the characteristic findings of GERD (gastroesophageal reflux disease)?

Cause: Gastroesophageal reflux disease results from a greater than normal degree of reflux of acid contents of the stomach upward through the esophagogastric sphincter, which can lead to inflammation of the esophagus (reflux esophagitis).

Symptoms: The symptoms include heartburn, indigestion, chest pain, coughing or choking while lying down, increased salivation, regurgitation, difficulty sleeping after eating, and asthma-like symptoms while sleeping. Less common are noncardiac chest pain, dysphagia (without evidence of esophageal obstruction), hoarseness, sore throat,

frequent clearing of the throat, and gingivitis. Smoking, caffeine, and alcohol may exacerbate heartburn. Long term complications include bleeding, stricture, and even malignancy.

Diagnosis: Some patients can be diagnosed on the basis of history and response to appropriate treatment. Others, especially when there are severe or longstanding symptoms, may require endoscopic studies. A 24-hour pH probe study (a small catheter with an acid sensitive probe is placed in the lower esophagus for 24 hours to measure the acid that is present) may be useful in some cases to confirm the diagnosis or to correlate symptoms with episodes of acid reflux.

Treatment: The purpose is to reduce the acidity of the refluxed material. Antacids help in mild cases. Acid-reducing medications such as histamine H2 receptor antagonists (such as Zantac, Pepcid, and Tagamet) are the mainstay of treatment. Lifestyle modifications, such as weight reduction and nocturnal postural drainage, facilitated by elevating the head of the bed on 15 cm blocks, are often helpful. More severe disease may require proton pump inhibitors (Omeprazole or Lansoprazole) alone or combined with agents that improve emptying of the esophagus and stomach and increase the tone of the lower esophageal sphincter.
Surgical treatment consists of various techniques that reinforce the lower esophageal sphincter and correct anatomical abnormalities (for example, hiatal hernias) to prevent reflux, such as by creating a valve-like mechanism by wrapping a gastric pouch around the distal esophagus. This is sometimes done laparoscopically (laparoscopic Nissen fundoplication).

How does GERD relate to hiatal hernia?
Most patients with GERD have a hiatal hernia, but the hernia may not be the cause of heartburn. The exact role of hiatal hernia in the pathogenesis of gastroesophageal reflux has not been defined.

Exam: Report symptoms and describe any complications and their effects on functioning.

8.6 What are the characteristics of hiatal hernia?

Types:

Direct or sliding - herniation of a portion of the stomach into the thorax through the esophageal hiatus of the diaphragm

Paraesophageal - the hernia occurs adjacent to the hiatus.

Symptoms: May be totally asymptomatic or present as a dull substernal or precordial distress or fullness usually appearing soon after eating and generally disappearing after a few minutes to an hour or with other symptoms, as described under 8.5b. Oozing of blood or even acute bleeding with hematemesis are said to originate as a result of peptic ulcer of the esophagus with erosion of the mucosa and esophagitis.

Diagnosis: The diagnosis is usually made by X-ray. It may also be seen on endoscopy.
In pure esophageal reflux without hiatal hernia, X-ray studies demonstrate the reflux in less than 50 percent of the cases.

Significance: Since 20 to 50 percent of persons over age 50 have a demonstrable hiatus hernia, the question of origin of symptoms becomes important, i.e., whether or not the symptoms are referable to the hernia or to associated gastroesophageal reflux. Asymptomatic hiatal hernias do not require treatment. If the hernia contributes to GERD, the treatment is usually the same as for GERD.

Test for incompetent sphincter with acid reflux: To establish whether or not reflux or the presence of the hiatal hernia alone is producing the pain, it is necessary to show that the pain can be reproduced and, therefore, that the esophagus is sensitive to the refluxed material from the stomach. To determine this, a test may be performed in which HCl is introduced into the stomach. If the esophagogastric sphincter is functioning properly, the pH in the esophagus will remain at or above 5 or 6. With an incompetent sphincter and consequent acid reflux into the lower esophagus, the pH will fall to 1.5 to 2, similar to the pH of the gastric contents.

Exam: Describe basis of diagnosis, symptoms, any episodes of bleeding, and effects on functioning.

8.7 What are the characteristics of esophageal diverticula?

Diverticula are occasionally discovered, especially in the aged, during the course of routine radiographic examinations. Rarely are they the cause of specific symptoms.

Zenker's diverticulum
Located in the pharyngeal esophagus, can be large, and may be symptomatic due to regurgitation of material swallowed earlier. It is always posterior. Diagnosis is made by barium swallow.
Exam: Describe the symptoms, treatment, and results.

Traction diverticula
Located in the lower part of the esophagus, usually due to traction on its wall by old inflammatory pulmonary or mediastinal lesions, such as tuberculosis.

Treatment: No treatment is needed unless regurgitation results in pulmonary aspiration. In those cases, surgery may be carried out.

Exam: Describe the symptoms, treatment, and results, including any post-surgical residuals.

8.8 What are the characteristics of esophageal and gastric varices?

What are varices and what causes them? Varices are submucosal venous collaterals, usually in the esophagus, but also occurring in the upper stomach, and are due to elevated portal venous pressure.
Usually, but not always, they are caused by cirrhosis of the liver.

Diagnosis: Varices may be diagnosed by upper gastrointestinal X-ray, but should be confirmed by fiberoptic endoscopy.

Treatment: No treatment of varices is necessary unless they bleed.

Exam: Report cause, any episodes of bleeding, frequency, and treatment.

8.9 What are the findings in esophageal spastic motility disorders?

Symptoms: Contraction abnormalities of the esophagus usually produce intermittent or slowly progressive dysphagia that rarely causes weight loss. Sometimes they result in excruciating substernal chest pain resembling the pain of coronary artery disease, with or without dysphagia.

Diagnosis: Esophageal manometry, especially with a provocative test to elicit chest pain symptoms, is the primary means of diagnosis. Barium swallow may show diffuse esophageal spasm.

Treatment: Treatment is symptomatic, plus specific treatment for any associated gastric reflux.

Exam: Report how diagnosis was established and current symptoms and treatment, including any dietary restrictions, weight loss.

SECTION II. STOMACH

8.10 What are the types and characteristics of gastritis?

Types: Gastritis means an inflammation of the lining of the stomach, but the term "gastritis" is frequently a "catch-all" or "waste basket" diagnosis for a number of gastric complaints. It can be classified as acute or chronic, as erosive or non-erosive, and as atrophic or hypertrophic.
Symptoms. Symptoms may include epigastric pain, tenderness, anorexia, nausea, and vomiting, but hemorrhage is of most concern and may be the only finding in acute gastritis. In some cases, there are no symptoms at all.

Erosive gastritis: Acute erosive gastritis may be due to acute stress such as severe burns, sepsis, shock, etc.; to corticosteroids, aspirin, or other anti-inflammatory agents; or to toxins. Diagnosis is by endoscopy. Chronic erosive gastritis may be idiopathic or caused by drugs (especially aspirin and other NSAIDs). Multiple ulcers are seen on endoscopy. Symptoms, if any, are the same as for acute gastritis. Medical treatment is similar to that for GERD.

Non-erosive gastritis: Often due Helicobacter pylori infection. May be few or no symptoms. Definitive diagnosis is by endoscopy and biopsy, but serologic tests for antibodies to H. pylori may also suggest the diagnosis. Treatment is to eradicate H. pylori infection if present and otherwise is symptomatic (and similar to GERD treatment).

Chronic atrophic gastritis: Seen in 80-90% of those with gastric cancer. All must be investigated for presence of carcinoma. Chronic atrophic gastritis is found in nearly all cases of pernicious anemia. The diagnosis should be

based on gastroscopic examination and biopsy. Is also associated with gastric polyps and gastric ulcer. May follow chronic antral gastritis. May be symptom-free.
Exam: Report how diagnosis of gastritis was established, any episodes of bleeding and current symptoms and treatment.

8.11 What is prolapse of the gastric mucosa (antral prolapse)?

Prolapse of loose, redundant gastric mucosal folds through the pylorus into the duodenal lumen may be found during radiologic observation of a barium meal. There are no clearly defined symptoms, but hemorrhage, incarceration, and obstruction may occur. Often this condition is mistaken for duodenal ulcer and gallbladder disease.

8.12 What are the notable findings about ulcer disease?

General: "Peptic" ulcer is a loosely used term, which is not acceptable as a complete diagnosis. Ulcers may be found in the stomach, duodenum, lower end of the esophagus, Meckel's diverticulum, and in the small intestine adjacent to a gastroenterostomy.

Cause: Alcohol, tobacco, aspirin, other NSAIDS and physiologic stresses are predisposing factors, but, excluding those with Zollinger-Ellison syndrome or NSAID-related ulcer disease, up to 95% of duodenal ulcers and 80% of gastric ulcers are associated with infection due to the Helicobacter pylori organism. It is believed the H. pylori infection makes the mucosa more susceptible to an attack by acid.

Diagnosis: Ulcer disease can be diagnosed by a combination of history plus either X-ray barium study or endoscopy. H. pylori infection can be diagnosed by endoscopy and biopsy or by non-invasive procedures (serologic test, breath test for urease activity).

Treatment: Antibiotic treatment is still evolving, but current treatment if H. pylori infection is present is 2 weeks of treatment with two antibiotics to eradicate the Helicobacter infection plus a longer period of treatment with an acid inhibitor. Surgery has greatly decreased as treatment for ulcer disease in recent years except for the complications of perforation, hemorrhage, or obstruction.

Exam: Record: (a) the detailed history, including sites of pain, rhythmicity, periodicity, and chronicity; (b) any recurrences with the disability's frequency, duration, response to medical or surgical management, and influence upon employment; (c) complications of the ulcer such as hemorrhage, perforation, or pyloric obstruction; (d) nutritional status; (e) frequency and duration of any incapacitating episodes, and (f) current treatment.

8.13 What are the significant findings of postgastrectomy syndrome (dumping syndrome)?

Cause: After partial gastrectomy or gastroenterostomy, ingested food may enter the jejunum rapidly and set up a symptom complex known as the "dumping syndrome."

Symptoms: Postcibal warmth, sweating, tightness or pain in the epigastrium, nausea, vomiting, weakness, abdominal cramps, palpitation, vertigo, or collapse. These complaints may occur during or immediately after eating and resemble hypoglycemia. This is the early dumping syndrome. However, a delayed or late type of dumping syndrome, with weakness, sweating, and dizziness occurring one to three hours after eating, may also occur. Both types may occur in the same person. Symptoms may be mild or incapacitating, and the duration is variable.

Exam: Describe the symptoms, their duration and intensity, time of onset after eating, the response to therapy or reconstructive surgery. Describe nutritional status, weight prior to surgery, present weight and any loss of strength and appetite.

8.14 What are the significant findings of marginal (gastrojejunal or gastroduodenal) ulcer?

Symptoms: Similar to duodenal ulcer. Pain may be referred to the left mid-abdomen, to the left lower quadrant, or to the back. Massive hemorrhage may occur; however, perforation is not uncommon. Gastrojejunocolic fistula is a serious complication that causes severe malnutrition, weight loss, anemia, and diarrhea.

Diagnosis: The diagnosis should be made by radiologic and gastroscopic studies.

Exam: Describe symptoms and their duration, treatment, (such as efforts at closure and vagotomy), and weight changes.

8.15 What are the findings in postvagotomy syndrome?

Vagotomy with such drainage procedures as gastroenterostomy, pyloroplasty, or partial gastrectomy may give rise to abdominal distention, belching of foul smelling gas, diarrhea, nausea, vomiting, and evidence of gastric stasis. Though symptoms may disappear with time, gastric emptying time may be prolonged indefinitely.

Exam: Report symptoms due to the vagotomy and any medication needed.

8.16 What are the findings in benign neoplasms of the stomach?

General: These are rare. May be inside the stomach or extragastric. Polypoid and papillary adenomas are the most common. Intramural lesions may be due to invasion by lymphomas. Polyps occur infrequently and are considered to be precursors of carcinoma.

Symptoms: Are nonspecific. Hemorrhage with or without anemia may be an initial symptom.

Diagnosis: Should be made by radiologic and gastroscopic studies.

Exam: Describe all post-operative residuals.

8.17 What are the findings in malignant neoplasms of the stomach?

Symptoms: Usually nonspecific. A history of "indigestion" in a middle-aged individual without previous gastrointestinal symptoms must arouse suspicion. Weight loss, pallor, tenderness, a palpable abdominal mass, enlarged supraclavicular node, or metastatic hepatic nodules are late manifestations.

Diagnosis: Hypochlorhydria or achlorhydria is present in approximately 50%. The diagnosis should be made by repeated cytologic study of gastric washings, radiologic study, and gastroscopic examination.

Exam: Report type of treatment, date of last treatment if treatment completed, and residuals after treatment, or signs and symptoms of residual or recurrent tumor.

SECTION III. INTESTINE

8.18 What are the notable findings about regional enteritis (Crohn's syndrome)?

Location: Granulomas may involve the terminal ileum alone, or the thickened, edematous, and hyperemic process also may be noted in any part of the gastrointestinal tract from the mouth to the anus. Multiple adhesions may bind together numerous portions of the intestine and other peritoneal-covered viscera.

Symptoms: Intermittent or continuous diarrhea and abdominal pain are the most common symptoms. Rectal bleeding, tenesmus, fever, weight loss, anemia, and edema may also occur.

Laboratory studies: Complete blood count, serum protein, albumin: globulin ratio, prothrombin time (especially with any history of bleeding) may be useful, and a small and large bowel radiological study unless diagnosis is already established.

Complications: Look for an anal fistula, abscess, stricture. Fistulous connections between small and large bowel, abdominal wall, urinary bladder, or other structures may develop in advanced cases. Malabsorption may be a complication.

Extra-intestinal findings: Arthritis, erythema nodosum, pyoderma gangrenosum, uveitis, episcleritis, aphthous stomatitis, kidney stones, gallstones, or other diseases of the liver and biliary system, and other extra-intestinal complications may occur.

Exam: Report current symptoms of primary disease and complications, describe treatment and side effects or residuals. Report details, frequency, and duration of any incapacitating episodes.

8.19 What are the notable findings about irritable bowel syndrome (IBS)?

General: Formerly also known as functional bowel disease, spastic colitis or mucous colitis, but the term "colitis" is a misnomer since both inflammation and an organic component are lacking.

Symptoms: Symptoms are cramping abdominal pain, abdominal distention, constipation, diarrhea, or constipation alternating with diarrhea, excessive mucous secretion, and neuromuscular instability. Certain types of food and emotional stress may precipitate symptoms.

Diagnosis: Usually there is a well-nourished appearance despite a history of frequent loose stools daily. Physical examination is often completely normal. There may be tenderness in the left lower quadrant where a tender and spastic descending and sigmoid colon may be felt. Barium enema may reveal a spastic, irritable descending and sigmoid colon, which may resemble a narrow tube devoid of haustral markings. Sigmoidoscopic examination is negative. The diagnosis of parasitic disease must be eliminated by examination of the stool for ova, cysts, and parasites. IBS is usually diagnosed after other diseases have been excluded.

Exam: Report symptoms, frequency of bowel disturbances, effects on activities.

8.20 What are the notable findings about ulcerative colitis?

General: A relatively uncommon disease characterized by a diffuse inflammation of the colon of unknown etiology. Most often involves the rectum, but may extend to involve the entire colon, always in continuity without skip segments.

Symptoms: A history of frequent liquid stools containing blood, mucus, and pus should arouse suspicion. Fever, weight loss, dehydration, anorexia, and malnutrition are common in advanced or acute fulminating forms of the disease. Nausea, emesis, abdominal cramps, and passage of gas may occur.

Diagnosis: Made by sigmoidoscopic examination, culture of fresh warm stools and rectal swabs for pathogens, examination for endamoeba histolytica, and barium enema. A rectal biopsy may provide a definitive diagnosis.

Complications: Bleeding is the most common complication, and toxic colitis and toxic megacolon are very serious complications. Skin lesions (erythema nodosum, pyoderma gangrenosum), arthropathies (including ankylosing spondylitis), uveitis, episcleritis, thrombophlebitis, malnutrition, liver disease (fatty liver, autoimmune hepatitis, cirrhosis, and primary sclerosing cholangitis), anal fissure, fistula, abscess or stricture may occur. Carcinoma is reported in 30 to 100 percent of prolonged smoldering cases. When present, the prognosis is poor regardless of resection.

Exam: Report current symptoms of primary disease and complications (as described in b and d). Report details, frequency, and duration of any incapacitating episodes. Barium enema is usually unnecessary if the diagnosis has been established.

8.21 What are the implications of diverticulosis and diverticulitis?

Diverticula are small outpouchings through weakened areas of the wall of the large intestine, usually found in the aged person.

Diverticulosis may be asymptomatic or may present symptoms similar to those of an irritable bowel syndrome.

Acute diverticulitis presents with fever, leukocytosis, localized tenderness, and muscle spasm, usually in the left lower abdomen. This may progress to perforation, peritonitis, abscess, fistulous formation, or intestinal obstruction. Diagnosis is by X-ray.

Exam: Report current symptoms and treatment or residuals of past treatment, and any complications.

8.22 What are the notable findings about bacillary dysentery (shigellosis)?

Symptoms: Acutely, severe abdominal pain, fever, nausea, vomiting, diarrhea (usually with blood, pus, and mucous), dehydration, and exhaustion. Stools are green in color, irritating, contain flecks of blood, and have shreds of mucus and pus.

Diagnosis: Sigmoidoscopic examination reveals diffuse hyperemia, shallow ulcers, and yellow mucous discharge. This is an infection of the bowel due to one of four species of Shigella bacteria. Microscopic study of the stool and culture for *Shigella* are the diagnostic tests.

Treatment: Treatment is maintenance of hydration and sometimes antibiotics.

Complications: Complications include secondary bacterial infections and perforation, and rarely toxic neuritis, arthritis, or myocarditis.

Exam: Describe the signs and symptoms due to the primary disease or complications.

8.23 What are the notable findings about amebiasis?

Cause: Amebiasis (including the symptom-less carrier state or cyst passers and cases of chronic amebic diarrhea) is caused *by Endamoeba histolytica*. It involves the colon primarily and invades other organs secondarily.

Symptoms: May be asymptomatic in the carrier state. Clinical manifestations are persistent or intermittent diarrhea, alternating constipation and diarrhea, tenesmus, fever in acute cases, blood and mucus in stools, weight loss, and anemia.

Diagnosis: Examination for motile amebae should be made from a warm, fresh stool or rectal swab and of scrapings from undermined edges of ulcers at the time of sigmoidoscopy. Culture and staining for cysts should also be performed. A barium enema should be studied in chronic cases to exclude amebomas or masses, usually around the cecum, due to reaction around slow perforation and abscess formation.

Exam: Describe the character and frequency of stools, tenesmus, nutritional status, weight, complications, and treatment. Serologic testing for amebiasis of the liver (and also for amebic dysentery) is of value, unless already part of the medical record. It is useful in excluding amebiasis as a possible diagnosis rather than in telling whether it is currently an active disease process. Ordinarily the diagnosis will already be established at the time of exam.

8.24 What are the notable findings about malabsorption syndromes?

Causes: Malabsorption syndromes may be associated with many conditions that affect absorption of nutrients from the small bowel, for example, diseases of the gall bladder, liver, and pancreas, short bowel syndrome, gastric surgery, Crohn's syndrome, celiac disease, and tropical sprue.

Symptoms: Depend partly on the cause but may include steatorrhea with passage of frequent, soft, bulky, greasy and foul stools, abdominal distention, cramps, diarrhea, edema, muscle cramps or muscle wasting, progressive weight loss, weakness, anemia, dehydration, hypoprothrombinemia, cardiac arrhythmias, and a number of nutritional disturbances that may resemble pellagra and beriberi.

Diagnosis: Extensive testing may be needed to establish the diagnosis, with the particular tests done depending on the likely cause. Tests may include fecal fat measurements, small intestine biopsy, and many types of blood tests.

Exam: Describe the underlying cause, and report the signs and symptoms, treatment, and any secondary complications, such as malnutrition and anemia.

8.25 What are the significant findings in benign neoplasms of the intestines?

Types of neoplasms: Include polyps (most common type in the large bowel), fibromas, myomas, teratomas, carcinoids, leiomyoma, and vascular tumors.

Symptoms: Non-specific abdominal pain, intestinal bleeding, unexplained anemia or partial obstruction. Polyps may be asymptomatic or may bleed. Although initially or locally of benign nature, these neoplasms may be multiple and some of them, especially sessile polyps, large adenomatous polyps, and villous adenomas of the large bowel, may become malignant.

Exam: It is the residuals of bowel surgery that will ordinarily be the basis of disability evaluation. Describe effects of adhesions or other complications.

8.26 What are the significant findings in carcinoma of the colon?

General: Adenocarcinoma is one of the most common cancers of the colon. More than one-half are within range of the sigmoidoscope.

Symptoms: Due to the mechanical effect of the carcinoma's growth on intestinal function or to complications. Include changes in bowel habit in middle-aged or older individuals, alternating constipation and diarrhea, unexplained anemia, or weight loss. Carcinoma of the rectum may give rise to local pain.

Diagnosis: Should be based on sigmoidoscopy, biopsy, and barium enema.

Exam: Residuals after treatment are the usual basis of disability evaluation. Colostomy, resections, or intestinal external fistula formation should be described as to location, size, control with prosthetic devices, offensive aroma or other residual disabling features, continence or lack of continence of colostomy, and skin irritation or infection in area of colostomy.

8.27 What should be reported in peritoneal adhesions?

Exam: Include cause (surgery, trauma, infections, radiation, etc.), as well as current manifestations such as cramps, obstipation, vomiting, or episodes of obstruction, their frequency and duration, and whether episodes of obstruction are confirmed by X-ray.

8.28 What should be reported about inguinal, ventral, and femoral hernias?

Exam: Describe symptoms, how well the hernia is controlled by surgery, trusses, or abdominal belts, the exact size of the hernia, history of incarceration or recurrence, and whether the hernias are bilateral or multiple.

SECTION IV. RECTUM AND ANUS

8.29 What are the significant findings in diseases of the rectum?

General examination: Should include careful visual inspection of the exposed area by anoscopy, digital rectal examination, and culture or biopsy when indicated. When the examination is done for fresh bleeding, sigmoidoscopy should be done even though hemorrhoids are found.

Proctitis: May be part of ulcerative colitis or Crohn's disease but also may be due to sexually transmitted disease or other infection, and in some cases, is of unknown cause. Rectal bleeding, mucous, and anorectal pain may occur. Diagnosis is by proctoscopy or sigmoidoscopy, smear and culture for infection, and biopsy in some cases.

Prolapse: Prolapse may be partial or complete. There may be fecal or mucous leakage, persistent pain, bleeding, and incontinence.

Anal or rectal stricture: May be due to radiation therapy for prostate cancer, infection by chlamydia, lymphogranuloma venereum, herpes simplex, rectal tuberculosis, Crohn's disease, or trauma to the anus. Causes painful or difficult defecation. Impaired sphincter control with fecal incontinence. Causes include nerve damage (due to trauma, stroke, radiation therapy), muscle damage (as in childbirth injury), pelvic or perineal surgery, anorectal surgery or inflammation, and sometimes rectal prolapse. Exam: Describe the extent of loss of bowel control in terms

of whether absorbent material is needed, how often, and how often it must be changed, also whether there is leakage only with liquid stool or with both liquid and formed stool. Mechanical means of control or medication used should also be reported.

Carcinoma of the rectum often causes pain, tenesmus, bleeding, and ribbon-like stools. It may present as a cauliflower-like mass or an area of induration and narrowing.

Exam: Report current signs and symptoms and frequency and severity of symptoms.

8.30 What information would be useful to report in examinations for diseases of the anal canal?

Hemorrhoids: Differentiate between internal and external types, and describe whether prolapsing, ulcerated or thrombotic. Differentiate hemorrhoids from simple anal skin tags. Describe their location and complications such as pain, bleeding, or tenesmus.

Fistula-in-ano: Note the location and recurrence of the fistulous tract(s) between the anal mucosa and perineal skin. Report current symptoms and treatment.

Fissure-in-ano: Note the location and extent of this fissure or groove between the anal mucosa and exterior. It is often extremely painful and tender and may form an abscess. Report current symptoms and treatment or residuals of past treatment.

Cryptitis: This inflammation of the crypts inside the anal canal leads to severe tenesmus or obstruction. Report symptoms, including frequency and severity.

Papillitis: Note size of hypertrophied papillae and their inflammation and report symptoms, including frequency and severity.

Lymphogranuloma venereum with stenosis: Describe the ulceration and stricture of this chronic lesion. Report current symptoms and treatment or residuals of past treatment.

Abscess: Differentiate between perianal or perirectal abscesses. Describe whether persistent and symptoms.

Impaired anal sphincter: Describe any tenesmus or fecal leaking. Anal scar exam report cause, extent of any constriction or deformity, loss of sphincter tone and fecal leakage.

Tuberculous lesion: Describe anal ulceration or proctitis; confirm by culture when possible. Describe any tuberculous pulmonary or other findings (chest film, barium enema, and small bowel series may be needed).

8.31 What information would be useful to report in examinations for perianal diseases?

Benign lesions: Indicate type (cysts, lipomata, and condylomata).

Pilonidal cysts: Report any operations, scars, abscesses, and the presence of redness, tenderness, swelling, drainage, or a sinus orifice. Report current symptoms and treatment or residuals of past treatment.

8.32 What information would be useful to report in examinations for pruritus ani?

Exam: Report the underlying cause of the condition, and describe the severity and persistence of perineal itching, bleeding, and spasm of the anal sphincter as well as other manifestations. Perianal examination should be described.

SECTION V. ALIMENTARY APPENDAGES

8.33 What are the significant findings in gallbladder diseases?

Types of gallbladder disease: These include cholecystitis, cholelithiasis, choledocholithiasis, choledochal polyps, and carcinoma. Signs and symptoms. Recurrent episodes of fever, upper right abdominal colic-like pain, nausea, distention, and low grade jaundice. With stones, the pain often radiates to the right scapula.

Post cholecystectomy: Relief is usually permanent, and there is seldom permanent disability unless there are retained stones or other associated disease.

Polyps in the gallbladder produce symptoms when they cause intermittent obstruction.Report frequency and duration of attacks of colic, whether associated with jaundice, results of imaging studies, and past and current treatment and results.

8.34 What are the significant findings in pancreatic diseases?

Chronic Pancreatitis: This seldom manifests itself until very far advanced; steatorrhea is the most common manifestation. Very severe malnutrition, emaciation, and weakness follow. Recurrent or constant epigastric pain may radiate to the lumbar back. Diabetes mellitus may be a complication. Multiple calcifications throughout the pancreas may be seen on X-ray. Serial changes of the serum amylase, lipase, calcium, blood sugar, and glucose tolerance should be recorded. CT scans and ultrasound examinations may be useful. At times, the more sophisticated procedures of ERCP (endoscopic retrograde cholangiopancretography), EUS (endoscopic ultrasound), or MRI (magnetic resonance imaging) may be needed. A history of chronic alcoholism is commonly present, but may also be due to hemochromatosis or to unknown factors.
Exam: Report current symptoms, complications, and treatment or residuals of past treatment.

Acute Pancreatitis: Almost half is due to gallstones, and chronic alcoholism is the second most common cause. Symptoms include anorexia, nausea, vomiting, and mild to severe upper abdominal pain, nonspecific in nature. There may or may not be epigastric tenderness. Shock may occur. Acute pancreatitis should be considered in the differential diagnosis of any acute abdominal emergency. Elevated serum and urinary amylase and serum lipase are of great diagnostic value. If pain and other manifestations persist beyond several days, hemorrhagic pancreatitis, pancreatic abscess, or pseudocyst of the pancreas should be suspected. Long-term complications may include chronic pancreatitis, pancreatic pseudocyst, pleural fistula, and ascites. Exam: Will ordinarily be seen for disability examination purposes only for examination of long-term complications. Report signs and symptoms of complications, effects on functioning.

Tumors of the Pancreas: May be benign or malignant – adenocarcinoma is most common. When in the head of the pancreas, it is clinically obscure and usually painless. Obstruction to the common bile duct is marked by the appearance of jaundice. Carcinoma arising in or extending to the body of the pancreas is usually quite painful. Ultrasonography, CT (computed tomography), ERCP, endoscopic ultrasound, MRI, and percutaneous transhepatic cholangiography (PTC) may all be used for diagnosis. Exam: Will usually be made following the completion of treatment, to report signs and symptoms that are the residuals of treatment or are due to residual or recurrent tumor. Report type of treatment, date of last treatment if completed, loss of weight or strength, anemia, etc.

Adenoma of the Islet Cells: Periodically, islet cell adenomas produce excessive insulin with associated episodes of hypoglycemia, nervousness, tremors, convulsions, hunger, coma, or shock. These tumors present the classical Whipple's triad (spontaneous hypoglycemia, central nervous or vasomotor system symptoms, and relief of the symptoms by the oral or intravenous administration of glucose). Are usually benign, but may become malignant and metastasize. Rarely, the islet cell tumor may be derived from the alpha cells instead of the beta cells and manifests itself by episodes of hyperglycemia instead of hypoglycemia. Either type may initially label the patient as having only psychoneurosis or functional complaints. Exam: Report signs and symptoms, or post-surgical residuals, if any. State how diagnosis was made.

8.35 What are the significant findings in salivary gland diseases?

Causes: May result from inflammation, ductal obstruction, stones, fistula, benign or malignant tumors, or crushing or penetrating trauma.

Exam: Report dry mouth, dental caries, tooth loss, halitosis, decreased sense of taste, difficulty chewing or swallowing, weight loss, enlargement and tenderness of gland.

8.36 What are the significant findings in hepatitis?

Causes: The most common cause is viral infection, followed closely by drug-induced liver disease. Hepatitis may be acute or chronic, with each having a different prognosis. The commonest viruses are hepatitis A, B, and C. Others include the Epstein-Barr virus (infectious mononucleosis), cytomegalovirus, and rarely, the viruses of yellow fever, herpes simplex, coxsackie B, varicella, and rubeola. Among the many drugs that are associated with acute or chronic hepatitis are alpha-methyldopa, INH, nitrofurantoin, halothane, phenylbutazone, etc.

Hepatitis A infection: Viral A hepatitis is spread via the oral-fecal route, and most commonly affects children and young adults. Diagnosis is made by a specific serologic test (IgM anti-HAV). The disease is usually mild, with minimal mortality and no long-term sequelae.

Hepatitis B and C infection: Viral B and C hepatitis are spread through contact with contaminated blood, blood products, or body secretions. Higher risk levels for hepatitis C are found in injecting drug users, individuals with hemophilia treated with clotting factor concentrate before 1987, and recipients of blood transfusions from HCV-positive donors (mainly occurred prior to 1993). Moderate prevalence is found among long-term hemodialysis recipients. Lower levels of prevalence occur in those with non-apparent percutaneous or mucosal exposures, e.g., persons with evidence of high-risk sexual practices, or those with small, sporadic percutaneous exposures, e.g., medical worker, including those involved in combat casualty care or who suffered a needlestick injury. Other risk factors include tattoo or repeated body piercing, intranasal cocaine use, and having multiple sexual partners, past or present. The risk factors for hepatitis B infection are similar. Chronic hepatitis results in approximately 10 percent of those with type B hepatitis and 60 to 80 percent of those with hepatitis C. Both diseases are associated with a carrier state. Both hepatitis B and C infections may culminate in the development of cirrhosis or hepatocellular carcinoma.

Signs and symptoms: Acute hepatitis most commonly is asymptomatic. When symptomatic, the disease usually presents with mild fever, arthralgias, malaise, nausea, vomiting, jaundice, and right upper quadrant discomfort. Chronic hepatitis also is most frequently asymptomatic for many years or decades, and may be discovered because of abnormalities found in routine blood tests. When symptomatic, it may simulate acute hepatitis or may manifest with features of portal hypertension because of the development of cirrhosis in the late stages. Hepatocellular carcinoma is associated with hepatitis B and C. Hence, all those with chronic hepatitis B or C should be tested for alpha fetoprotein.

Laboratory tests: Useful biochemical tests include serum bilirubin, AST, ALT, alkaline phosphatase, prothrombin time, total protein, and protein electrophoresis. They may need to be performed periodically. Specific diagnostic serologic tests are also of the greatest importance. If done, results of a liver biopsy should be incorporated in the report.

Treatment: Specific therapy for chronic hepatitis B and C is available with interferon, ribavirin, lamirudine. The hepatitis A and B vaccines are highly effective.
Exam for hepatitis C infection:

Diagnosis: For C&P purposes, there must be a record of either 1) both a positive EIA (or ELISA) test and a RIBA confirmatory test, or 2) a positive HCV RNA test to establish the diagnosis of hepatitis C. These are required even when they are not clinically necessary, so unless the report of either 1) or 2) are in the record, the examiner will need to obtain them.

Opinions: The examiner will frequently be asked to determine whether a current hepatitis C infection is related to hepatitis of known or unknown type during active service. In these cases, a battery of hepatitis serologic tests may be needed, because clarifying this issue is critical to determining the relationship to service. An examiner may also be

asked to provide an opinion as to whether hepatitis C is related to service, in the absence of any indication of hepatitis in service. In such cases, the examiner should consider and fully discuss all pertinent risk factors before, during, and after service, and should give an opinion as to whether it is at least as likely as not that a risk factor related to service is the cause.

General information: Report current symptoms of hepatitis and its complications, and describe treatment and side effects or residuals of treatment. Report details, frequency, and duration of any incapacitating episodes.

8.37 What are the significant findings in Cirrhosis?

Causes: The end result of various diseases, it is fibrosis of the liver leading to architectural distortion, and manifests as portal hypertension and/or hepatocellular failure. In the United States, the commonest cause by far is alcohol. The hepatic consequences of chronic alcoholism include fatty liver, alcoholic hepatitis, cirrhosis, and hepatocellular carcinoma. Other causes include viral hepatitis (types B and C) certain drugs (INH, alphamethyldopa, methotrexate, chlorpromazine, etc.), iron overload, long-standing right-sided congestive cardiac failure (cardiac cirrhosis), long-standing obstructive biliary tree disease (secondary biliary cirrhosis), and diseases of unclear pathogenesis (primary biliary cirrhosis, Wilson's disease, alpha 1 antitrypsin deficiency).

Signs and symptoms: There are often no symptoms, and the disease is discovered simply because of the identification of an abnormal biochemical or serologic test. In the later stages, regardless of etiology, clinical features may include malnutrition, muscle atrophy, glossitis, jaundice, spider angioma, prominent collateral veins in the abdomen, ascites, peripheral edema, esophageal varices, hepatomegaly and splenomegaly. As with hepatitis, biochemical tests should be carefully appraised serially. Liver biopsy is useful for confirmation of diagnosis and determination of progress of disease. The diagnosis is aided by radioisotope scanning or by visualization of the liver at laparoscopy. Portal pressure measurements are also useful.

Exam: Report current signs and symptoms of liver disease, as well as the type and frequency of any complications, such as ascites, encephalopathy, and gastrointestinal bleeding. Describe treatment and side effects or residuals of treatment. A diagnosis of cirrhosis should be confirmed by biopsy or imaging and abnormal liver function tests.

CHAPTER 9 - GENITOURINARY SYSTEM

9.1 What should an examination include?

History
Initial examinations. A complete chronological history of the onset of the conditions(s) claimed, its course, including treatment, and relevant family history, history of nephrotoxic drug use, etc., should be recorded.
Review examinations. Only an interim history since the last disability examination is required.
All examinations. Current symptoms of genitourinary disability should be reported. In addition, the effects of the condition(s) on daily and occupational activities should be reported. When pain, for example, is a symptom, its origin, frequency, severity, duration, and response to treatment should be reported, as well as its effects on activities.

Physical examination
A detailed examination of the pertinent area(s) should be conducted. Local and related remote findings should be reported in detail. This might require assessment of other organ systems, such as the cardiovascular system, if affected by renal disease.

Laboratory studies
Request laboratory studies as indicated for diagnosis or assessment, based on the particular condition and what tests have already been done. The regional office should be consulted before any invasive or expensive testing is undertaken.

9.2 What is the basis of disability evaluation of genitourinary conditions?

Most, but not all, genitourinary disabilities are evaluated by the Veterans Benefits Administration on the basis of renal dysfunction, urinary tract infection, voiding dysfunction, or some combination. The examiner should assess the condition being examined as to whether it has resulted in renal dysfunction, urinary tract infection, voiding dysfunction, or some combination, and report the information pertinent to that category described below. For example, when the condition is associated with renal dysfunction, the examination should include information (as shown in "a") about the urinalysis, presence of edema or hypertension, creatinine, etc. If the same condition is also associated with urinary tract infection, the findings under "b" should be reported as well.

Renal dysfunction: With renal dysfunction, evaluation depends on the presence or severity of the following findings, as well as any other pertinent signs and symptoms of the condition, all of which should be reported:

urinalysis - albuminuria, casts, hematuria
edema
hypertension
decreased renal function - creatinine, BUN
generalized symptoms such as weakness, lethargy, anorexia, weight loss
need for restriction of activities, such as limited to sedentary activities
secondary effects on the cardiovascular system or other organ systems
need for hemodialysis

Urinary tract infection: With urinary tract infection, evaluation depends on the presence or severity of the following findings, as well as any other pertinent signs and symptoms of the condition, all of which should be reported:

evidence of renal dysfunction (see 9.2 a)
whether recurrent infection requires:
hospitalization one or more times a year
long-term drug therapy
intermittent or continuous intensive management
drainage one or more times per year

Voiding dysfunction: With voiding dysfunction, evaluation depends on the presence or severity of the following findings, as well as any other pertinent signs and symptoms of the condition, all of which should be reported:

urine leakage - continual urine leakage, post surgical urinary diversion, urinary incontinence, or stress incontinence
whether wearing of an appliance (what type?) or absorbent materials is needed
how many times per day absorbent materials must be changed.
urinary frequency
duration of the daytime voiding interval
how often there is wakening to void at night.
obstructed voiding
whether dilatation is required and how often it must be done
whether intermittent catheterization is required (frequency?)
whether there are obstructive symptoms (such as hesitancy and a weak stream) plus:
post-void residuals greater than 150cc.
decreased flow rate on uroflowmetry
recurrent secondary urinary tract infections.

9.3 What should the examination include for disabilities rated on other criteria?

Residuals of trauma: Record the history and course of the injury, its residuals, and the relationship of current genitourinary condition(s) to the original injury. Record findings according to 9.2 when appropriate.

Following nephrectomy:

residuals of the surgery.
renal function (*see* 9.2 a)
whether there is nephritis, infection, or other pathology in the remaining kidney.

Nephrolithiasis, ureterolithiasis, ureteral stricture:

how the diagnosis was established
the number, size, location of stones
frequency of episodes of colic

type of stones if known
whether there has been associated infection
past and current treatment, including drug therapy
whether a special diet has been prescribed
whether invasive or noninvasive procedures are used and how often
renal function (*see* 9.2 a)

Hydronephrosis or hydroureter:

frequency of attacks of colic with infection
type of treatment, including catheter drainage
renal function (*see* 9.2 a)

Neurogenic bladder:

cause, frequency, and severity of such symptoms as incontinence, dribbling, or retention of urine.
with incontinence, report extent of voiding dysfunction (*see* 9.2 c).
renal function (*see* 9.2 a).
in exceptional cases - urodynamic studies, cystoscopic, radiographic, or isotopic scanning of the genitourinary system may be needed.

Fistula of the bladder or urethra:

the location and extent of the fistulous tract
associated symptoms
treatment
findings under 9.2 b and c.

Carcinoma of the prostate:

a. history and physical examination, including a digital rectal examination.
b. PSA and alkaline phosphatase tests.
c. if post treatment:
Describe the type of treatment(s) used - radical prostatectomy, external radiation, brachytherapy, hormone therapy, etc.
Give date of the last treatment (or report current treatment).
State residuals of treatment, such as incontinence (*see* 9.2 c) or other urinary symptoms, impotence, retrograde ejaculation, sterility, feminizing signs, etc. (s*ee* 9.3).
Indicate if current treatment is palliative, adjuvant, etc., and if there is residual cancer.
If there are metastases, describe their location and signs, symptoms, and complications.
If no treatment is being used or was used, explain why.

9.4 What needs to be reported about anatomical loss or loss of use of a creative organ and why?

The rating agency must determine whether a veteran is entitled, in addition to disability compensation, to a special monthly payment based on whether there is loss or loss of use of a creative organ. Therefore, the examination must include the following information. The details of loss of a creative organ may be in the medical records, but the examiner should still describe lost and remaining portions of the penis, scrotum, and testes. Impotence, sterility, or retrograde ejaculation should always be described and the cause named (e.g., Peyronie's disease causing impotence or TURP for BPH causing retrograde ejaculation). If a vasectomy was performed, the examiner should report when it was done and the reason. With impotence, the report should indicate whether it is constant, whether it is permanent, what treatment is used, and the effectiveness of treatment in allowing intercourse. With penile deformity, whether erectile function is wholly or partially lost should be reported. Examination for testicular atrophy must be conducted by at least two examiners. The size and consistency of the testis should be recorded. Reduction in size should be described as reduction to one-third or one-half normal size, or even less, for example. If only one testis is affected, the size of the unaffected testis should be recorded. The etiology of the atrophy should be reported.

Chapter 10 - GYNECOLOGICAL CONDITIONS AND DISORDERS OF THE BREAST

10.1 What are the elements of a good gynecologic and breast examination for Compensation and Purposes?

This chapter supplements the examination worksheet.

a. What is needed in the history for an initial examination?

1) History of present illness - onset, frequency, and severity of symptoms; past and current treatment; whether symptoms are controlled by treatment; effects of condition on daily activities.

2) General health information - including previous surgery and illnesses; family history; military history.

3) Menstrual history. Date of onset, date of last menstrual period, interval between menstrual periods (regular or irregular), duration of menstrual periods, premonitory or associated symptoms, amount of flow (pads or tampons per day), degree and type of pain or cramps, passage of clots or bright red blood, bleeding between menstrual periods, degree and type of vaginal discharge and relation to sexual activity, and symptoms and timing of any menopausal changes.

4) Sexual history of significance and pregnancy history. Number of pregnancies, types and complications of deliveries, number and dates of abortions or miscarriages. Complications of contraceptives used.

5) Urinary tract history. Past infections or surgery. Current symptoms and treatment.

b. What is needed in the history for a review examination?

For a review examination, only an interval history covering the period since the last examination is needed.

c. What is needed for the physical examination?

1) The results of any general physical examination should be coordinated with the breast and gynecologic examination. A complete breast and pelvic examination is needed unless only a particular condition is requested for examination, e.g., if the examination request specifies breast disease, a pelvic examination is not needed. For a review examination, only the specific area or areas of concern need be examined.

2) Describe findings on examination of

external genitalia - glands, outlet, mucosa, and presence of a discharge.

vagina - inspection and description of mucosa, characteristics of discharge, depth, pelvic-supporting tissue, and presence of urethrocele, cystocele, or rectocele.

cervix - Position, size, consistency, presence of erosions, eversion, tumors or suspicious areas, mobility, and tenderness. The speculum will always be used unless specific contraindications exist, if so explain.

uterus - position (retroverted, retroflexed, retrocessed), size, shape (regularity), consistency, mobility, tenderness, and degree of decensus with moderate traction.

fallopian tubes - if palpated, any thickening, mobility, swelling, or tenderness.

ovaries - if palpated, their position, size, mobility, and consistency. If enlarged, estimate size in centimeters (as 3 x 5 cm.)

cul-de-sac - free, tender, obliterated, or other condition.

rectal and rectovaginal - to confirm the pelvic findings.

breast - *see* paragraph 10.11.

10.2 What laboratory studies may be needed?

CBC and urinalysis are routine; request other studies as indicated. Pap smear and mammogram may be indicated if not done within the recommended time period. Culture and stained smears should be used for any discharge. Specialized tests may be needed at times, such as laparoscopy, diagnostic curettage, cervical biopsy, and ultrasound. Consult with the regional office before requesting or scheduling any specialized or invasive test.

10.3 What is needed for a breast examination?

For a radical mastectomy or modified radical mastectomy, describe the extent of edema of the involved arm, presence of aching or pain, whether there is limited use of the upper extremity, tenderness or fixation of the scar, and any neurologic signs or symptoms. For a simple or partial mastectomy or excision of a lesion, report the size and contour, and tenderness or fixation of the scar. Describe size, contour, and symmetry in comparison with the opposite breast. Note history of augmentation mammoplasty with a prosthetic implant or reduction mammoplasty and any complications, such as tender or painful scar or muscle weakness or herniation of a flap-donor site.

10.4 What is needed for an examination for endometriosis?

Describe pelvic pain, heavy or irregular bleeding, and bowel or bladder symptoms, and indicate whether they are due to endometriosis. State whether or not the symptoms require continuous (regular, on going) treatment, and if they do, whether the symptoms are controlled by treatment. The initial diagnosis and any diagnosis of bowel or bladder involvement require confirmation by laparoscopy.

10.5 What is needed for an examination of benign neoplasms of the gynecological system or breast?

a. For **uterine fibroids**, describe gynecological or urinary symptoms and if operated, post-surgical residuals.

b. For **benign breast neoplasms**, e.g., fibroadenoma, intraductal papilloma, lipoma, describe any post-operative residuals, including scar.

10.6 What is needed for an examination of malignant neoplasms of gynecological system or breast?

Provide the date of confirmed diagnosis, date of the last treatment (surgical, X-ray, antineoplastic chemotherapy, radiation, or other therapeutic procedure), and the date the treatment regimen was or is expected to be completed.

If post treatment, describe any local recurrence or metastases as well as any residuals of the cancer or its treatment. Describe type of surgery. If on Tamoxifen, state reason.

10.7 What is needed for an examination if atrophy of both ovaries is suspected prior to the climacteric?

Tests to determine whether there is complete atrophy of both ovaries will be needed. Complete atrophy should be confirmed by laparoscopy, examination of the vaginal epithelial smear for the mid-cycle maturation index, absence of urinary progesterone, or measurement of the urinary 24-hour gonadotrophin level. Describe changes in hair, voice, fatigability, breast or skin turgor, sexual activity, "hot flashes," etc., as well as the response to hormone replacement therapy.

10.8 What is needed for an examination for relaxation of pelvic support due to surgical complication of pregnancy, trauma, or other causes?

Report any cystocele, rectocele, or urethrocele, its extent and cause. Describe symptoms such as incontinence with coughing, sneezing, evacuation, standing upright, walking, coitus; need for use of absorbent pads (and how often they need to be changed daily) or appliances to prevent soiling; and any "pulling" sensation in the lower back.

10.9 What is needed for an examination of displacement of the uterus?

Report the position of the uterus, whether the fundus leans to the right, left, forward, backward, or bends upon the long axis of the uterus. Describe associated symptoms such as discomfort in the back or lower abdomen, interference with menstrual flow, interference with coitus, or menstrual disturbances.

10.10 What is needed for an examination after uterine or ovarian surgery?

Describe residuals, including menopausal changes. Describe any ongoing treatment, including hormone replacement therapy. The exact extent of surgery must be made clear. If only part of an ovary is removed, the amount removed should be reported if known.

10.11 What is needed for an examination of prolapse of the uterus?

Describe whether the prolapse is complete, through the vaginal orifice (presenting as a mass about the size of a grapefruit lodged between the thighs), or partial (if only the cervix or the cervix and part of the body of the uterus protrudes through the vaginal orifice). In either case, report whether the prolapse is constant or occurs only upon standing.

Describe symptoms - interference with walking, urination, defecation, rest, coitus, or pregnancy.

10.12 What is needed for an examination for vesicovaginal, urethrovaginal, ureterovaginal, enterovaginal, or rectovaginal fistula?

Describe any leakage of urine, feces, or greenish bowel discharge from the vagina, fistulous tract location, need for absorbent pads (and frequency of changing daily) or use of an appliance. Report likely etiology - past surgery, infection, radiation, etc.

10.13 What is needed in examinations for vulvovaginitis, vaginitis, cervicitis, salpingitis, and oophoritis?

Describe duration, cause, and interference with daily activities. State whether or not the symptoms require continuous (regular, on going) treatment, and if they do, whether the symptoms are controlled by treatment.

Chapter 11 - MUSCULOSKELETAL

11.1 What are the basic elements of a musculoskeletal examination for disability evaluation purposes?

Initial examination: Follow the specific worksheet(s) for the area(s) to be examined. This chapter supplements the following examination worksheets: Bones (Fractures and Bone Disease); Fibromyalgia; Residuals of Amputations; Joints (Shoulder, Elbow, Wrist, Hip, Knee and Ankle); Hand, Thumb and Fingers; Feet; Spine (Cervical, Thoracic and Lumbar); and Muscles.

Review/follow-up examination: Only an interval history covering the period since the last examination is needed. In addition, no diagnostic studies are needed on a review examination if the diagnosis has been previously well established. Otherwise, follow the specific worksheet for the area to be examined.

11.2 What are the important factors in range-of-motion testing?

Accurate assessment of joint range-of-motion (ROM) is extremely important. See worksheets for standardized descriptions of "average normal" joint motion measurements for the upper and lower extremities.

Use a goniometer to measure both passive and active ROM, including movement against gravity and strong resistance. Provide ROM in degrees; it is not acceptable simply to note that range of motion is "normal" or "within normal limits."

It is good practice to include ROM of the contralateral joint whenever possible. This is particularly true if joint ROM is felt to be "normal," but the measured ROM in degrees is different from the average normal ROM shown in the worksheets.

Report the joint range of motion with reference to the anatomic position, e.g., state that "elbow flexion is 0 to 120 degrees", rather than "elbow flexion is limited by 25 degrees" or "elbow flexion is limited to 120 degrees" or "the elbow lacks 25 degrees of full flexion". Reporting range of motion any other way than by referring to the anatomic position leads to confusion among raters and may result in incorrect disability evaluations.
The **"anatomic position"** is defined as the **patient standing erect with feet flat on the floor, heels together, arms at the sides, palms facing forward, fingers and thumbs extended parallel to hands, and chin straight forward.**

11.3 How is functional assessment of joints conducted?

Because the U.S. Court of Appeals for Veterans Claims (CAVC) decisions found that the traditional VA method of assessing disabilities for rating purposes – one-time measurement of active and passive ROM – was inadequate, as functional impairment may be underestimated, additional factors must be considered for each joint examined. These include:

pain with joint movement

weakened movement against varying resistance
lack of endurance following repetitive use
the effects of episodic exacerbations (flare-ups) on functional ability.

Each of these issues should be assessed and the amount the joint is additionally limited (if any) resulting from one or more of these factors should – if possible –be reported in degrees of additional loss of motion. The absence of any (or all) of these factors should also be noted. You must be specific as to where (i.e., from flexion or extension) any additional losses should be subtracted. For example, if knee pain on ROM testing prevents full flexion and an additional ROM loss for pain of 20 degrees is warranted, you must specifically state the additional limitation of flexion due to pain (e.g., "An additional 20 degrees loss of knee flexion is warranted because of pain on movement" or, better and clearer, "Because of pain on movement, the ROM is estimated to be 0 to X rather than 0 to Y found on range of motion without taking pain into consideration."). At present there are no guidelines as to which tests should be used to determine the strength and endurance for the various joints. These tests should be individualized, keeping in mind patient safety.

Example: If shoulder abduction is 0 to 180 degrees against gravity, but there is evidence of pain (verbal complaint, facial grimace, etc.) between 120 degrees and 180 degrees, this should be documented. If further testing for endurance against resistance (e.g., 10 repetitions using a 5-pound dumbbell) reduces shoulder abduction to 90 degrees, this should be reported. If more than one factor is contributing to loss of ROM, state – if possible – which has the major functional impact. This can be done as a comment. For the above example, this might read: "Comment: While shoulder abduction against gravity is full, 0 to 180 degrees, because of the combined effects of pain and lack of endurance, the veteran's functional ROM is best estimated to be 0 to 90 degrees."
Describe the patient's functional disability as to effects on daily activities (eating, dressing, walking, breathing, etc.) and employment.

11.4 What are the important elements of a disability examination for disease or injury of the spine?

History: State type and date of injury or date of onset of infection or arthritis. Describe treatment and response, plus any side effects of treatment. Report pain, inflammation, morning stiffness, fatigue, frequency, severity, and duration of flare-ups, and any effects on daily activities and employment.

Range of motion: Rating criteria (and associated examination requirements) for the spine are currently under review and no average normal ranges of motion for the spine are included in the Spine Worksheet. Examiners should state the normal range of motion when providing spine range of motion measured by a goniometer, e.g., forward flexion of the lumbar spine is 80 out of 90 degrees, and backward extension is 20 out of 35 degrees. This is necessary until a regulation (pending) standardizes normal ranges of motion of the spine for VA disability examination purposes, since both the range of motion of the spine considered to be normal and the method by which it is determined vary in different standard medical textbooks and books on disability evaluation. Until the regulation is in effect, it is currently up to the examiner to provide the particular baseline range of motion he or she considers normal (and to refer to the source of that normal ROM) so that the rater has a good basis on which to make a disability evaluation. For example, the following is the normal spine range of motion that was given in the American Medical Association

Guides to the Evaluation of Permanent Impairment, 2nd ed., (1984), which is the last edition of the Guides that measured range of motion of the spine using a goniometer. It could be used as a reference for normal ROM, although it is not the only acceptable reference at present.

cervical spine
0 to 45 degrees flexion
0 to 45 degrees extension
0 to 45 degrees left and right lateral flexion
0 to 80 degrees left and right lateral rotation

thoracolumbar (or lumbar) spine
0 to 90 degrees forward flexion
0 to 30 degrees extension
0 to 30 degrees, left and right lateral flexion
0 to 30 degrees left and right lateral rotation

If the range of motion in a particular individual is limited by factors other than disease or injury of the spine, such as age, body habitus, or neurologic disease, the examiner should explain and give an approximation, if possible, of the normal ROM for that individual based on those factors.

For the thoracic spine use either the cervical spine ROM in degrees or the lumbosacral spine ROM in degrees, depending on whether the thoracic spine symptoms/findings are predominantly in the upper (i.e., use cervical ROM) or lower (i.e., use lumbosacral ROM) portion of the thoracic spine.
Ankylosis: Describe each segment of the spine affected by ankylosis and report whether the entire segment or only part of the segment is ankylosed. Indicate whether the ankylosis is in favorable or unfavorable position, and if unfavorable, what functions are affected. In general, favorable ankylosis of a segment of the spine means ankylosis is fixed in a neutral position. Unfavorable ankylosis of a segment of the spine means there is fixation in flexion or extension, and there is functional impairment because of the ankylosis, such as difficulty walking because of a limited line of vision, restricted opening of the mouth and chewing, dyspnea, dysphagia, atlantoaxial or cervical subluxation or dislocation, neurologic symptoms, etc.

11.5 What are the important elements of a disability examination for disc disease (intervertebral disc syndrome)?

Spine examination: A complete examination of the pertinent areas of the spine, as described in 11.4, should be conducted, whether or not there has been surgery.

Neurologic examination: A thorough neurologic examination, both motor and sensory, of all potentially affected areas, should also be conducted. Include any effects on bowel or bladder functioning.
Incapacitating episodes. Describe the duration of any incapacitating episodes (an incapacitating episode is a period of acute signs and symptoms due to intervertebral disc syndrome that requires bed rest and treatment by a physician) during the past year.

11.6 When are imaging studies usually needed?

In general, the least invasive and least expensive means of objectively documenting pathology, such as arthritic changes and/or structural defects, is preferred.

The diagnosis of degenerative or post-traumatic arthritis of a joint requires x-ray confirmation one time only. Once the diagnosis of arthritis has been confirmed in a joint, further imaging studies of that joint are generally not required because benefits are determined by the amount of functional impairment and not by the severity of x-ray or other imaging study findings. For example, if the examination request specifies a veteran's left knee for examination, and the request notes that the veteran is already service-connected (SC) for "left knee degenerative arthritis," then additional x-rays are not required. On the other hand, if the veteran is only claiming service-connection for left knee degenerative arthritis and is not yet service-connected, and no past imaging studies are available documenting arthritic changes, then appropriate x-ray studies should be obtained and the results included with the final examination report. Consult with the regional office before requesting or scheduling any specialized or invasive test.
Review all requested imaging tests, include them in the examination report, and correlate them with clinical findings before finalizing the diagnosis and returning the report to VBA.

11.7 What are the important elements of a disability examination for muscle disease or injury?

History: type and date of injury or infection, treatment and response, pain, inflammation, stiffness, fatigue, and frequency and severity of flare-ups. For residuals of wounds, describe both entrance and exit wounds, the history of the initial injury, whether or not hospitalization was required, whether there was debridement or other surgery, etc.

Physical: Identify each specific muscle affected by tissue loss, penetrating injuries, scar formation, adhesions, damage to tendons. When there is muscle atrophy, record the circumference of the atrophic muscle and the comparison muscle on the opposite side. If the injured muscle acts upon a joint or joints, record the range of motion of the affected joint(s) as described in 11.3. Report any effects on gait, posture, or functions of adjacent joints, muscles, or nerves, and interference with sitting, standing, walking, weight-bearing, balance and working.

11.8 What is the standard muscle strength grading system?

0 = Absent	No contraction felt.
1 = Trace	Muscle can be felt to tighten, but no movement produced.
2 = Poor	Muscle movement produced only with gravity eliminated.
3 = Fair	Muscle movement produced against gravity, but cannot overcome any resistance.
4 = Good	Muscle movement produced against some resistance, but not against "normal" resistance.
5 = Normal	Muscle movement can overcome "normal" resistance.

11.9 What are the major muscle groups and what is their significance?

The rating schedule lists the following 23 muscle groups, provided for your reference, and the rating percentage evaluations to be assigned for different degrees of muscle injury (slight, moderate, etc.) vary depending upon which muscle group is affected. Therefore, specify each individual muscle affected so that the rater can select the appropriate group(s) under which to evaluate.

For the sake of clarity, and to avoid returned exams or questions, use muscle terminology as it is given below (e.g., "adductor of thumb" instead of "adductor pollicis," but "extensor hallucis longus" instead of "long extensor of the great toe"), because this is the terminology used in the rating schedule regulations.

With penetrating wounds, including chest and abdominal wounds, identify each muscle traversed by the projectile.

Unless the report is precise, it may be returned, especially in complex cases, to clarify the exact muscles or muscle group(s) involved in an injury.

Group I. Extrinsic muscles of shoulder girdle, which rotate scapula upward and elevate the arm above shoulder level. (1) trapezium (2) levator scapulae (3) serratus magnus.

Group II. Extrinsic muscles of shoulder girdle, which lower the arm from a vertical overhead position to hanging at side and act with Group III in forward and backward swing of the arm. (1) pectoralis major, costosternal origin; (2) latissimus dorsi and teres major; (3) pectoralis minor; (4) rhomboid, major and minor.

Group III. Intrinsic muscles of shoulder girdle, which elevate and abduct arm to level of shoulder and act with Group II in forward and backward swing of the arm. (1) pectoralis major, clavicular origin (2) deltoid.

Group IV. Intrinsic muscles of shoulder girdle, which stabilize shoulder against injury in strong movements, hold head of humerus in socket, and abduct, outwardly rotate, and inwardly rotate arm. (1) supraspinatus; (2) infraspinatus and teres minor; (3) subscapularis; (4) coracobrachialis.

Group V. Flexor muscles of the elbow, which flex and supinate the elbow and help stabilize the shoulder joint. (1) biceps (2) brachial (3) brachioradialis.

Group VI. Extensor muscles of the elbow, which extend the elbow and help stabilize the shoulder joint. (1) triceps (2) anconeus.

Group VII. Muscles arising from medial condyle of humerus, which flex wrist and fingers. Flexors of the carpus and long flexors of fingers and thumb; pronator teres and quadratus.

Group VIII. Muscles arising mainly from lateral condyle of humerus, which extend wrist, fingers and thumb and abduct thumb. Extensor of carpus, fingers and thumb; supinator.

Group IX. Intrinsic muscles of the hand, which perform the delicate manipulative movements of the hand. Thenar eminence; short flexor, opponens, abductor, and adductor of the thumb; hypothenar eminence; short flexor, opponens, and abductor of the little finger; 4 lumbricales and 4 dorsal and 3 palmar interrossei.

Group X. Intrinsic muscles of the foot, for movement of forefoot and toes, propulsive thrust in walking. Plantar: (1) flexor digitorum brevis; (2) abductor hallucis; (3) abductor digiti minimi; (4) quadratus plantae; (5) lumbricales; (6) flexor hallucis brevis; (7) adductor hallucis; (8) flexor digiti minimi brevis; (9) dorsal and plantar interossei. Other important plantar structures include the plantar aponeurosis, long plantar and calcaneonavicular ligament, tendons of posterior tibial, peroneus longus, and long flexors of great and little toes. Dorsal: (1) extensor hallucis brevis (2) extensor digitorum brevis. Other important dorsal structures include the cruciate, crural, deltoid and other ligaments, tendons of long extensors of toes and peroneal muscles.

Group XI. Posterior and lateral crural muscles and muscles of the calf, which produce propulsion, plantar flexion of foot, stabilization of the arch, flexion of toes, and flexion of knee. (1) triceps surae (gastrocnemius and soleus);

(2) tibialis posterior; (3) peroneus longus; (4) peroneus brevis; (5) flexor hallucis longus; (6) flexor digitorum longus; (7) popliteus; (8) plantaris.

Group XII. Anterior muscles of the leg, which dorsiflex the foot, extend the toes, and stabilize the arch. (1) tibialis anterior (2) extensor digitorum longus; (3) extensor hallucis longus; (4) peroneus tertius.

Group XIII. Posterior thigh group, hamstring complex, which extend the hip, flex the knee, and outwardly and inwardly rotate the flexed knee, help synchronize simultaneous flexion or extension of hip and knee. (1) biceps femoris (2) semimembranous (3) semitendinosus.

Group XIV. Anterior thigh group, which extends knee, aids simultaneous flexion of hip and knee, produces tension of fascia lata and iliotibial band, acting with Group XVII in postural support of the body, helps synchronize hip and knee. (1) sartorius (2) rectus femoris (3) vastus externus; (4) vastus intermedius (5) vastus internus (6) tensor vaginae femoris (tensor fasciae latae).

Group XV. Mesial thigh group, which adducts hip, flexes hip, and flexes knee. (1) adductor longus; (2) adductor brevis; (3) adductor magnus; (4) gracilis.

Group XVI. Pelvic girdle group 1, which flexes hip. (1) psoas (2) iliacus (3) pectineus.

Group XVII. Pelvic girdle group 2, which extends hip, abducts thigh, elevates opposite side of pelvis, and produces tension of fascia lata and iliotibial band, aiding postural support by steadying pelvis. (1) gluteus maximus (2) gluteus medius (3) gluteus minimus.

Group XVIII. Pelvic girdle group 3, which outwardly rotates thigh and stabilizes hip joint. (1) piriformis (2) gemellus, superior or inferior (3) obturator, external or internal (4) quadratus femoris.

Group XIX. Muscles of the abdominal wall, which support and compress abdominal wall and lower thorax, produce flexion and lateral motions of spine, act as synergists in strong downward motion of arm. (1) rectus abdominis (2) external oblique (3) internal oblique (4) transversalis (5) quadratus lumborum.

Group XX. Spinal muscles, which produce postural support of body, extension and lateral movements of spine. Sacrospinalis (erector spinae and its prolongations in thoracic and cervical regions).

Group XXI. Muscles of respiration. Thoracic muscle group.

Group XXII. Muscles of the front of the neck, which produce rotary and forward movements of the head, respiration, deglutition. Lateral, suprahyoid and infrahyoid group, which rotates and moves head forward; respiration; deglutition. (1.) trapezius 1 (clavicular insertion) (2) sternocleidomastoid (3) the "hyoid" muscles (4) sternothyroid (5) digastric.

Group XXIII. Muscles of the side and back of the neck, which produce movements of the head, fixation of shoulder movements. Suboccipital, lateral vertebral and anterior vertebral muscles.

11.10 What are some key elements of a disability examination for scars?

See also “Scars” Worksheet.

Always report the presence or absence of tenderness on direct palpation. As compensation for burn scars is dependent on size and whether the scar is a residual of a second degree or third degree burn, each burn scar must include information on size (cm x cm) and the type of burn scar (i.e., second degree or third degree). In general, second degree burn scars retain normal appearance under usual circumstances, but may lack normal hair growth, lack normal sweating, and/or appear different when exposed to sun. With disfigurement or disfiguring scars of the head, face or neck, submit unretouched color prints.

11.11 How should a Final Diagnosis of musculoskeletal disease be expressed and supported?

After review of any requested studies, the examiner should include a Final Diagnosis for each musculoskeletal condition, complaint, or symptom listed on the examination request, or – if a complete general medical examination was requested – all musculoskeletal complaints and/or findings noted at the time of the examination.

Pay particular attention that the body part is correctly identified (left vs. right vs. bilateral) throughout the history, physical examination and Final Diagnosis.

For VA rating purposes, Final Diagnoses should not be expressed in ambiguous or equivocal terms. Avoid qualifiers such as "possible," "may be due to," or "rule out."

Be sure that Final Diagnoses are supported by appropriate diagnostic studies. For example, if the lumbosacral spine x-ray does not show degenerative changes, then a Final Diagnosis of "degenerative arthritis" is not acceptable because this diagnosis requires X-ray confirmation.
Also, be sure that the Final Diagnosis identifies a pathologic process. Thus, "lumbosacral pain" is not acceptable, while "lumbosacral strain" is an acceptable Final Diagnosis. A Final Diagnosis of "arthralgia" is also unacceptable unless it is part of a systemic condition, such as rheumatoid arthritis, or an "undiagnosed illness" in a Gulf War veteran (See examination worksheet titled "Guidelines for Disability Examinations in Gulf War Veterans").

CHAPTER 12 - NEUROLOGIC EXAMINATION

12.1 What are general considerations in conducting a neurologic examination for compensation and pension purposes?

Purpose: The disability evaluation examination serves as the basis for confirming (or establishing) the diagnosis and for the determination of disability. Neurologic disability is ordinarily rated in proportion to the degree of impairment of motor, sensory, or mental dysfunction. A major goal of the examination, then, is to determine the presence and degree of such impairments since they cannot be predicted from the diagnosis alone. This is obviously the case when the diagnostic label merely defines the etiology or specifies the site of abnormal anatomy. It is also true when the diagnosis does neither but is a summary descriptor of the impairment itself. Such generic labels (e.g., hemiplegia) seldom define the actual degrees of impairment in specific patients.

Diagnosis: Nevertheless, a specific and accurate diagnosis is necessary in every case. It is critical to adjudications related to eligibility and forms a partial basis for rating decisions. By defining the general spectrum of any disorder, the diagnosis suggests the major types of impairment that may be present and which should be sought for and evaluated. In addition, the prognosis for change is primarily defined by an accurate diagnosis. Most applicants will present with an established diagnosis. In a few it will be incorrect. In others new signs and symptoms will have developed, accompanied by change in the types and degree of impairment. In rare cases the applicant will be undiagnosed. Thus, in all cases it is critical to carry out a thorough examination in order to establish and confirm the correct diagnosis.

Multiple diagnoses: Every effort should be made to arrive at a single unifying diagnosis whenever possible. Multiple diagnoses, particularly one neurologic or "organic" and one psychiatric, cause significant problems for the raters that are trying to evaluate the disability. This will necessitate a complete general physical examination and a psychiatric study as well as a detailed neurologic examination. Some examinees will, however, clearly have two (or more) separate and unrelated disorders and should be so diagnosed.

Integration of findings: Diagnosis of neurologic disease, like the diagnosis of all disease, depends upon an integration of the findings from the history, the physical examination, and laboratory testing. Each has a somewhat unique contribution to make. The neurological examination gives a static or cross-sectional view of the current pattern of normal and abnormal findings from which one can often infer the locus and extent of anatomic disturbances. The findings themselves do not necessarily reveal the etiology or the history of how they came to be. For instance, the changes in strength, tone, and reflexes can be much the same in a hemiplegia whether it is due to a tumor or an infarct. On the other hand, the sequence of events leading up to the current findings (the history) can often clearly distinguish between the two. For many neurologic disorders, the historical course of the symptoms and the findings on examination are so characteristic that both an anatomic (localization) and etiologic diagnosis can be made with reasonable certainty. In others only a presumptive or differential diagnosis can be made, and laboratory testing is needed. In a few cases definitive diagnosis can be difficult, even for the experienced neurologist. This is particularly the case for the uncommon or complicated problems. When the diagnosis cannot be made with reasonable clinical certainty, it is better to simply report the pertinent history and findings than to force them into an unsubstantiated diagnostic conclusion.

Need to report motor, sensory, and mental function: In all cases it is necessary to describe the impairments of motor, sensory, and mental function as they form the major basis for rating determinations. The methodology of the neurologic history and examination has been developed primarily to establish etiologic and anatomic diagnoses, but does not necessarily lend itself well to determining the degree of functional impairment. For example, the presence of a Babinski sign may be crucial to the diagnosis, yet no necessary direct functional impairment can be attributed to this finding. Much the same can be said for most laboratory tests. With few exceptions, the degree of motor, sensory or mental impairment can only be established by observations specifically designed for that purpose.

Need for neurologic references: It is beyond the scope of this guide to review the methodology of the formal neurologic history and physical examination, or the diagnostic criteria for the various neurologic disorders. Reference should be made, when needed, to any of several standard contemporary texts for these purposes. Rather, this section focuses on several aspects of the evaluation process that may assist the examiner in determining the degree of impairment, and that are not generally addressed in standard neurologic texts.

12.2 What are the history requirements?

Overall impression and chronology: The pattern of symptom development is often crucial for the diagnosis, regardless of the findings on examination. Significant disturbances of function in many neurologic disorders can be episodic. Unless performed during an episode, the examination may be completely silent as to their presence. Thus, it is important to gain an overall impression of the presenting complaints and the chronology of their development. This should be done before the details are sought, as this can distract both the patient and the examiner.

Guiding the history: It is always desirable to permit the patient to give his/her history of the illness without too much interruption, except to redirect his/her conversation when it tends to drift too far afield. Interjection of a brief question, such as "What happened next?" helps to maintain chronological development of the course of events. When possible, the patient's own words should be recorded to describe his/her symptoms, but his/her meaning for the terms he/she uses must be made clear. When complaints such as being "dizzy," "confused," or "weak" are made, care must be taken to specifically describe the patient's exact meaning. Every safeguard should be used not to suggest symptoms to the patient. The use of the question "Was there anything else?" or "Did anything else bother you?" should always be used before direct questioning for possible associated symptoms such as nausea or vomiting in a patient with headache. When complaints are only obtained after direct questioning, this fact should be noted in the record. A specific statement should be made as to what parts of the history were obtained from the patient and what parts, if any, from someone else. The apparent reliability of the informants should be noted.

Social/vocational history: This is paramount for disability evaluation examinations. Significant limitations in vocational adaptability occasioned by neurologic disease will usually be accompanied by similar limitations in comparable avocational activities and daily living. A reliable history will usually document both types of limitation. In most cases, a *validated* history of what the patient can and cannot do, as well as the observations made by the physician during the examination, will form the basis for the disability evaluation granted by raters.

12.3 What are the examination requirements?

Systematic survey desirable: The neurologic examination utilizes a diversity of often-unrelated techniques that must be applied to every major portion of the body and to the body as a whole. Abnormal findings in any area require more specific exploration in detail, so that any branch of the examination must be expanded when necessary. Subsequent findings may modify the interpretation of previous findings and may even necessitate their reevaluation. Certain components of the examination will be preselected for special interest, usually by the history or the diagnosis itself. But these needs must not distract the examiner from completing a systematic survey of neurologic functions. As with the history, it is best to complete the general survey first. This prevents overlooking significant findings in areas other than those preselected for special attention and allows for a more complete integration of all the findings. It is most important to employ a predetermined plan or system for at least the general survey. The examiner can then return to specific areas of interest for a more detailed evaluation.

Minimum needs: Any of the schemes recommended in standard texts can be used as long as it is comprehensive. Whatever scheme is used, it should minimally include a general inspection, testing of the cranial nerves and special senses, general sensory and motor testing, a survey of the "higher brain functions," and an estimation of the mental status.

Report of examination: The report should summarize all significant positive findings, particularly those relating to limitation of function. For facilitating comparison of serial examinations, particularly when reported by different examiners, it is more helpful to describe the actual observations than to summarize them as "mild," "moderate," or "severe," etc.

Need for specific guidance for disability examinations: The formal neurologic examination, however, particularly as reported on standardized forms, has been designed more to serve as a basis for anatomic diagnosis than to determine the degree of disability. The following comments are intended to assist the examiner in this most important part of a disability evaluation examination.

12.4 What elements can be seen by general inspection?

Disturbances of function: Although a formal examination is needed to define the precise nature of most deficits, their meaning or significance is more defined by disturbances or limitations of performance. Significant abnormalities on the formal examination will usually be accompanied by disturbances of function in daily living, and general inspection is often the best way to detect this. Since general inspection begins with the first contact with the applicant, and does not cease until the applicant leaves the presence of the examiner, the applicant is often unaware that the examination has begun or is still in progress. Thus, it can serve to predict abnormalities to be found or validate those that are present on the "formal" examination.

Assessment during history taking interview: An observant physician is able to gain considerable information concerning the neurological status of the patient during the history-taking interview. The state of the muscular system can be evaluated to some extent by observing the gait as he/she walks into the consulting room. The nature of spontaneous movements, the presence or absence of involuntary movements, and the presence or absence of normal

associated movements will be revealed, at least in part, as the applicant sits through the interview. The facial expression, hearing acuity, quality of voice, type of speech, and the status of the eye movements should be noted. A fair idea of the intellectual and emotional capacity of the patient, as well as his/her motivation, may be gained during the taking of this history. The ease or clumsiness with which the patient handles buttoning or unbuttoning clothes, disrobing, tying shoe laces, removing articles from pockets or other simple routine movements may be most revealing of the presence or absence of disturbed function in the central or peripheral nervous system.

12.5 Should all cranial nerves be examined?

All cranial nerves and special senses should be evaluated, although tests of smell and taste can be omitted unless there are specific indications to do them. When they are tested, the guidelines given in Chapter 3, Organs of Special Sense, should be followed.

12.6 How should motor function (dysfunction) be examined?

Need to assess performance criteria: Many measures of motor status traditionally employed in the neurological examination (reflexes, bulk, tone of muscles, fasiculations, etc.) are crucial for localization and diagnosis. They do not, however, necessarily define the type or degree of functional impairment. Thus, a reliable and equitable rating decision cannot be made on the basis of such findings alone. Such decisions must depend upon performance criteria, such as strength and endurance, ease and range of motion, and skill and dexterity. Ideally, the performance evaluated should define the degree and type of impairment related to occupational adaptability, and to performance of the activities of daily living. Test results would be standardized and quantifiable.

Formal assessment techniques: The tests usually performed on the neurologic examination (finger-to-nose, grip strength, etc.) may be adequate for diagnostic purposes, but are poorly quantifiable, if at all. They are often insensitive to milder degrees of dysfunction that can be significant for vocational adaptability. Assessment techniques that approach the needed goal have been developed by physical and occupational therapy and by vocational rehabilitation programs. While such formal testing is not needed in every case, it can be invaluable in many. When available, such resources should be used, particularly in the complicated or unusual case, or whenever more routine clinical assessment does not clearly establish the degrees of impairment.

Information from verified history: In many cases, however, a reliable determination can be made from a *verified* history, focusing on recent vocational and avocational performances, coupled with the observation of relevant performances during the evaluation. The ease and skill with which the examinee robes and disrobes, writes, or picks up small items (coins, paper clips, etc.), one at a time as fast as possible, are examples. The ability to sustain a posture or simple repetitive motor performance is important. Conversely, the ability to rapidly change from one posture or performance to another is just as important. Fatigue is another important consideration that is poorly evaluated by the usual neurologic examination. There are a number of disorders, besides myasthenia gravis, in which strength on initial effort may be normal (or only slightly decreased) but declines rapidly on sustained or repeated effort.

Report of direct observations: The actual results of such observations should be briefly reported. Illustrative examples might be "Examinee can perform gross movements (such as shaking hands) but cannot manipulate small items in the hand," or "An intention tremor prevents examinee from performing such tasks as tying shoes without assistance." Such objective reports are far more reliable than the use of summary judgmental descriptors (often idiosyncratically applied) such as "mild," "moderate," or "severe."

Voluntary influences on motor function: However the evaluation of motor function is done, it must be remembered that voluntary movements are under the control of the patient. They are thus subject to influences other than the type and degree of neurologic disease. This applies to performance reported by history as well as to that observed during the examination. In most cases, the history of those activities the patient can and cannot perform is as important as the observations made during the examination, provided that the history is reliable and validated. Limitations in vocational adaptability due to neurologic disease will usually, if not always, be accomplished by similar limitations in comparable avocational and daily-living activities. A reliable history will document both types of limitations.

Reporting discrepancies: Abnormalities in motor performance observed on examination, particularly incoordination, weakness, and decreased range of motion, not associated with supporting or confirmatory signs (atrophy, reflex changes, abnormal tone, automatic compensatory actions, etc.) require special consideration. Often such abnormalities will be present when the patient perceives the performance is being specifically tested but absent when the performance is part of a larger, more spontaneous action, or when the patient's attention is distracted. A common example is the patient who, while standing with heels together, sways wildly when asked to close his/her eyes (Romberg's sign). Yet the patient does not sway when asked to close the eyes in the same standing posture but is distracted by doing rapid alternating finger-to-nose movements. Another common example is the patient who demonstrates marked weakness of some muscles (or muscle groups) when they are tested individually, yet shows no dysfunction in using the same muscles during other parts of the examination, or in dressing, etc., when the examination is "over." Such performances strongly suggest hysteria or malingering but by themselves alone do not warrant a diagnosis of either. Unless such diagnoses are confirmed by more positive and definitive findings, it is best not to speculate but simply to report the observed discrepancies.

Apraxia: Hysterical weakness (or malingering), however, should not be confused with apraxia. Associated with disease of one or both cerebral hemispheres, apraxia is the loss of ability to perform complex, often symbolic, acts at will or on command, without specific paralysis of the invoked parts. Generally the apractic patient will attempt the movement, but cannot complete it and appears perplexed and frustrated. It is as if he/she has "forgotten" how to do the act. Simpler voluntary and associated movements may be normal, and individual muscles (or muscle groups) are not affected. As with aphasia, apraxia is worsened by fatigue and improved by the presence of environmental clues.

Summary: In summary, while a formal examination of reflexes, tone, etc., must be done to establish or confirm the diagnosis, the functional significance of motor disturbances is determined by observation of performance. A detailed and *verified* history of what activities the patient can and cannot do, both in the vocational and avocational spheres, is as objective and reliable an indicator of vocational adaptability as are the observations made during the physical examination.

12.7 How should sensory function (dysfunction) be examined?

Formal testing: As with motor function, formal testing of sensory function (dysfunction) to identify the modalities affected and the topography of deficits is necessary to establish (or confirm) the diagnosis. At a minimum, the distal extremities should be tested for light touch, pain, position sense, and vibration. The hands should also be tested for graphesthesia and stereognosis. The trunk should be screened for light touch and pain. Abnormalities suggested by the history, or detected on the examination, should be more completely tested and mapped out in detail. However, the formal sensory examination, with few exceptions, is entirely subjective; that is, the examiner applies a stimulus, and the examinee reports his/her response. The examiner must be careful to be consistent in applying stimuli and even well intentioned, conscientious patients may show some inconsistencies in response, particularly when tired or fatigued. In addition, the topography of sensory changes after even complete lesions of individual spinal roots or peripheral nerves rarely match exactly those illustrated in standard references. Thus, performance of the sensory examination and interpretation of the results require considerable skill and patience. Yet it is traditionally the most poorly performed part of the neurologic examination.

Relationship of sensory deficits to functioning: Significant sensory deficits, however, are always accompanied by disturbances in function. The patient who reports marked loss of touch and/or position sense in the fingers and hand will not be able to perform skilled movements normally (buttoning, unbuttoning, manipulating small objects, etc.), particularly when not looking directly at the hand. When major sensory deficits reported on the formal sensory examination are not associated with the expected functional deficits, suspicion of hysteria or malingering should be raised.

Summary: In summary, the sensory examination is the most subjective and thus most often abused part of the neurologic examination. While formal sensory testing is necessary, it is the least reliable part of the examination. The significance of sensory abnormalities is more determined by the disturbances in function which they occasion. These are better determined by observing performance, in a manner similar to the evaluation of motor disturbances.

12.8 How should mental function (dysfunction) be evaluated?

What should be included? Here we are concerned with those mental activities, which have clearly been shown to depend upon the organic integrity of the brain, i.e., the so-called higher order cortical or brain functions. Such activities include perception, cognition, language function, general intellect and problem solving, memory, orientation, concentration, and attention. Disturbances in language function, apart from that as part of a general intellectual decline, are reported as any of the several varieties of aphasia. Disturbances in the other functions (usually occurring in various combinations) are reported under the psychiatric disorders as “organic brain syndromes.”

Diagnosis of organic brain syndrome: The presence of an organic lesion or neurologic disease of the brain is a necessary but not sufficient condition to establish a diagnosis, as such lesions can be present without having any significant effect upon mental functions. The diagnosis of an organic brain syndrome is only warranted when the examinee shows findings on examination that document disturbances or deficits in higher order brain functions.

Need for neuropsychologic tests: Most test procedures used in routine clinical assessment are relatively insensitive, detecting only major or obvious degrees of impairment. They are poorly quantifiable at best and have seldom been standardized. These deficiencies render them poorly suited for rating purposes. Standard, quantifiable neuropsychologic test batteries can overcome most of these limitations. Their use is desirable in all cases, except the most classical or severe, and is mandatory whenever the picture is not clear or easily defined. No single psychometric test is adequate for the purpose of diagnosing or grading severity of the loss of integrity of the "higher brain functions." Rather, a coordinated battery of tests is needed, preferably administered and interpreted by an experienced neuropsychologist.

12.9 How should epilepsy and other paroxysmal disorders be examined?

Types of paroxysmal disorders: There are a number of diseases whose major if not exclusive clinical manifestations are the result of brief, reversible but recurrent alterations in function of the nervous system. Epilepsy, narcolepsy, cataplexy, periodic paralysis, trigeminal neuralgia, and "hemiplegic" migraine are typical examples. TIA's (transient cerebral ischemic attacks), cluster or histamine headache, and even common migraine could be examples but are more often considered under cerebrovascular diseases or headache syndromes. Because the individual attacks generally develop suddenly and unpredictably, these diseases are often referred to collectively as the "paroxysmal disorders." In some cases the periodic neuronal dysfunction is secondary to anatomic lesions within the nervous system itself. In other cases it can be triggered by periodic disturbances in extracerebral (e.g., cardiorespiratory) or metabolic functions. In many cases, similar if not identical symptoms appear to be "primary" since no "lesion" can be identified. The diagnostic evaluation must not only identify the type (and subclassification) of the paroxysmal disorder but must determine whether it is primary or secondary. If secondary, the etiology must be determined.

Features of paroxysmal disorders: Several characteristic features of the paroxysmal disorders affect the value or weight of the usual components of the diagnostic triad (i.e., the history, physical examination, and laboratory testing). First, the patients are usually asymptomatic between attacks. Second, there are few if any physical findings (particularly between attacks) that reliably differentiate between patients who do and do not have a paroxysmal disorder, or between the subclassifications in those who do. Finally, there are no known laboratory abnormalities in some types (e.g., trigeminal neuralgia). Abnormalities may be present in some cases even when tested between attacks (e.g., spike or spike-and-wave discharges in the EEG in some cases of epilepsy). But similar abnormalities can, on rare occasions, be present in normal subjects. Even when present, the abnormalities are usually intermittent and may be missed. Thus, neither positive nor negative (normal) findings on routine testing, by themselves, are a sufficient basis for confirming or excluding the diagnosis.

History of paroxysmal disorders: Almost by default the history becomes the major database from which the diagnosis can be made. This is not a real disadvantage as a thorough and reliable history by itself will allow a diagnosis with reasonable clinical certainty in the majority of cases. The physical examination and laboratory tests are nevertheless important, but more to distinguish between primary and secondary cases and determine the etiology in secondary cases.

Corroboration of history: Ordinarily the patient is the best source of the history and is the expert on his/her own symptoms. But many paroxysmal attacks, particularly epileptic seizures, alter the patient's consciousness and

memory for the attack. Thus, it is always advisable to corroborate or verify the history from others who have witnessed one or more of the patient's attacks.

Directly monitoring a paroxysm: When the history and routine laboratory testing will not permit a diagnosis with any certainty, direct observations and/or polygraphic and audiovisual recording of actual attacks is necessary. When an attack is "captured" such procedures are usually definitive. Because attacks are often unpredictable and may be infrequent, even prolonged monitoring occasionally fails to capture an attack. This may result from the "therapeutic effect" of hospitalization itself, which decreases the probability of occurrence of attacks. Thus, failure to observe or record an attack cannot be taken by itself as definitive evidence that a paroxysmal disorder is not present.

Inability to diagnose: When the examiner cannot make a diagnosis with reasonable certainty from the information available during the disability evaluation examination, he/she should so state in the report. The types of information that are lacking, and the examiner's opinion/ recommendation as to the procedures needed to obtain the necessary data also should be briefly indicated.

Frequency and effects of attacks: The examiner should determine and report the type and frequency of attacks as accurately as possible in every case, since severity of disability (for rating purposes) is determined according to type (grand or petit mal, jacksonian, focal motor or sensory, etc.), frequency, duration, and sequelae of seizures. At least one detailed description of a typical seizure, preferably one observed (or at least verified) and reported by a physician, is required. The examination report should include the number and average frequency of attacks over the past 1-2 years and whether they were wholly or principally nocturnal or diurnal. The description should also include reference to the following: the presence or absence of aura; evidence of old or recent tongue biting; anal and bladder sphincter control; injuries associated with seizures; and postictal phenomena. Documentation of epilepsy should include at least one EEC test. The frequency of seizures as they occur in everyday life (not while in the hospital) is the issue of concern. This can only be determined by the history. Unless there is reason to doubt the reliability or veracity of the patient and/or family (or surrogates), they are the best source of this information. Although reports from others can be helpful, few will be able to give reliable first-hand reports on actual frequency unless they maintain a close and continual contact with the patient.

Determining consequences of epilepsy: In addition, the examiner should be sensitive to the existence of the many possible direct consequences of epilepsy (and other paroxysmal disorders) that often cause significant morbidity. It is seldom necessary to obtain a full psychological and Social Service workup: rather, a brief social/vocational history and mental status examination usually suffices, at least as a screening device. The examiner should be careful not to "lead the witness" and create problems where they do not exist. When significant problems are identified, they should be reported, preferably as specific diagnoses whenever possible (e.g., depressive reaction, neurosis, organic brain syndrome, etc.).

CHAPTER 13 - MENTAL DISORDERS

13.1 What general information should be provided in examinations for mental disorders?

Information required for a disability evaluation of a psychiatric disorder (or an alleged psychiatric disorder) is essentially no more extensive than a discerning examiner would want for his/her own use in an adequate understanding of a patient. The evaluation requires a report that sets forth a clear and complete word picture of the patient as a whole person, what he/she is like, and how able he/she is to take care of himself/herself and earn a living. The examination worksheets describe the specific requirements for a disability examination for mental disorders. This material supplements them. Specifically, the examination report should include:

Complaints in a veteran's own words, recorded between quotation marks. The presenting problems, when symptoms began, their course (chronological evolution). Information covering behavior, attitudes, and general health prior to onset of present illness. A description of the symptoms, subjective and objective, upon which the diagnosis is based.

A detailed military history: Where served, combat, when, wounds, decorations, names of units where served.

An occupational history as it relates to the veteran's adjustment to his/her work: Pre-service social, employment, and educational history.

A definitive diagnosis or diagnoses based on whole history and current examination. (If the diagnosis of a psychosis is made, always qualify by stating "active," "in full remission" or "in partial remission.") Terminology and the basis of the diagnosis must conform to the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (DSM-IV); otherwise the report will be returned. The report should explain how the veteran meets the DSM-IV diagnostic criteria for the mental disorder(s) diagnosed.

An opinion as to mental competency.

A discussion of social functioning.

A complete multiaxial assessment should be provided in all cases.

13.2 What constitutes a good longitudinal psychiatric history?

A detailed history is essential in psychiatric disorders. It should be developed and recorded in full if the examination is an initial one, and in re-examinations it should bridge the period since the preceding examination. It is sometimes insufficient to rely entirely upon the history given by the veteran. A study by a social worker should be requested, if necessary. The problem involved, and the period or area requiring clarification, should be clearly indicated. The examiner should not be tempted into making a spot diagnosis on impressions of the moment. Determining whether a disability is developmental or not cannot be made without a longitudinal study. The examiner must have a fair

estimate of the personality development, knowledge of all previous illnesses, injuries, residual conditions, other impairments, and a chronological picture of the evolution of the current psychiatric disorder; so that the present condition and disability can be viewed in its proper perspective.

13.3 What indicates the level of social and occupational functioning?

Of first importance in the consideration of social and occupational functioning is a chronological social and occupational history covering the period since the most recent of any previous reports. Taking into account the economic conditions generally prevailing in the veteran's community, indicators of adequate social and occupational functioning, partial or complete, include the ability to hold employment continuously; the showing of efforts to advance one's self; satisfactory adjustment to superiors and fellow workers; conformance to social standards of the environment; the absence of eccentricities of behavior or gross errors in judgment; and freedom from the necessity of supervision. On the other hand, a history of no real attempt to secure available employment, or a history of frequently interrupted employment plus evidence of defective judgment, abnormalities in behavior, emotional lability, poor community adjustment, or antisocial tendencies, are evidences of poor social and occupational functioning and should be recorded. Social integration is one of the best evidences of mental health and reflects the ability to establish (together with the desire to establish) healthy and effective interpersonal relationships. Poor contact with other human beings may be an index of emotional illness.

13.4 What are disability evaluations based on?

Disability evaluations by raters in the VBA regional offices are based primarily on a combination of the signs and symptoms of the mental health disorder and their effects on social and occupational functioning.
Raters consider the extent of social impairment, but do not assign an evaluation solely on the basis of social impairment. Impaired social functioning is important for rating purposes primarily as it affects occupational functioning. Unemployment because of such extrinsic factors as economic depression, unreasonable dissatisfaction with work environment, or domestic difficulties is not an indication of occupational impairment.

13.5 What information should be provided to support the diagnosis?

A disability evaluation cannot be made merely on the basis of the diagnosis. The diagnosis must be supported by the history and examination findings. For adequate justification for the diagnosis, the examiner should consider the following and record all information of importance concerning them:

Chronological historical medical, social, occupational, and military data.
Clearly and fully detailed symptomatology. The examiner will usually need to include in the examination report a statement covering the following main topics:
Appearance, attitude, and behavior.
Stream of talk and mental activity.
Emotional reactions and mood tendencies.
Content of special preoccupations.
Sensorium and intellectual resources.

Sufficient data upon which the differential diagnosis can be made.
Hospital study in cases where indicated.
The existence of an underlying organic condition that may cause the psychiatric symptoms.
Resolution of any inconsistencies between findings of specialists.
Necessity for social work service study.
Indication for psychological evaluation and results of any psychological tests conducted, to be correlated with other findings.
Conference with other examiners in the examining unit, if needed.

A diagnosis must never be made solely by exclusion. In other words the absence of physical findings is not in itself sufficient to justify a psychiatric diagnosis, nor does the mere suspicion on the part of the physician that the symptoms are functional warrant a positive psychiatric diagnosis.

13.6 How should the current diagnosis be related to previous diagnoses?

In the interpretation of the veteran's history and behavior, the examiner should be familiar with previous diagnostic interpretations. One cannot presume that the initial diagnosis, for example in the service medical records, is correct. Care is required before changing a diagnosis previously established, especially on more than one occasion, by the same or different psychiatrists. Whenever the history and findings of the examination do not confirm a diagnosis that has been previously made, the examiner should record the diagnosis which, in his/her opinion is justified on the basis of all the evidence, but should relate a current diagnosis to a former one, so that the rating boards may clearly understand whether:

A current diagnosis corrects an old (erroneous) one.
A current diagnosis represents a mere change in nomenclature. Include diagnosis from the old and new Diagnostic Statistical Manuals.
A current diagnosis reflects a new phase or later development of a condition formerly diagnosed differently.
A current diagnosis represents a new clinical entity not related to an earlier diagnostic entity.
An examination report which is the basis for a diagnostic conclusion of "No disease, following observation (or careful examination) for psychiatric disorder" should reflect the same careful consideration and thorough examination as required for the diagnosis of a psychiatric disease.

The examiner is frequently confronted with the absence of any present findings attributable to a disorder previously reported. If he/she is of the opinion that the subsequent course disproves the earlier diagnosis, he/she should so state. If the examiner reaches the conclusion that the formerly diagnosed condition actually existed at some earlier date but that the veteran has recovered, he/she should so state. In either case, reasons for such a conclusion must be recorded. A previously recorded diagnosis, if different from the currently accepted terminology, will be parenthesized after the current diagnosis. If the current diagnosis represents an entirely different category of disorder, you will need to provide a summary of the pertinent evidence to support it.

13.7 How should developmental or congenital conditions be reported?

Distinction must be made between conditions due to disease or injury and conditions, which are of developmental or congenital origin. Primary personality disorders and disorders of intelligence should be fully described and classified.

13.8 How and why should an examiner determine mental incompetency?

Incompetence for VA purposes is defined in section 3.353(a) of title 38, Code of Federal Regulations, as follows: "A mentally incompetent person is one who because of injury or disease lacks the mental capacity to contract or to manage his or her own affairs, including disbursement of funds without limitation." This is a determination ultimately to be made by the VBA rater based on all evidence of record. However, the examiner's assessment regarding incompetency is important and should be reported for two reasons:

a. as a factor in measuring the relative disability.
b. to assist in determining the propriety of payments of monetary awards directly to the veteran or to a guardian appointed by a court.

While an opinion of incompetency frequently follows a determination that a veteran is psychotic, this is not always true, so a distinction should be recognized between a psychosis as a mental disorder and incompetency as an existing fact.

The examiner should consider the practical effects of a determination of incompetency, such as court expenses incident to the appointment of a guardian, the veteran's relationship with other people, and the effect upon various rights and privileges. An existing psychiatric disorder is not in and of itself always sufficient to warrant the invoking of a legal process with these consequences. If in doubt as to competency, the examiner may ask for a study by a social worker regarding the past and current adjustment of the veteran in the community in order to clarify this matter. A determination of incompetency will be based upon affirmative answers to these questions:

Is the individual incapable of administering his/her personal affairs?
Is there definite evidence of a more or less prolonged departure from normal behavior as compared with the social standards of the community indicated by such things as dissipation of funds, irresponsibility toward personal and financial obligations, and lack of appreciation of values?

13.9 What pertinent information is available in the claim file and medical folder?

The claim file and medical folder may be useful to show:

chronological medical, social, and occupational history (including social study, if made).
the basis for previous diagnoses
previous ratings.

13.10 What constitutes a good psychiatric examination?

A review of the physical status, particularly with somatic complaints (including a brief neurological survey) is not only of value to the examiner but reassures the veteran that he/ she has had complete medical attention, even if a physical examination, including neurological examination, is already of record.

A detailed history as described in paragraph 13.2.
The examiner does two things at the same time - participates in the interview, and observes general appearance, behavior, and speech production (noting emotional, intellectual, and physiological reactions). The quality of the patient-doctor relationship established and the extent to which the veteran feels accepted and understood will markedly affect his/her feeling toward the final rating decision. Knowledge of pertinent data in the claim file and medical record file and skill in interviewing and understanding the objectives are both essential to an examination.

The following psychiatric interview technique is offered as a suggestion only, since most examiners have their own methods of eliciting information to be used as a basis for diagnostic classification and evaluation:
Begin by asking the veteran to relate everything that is troubling him/her. Permit the veteran to give a full spontaneous account of the symptoms and difficulties. Ask no leading questions except in instances where it is apparent that a psychotic process is present. Record verbatim a few representative statements and all complaints.

After the veteran has finished an uninterrupted story, inquire what else troubles him/her. Probe each symptom and how long it is present. Note the severity and whether it is persistent or intermittent. Describe its influence or effect upon total functioning, including relationship with others, work, and financial security.
Inquire what the veteran has done about his/her symptoms. What factors aggravate and what factors diminish the symptoms.

Has the veteran been thoroughly examined previously? What has he/she been told?
Inquire what the veteran thinks is behind the symptoms—the cause of them. Did they follow some stress? (Precipitating factors.)
Determine how the veteran felt about him/herself before the onset of the present trouble.
While the veteran is relating the story, formulate your impression concerning the following points:
How much discomfort or trouble does the veteran seem to be having as a result of the symptoms?
Is the emotional display consistent with the symptoms?
Does the veteran seem to be exaggerating?
Is the veteran apprehensive or anxious? (Note objective signs of anxiety.)
Consider the question of emotional immaturity, a pathological personality, or a disorder of intelligence. (Request psychological consultation if certain tests may be expected to contribute to an understanding of the disorder).
The extent of impairment of insight and judgment.

The eliciting of information through the interview, plus an interpretation of the material contained in the claim file and medical record file, an evaluation of a social study (if one has been made), and an assessment of special tests, should furnish the examiner with sufficient facts to provide a comprehensive report.

13.11 What is the value of and best way to use the Social Work Service?

A study by the social work service examines significant experiences related to family interrelationships, education, psychosexual development, employment, military history, and the onset of medical or psychiatric problems. They are examined in terms of their effect on the veteran's psychosocial development and functioning. The social study will

assist the examiner in developing an appropriate diagnosis; in evaluating the degree of social, psychological, and industrial impairment; and in assessing the veteran's potential for improved social functioning and employment.

A social study can help to clarify:

the nature and sequence of events that may have affected the veteran's life
the physical and social situation, and especially the interpersonal relationships, past and present, that have perceptibly affected him/her
social and psychological situations that may have brought out abnormal functioning which has a bearing on the cause and nature of the veteran's maladjustment
information about the veteran's behavior patterns
response to stressful situations
competency.

Social data are particularly useful in helping the examiner solve diagnostic problems such as differentiating between a transient personality reaction to an acute or special stress and an anxiety or other type psychiatric disorder; determining the significance of addiction to alcohol or drugs; indicating the existence of delusional trends, and determining what continuity of symptoms has existed over periods during which there have been conflicting diagnoses.

A social study may focus on the psychogenic factors in an illness where the obvious symptoms may be the disordered function of an organ or system of the body.
Finally, the social study may provide additional information concerning the veteran's readiness for treatment and potential for response to treatment.

13.12 How can psychological tests help?

The use of some of the many objective and projective psychological tests can aid the examiner materially in making a complete diagnostic evaluation. Although the test findings are not a substitute for a psychiatric examination, they can provide many corroborative facts through investigating the presence, extent, and severity of symptoms. Further insight into sources of anxiety and unconscious conflicts as well as descriptions of characteristic defense reactions to stress and frustration can be secured. Additional facts concerning the veteran's motivation, goals, aspirations, needs, and attitudes can also be obtained.

Psychological tests can aid in the differential diagnosis of

psychiatric and neurological disorders and reactions
psychoses and anxiety and personality disorders
psychotic and anxiety disorders
mental retardation and schizophrenia
mental retardation and organic brain disease.

Various tests can be used to delineate some of the veteran's outstanding personality traits and modes of expressions, such as:

emotional responsiveness and control
the degree and quality of ideational activity

the degree to which he/she functions within the limits of capacity without undue inner tension or stress.

Tests can determine the differential effects of organic brain damage and psychiatric illness upon the psychological functions, such as memory, perception, and reasoning, as well as the degree of impairment.
Facts concerning the potential and resources of the veteran which are useful in judging the likelihood of improvement or recovery can also be provided.

Consultations: An examination by an appropriate consultant may be required in cases where there is a possibility of an organic condition being either a cause or a result of a psychiatric disorder.

CHAPTER 14 - POST-TRAUMATIC STRESS DISORDER (PTSD)

14.1 What is PTSD?

PTSD is a mental disorder that is a specific type of anxiety disorder that may result from a traumatic event such as combat, rape or other personal assault, natural disaster, accident, or other traumatic experience.

DSM-III established the diagnosis of PTSD and set forth clear diagnostic criteria. DSM-IV provided revised diagnostic criteria. While this chapter plus the examination worksheets for PTSD provide considerable guidance on the diagnosis and assessment of PTSD, for more comprehensive information, see the booklet: "VA Practice Guideline for Post Traumatic Stress Disorder Compensation and Pension Examinations."

14.2 What causes PTSD?

Research and clinical observations have demonstrated that the etiology is complex. The most relevant etiologic variables in the delayed and chronic forms are:

Quantity and quality of traumatic stressors encountered.
General psychosocial conditions prevailing in a war zone, e.g., unit integrity, tactical and strategic coherence of military operations, and clarity of purpose in the war.
Homecoming experiences post-war, particularly adequacy of military, family, and community opportunities for debriefing and readjustment.
Pre-existing traumatic incidents (make people more vulnerable to PTSD).
Inherited biological factors

14.3 Why is establishing rapport at the onset of the interview critical?

Since accurate diagnosis requires extended discussion of experiences, which may have, been extremely traumatic, veterans, whether they have had little or no treatment or extensive treatment, may react strongly to the history taking and review of memories of the war or other stressor. Sensitivity, tact, and on-going assessment of the level of arousal are required. Opportunities for therapeutic interview may need to be assured.

Repression and denial and general haziness of memories are often hurdles in obtaining an adequate military history many years after service. Because of cultural and individual factors, some veterans may find it difficult to be forthcoming with the examiner.

For these reasons, and the inherently painful quality of the traumatic material, it is crucial that the examiner place emphasis on avoiding an authoritarian role, avoiding judgmental interventions, and establishing rapport through an initial focus on current life experiences or other discussion which encourages comfort in the interview.

It is often useful for both parties to discuss and become comfortable with the fact that the examiner may not have experienced the events lived through by the veteran. Such clarification of the initial status of both parties, though time-consuming, may ultimately produce the most accurate clinical data.

14.4 What are recommended guidelines for assessing trauma exposure?

a. **Objective.**
The objective of trauma assessment is to document whether the veteran was exposed to a traumatic event, during military service, of sufficient magnitude to meet the DSM-IV stressor criterion, described below.

DSM-IV Stressor Criterion (A)

The person has been exposed to a traumatic event in which both of the following have been present:

a. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.
b. The person's response involved intense fear, helplessness, or horror.

Compensation and pension examinations routinely address PTSD resulting from combat exposure. However, many other forms of military-related stress are sufficient to induce PTSD and should be reviewed among veterans applying for service-connected disability benefits. Non-combat forms of military-related trauma that are not uncommon include sexual assault or severe harassment; non-sexual physical assault, duties involved in graves registration or morgue assignment; accidents involving injury, death, or near death experiences; and experiences associated with peace-keeping deployments that meet the DSM-IV stressor criterion described above.

Note. Adverse psychological reactions are often associated with stressful events that have the quality of being unpredictable and uncontrollable. Additionally, stressors that result in bodily injury, threat to life, tragic loss of a significant other, or involvement with brutality or the grotesque heighten risk for subsequent PTSD. Exposure to assaultive violence, particularly of a criminal nature, is more likely to induce PTSD than random "acts of God." It is known that severity of the stressor, in terms of intensity, frequency, and duration, is the most important trauma characteristic associated with subsequent development of PTSD. Factors surrounding the trauma incident, such as absence of social support for the victim, may also influence the degree to which a stressful event is experienced as psychologically traumatic, and may contribute to its potential for inducing psychiatric symptoms.

b. **Sources of information used in trauma assessment include:**

VA Claims File
DD-214
medical records from VA, Department of Defense, and other health care facilities
statements from collaterals or others who have information about the veteran's trauma exposure and its behavioral sequelae
evidence of behavior changes that occurred shortly after the trauma incident
statements derived from interview of the claimant.

c. **Guidelines for interview assessment of trauma exposure:** Initial examinations conducted for purposes of establishing a diagnosis of PTSD require clinician assessment of trauma exposure and documentation of findings. Provided below are guidelines for (a) orientation of the claimant to the interview assessment process, (b) information

to be gathered and documented regarding the trauma, (c) queries suggested for eliciting information about the stressor, and (d) instruments recommended for use in trauma assessment.

1. Orientation of the claimant to trauma assessment. For initial examinations, explain to the claimant that it is necessary to obtain a detailed description of one or more traumatic events related to military service. Further, it is helpful to orient him/her to the fact that, although trauma assessment is brief (20-30 minutes), it is likely to cause some distress. The veteran should be advised that trauma assessment is a mutual and collaborative process, and that he/she is not required to answer in depth some questions, if it is too distressing to do so.

2. Documentation of trauma-related information. A detailed narrative description of the traumatic episode must be recorded in the report, including:

- the objective features of the traumatic event
- date and location of the stressor(s)
- names of individuals who witnessed or were involved in the traumatic incident
- individual decorations or medals received
- the veteran's subjective emotional reaction during and after the trauma and his/her behavioral response
- the veteran's perception of perceived consequences of the traumatic event, including abrupt changes in behavior
- names of health care facilities where trauma-related injuries were treated.

3. Suggested interview queries. Assessment of one or more personally relevant traumas proceeds after sufficient rapport has developed and some cursory details regarding the context of the trauma situation(s) have been gathered (e.g., branch of the military served in; events leading up to the traumatic situation). Provided below are questions that may then be asked of the veteran, if appropriate to the context of the trauma situation:

Stem or lead inquiry: The Clinician Administered PTSD Scale (CAPS) strategy for assessing the stressor criterion is recommended for the initial inquiry about trauma exposure. This strategy involves the following sequence of orienting procedures and questions:

Orienting statement: *"I'm going to be asking you about some difficult or stressful things that sometimes happen to people. Some examples of this are being in some type of serious accident; being in a fire, a hurricane, or an earthquake; being mugged or beaten up or attacked with a weapon; or being forced to have sex when you didn't want to. I'll start by asking you to look over a list of experiences like this and check any that apply to you. Then, if any of them do apply to you, I'll ask you to briefly describe what happened and how you felt at the time.*

Some of these experiences may be hard to remember or may bring back uncomfortable memories or feelings. People often find that talking about them can be helpful, but it's up to you to decide how much you want to tell me. As we go along, if you find yourself becoming upset, let me know and we can slow down and talk about it. Do you have any questions before we start?"

Administration of trauma exposure checklist: The CAPS 17-item trauma exposure checklist may be administered as a preliminary means of identifying exposure to different traumatic events. Detailed inquiry should follow positive endorsement of traumatic events, in order to clarify objective features of the stressor, using questions suggested below as appropriate:

Were you wounded or injured?
Did you witness others being killed, injured or wounded?
Were you exposed to bodies that had been dismembered?
About how many times were you exposed to [the traumatic event]?
Was somebody important to you killed or seriously hurt during this situation?
During the trauma, did the perpetrator coerce you into doing something against your will? (sexual assault)
During the trauma, did the perpetrator threaten to injure you or kill you if you did not comply with their wishes? Did you believe there would be any other negative consequences to you if you did not comply with their intentions? (sexual assault)
What did other people notice about your emotional response?
What were the consequences or outcomes of this event?
Did you receive any help, or talk to anyone, after this event occurred?

Questions assessing subjective response to the stressor: Suggested inquiries for assessing subjective reactions to trauma exposure (DSM-IV criterion A.2) include:

At the time the trauma was occurring, did you believe your life was threatened? Did you think you could be physically injured in this situation?
At the time this occurred, how did you feel emotionally (fearful, horrified, helpless)?
Were you stunned or in shock so that you didn't feel anything at all?
Did you disconnect from the situation, like feeling that things weren't real or feeling like you were in a daze?
Can you recall any bodily sensations you may have had at the time?

Suggested inquiries if no events are endorsed on the CAPS trauma exposure checklist:

Has there ever been a time in the military when your life was in danger or you were seriously injured or harmed?
What about a time when you were threatened with death or serious injury, even if you weren't actually injured or harmed?
What about witnessing something like this happen to someone else or finding out that it happened to someone close to you?
What would you say are some of the most stressful experiences you had during the military, which still upset you today?

4. Recommended Instruments for Trauma Assessment. The following instruments are useful in assessing objective features of trauma exposure. They should be administered only to clients who resemble the appropriate criterion group on which the instruments were developed. Responses to these instruments may be used as a stimulus for further interview inquiry or to guide the interview. Some instruments (e.g., the Combat Exposure Scale) provide sufficient information to make gross assessments of whether the individual was exposed to a "high," "moderate," or "low" degree of trauma. While helpful, use of these instruments is never sufficient, and must be accompanied by a narrative description of unique details of the veteran's traumatic experience.

For infantryman and other ground troop personnel: Combat Exposure Scale
For females serving in a war zone: Women's Wartime Stressor Scale
For Gulf War veterans: Desert Storm Trauma Exposure
For veterans exposed to sexual assault: Brief Screening Questionnaire for Sexual Assault

14.5 How is PTSD assessed?

a. **Objective:** Assessment of PTSD for compensation and pension purposes should:
establish the presence or absence of a diagnosis of PTSD
determine the severity of PTSD symptoms
establish a logical relationship between exposure to military stressors and current PTSD symptomatology.

Thorough assessment of PTSD requires inquiry into the presence/absence of all 17 symptoms of the disorder, together with associated features articulated in DSM-IV. Objective and standardized assessment of PTSD will be enhanced by using a structured diagnostic interview schedule, as well as psychometric tests specially designed for PTSD assessment. Below is a recommended minimum core battery of PTSD measures to be used in compensation and pension settings, based on their established reliability and validity, ease of administration, and the fact that no fee is charged for their use.

DSM-IV Diagnostic Criteria for PTSD

The person has been exposed to a traumatic event.
The traumatic event is persistently reexperienced in one (or more) of the following ways:
Recurrent and intrusive distressing recollections of the event, including images, thoughts or perceptions.
Recurrent distressing dreams of the event.
Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on aw2akening or when intoxicated).
Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

Efforts to avoid thoughts, feelings, or conversations associated with the trauma.
Efforts to avoid activities, places, or people that arouse recollections of the trauma.
Inability to recall an important aspect of the trauma.
Markedly diminished interest or participation in significant activities.
Feeling of detachment or estrangement from others.
Restricted range of affect (e.g., unable to have loving feelings).
Sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span).

Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

Difficulty falling or staying asleep.
Irritability or outbursts of anger.
Difficulty concentrating.
Hypervigilance.
Exaggerated startle response.

Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.

The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:
Acute: if duration of symptoms is less than 3 months
Chronic: if duration of symptoms is 3 months or more
Specify if:
With Delayed Onset: if onset of symptoms is at least 6 months after the stressor.

b. **Diagnostic interview assessment of PTSD:** The CAPS is a structured clinical interview designed to assess the 17 symptoms of PTSD corresponding to DSM-IV criteria. The CAPS has a number of advantages over other diagnostic interview methods for PTSD, including

the use of explicit behavioral anchors as the basis for clinician ratings
separate scoring of frequency and intensity dimensions for each PTSD symptom
measurement of associated clinical features
assessment of the impact of PTSD symptoms on social and occupational functioning
ratings of the validity of ratings obtained.

The CAPS requires approximately one hour to administer, although it can be customized and abbreviated by eliminating less relevant components. However, sites with limited clinical resources may consider using other interview-based diagnostic instruments for PTSD, which are somewhat briefer. These instruments include

PTSD symptom Scale
Structured Interview for PTSD

Structured Clinical Interview for DSM-IV
Anxiety Disorders Interview—Revised
PTSD Interview.

Although a modest amount of timesaving may result from using these alternative instruments, the information gleaned from them is typically not as comprehensive and, unlike the CAPS, there may be a charge associated with their use.

14.6 What is the recommended time allotment for completing examination?

This guideline is designed to enhance the objectivity, reliability, and accuracy of PTSD examinations conducted in compensation and pension settings. Although the administration of the recommended assessment instruments requires additional clinician time, it is expected to result in improved quality and increased veteran satisfaction.

Approximately three to four hours are required to conduct a comprehensive initial compensation and pension examination for PTSD. This includes 90 minutes for interview assessment of trauma stress exposure and PTSD symptoms plus an additional hour to complete other portions of the examination (see Worksheet and Template for content areas to cover). An additional 1.5 hours is required for review of psychological testing materials and preparation of a report of findings. (These time estimates may be adjusted downward, depending on the availability of an independent social-industrial survey completed by a social worker.)

14.7 What mental health professionals are qualified to conduct Compensation and Pension examinations for PTSD?

Professionals qualified to perform PTSD examinations should have doctoral-level training in psychopathology, diagnostic methods, and clinical interview methods. They should have a working knowledge of DSM-IV, as well as extensive clinical experience in diagnosing and treating veterans with PTSD. Ideally, examiners should be proficient in the use of structured clinical interview schedules for assessing PTSD and other disorders, as well as psychometric methods for assessing PTSD.

Board certified psychiatrists and licensed psychologists have the requisite professional qualifications to conduct compensation and pension examinations for PTSD. Psychiatric residents and psychology interns are also qualified to perform these examinations, under close supervision of attending psychiatrists or psychologists.

14.8 What standardized psychometric tests are useful in PTSD?

Psychometric assessment of PTSD provides quantitative assessment of degree of PTSD symptom severity. Judgments about symptom severity can be made by comparing an individual's scores against norms established on reference samples of individuals who are known to have or not have PTSD. Cutting scores have been established for the psychometric measures of PTSD recommended here, based on their high sensitivity and specificity in discriminating individuals with PTSD from those without PTSD. Data from psychometric tests never serve as a "stand alone" means for diagnosing PTSD. Rather, the psychometric measures recommended here should be used to

supplement and substantiate findings gleaned from interview assessment and other sources of data. The following psychometric instruments are recommended for inclusion in disability evaluations for PTSD.

Mississippi Scale for Combat-Related PTSD - for combat-exposed populations
PTSD Checklist - for individuals exposed to combat and non-combat trauma

Alternatives include:

- MMPI PTSD subscales
- Impact of Event Scale—Revised
- Penn Inventory
- PTSD Stress Diagnostic Scale
- Trauma Symptom Inventory.

Additionally, many instruments (e.g., MMPI) exist for quantifying extent of symptoms of other disorders that often co-occur with PTSD, and should be considered for use as resources permit. The MMPI and MMPI-2 include scales known as "validity scales" that are elevated in people who are trying to exaggerate their symptoms. Use of the MMPI and MMPI-2 may help the evaluator determine test-taking style of the veteran (i.e., defensive, overendorsing, underendorsing). Cutoff scores for utilizing the MMPI-2 to assess validity of PTSD diagnosis have been reported in a number of research studies. In addition, MMPI-2 cutoff scores for specific PTSD scales (i.e., PK, PS) have been shown to be effective at assessing PTSD.

14.9 What is the differential diagnosis of PTSD?

Personality Disorders: These disorders do not usually emerge without early signs in adolescence, and are rare in individuals with successful military careers. Therefore, the diagnosis of primary personality disorder requires the usual evidence of existence of these pathological traits prior to military duty. Certain features may be due either to personality disorder or to PTSD. These include:

- General alienation.
- Reluctance to talk to professionals.
- Violent outbursts and assaults.
- Intolerance or distrust of authority.
- Dysfunctional patterns of living.

PTSD sometimes occurs concomitantly with a personality disorder. In this case careful assessment must be made of the etiology of specific symptoms and behaviors recorded. The more severe cases of PTSD may be confused with borderline personality because of regression to splitting mechanisms and severity of behavioral disruptions. Clear assessment of the childhood, adolescent, and pre-military young adult histories will indicate whether or not the pre-military picture is consistent with borderline problems.

Substance Abuse: Substance abuse may pre-exist PTSD or may occur as a result of PTSD. Only a detailed examination of the history of the substance abuse, its relation or non-relation to PTSD symptoms and stressors, and an adequate examination of the history for such stressors, will permit a differentiation.

Depression: However, depression may also be an associated feature of PTSD. Clinical reports and research suggest that depression is prominent in some cases as a manifestation of the stress disorder or as a result of impacted grief and mourning. Major depressive disorder, especially in women, can be a risk factor for increasing likelihood for PTSD.

Schizophrenia: It is not uncommon to find cases of PTSD misdiagnosed as schizophrenia during the period prior to 1980. Presence or absence of formal thought disorder is often a helpful distinguishing feature. In severe cases of PTSD, the re-experiencing of traumatic events (flashbacks) seems to have hallucinatory quality. However, these may be distinguished from schizophrenic hallucinations by determining the content and noting whether it involves a repetition of the traumatic experiences. The constriction of affect sometimes seen in PTSD may resemble the flattened affect of schizophrenics. One distinguishing feature is that PTSD patients usually express considerable pain over their constricted affect and contrast it to their pre-war state, whereas schizophrenics manifest less dissatisfaction with the lack of emotions.

How can a stressor be documented?

a. Validity of history. The diagnosis of PTSD is contingent on the experiencing of traumatic stressors. At times, the examiner may have questions about the degree of distortion or fabrication in the interview. The clinical picture of PTSD is relatively easy to fabricate on a superficial level but very difficult to fabricate in depth. Thus, the more detailed the history taking, the greater the validity.

b. Documentation of traumatic experiences. A study by the Social Work Service may assist in gathering information about a buddy or officer who might be contacted to help confirm or deny crucial statements about military operations or other events in specific localities. Documentation from family, friends, and teachers concerning changes in the individual from pre- to post-service status may be helpful.

If the claimed stressor is related to combat, receipt of any of the following individual decorations will be considered evidence of participation in a stressful episode, assuming there is no information to the contrary. These are, however, not the only means of establishing a combat-related stressor.

Air Force Cross
Air Medal with "V" Device
Army Commendation Medal with "V" Device
Bronze Star Medal with "V" Device
Combat Action Ribbon
Combat Infantryman Badge
Combat Medical Badge
Distinguished Flying Cross
Distinguished Service Cross
Joint Service Commendation Medal with "V" Device
Medal of Honor
Navy Commendation Medal with "V" Device
Navy Cross
Purple Heart

Silver Star

Status as a former POW confirms a stressor that is related to the POW experience.

The claims folder may be devoid of information concerning a personal assault, such as rape, physical assault, domestic battering, robbery, mugging and stalking. Additional civilian or non-medical military records, such as a report from a rape crisis center or center for domestic abuse, civilian police reports, etc., may become part of the claims folder. But at times, it may be descriptions of the effects on the veteran's life following the stressful event, such as changes in behavior, and the examiner's assessment of this information, that can help establish and validate the stressor when official information to confirm is lacking.

CHAPTER 15 - Infectious Diseases, Immune Disorders, and Nutritional Deficiencies

15.1 What are the basic elements of an examination for Infectious Diseases, Immune Disorders, and Nutritional Deficiencies?

This chapter supplements the disability examination worksheets. Generally, the veteran presents with a history of infectious disease in the past with recurring exacerbations, chronic infection or residuals.

a. **Initial examination:**

1) History of present illness - onset, frequency, and severity of symptoms; past and current treatment; whether symptoms are controlled by treatment; effects of condition on daily activities.

2) General health information, as pertinent - including previous surgery and illnesses; family history; military history.

3) Infectious history. Date of onset and course of infection, including exacerbations, response to therapy and residuals.

4) Immune disorder history. Date of onset and course of immune disorder, including exacerbations, response to therapy and residuals.

5) Nutritional deficiency history. Date of onset and conditions of nutritional deficiency, including exacerbations, response to therapy and residuals.

6) Occupational and environmental history. Describe any similar exposure both in the military and before and following service, including occupational hazards.

b. **Review examination:** For a review examination, only an interval history covering the period since the last examination is needed.

c. **Physical examination:** See worksheets for additional information.

d. **Usual laboratory studies:**

CBC with differential for infections, autoimmune studies for immune deficiencies and serum protein for nutritional deficiencies.

15.2 What are the characteristics of Avitaminosis?

Describe the history, nature and duration of any prolonged period of malnutrition.

Include the date of onset of symptoms, clinical manifestations (local and systemic at onset and residuals, if any, at the present time), weight curve (average, highest, lowest, and present weight), and any treatment received.

15.3 What are the characteristics of Bartonellosis or Oroya Fever?

Describe any abrupt febrile illness with muscle and joint pain or cherry red cutaneous nodules on the face, limbs, genitalia, scalp, pharynx or mouth as well as any severe anemia. The red blood cell count drops precipitously and stained smears reveal large number of Bartenella bacillifonnis in the erythrocytes. Convalescence is prolonged and blood cultures may be positive long after recovery. Search for other parasites, blood borne or intestinal, is in order.

15.4 What are the characteristics of Beriberi?

Describe any nutritional polyneuritis, cardiac findings (palpitation, tachycardia, cardiac irregularities, dyspnea, murmurs, ECG changes, inversion of T-waves, prolongation of Q-T intervals), enlarged heart or cardiac failure.The diagnosis depends upon a history of thiamin deficiency and findings of peripheral neuritis, foot drop, impaired vibratory and position sense, enlarged heart, edema or tenderness and atrophy of muscles. Response to replacement therapy may not be satisfactory in relieving residuals after manifestations have progressed to an advanced degree of severity. On the other hand, it is essential to recall that with very rare exceptions patients with beriberi heart disease either die quickly after the acute fulminating phase of heart failure or recover entirely.

15.5 What are the characteristics of Brucellosis (Undulant Fever, Malta Fever)?

Record any abrupt febrile illness or prolonged symptoms of weakness, depression or an incapacitating illness. Extreme fatigue and exhaustion often occur with the slightest physical exertion despite comfort at rest. Fever is intermittent with diurnal variations from 98.0 to 104 degrees F (38.50 to 40.0C). Profuse nocturnal sweats, adenopathy, hepatomegaly, splenomegaly, and abdominal tenderness may be present.

Complications are encephalitis, meningitis, spondylitis involving the thoracolumbar region, vegetative endocarditis, myocarditis, pericarditis, uveitis, orchitis, bone infarcts or abscess, nephritis, cystitis, and hepatitis. Jaundice may occur. Laboratory tests may include agglutination reaction, blood culture or culture of aspirated sternal bone marrow.

15.6 What are the characteristics of Cholera?

Record any copious emesis, frequent, large watery stools containing little or no pus, dehydration, electrolyte imbalance, severe thirst, weight loss, anuria, uremia (in severe cases), and finding the causative organism on stool culture. Usually with present day treatment, the patient survives with little or no residual disability. Include any residuals such as renal impairment.

15.7 What are the characteristics of Filariasis?

Record any swelling of the scrotum, penis, or labia, swelling of the arm or leg after physical exertion. Diagnosis is dependent upon demonstration of microfilariae in the blood stream. Eosinophilia occurs in two-thirds of cases. Describe any residuals such as elephantiasis.

15.8 What are the characteristics of Kala-azar (Visceral Leishmaniasis)?

Record any irregular bouts of fever with daily double spikes, hepatomegaly, splenomegaly, lymphadenopathy, leukopenia, weight loss, debility, anemia, edema or hyperpigmentation of the skin. There may be a reversal of albumen globulin (A/G) ratio with marked hyperglobulinemia. Diagnosis is dependent upon demonstration of parasites in peripheral blood, sternal bone marrow, biopsy of lymph nodes, skin lesions, liver or spleen. Animal inoculation or culture may be required for diagnosis. About 98 percent of cases are cured with good treatment.

15.9 What are the characteristics of Malaria?

Extreme care must be used to evaluate this condition in a veteran who was in an endemic area and left service during recent months. The disease is often not diagnosed while in service or in endemic areas because of suppressive control measures but later becomes evident after return to civilian life. Rarely, a period of years may occur between the time malaria is acquired and the time it is recognized clinically.

Onset of malarial reactivation often occurs with exposure to cold, trauma, alcohol, infections, unusual exertions, debilitating conditions, or other situations affecting the immune system.

Diagnoses of acute or relapsing malaria must be based on identification of malarial parasites in blood smears. A diagnosis of chronic malaria should include any residuals such as liver or spleen damage.

15.10 What are the characteristics of Lupus Erythematosus?

The report should include date of onset and a clinical description of the extent of the disease in the particular organs involved. Note any butterfly erythema of face, arthralgias, recurrent pneumonitis, serous membrane involvement with pleurisy or pericarditis, diffuse myocarditis, atypical verrucous endocarditis (Libman-Sachs disease), central nervous system involvement (epilepsy) or renal involvement.

The report should include results of abnormal laboratory findings such as anemia, leukopenia, thrombocytopenia, positive Coombs test, positive tests for antinuclear antibodies, and positive rheumatoid factors.

Describe frequency of exacerbations and whether or not they cause severe impairment of health.

15.11 What are the characteristics of Melioidosis?

Record any history of an acute upper respiratory illness, followed by an abrupt onset of localized or widespread pulmonary abscesses. This phase may resemble miliary tuberculosis or subacute bacterial endocarditis. The illness may be devastating or fatal, with pulmonary, meningeal, cardiac, or other findings. Cultures of appropriate material are essential for diagnosis.

15.12 What are the characteristics of Pellagra?

The diagnosis depends upon a history of inadequate niacin in the diet (high in carbohydrate and fat, low in animal proteins), dermatitis, and stomatitis.

Describe any diarrhea or skin lesions on hands, wrists, elbows, neck, knees, feet, under breasts, and in the perineal region, glossitis or stomatitis.

Include any residuals such as subacute combined degeneration of the spinal cord with spasticity and ataxia, peripheral neuritis, depression, apprehension, hallucinations or disorientation.

Lab tests should include CBC with differential (microcytic or macrocytic anemia)

15.13 What are the characteristics of Plague?

Describe any high fever, lymphangitis with tender enlarged lymph nodes or buboes, overwhelming septicemia or patchy pneumonia.

Include any residuals such as infected buboes or primary plague pneumonia. Diagnosis is dependent upon a demonstration of Yersinia pestis in material aspirated from buboes, blood or sputum.

15.14 What are the characteristics of Relapsing Fever (Recurrent Fever, Famine Fever, and Tick Fever)?

Describe any chills, fever, headache, erythematous rash, rose colored spots on trunk or limbs, severe muscle pain or involvement of the central nervous system. Fever generally subsides in 3 to 10 days with later relapses similar to the original complaints. Diagnosis is demonstrated by Borrelia recurrentis in peripheral blood or by animal inoculation.

15.15 What are the characteristics of Rheumatic Fever?

Record any history of an upper respiratory infection due to Group A beta hemolytic streptococci, acute migratory polyarthritis primarily involving the larger joints and accompanied by a febrile illness, signs of myocarditis, pericarditis, valvular disease, erythema marginatum, subcutaneous nodules or chorea minor (Sydenham's Chorea). Include any frequent nosebleeds, heart murmurs, nodules along extensor tendons, long terms of bed rest and restriction from sports. The episodes of active rheumatic fever must clearly detail cardiac findings, fever, rash, and involvement of joints or the central nervous system. A mitral presystolic rumble, suggesting mitral stenosis or atrial myxoma, may require a cardiology consultation.

The laboratory findings include ECG, elevated serum antistreptolysin 0 titre, anemia, leukocytosis, elevated sedimentation rate, and positive C-reactive protein.

Describe any residuals such as chronic heart disease.

15.16 What are the characteristics of Schistosomiasis?

Authenticated, positive diagnosis during military service in the tropics should be obtained. Other tropical diseases sometimes produce some of the findings of schistosomiasis. Any disease of the central nervous system, gastrointestinal tract should be fully documented. The date of the last positive stool and date of completion of treatment, as well as drug and amount should be noted. Any eosinophilia should be noted. Careful stool examination should be done and a skin test or rectal biopsy may be useful.

15.17 What are the characteristics of Scrub Typhus (Tsutsugamushi fever or Tropical Typhus)?

Record any eschar at the site of the bite, ulcer, lymphatic enlargement, high fever, and red macular rash, parotitis, melena, coma, mania, heart failure, or pulmonary edema.
Weil-Felix Reaction test may be useful.

15.18 What are the characteristics of Extra-Pulmonary Tuberculosis? (See also the Respiratory Chapter)

Describe any symptoms such as fatigue, anorexia, weight loss, fever of unknown origin or unexplained hematuria. Record any abnormalities in lymph nodes, pleura, genitourinary tract, bone, pericardium or peritoneum. Although tuberculosis usually presents with symptoms, many patients have insidious symptoms which they ignore.

Describe any residuals such as joint involvement, ankylosis or surgical removal of a part of an extremity.

Classification of Tuberculosis: (See Chapter 6 Respiratory)

15.19 What are the characteristics of Syphilis?

Describe any residuals of the nervous system such as tabes dorsalis, Charcot's joints or foot ulcerations, residuals of the cardiovascular system such as aortitis, residuals of the eye such as iritis, optic neuritis, retinitis pigmentosa or uveitis or gummas of the skin, skeletal system, upper respiratory tract, liver or stomach.

Lab tests may include RPR, VDRL, FTA-ABS, MHA-TP and cerebrospinal evaluation.

15.20 What are the characteristics of Leprosy?

Describe any symptoms of pain, difficulty seeing, nasal stuffiness, epistaxis, laryngitis or hoarseness. Describe any signs of skin lesions, neurologic abnormalities or joint abnormalities.

Include any residuals such as skin lesions, peripheral neuropathy, hand deformity, traumatic lesions, chronic infections or blindness.

State whether or not the disease is active or inactive.

15.21 What are the characteristics of Miliary Tuberculosis?

Describe all organs involved and the extent of involvement. Include past and present treatment and the response to that treatment.

Tests should include chest x-ray and CBC with differential. Other tests which may be helpful include transbronchial biopsy, liver biopsy or bone marrow biopsy.

State whether or not the disease is active or inactive.

15.22 What are the characteristics of Lyme Disease?

Describe any skin lesions, meningitis, cranial or peripheral neuritis, carditis or migratory musculoskeletal pain.

Include any residuals such as arthritis, skin conditions or chronic neurologic disease.

Laboratory tests include serology and may include rheumatoid factor and antinuclear antibodies to exclude other forms of arthritis.

15.23 What are the characteristics of Other Parasitic Infections?

Describe where and when the infection was acquired, past and present treatment and response to treatment.

Include any residuals such as spleen or liver damage.

15.24 What are the characteristics of HIV – Related Illness?

Describe risk factors, onset and progression of the disease, all the body systems affected, memory loss and the degree of disability, including what the veteran can and cannot do and its effects on employment.

List the number and frequency of exacerbations, all opportunistic infections such as oral candidiasis, neoplasms, Hairy cell leukoplakia, and any neurologic or psychiatric conditions.

Include any weight loss, debility and refractory symptoms such as chronic diarrhea and any lymphadenopathy.

Indicate current CBC with differential and most recent T4 cell count.

15.25 What are the characteristics of Chronic Fatigue Syndrome?

Chronic Fatigue Syndrome (CFS) is an illness characterized by debilitating fatigue and flu-like symptoms. Usually it begins with a sudden onset of flu-like symptoms which do not fully resolve, lasting months to years and accompanied by debilitating fatigue and malaise lasting more than 6 months. Since the diagnosis is one of exclusion, the clinician must rule out malignancy, autoimmune disease, infection, chronic inflammatory disease, endocrine disorders, allergic reactions to drugs or toxic agents, chronic mental conditions and drug dependency.

Report any symptoms such as fever, sore throat, painful lymph nodes, muscle weakness, myalgia, prolonged generalized fatigue following exercise, headaches and frequency, migratory arthralgia, photophobia, scotomas, sleep disturbances or neurologic symptoms such as forgetfulness, irritability, confusion, difficulty thinking, inability to concentrate or depression. Report any signs such as fever, non-exudative pharyngitis or palpable cervical or axillary lymph nodes.

Indicate what the veteran can and cannot due and the effect on activities of daily living and employment.

For VA purposes, the diagnosis of chronic fatigue syndrome requires all of the following:

(1) New onset of debilitating fatigue severe enough to reduce daily activity to less than 50 percent of the usual level for at least six months; and

(2) The exclusion, by history, physical examination, and laboratory tests of all other clinical conditions that may produce similar symptoms; and

(3) Six or more of the following:

(a) Acute onset of the condition
(b) Low grade fever
(c) Nonexudative pharyngitis
(d) Palpable or tender cervical or axillary lymph nodes
(e) Generalized muscle aches or weakness
(f) Fatigue lasting 24 hours or longer after exercise
(g) Headaches (of a type, severity, or pattern that is different from headaches in the pre-morbid state)
(h) Migratory joint pains
(i) Neuropsychologic symptoms
(j) Sleep disturbance

Chapter 16 - ENDOCRINE CONDITIONS

16.1 What are the basic elements of an examination for disease of the endocrine examination?

This chapter supplements the examination worksheet.

a. **Initial examination:**

1) History of present illness - onset, frequency, and severity of symptoms; past and current treatment; whether symptoms are controlled by treatment; effects of condition on daily activities.

2) General health information, as pertinent - including previous surgery and illnesses; family history; military history.

3) Endocrine history. Date of onset and course of endocrine disorder.

4) Occupational and environmental history. Describe any exposure to dusts, gases, toxins etc. both in the military and before and following service, including occupational hazards.

b. **Review examination:**

For a review examination, only an interval history covering the period since the last examination is needed.

c. **Physical examination:**

See worksheets for endocrine diseases and additional information below.

d. **Usual laboratory studies:**

Appropriate tests for the endocrine disease claimed. Specialized tests may be needed at times, such as endocrine stimulation tests or ultrasound. A consultation with the regional office is suggested before any specialized or invasive test is requested or scheduled.

16.2 What specific information may be needed for the evaluation of Addison's Disease?

Record any history of tuberculosis or previous treatment with ACTH or corticosteroids, an adrenalectomy for another condition, associated autoimmune diseases in the patient or family members, symptoms of weakness or fatigability, weight loss. Appropriate treatment with adrenocortical steroids results in remarkable subjective and objective improvement with restoration of appetite, weight, muscular strength and the ability to withstand infection, trauma, or other stress. Include the number of crises (hypotension and shock) or episodes (orthostatic hypotension and dehydration) per year. Serum sodium, potassium, and glucose readings must be obtained. KUB x-ray for adrenal calcification and ECG's may be indicated. Secondary adrenocortical insufficiency associated with pituitary or hypothalamic disease should be differentiated from primary Addison's disease by plasma ACTH assay.

16.3 What specific information may be needed for the evaluation of Benign New Growths of the Endocrine System?

Describe the treatment and interference with specific endocrine functions. If the patient can not be accurately evaluated by techniques available on an outpatient basis, hospitalization for further studies and/or treatment is indicated.

16.4 What specific information may be needed for the evaluation of Cushing's Syndrome?

State whether there has been a change in appearance or weight, weakness, easy bruisability current infection, change in personality or a history compatible with bone disease, such as loss in height or pathologic fractures. Describe any moon face, buffalo hump, pigmented striae, abnormal fat distribution (centripetal obesity) or muscle weakness. Report any restrictions in daily activities and the frequency of visits to a diabetic care provider. Examine the fundi and test the visual fields. Overnight dexamethasone test may also be abnormal in depression, uremia, or morbid obesity. The best confirmatory test is a 24-hour urinary free cortisol determination. Skull films and CT scans of the head and abdomen may be indicated.

16.5 What specific information may be needed for the evaluation of Diabetes Mellitus?

Report the circumstances under which diabetes mellitus was discovered (routine urinalysis, acidosis, trauma, surgery, or during some other illness). Give the approximate frequency and dates of hospitalizations and record whether hospitalizations were for ketoacidosis, insulin reactions, hypoglycemia or specific complications of diabetes. Record the number and types of daily insulin taken, the number of units needed daily, and the time of day injected. If other hypoglycemic agents are being used, specify. Include any restrictions of diet or physical activities and any weight loss. Describe any microvascular or macrovascular complications such as coronary artery disease, atherosclerotic peripheral vascular disease, renal disease, retinopathy, etc.

16.6 What specific information may be needed for the evaluation of Hyperthyroidism (with Diffuse Goiter or Nodular Goiter)?

Record a history of treatment with surgery, radioactive iodine, or anti-thyroid drugs. Note any visible tumor or palpable nodule(s), increase in neck size, prominent eyeballs, double vision, lid lag, or any other ocular signs. Report excessive feeling of warmth, weight loss despite excellent appetite, and easy fatigability, including muscular weakness especially when climbing or descending stairs. When these symptoms interfere with normal daily activities or job efficiency it is essential that the extent of such handicaps be described. Record the presence of diarrhea, tachycardia, nocturnal heart awareness, dyspnea, palpitations, or other cardiac symptoms. Record irregularities of menstruation. Serum thyroxin (T4) by (radioimmunoassay) is usually, but not always, elevated in thyrotoxicosis. If the results seem at variance with the clinical picture, then the diagnosis of T3-thyrotoxicosis should be considered, particularly in elderly subjects or patients from iodine-deficient areas. Since greater than 99 percent of circulating T4 and T3 are

bound to plasma protein, which will be affected by a variety of drugs or disease states, tests for TBG (thyroid hormone binding globulin), such as the T3 resin uptake test, should be performed. From this and the serum T4 concentration, a calculated value for free T4 (PTI) can be obtained. Elevations of TBG and T4 are seen in patients on estrogen therapy, during pregnancy and in patients with acute hepatitis. A false decrease in T4, due to decreased TBG production, is seen in patients on androgen or prolonged high-dose glucocorticosteroid therapy, and also in patients with chronic disease, particularly liver disease. Radioactive uptake and scanning procedures should be done where facilities are readily available. Although the plasma cholesterol is frequently low, it is not invariably so and is therefore not a reliable diagnostic procedure. Routine tests to be ordered include ECG's and X-rays of the chest and cervical area for substernal thyroid and tracheal deviation.

16.7 What specific information may be needed for the evaluation of Hyperparathyroidism?

This diagnosis should be suggested by repeated genitourinary stones, pathological fractures, pancreatitis, or hypercalcemia found in routine laboratory screening. Symptoms are anorexia, nausea, vomiting, occasional severe dehydration, weakness, weight loss, constipation, abdominal pain, loss of muscular tone, neurotic and psychotic symptoms, polydipsia and polyuria occasionally simulating diabetes insipidus, repeated ureteral colic from lithiasis, and fever and pain from secondary urinary tract infections. The serum calcium may be elevated. Repeated fasting calcium determinations should be obtained for reliability and blood should be drawn with the tourniquet off. The serum phosphorus is usually below normal. The serum albumin should be determined with each serum calcium since hypoalbuminemic disorders will lower the total calcium even though the serum calcium remains elevated. The serum alkaline phosphatase may be somewhat elevated but is often normal. Renal function tests may be desirable if nephrocalcinosis is suspected. A urinalysis should be performed for evidence of renal gravel, hypercalciuria, and secondary infections. If indicated, the urine should be cultured. X-rays of the hands and wrists as well as a lateral view of the skull are indicated. X-rays should be taken of all bones, deformed or tender, or otherwise suspect on physical examination. Perform KUB for calcinosis. Urograms may be indicated. The teeth should be X-rayed for disappearance of lamina dura. The CT scan is occasionally helpful in locating the adenoma. Serum parathormone levels can be ordered in difficult diagnostic cases.

16.8 What specific information may be needed for the evaluation of Hypothyroidism?

State whether or not there has been a surgical thyroidectomy or other treatment such as I131. Report any history of low anterior cervical pain, sore throat, and fever, consistent with thyroiditis. Report slowness of thought and speech, inability to concentrate, loss of memory, lethargy, or drowsiness. Record symptoms of weakness and fatigability. The degree to which symptoms interfere with daily activities and job efficiency should be stated. Indicate any history of chronic anemia. In women record a history of menstrual disturbances. Chest pain, dyspnea, and other cardiovascular symptoms should be reported. Is the patient taking thyroid extract or some of its modifications? If so, record daily dose and duration of treatment. Does the patient have a good clinical response to relatively small doses? Inquire as to symptoms of other glandular deficiencies. The best screening test for hypothyroidism is the serum T4 concentration. The free T4 index and T3 resin uptake should also be obtained in screening for this disease. Serum T3 concentration (RIA) is not helpful in the diagnosis of hypothyroidism since such values may be within normal limits in

patients with decreased thyroid function. If the T4 is borderline, then order a serum TSH. The TSH should be elevated in patients with primary hypothyroidism. If the TSH value is borderline, a TRH (thyrotropin releasing hormone) test, measuring TSH levels, should be diagnostic, since the TSH response is exaggerated in patients with decreased thyroid function. The basal metabolic rate should not be ordered routinely. The serum cholesterol, while elevated, is nonspecific. If hypothyroidism is thought to be on the basis of autoimmune (Hashimoto's) thyroiditis, then tests for antibodies to thyroidal tissue should be ordered.

16.9 What specific information may be needed for the evaluation of Hypoparathyroidism?

Record any previous thyroidectomy or parathyroid surgery and the date of onset of symptoms after surgery, paresthesia of the extremities, numbness and stiffness about the mouth, muscular twitchings, cramps, tetany, painful muscular spasms, carpopedal spasm, or diminished vision associated with cataracts. Record medications, regularity and dosage of medications, diet (Vitamin D, aluminum hydroxide gels, calcium salts, low phosphorus diet.) If the patient is receiving treatment, record how well the symptoms are controlled and do they interfere with daily activities? Is there a history of mental deterioration? The serum calcium determination is low (between 4 and 8 mg %) and should be repeated as noted under "hyperparathyroidism." The skull should be X-rayed with an anteroposterior view for possible calcification of the basal ganglia. An anteroposterior view of lower limbs for possible sclerosis of bones is also indicated.

16.10 What specific information may be needed for the evaluation of MEN (Multiple Endocrine Neoplasia) Syndromes (Types I, II, III)?

Type I - Pituitary adenoma, hyperparathyroidism (usually hyperplasia), and islet cell tumors (gastrinomas, insulinomas, and glucagonomas).

Type II - Medullary carcinoma of the thyroid, pheochromocytoma (frequently bilateral), and hyperparathyroidism.

Type III - Medullary carcinoma of the thyroid, pheochromocytoma, multiple neuromas of the conjunctiva, tongue, buccal mucosa, and abnormalities of the gastrointestinal tract; no hyperparathyroidism.

16.11 What specific information may be needed for the evaluation of Malignant New Growths of the Endocrine System?

Record the dates and amounts of treatment, plus evidence of recurrence, metastases, endocrine complications, or residuals as appropriate.

16.12 What specific information may be needed for the evaluation of Pituitary Tumors (Acromegaly, Prolactinoma)?

Record frequency and location of headaches, changes in vision and neurological symptoms. In male patients, prolactinoma is suggested by a long-standing history of infertility and impotence. In female patients a history of

secondary amenorrhea, infertility, and galactorrhea should be noted. Normal visual fields and X-rays of the skull are essential. A CT scan of the skull with contrast is frequently diagnostic. Acromegaly is diagnosed by an elevated fasting plasma growth hormone level. In cases of borderline elevations, lack of suppression by glucose during a glucose tolerance test may confirm the diagnosis. The most useful confirmatory test for prolactinoma is the basal serum prolactin level.

16.13 What specific information may be needed for the evaluation of Posterior Hypopituitarism (Diabetes Insipidus)?

Record date of onset, history of head trauma, surgical injury, infection (such as syphilis or encephalitis), or tumor in the pituitary or hypothalamic region, if the pituitary or pituitary stalk was destroyed in the treatment of some other disease, and any neurological symptoms, polydipsia, nocturia, polyuria, weakness, episodes of dehydration, and excessive weight loss A 24-hour output of urine may be over four liters. Measure the 24-hour urine volume. The urine should be negative for glucose and protein. Plasma and urinary ADH measurements can be helpful in selective cases. Diabetes insipidus can be differentiated from psychogenic polydipsia by simply keeping the patient away from water for 2 hours. A skull X-ray with lateral and posteroanterior views for distortion of the sella turcica, erosion of the clinoid processes, or displacement of the calcified pineal should be obtained. The possibility of a brain tumor or cyst should be kept in mind.

16.14 What specific information may be needed for the evaluation of Toxic Adenoma?

The examination is essentially the same as described under “What is needed in examinations for Hyperthyroidism?”IDH_16.2 However, in "toxic adenoma," examination usually reveals an adenomatous, irregular, and multi-nodular goiter. Keep in mind that single or isolated toxic nodules may be present. Note the importance here of the T3 uptake and especially thyroid suppression and scanning tests. Exophthalmos and other ocular signs rarely occur and are not required for the diagnosis.

16.15 What specific information may be needed for the evaluation of Non-Toxic Adenoma?

The history is usually negative for symptoms or signs of toxicity. However, there may be neck pressure symptoms. If so, describe cough, dysphonia, dysphagia, or other symptoms. If not, state that no pressure symptoms were found. It may be necessary to rule out toxicity using studies similar to those described under “What is needed in examinations for Hyperthyroidism?”IDH_16.2 If a "hot" or a "cold" nodule is suspected, the patient should be referred for scanning procedures, T3 uptake, and surgical consultation. Note that the finding of a single "cold" nodule is compatible with malignancy in from 10 to 25 percent of cases. The importance of careful studies to rule out malignancies in these situations is very important. Ultrasound examination to determine whether or not the lesion is cystic may be helpful in such cases. Serum thyroglobulin determinations, elevated in thyroid cancer, are helpful only if extremely high since falsely elevated values may be seen in benign nodular goiter. They are helpful in following patients after therapy in determining progression of disease.

Chapter 17 - Hemic and Lymphatic Systems

17.1 What specific information may be needed for a hematologic examination?

This chapter supplements the examination worksheet.

a. **What is needed in the history for an initial examination?**

1) History of present illness - onset, frequency, and severity of symptoms; past and current treatment; whether symptoms are controlled by treatment; effects of condition on daily activities.

2) General health information - including previous surgery and illnesses; family history; military history.

3) Treatment in past. Medication, dosage and effect on disease.

4) Include details of treatment and its side effects or residuals post treatment.

b. **What is needed in the history for a review examination?**

For a review examination, only an interval history covering the period since the last examination is needed.

c. **What is needed for the physical examination?**

1) The results of any general physical examination should be coordinated with the hematologic examination. For a review examination, only the specific area or areas of concern need be examined.

2) Describe findings on examination of
vital signs - blood pressure, pulse
skin – pale nail beds or conjunctiva
general - weight loss

d. **What laboratory studies may be needed?**

CBC with differential is routine; request other studies as indicated. A consultation with the regional office is suggested before any specialized or invasive test is requested or scheduled.

17.2 What specific information may be needed for an agranulocytosis examination?

Describe any tiredness, easy fatigability, chills, high fever, pharyngitis, stomatitis, gingivitis with ulcerations, weakness, prostration, purpura, sepsis, exposure to benzene, anticonvulsive agents, sulfonamides, arsenicals, butazolidin, gold,

chlorproniazine, chemotherapeutic agents, or irradiation. Include details of treatment and its side effects or residuals post treatment.

Laboratory tests should include CBC with differential. Tests that may be required are bone marrow.

17.3 What specific information may be needed for an aplastic anemia examination?

Describe any tiredness, easy fatigability, severe infections, bleeding, and drug use such as chloramphenicol or immunologic depressants. Include blood pressure, pulse pale nail beds or conjunctiva or bleeding. Include details of treatment and its side effects or residuals post treatment.

Laboratory tests should include CBC with differential. Tests that may be required are bone marrow.

17.4 What specific information may be needed for a Hodgkin's disease examination?

Non-Hodgkin's Lymphoma represents a heterogenous group of tumors, which are similar to Hodgkin's disease except that extranodal involvement including blood involvement is more common. Describe any pruritus, fever, weight loss, present therapy, response, number of relapses, and complications of the disease. Include any enlarged discrete firm lymph nodes usually appearing first in the cervical region and subsequently followed by axillary and inguinal adenopathy, hepatomegaly or splenomegaly. Include details of treatment and its side effects or residuals post treatment.

Laboratory tests should include CBC with differential. Tests that may be required are lymph node biopsy, lymphangiogram, CAT scan, liver biopsy or exploratory laparotomy.

17.5 What specific information may be needed for a hypochromic microcytic anemia examination?

Describe any tiredness, easy fatigability, external or internal blood loss, interference with the absorption of iron in the diet, an inadequate diet in the face of accelerated growth, lactation, multiple pregnancies, chronic infections, inflammatory diseases or malignancy. Include details of treatment and its side effects or residuals post treatment.

Laboratory tests should include CBC with differential. Tests that may be required are serum iron, serum ferritin, serum iron binding capacity, x-rays for potential bleeding sites, absent hemosiderin or ringed sideroblasts in the bone marrow smear.

17.6 What specific information may be needed for a leukemia examination?

Describe any fever, adenopathy, skin lesions, hemorrhage from the gastrointestinal or genitourinary tract, sepsis, exposure to irradiation or toxic agents such as benzene or past chemotherapy. Include details of treatment and its side effects or residuals post treatment.

Laboratory tests should include CBC with differential. Tests that may be required are bone marrow biopsy.

17.7 What specific information may be needed for a megaloblastic anemia examination?

Describe any tiredness, easy fatigability, autoimmune diseases, atrophic gastritis, achlorhydria, gastric carcinoma, paresthesias, total gastrectomy, overgrowth of enteric organisms in blind loops, diverticuli of the small intestine, fish tapeworm infections, alcoholism, malnutrition, pregnancy, malabsorption secondary to sprue or other intestinal disorders or treatment with drugs such as dilantin.

Laboratory tests that should be ordered include CBC with differential. Laboratory tests that may be required include lactic dehydrogenase, intrinsic factor, Schilling test, bilirubin or endoscopy.

17.8 What specific information may be needed for a plasma cell dyscrasias examination?

Describe any purpura, hemorrhage, amyloidosis, congestive heart failure, cardiac arrhythmias, orthostatic hypotension, peripheral neuropathy, nephrotic syndrome or malabsorption. Include details of treatment and its side effects or residuals post treatment.

Laboratory tests that should be ordered include CBC with differential. Laboratory tests that may be required include immunoglobulin in serum and urine, serum viscosity, serum calcium, creatinine, bone marrow biopsy or bone x-rays.

17.9 What specific information may be needed for a polycythemia rubra vera examination?

Describe any redness of skin, headaches, epistaxes, dizziness, hemorrhage, venous thrombosis, hemorrhage from esophageal varices (due to portal vein thrombosis), cerebrovascular accidents or duodenal ulceration. Include any treatment with myelosuppressants and when, whether phlebotomies are required and how often medication is required. Include details of treatment and its side effects or residuals post treatment.

Laboratory tests that should be ordered include CBC with differential. Laboratory test that may be required include red cell mass, blood volume, renal function tests, chest x-ray to differentiate from secondary polycythemia which may result from cardiac or pulmonary disease, or autonomous erythropoietin production due to tumors or renal disease.

17.10 What specific information may be needed for a sickle cell anemia examination?

Describe any recurrent painful "crises," vasocclusion with resulting damage to various tissues and organs including lung, retina, brain, bone, and joints, pneumococcal sepsis or salmonella osteomyelitis. Include details of treatment and its side effects or residuals post treatment and frequency of crises and their effects of work activities.

Laboratory tests that should be ordered include CBC with differential. Laboratory tests that may be required include smear for sickling of red blood cells, blood viscosity, urinalysis or hemoglobin type.

17.11 What specific information may be needed for a thrombocytopenic purpura examination?

Describe any easy bruisability, bleeding, quinidine drug use, underlying systemic illness, purpura, splinter hemorrhages, or bleeding into mucous membranes of the gastrointestinal, urinary, or genital tract. Include details of treatment and its side effects or residuals post treatment.

Laboratory tests that should be ordered include CBC with differential. Laboratory tests that may be required include immunoglobulin, bleeding time, clot retraction or platelet aggregation.

CHAPTER 18 - RADIATION EXPOSURE

18.1 Why does VA conduct examinations in radiation exposure cases?

a. to help the Veterans Benefits Administration (VBA) determine whether a veteran has a disability that will entitle him or her to VA benefits

b. to provide VBA with information about the degree of disability in order to determine appropriate benefit levels.

18.2 What veterans are eligible to receive benefits for radiation-related conditions?

Veterans who participated in atmospheric nuclear tests from the mid-1940s through the early 1960s (over 200,000 test participants have been identified by the Department of Defense).

Veterans who participated in the occupation of Hiroshima or Nagasaki, Japan, at the close of World War II (a similar number of persons)

Veterans who had a comparable opportunity for radiation exposure while a POW in Japan in World War II, or while serving in Japan immediately following POW internment

Veterans who received nasopharyngeal radium treatments while in service.

Veterans who have disabilities resulting from exposure to ionizing radiation during the performance of their normal military duties as radiologists, x-ray technicians, etc.

18.3 Are there unique requirements for examinations of radiation-related disabilities?

In general, adjudicators in VBA, sometimes with the assistance of the Department of Defense and the Under Secretaries for Health and Benefits, gather information about the extent of radiation exposure and make the determination as to whether a particular condition warrants service connection on the basis of radiation exposure.

The examiner will be asked to examine a specific condition or conditions. Depending on the body system involved, the appropriate worksheet for the condition(s) should be followed.

There are no unique requirements for a disability examination for radiation-related conditions because a disease process resulting from radiation exposure is indistinguishable from the same disease process arising from another etiology. However, a careful history that includes family history, occupational history, and information about other possible risk factors for the condition being examined is particularly important.

18.4 How does VBA determine whether a condition is related to radiation

exposure?

There are 2 different complex regulations that govern the adjudication of radiation-related disabilities. The regulation that applies depends on the particular in-service circumstances of the veteran and the condition claimed. The type of examination to be conducted does not differ depending under which regulation the conditions falls. This material is provided only as background. The lists of conditions are subject to change with new regulations.

Regulation one: 38 CFR 3.309 (d) for presumptive radiation-related conditions.
This regulation provides a list of malignancies that shall be service-connected if they develop in a radiation-exposed veteran (as defined in this regulation). A radiation-exposed veteran means a veteran who participated in a radiation risk activity, which is defined as onsite participation in a test involving the detonation of a nuclear device, the occupation of Hiroshima or Nagasaki during the period August 6, 1945 to July 1, 1946, or internment as a POW in Japan during WWII or active duty in Japan immediately following such internment. These conditions will be service-connected as long as an intercurrent cause is not established. No radiation dosage estimate is required.

Conditions that fall under this regulation are:

- Leukemia (other than chronic lymphocytic leukemia).
- Cancer of the thyroid.
- Cancer of the breast.
- Cancer of the pharynx.
- Cancer of the esophagus.
- Cancer of the stomach.
- Cancer of the small intestine.
- Cancer of the pancreas.
- Multiple myeloma.
- Lymphomas (except Hodgkin's disease).
- Cancer of the bile ducts.
- Cancer of the gall bladder.
- Primary liver cancer (except if cirrhosis or hepatitis B is indicated).
- Cancer of the salivary gland.
- Cancer of the urinary tract.
- Bronchiolo-alveolar carcinoma.

Regulation two: 38 CFR 3.311 for non-presumptive radiation-related conditions.
This regulation allows service connection for a different list of conditions and also for any condition claimed to be due to any type of in-service radiation exposure, as long as the requirements of the regulation are met. Veterans who had nasopharyngeal radium irradiation therapy (NRI) are adjudicated under this regulation, as are veterans who were exposed to ionizing radiation during the performance of their normal military duties as radiologists, x-ray technicians, etc. Any other potential in-service exposure that is not named under the first regulation falls under this regulation. There must be competent scientific or medical evidence that the claimed condition is a radiogenic disease, if the condition is not on the list. There must be a radiation dose estimate, an advisory opinion from the Under Secretary for Health about the relationship of the claimed condition to radiation exposure in view of the reported radiation dose, and a determination by the Under Secretary for Benefits as to whether it is at least as likely as not that the

veteran's claimed condition resulted from exposure to radiation in service. There are also time limitations for certain conditions under this regulation: bone cancer must become manifest within 30 years after exposure, leukemia may become manifest at any time after exposure, posterior subcapsular cataracts must become manifest 6 months or more after exposure, and all other specified diseases must become manifest 5 years or more after exposure.

Conditions that fall under this regulation are:

- All forms of leukemia except chronic lymphatic (lymphocytic) leukemia
- Thyroid cancer
- Breast cancer
- Lung cancer
- Bone cancer
- Liver cancer
- Skin cancer
- Esophageal cancer
- Stomach cancer
- Colon cancer
- Pancreatic cancer
- Kidney cancer
- Urinary bladder cancer
- Salivary gland cancer
- Multiple myeloma
- Posterior subcapsular cataracts
- Non-malignant thyroid nodular disease
- Ovarian cancer
- Parathyroid adenoma
- Tumors of the brain and central nervous system
- Cancer of the rectum
- Lymphomas other than Hodgkin's disease
- Prostate cancer
- Any other cancer.

Chapter 19 - Former Prisoners of War (POWs)

19.1 What are unique problems in former POWs?

There is a need for examiners to have compassion for former POWs and sensitivity to the POW experience. It has been estimated that more than 88,000 former POWs from World War I, World War II, the Korean Conflict, and Vietnam Era are still living. Studies in this country and abroad have shown that the physical deprivation and psychological stress endured as a captive have lifelong effects on subsequent health, as well as on social and vocational adjustment. Former POWs have a significantly higher incidence for illnesses in many body systems, and longer hospital stays and vulnerability to psychological stress are also markedly increased.

19.2 What were some of the conditions experienced by former POWs? (As told by Ex-POWs)

I. WORLD WAR II – PACIFIC (Prisoners of the Japanese)

Of the 34,648 American prisoners, 40% died in captivity.

Reasons for the high death rate:

a. Most were captured early in the War, and the average incarceration lasted more than 3 years. Most of the American prisoners were regular Army with an average age of 27.
b. The Japanese had signed, but never ratified, the Geneva Convention regarding treatment of POWs.
c. To the Japanese, dying in battle was a sign of honor, and surrendering was a sign of cowardliness. Thus they treated their prisoners with contempt and brutality, rather than compassion.
d. Since the Japanese assumed that conquered soldiers would die rather than surrender, they had made no provisions for housing or feeding large numbers of prisoners.
e. Inadequate food and water was provided, and movement was via foot rather than via vehicle.
f. Many prisoners were enslaved and forced to work at hard labor, while being malnourished and beaten.

History given by former POWs:

a. The Japanese had long wanted to rid their land of Occidentals, and the bombing of Pearl Harbor was part of their plan.
b. Following Pearl Harbor, the U.S. deployed many troops to the Philippine Islands to fight the Japanese.
c. In January 1942, due to the escalating war with Germany, General MacArthur was ordered to leave the Philippines for duty in Europe. Since he did not have time to remove his troops, he ordered all American soldiers to the peninsula of Bataan, placed Major General Edward King in command, gave them a 30 day supply of food, and he promised he would return and remove them within a month.
d. When MacArthur had not returned by February and no new supplies had arrived, all soldiers were placed on half rations.
e. By March, they had eaten all the cavalry horses and mules, the local pigs, water buffalo and monkeys, and they were reduced to quarter rations. The soldiers began to loss weight and become weaker, and dysentery and malaria weakened them further.

f. On April 9, 1942, Major General Edward King surrendered all 13,000 American troops and 25,000 Philippine Army Scouts to the Japanese 14th Army commander, General Homma.

g. Since the Japanese had no plans for moving or feeding so many prisoners, they began the infamous 100-mile Bataan Death March via foot northward to Camp O'Donnell and Cabanatuan.

h. The soldiers were ordered to remove their boots and helmets and begin marching in the hot sun without food or water.

i. Whenever a prisoner strayed from the line to get water from artesian wells along the way or to help a fellow prisoner, they would be bayoneted and killed, requiring the remaining prisoners to step over the dead bodies as they marched.

j. If the March were not moving fast enough, one prisoner would be singled out and decapitated to set an example for the other prisoners. They were constantly beaten with bamboo sticks, kicked, and hit with rifle butts.

k. All stragglers were hit on the head, and when they fell alongside the road they were buried alive.

l. At one point, the Japanese became so angry at the Philippine Army Scouts because they had helped the Americans, they tied one hundred officers together by their necks in four columns of 25 and began cutting their heads off with swords. It took eight hours to finish decapitating all 100 prisoners amid the screams and cries of the dying and soon-to-die. After the remaining prisoners had witnessed this ordeal, they were forced to continue the march. It was obvious that prisoners were a burden to the Japanese and allowing them to died simplified their job.

m. When they reached the town of Balanga, they were placed into small, crowded warehouses and made to lie beside dead and dying comrades awaiting arrival of a train. Several days later when the train arrived, the prisoners were packed so tightly into the boxcars that when they arrived at Camp O'Donnell, the dead were standing up alongside the living.

n. During the March, over 17,000 prisoners died, most from beheadings and shootings, but some from dysentery and dehydration.

o. At Camp O'Donnell, all prisoners were stripped of their rank and clothes, made to wear loincloths, and they were required to bow to their captors.

p. Food consisted of a small ball of insect-infested, dirty rice each day. The food given to prisoners had been determined to be unfit for the Japanese soldiers and generally would have been discarded.

q. Grave detail consisted of digging a large pit each day, carrying the dead into the pit and straightening out their rigor mortis twisted limbs, so more bodies could be stacked into the pit.

r. When the Japanese decided to use the prisoners as slave labor rebuilding bridges and railroads and manufacturing war supplies, they packed them into holes of animal cargo ships called "hell ships" for transportation back to Japan. Often, the prisoners were forced to remain in the crowded, rodent infested holes with dying and dead comrades, without food, water or toilet facilities until the harbor was safe from American submarines so the cargo ships could sail.

s. Often, the cargo ships were torpedoed and sunk by American submarines, killing all the prisoners on board.

t. In April 1943, three Americans escaped and made it back to an American submarine with the help of Philippine nationals, and they finally had a meeting with General MacArthur. The General and top administration in the United States decided to do nothing about it, because they later said "they feared for the lives of the remaining prisoners." When the news media got the story and the American people realized the atrocities being perpetrated on American soldiers, pressure was placed on MacArthur to invade the Philippines and rescue the POWs.

II. WORLD WAR II – EUROPE (Prisoners of the Germans)

Of the 93,941 American prisoners, 1% died in captivity.

Reasons for the low death rate:
a. The Germans had signed and ratified the Geneva Convention regarding treatment of POWs, and they frequently allowed the Red Cross to bring supplies to the prisoners. The camps were true POW camps and not concentration camps.
b. To the Germans, surrender when all hope was lost was reasonable.
c. Since America had many German prisoners, it was in their best interest to treat Americans humanely, since they could be used for prisoner exchanges.

History given by former POWs:
a. The first prisoners captured early in the War were airplane pilots, who were officers. Since the German POW camps were run by Herman Goehring, Chief of the Luftwaffe, American pilots were treated fairly humanely by their captors, since all pilots have a common kinship and the German pilots always had a chance of being captured themselves by the Allied Forces.
b. The second group of prisoners captured late in the War were draftees with an average age of 25, and their average incarceration lasted less than 1 year. Although they were not treated as well as the officers, they generally were not tortured. Since they were non-officers, they often were forced to sleep in cold barracks or walk with tattered shoes during the winter months.
c. Food was provided, although it often consisted only of potato soup and black bread.
d. Transportation was via truck or train until the end of the war, when forced marches were common to keep the American prisoners from rejoining the advancing forces. During these marches in the winter of 1944-45, cold exposure and frostbite were common.

III. KOREA (Prisoners of the North Koreans)

Of the 7,140 American prisoners, 38% died in captivity.

Reasons for the high death rate:
a. Most were captured early in the War, and the average incarceration lasted more than 3 years. Most of the American prisoners were regular Army with an average age of 27.
b. The North Koreans had not signed the Geneva Convention regarding treatment of POWs.
c. Like the Japanese, they did not believe in surrendering during war or in taking prisoners.
d. They felt that all enemies should be treated harshly.
e. Executions and starvation were used as solutions to overcrowded POW problems.
f. The primary causes of death were executions, starvation, vitamin deficiency diseases, and infectious diseases.

History given by former POWs:
a. The first prisoners captured during the late 1950s endured the most severe torture. Out of 700, 500 were either executed or died of cold exposure.
b. Since no medical care was provided, many died of complications of their wounds.

c. Many were captured during the summer months, so their only clothes were light summer fatigues. The Koreans had not yet built barracks, so prisoners slept in the fields. When winter came, many froze to death.
d. Often as punishment, a POW was stripped, made to stand at attention, and had cold water poured over his body until he froze.
e. Food was scarce, and many died of starvation.
f. The second group was captured during the hot summer of 1951. They were crammed into small farmhouses with little food and water. Many died of starvation or infectious diseases.
g. The North Koreans used propaganda brainwashing, unlike the Japanese or the Germans. Since this war was directed against communism, the North Koreans attempted to change world opinion by indoctrinating prisoners to embrace communism and denounce capitalism. They tortured prisoners via beatings, deprivation of food and water, and exposure to cold in an effort to break their spirits and have them sign statements favorable to the Communist cause. They rewarded prisoners who cooperated with them with food and warmth.
h. The third phase of capture occurred from 1952-53 after armistice talks had begun and permanent camps had been built. Torture and abuse decreased, and food became more plentiful, although it generally consisted only of corn and millet with small amounts of green vegetables.
1. Although their brainwashing did result in 21 American POWs choosing to remain in North Korea following the War, over a million North Korean POWs in our hands chose to remain in the United States.

IV. VIETNAM (Prisoners of the Vietnamese)

Of the 772 American prisoners, 15% died in captivity.

Reasons for the high death rate:
a. The Vietnamese people were generally poorly fed, and POWs were fed even less.
b. Infectious diseases and lack of sanitation and medical supplies killed many.

History given by former POWs:
a. The prisoners captured in South Vietnam by the Viet Cong were generally infantry soldiers, and 25% of these died of starvation, complications of vitamin deficiencies, or infectious diseases. Torture and interrogations were less common than in the north.
b. Prisoners captured in North Vietnam were pilots, who were officers. The North Vietnamese wanted these prisoners for propaganda purposes, so they used physical and psychological torture to try to get them to renounce their country and speak positively about communism.
c. The pilots were kept in solitary confinement at the "Hanoi Hilton", a cement barracks in downtown Hanoi. A single light bulb burned 24 hours a day in each cell.
d. Often, they were tied up in various contortions, and arms and legs were broken and dislocated. Beating while being tied up was common.
e. Since they were not allowed to see or speak to other prisoners, they developed a sophisticated set of codes, which allowed them to communicate with a prisoner in the next cell by tapping on the wall. Messages would be conveyed from one cell to the next via this system. Survivors say that this communication helped keep them alive.

19.3 What should an examiner consider in examining a former POW?

Physicians should thoroughly review all POW experiences with the veteran, including all claimed and potential injuries and diseases which may be associated with confinement, deprivation, malnutrition, avitaminosis, cold or wet exposure, and physical and mental abuse. Many former POWs have coped with their incarceration experiences by suppressing memories or avoiding talking about them even with friends and family. Discussions of these traumatic experiences may rekindle unpleasant memories or reactions during the examination process.

19.4 What conditions are presumed to be due to former POW experiences?

These conditions will be service-connected even though there is no record of them during service because they are presumed to be related to the POW experience unless there is an intervening cause for the condition or other reason to rebut the presumption.

Avitaminosis.
Beriberi (including beriberi heart disease, which includes ischemic heart disease in a former prisoner of war who had experienced localized edema during captivity).
Chronic dysentery.
Helminthiasis.
Malnutrition (including optic atrophy associated with malnutrition).
Pellagra.
Any other nutritional deficiency.
Psychosis.
Any of the anxiety states.
Dysthymic disorder (or depressive neurosis).
Organic residuals of frostbite, if it is determined that the veteran was interned in climatic conditions consistent with the occurrence of frostbite.
Post-traumatic osteoarthritis.
Irritable bowel syndrome.
Peptic ulcer disease.
Peripheral neuropathy except where directly related to infectious causes.

19.5 What is a former POW protocol examination?

VA has developed a special POW Medical History Questionnaire and a Physical Examination Package (See POW Examination Worksheet), which is to be used by all VA health care facilities. This evaluation is conducted only once in a veteran's life to determine the baseline medical condition of the veteran from his/her incarceration to this point in time. It is also used as a comprehensive examination for disability compensation purposes.

a. The former POW fills out the first portion of the history and then presents it to the examining physician, who checks its contents for completeness and any required amplification.

b. The examining physician completes the second part of the history, the physical and the summary forms.

c. A copy of the entire packet is sent to Washington, D.C. for future reference.

Chapter 20 - GULF WAR VETERANS

20.1 What kinds of hazards may Gulf War veterans have been exposed to?

According to the Department of Defense (DOD) the approximately 690,000 American servicemen and women who served in the Gulf War may have been exposed to many hazards such as:

- oil and other petrochemical agents
- smoke from the sabotage of Kuwaiti oil wells by retreating Iraqi forces
- leishmaniasis (Sand flies)
- pyridostigmine bromide, malaria prophylaxis and other prophylactic drug treatments
- depleted uranium (DU)
- inoculations (Anthrax, botulism, etc.)
- pesticides
- diesel and jet fuels and other petrochemicals and solvents
- chemical agent resistant compound (CARC) paint
- chemical and/or biological warfare agents
- contaminated food and water obtained in the Persian Gulf
- air pollutants (carbon monoxide, sulfur oxide, hydrocarbons, particulate matter, and nitrogen oxide)
- psychological stressors

20.2 What is unique about examinations of Gulf War veterans?

Gulf War veterans may claim, and require an examination for, any condition resulting from a disease or injury that was incurred in or aggravated by military service, as other veterans do. In such cases, the regional office may request an examination of one or more specific conditions, e.g., residuals of a knee injury, and will refer to the appropriate worksheet(s). However, what is unique about Gulf War veterans is that some veterans will need instead, or in addition, a comprehensive examination that will allow the examiner to distinguish between a clearly diagnosable condition (like asthma) and an "undiagnosed illness" (like a cough that cannot be attributed to a specific diagnosis). An undiagnosed illness is established when findings are present that cannot be attributed to a known, clearly defined diagnosis, after all likely diagnostic possibilities for such abnormalities have been ruled out. Examiners should follow the worksheet titled "Guidelines for Disability Examination in Gulf War Veterans," which provides detailed instructions for examinations in Gulf War veterans.

20.3 What are the some signs and symptoms that may be manifestations of undiagnosed illnesses in Gulf War veterans? (38 CFR 3.317)

- fatigue
- signs or symptoms involving the skin
- headache
- muscle pain
- joint pain
- neurologic signs and symptoms

neuropsychological signs and symptoms
signs or symptoms involving the respiratory system (upper or lower)
sleep disturbances
gastrointestinal signs or symptoms
cardiovascular signs or symptoms
abnormal weight loss
menstrual disorders

Chapter 21 - HERBICIDE EXPOSURE/AGENT ORANGE

21.1 How did herbicide/Agent Orange exposure come about and when?

a. Background. From 1962 to 1971, the military sprayed millions of gallons of herbicides in Vietnam to destroy crops and protective cover and to clear perimeters around US positions. Agent Orange was a commonly used type of herbicide. Toxic chemicals in the herbicides included 2,4-D; 2,4,5-T and its contaminant TCDD; cacodylic acid; and picloram. In 1969, a scientific study concluded that 2, 4-5T caused birth defects in animals. Later studies indicated dangers from exposure to dioxins, such as TCDD, found in the herbicides.

b. Veterans presumed to have been exposed. Veterans who served in the Republic of Vietnam during the period beginning on January 9, 1962 and ending on May 7, 1975, and who have one of the conditions listed in 21.2, are presumed to have been exposed to an herbicide agent.

21.2 What medical conditions have been determined by VA to be associated with herbicide exposure?

Role of NAS: The National Academy of Sciences (NAS) periodically reviews and summarizes the worldwide scientific literature concerning a possible association between exposure to herbicides and diseases, and reports to VA's Secretary.

Role of Secretary: The Secretary then determines whether a positive association exists between exposure to a herbicide agent (i.e., a chemical in a herbicide used in support of the United States and allied military operations in the Republic of Vietnam during the Vietnam era) and a disease. When a positive association is found, the Secretary establishes presumptive service connection for that disease.

Presumptive service connection: This means that a disease will be service-connected even though there is no record of such disease during service, if a veteran had the requisite service in Vietnam, as stated in 21.1b, and there is not an intervening cause for the condition or other reason to rebut the presumption.
Presumptive diseases for service connection and examination needed. These are the diseases that have been established as presumptive conditions for service connection due to herbicide exposure as of March 2001. The examination to be conducted will depend on the conditions(s) claimed by the veteran, as indicated by the regional office examination request. The examiner should base the examination on the appropriate worksheet(s).

chloracne, or other acneform disease consistent with chloracne
Hodgkin's disease
multiple myeloma
non-Hodgkin's lymphoma
acute and subacute peripheral neuropathy (transient peripheral neuropathy that appears within weeks or months of exposure to a herbicide agent and resolves within two years of the date of onset)
porphyria cutanea tarda
diabetes
prostate cancer

respiratory cancers (cancers of the lung, bronchus, larynx, or trachea)

soft-tissue sarcoma (adult fibrosarcoma, dermatofibrosarcoma protuberans, malignant fibrous histiocytoma, liposarcoma; leiomyosarcoma, epithelioid leiomyosarcoma, malignant leiomyoblastoma, rhabdomyosarcoma, ectomesenchymoma, angiosarcoma, hemangiosarcoma, lymphangiosarcoma, proliferating (systemic) angioendotheliomatosis, malignant glomus tumor, malignant hemangiopericytoma, synovial sarcoma (malignant synovioma), malignant giant cell tumor of tendon sheath, malignant schwannoma, malignant schwannoma with rhabdomyoblastic differentiation (malignant Triton tumor), glandular and epithelioid malignant schwannomas, malignant mesenchymoma, malignant granular cell tumor, alveolar soft part sarcoma, epithelioid sarcoma, clear cell sarcoma of tendons and aponeuroses, extraskeletal Ewing's sarcoma, congenital and infantile fibrosarcoma, and malignant ganglioneuroma.

21.3 Can a veteran establish service connection for a herbicide-related disease in any other way?

If a veteran does not have one of the diseases listed in 21.2, there is no presumption of herbicide exposure. Service connection may, however, be established on a direct, rather than a presumptive, basis if the veteran is found on a factual basis to have had contact with herbicides during military service (for example, in their transport or manufacture) and there is medical or scientific evidence supporting an etiological relationship between the claimed condition and herbicide exposure. The examination(s) required will depend on the claimed condition(s).

21.4 For claims concerning spina bifida in a child of a Vietnam veteran, see Chapter 3 – Birth Defects.