Comprehensive Geriatric Assessment

The geriatric assessment is a multidimensional, multidisciplinary diagnostic instrument designed to collect data on the medical, psychosocial and functional capabilities and limitations of elderly patients. Various geriatric practitioners use the information generated to develop treatment and long-term follow-up plans, arrange for primary care and rehabilitative services, organize and facilitate the intricate process of case management, determine long-term care requirements and optimal placement, and make the best use of health care resources.

The geriatric assessment differs from a standard medical evaluation in three general ways: (1) it focuses on elderly individuals with complex problems, (2) it emphasizes functional status and quality of life, and (3) it frequently takes advantage of an interdisciplinary team of providers. Whereas the standard medical evaluation works reasonably well in most other populations, it tends to miss some of the most prevalent problems faced by the elder patient. These challenges, often referred to as the "Five I's of Geriatrics", include intellectual impairment, immobility, instability, incontinence and iatrogenic disorders. The geriatric assessment effectively addresses these and many other areas of geriatric care that are crucial to the successful treatment and prevention of disease and disability in older people.

Performing a comprehensive assessment is an ambitious undertaking. Below is a list of the areas geriatric providers may choose to assess:

- Current symptoms and illnesses and their functional impact.
- Current medications, their indications and effects.
- Relevant past illnesses.
- Recent and impending life changes.
- Objective measure of overall personal and social functionality.
- Current and future living environment and its appropriateness to function and prognosis.
- Family situation and availability.
- Current caregiver network including its deficiencies and potential.
- Objective measure of cognitive status.
- Objective assessment of mobility and balance.
- Rehabilitative status and prognosis if ill or disabled.
- Current emotional health and substance abuse.
- Nutritional status and needs.
- Disease risk factors, screening status, and health promotion activities.
- Services required and received.

The primary care physician or community health worker usually initiates an assessment when he or she detects a potential problem. Like any effective medical evaluation, the geriatric assessment needs to be sufficiently flexible in scope and adaptable in content to serve a wide range of patients. A complete geriatric assessment, performed by multiple personnel over many encounters, is best suited for elders with multiple medical problems and significant functional limitations. Ideally, under these circumstances, an interdisciplinary team -- representing medicine, psychiatry, social work, nutrition, physical and occupational therapy and others -- performs a detailed assessment, analyzes the information, devises an intervention strategy, initiates treatment, and follows-up on the patient's progress.

Due to the intricate nature of comprehensive assessments, many teams designate a case-manager or caseworker to coordinate the entire effort.

Most assessments take place in medical offices and inpatient units over multiple visits. If at all possible, however, at least one member of the team (rarely the physician) will attempt to visit the patient at home. Despite the problem of low or no reimbursement, the typically high-yield of information from even a single home visit makes it an extremely efficient use of resources.

Most geriatric assessments, performed under the constraints of time and money, tend to be less comprehensive and more directed. Although such modifications are best suited to relatively high-functioning elders living in the community, many practitioners find some version of a directed geriatric assessment to be a more realistic tool in a busy practice. Patient-driven assessment instruments are also popular among geriatricians. Asking patients to complete questionnaires and perform specific tasks not only saves time, but also it provides useful insight into their motivation and cognitive ability. To the extent that patients are unable to complete the assessment themselves, practitioners resort to traditional patient interview techniques that frequently involve input from a family member or other caregiver.

During your upcoming site visits, you will perform a directed geriatric assessment (DGA), ideally with the same patient, over two sessions. In the interest of education, most of your DGA instruments are student-driven, rather than patient-driven, and require relatively little information from caregivers who may or may not be available at the time of your visit. We have divided the DGA in two parts, each with three subsections. In Part I, you will perform an expanded medical interview covering the clinical history, nutritional assessment and a social evaluation. In Part II, you will perform neuropsychiatric, physical and functional examinations.

What follows is a reproduction of the History and Physical (H&P) format that you will use in your Physical Diagnosis II course next semester. Although all geriatric practitioners do not use a standard assessment format (comprehensive or otherwise), most agree on basic content. The comprehensive geriatric assessment (history & examination) following the Physical Diagnosis outline covers the most significant content areas of a prototypical geriatric assessment. As you can see, it moves well beyond the standard H&P, which is precisely the point. We have designed it to correlate as closely as possible with the history and physical you will be learning later this year. It is to your considerable advantage to review this information before meeting your patients face-to-face on the site visits. The DGA instrument you will use during your encounter immediately follows this section.

History and Physical (adapted from Physical Diagnosis course)

The History

Demographic Data
Full name
Age, sex and birth date
Marital status
Source of history and reliability of historian

Chief Complaint

Primary reason for visit, ideally in patient's own words
Duration of presenting symptoms

Present Illness
Chronological narrative of reasons for patient visit.
Persistence, change, severity, character, resolution and disabling effects of initial symptoms.
Presence of new symptoms and/or associated symptoms
History of similar symptoms in the past
Aggravating and mitigating factors

Past History
Previous medical history.
General state of health
Childhood diseases
Immunizations (Tetanus-diphtheria, pertussis, measles, mumps, rubella, hepatitis A&B, influenza, varicella, h. flu., polio)
Chronological list of adult medical diseases, injuries and operations (not already mentioned in "Present Illness"
Hospitalizations (not already mentioned)
Allergies, including clinical description of exposure
Medications, including dosage, duration and indication
Diet

Social History
Birthplace and residences (if not native born, year of entry into United States)
Level of education
Ethnicity and race
Marital status
Quality of significant relationships and health of partner
Vocation, including type of industry, past and present industrial exposures, duration of employment and retirement
Avocations, including hobbies and other interests
Habits, including quality of sleep, exercise, recreation, consumption of alcohol and other drugs (including route of administration, if applicable), tobacco use (in pack-years), alcohol use, and travel abroad
Significant life experiences

Family History
Presence of disease with recognized familial importance in first degree relatives - type II diabetes, tuberculosis, cancer, hypertension, allergy, heart disease, neurological or psychiatric disease, arthritis, osteoporosis, bleeding tendency
Similar presenting symptoms in family members.

Review of Systems
General
Lymphatic
Skin
Head
Eyes
Ears
Nose and sinuses
Mouth and throat

Neck
Breasts
Respiratory
Cardiac
Gastrointestinal
Urinary
Female reproductive
Male reproductive
Sexual and physical abuse
Musculoskeletal
Peripheral vessels
Neurologic
Psychiatric
Endocrine
Hematologic

The Physical Examination

General Appearance
Apparent age, state of health, nutritional status, alertness, and evidence of discomfort.

Vital Signs
Temperature, blood pressure, pulse rate and rhythm (regular or irregular), and respiratory rate and pattern.

Skin
Texture, moisture and temperature; eruptions, scars, masses, nevi, telangiectasia; abnormalities of hair and nails.

Lymph nodes
Size, consistency, mobility and tenderness in occipital, cervical, post-auricular, sub-mandibular, supra-clavicular, epitrochlear, axillary and inguinal regions.

Head
Size, symmetry, evidence of trauma, tenderness (including sinuses), masses, and condition of scalp.

Eyes
Eyebrows, lids, conjunctival inflammation and scleral icterus; corneal opacities and abrasions; pupillary size, equality and reaction to light and accommodation; extraocular movements and exophthalmos; fundi for discs, vessels, macula, exudates and hemorrhages; gross visual acuity and fields.

Ears
Auricles, auditory canals, tympanic membranes and gross hearing.

Nose
Deformities and septal deviation; obstruction, mucous membrane inflammation, polyps, bleeding and discharge.

Mouth
Lip color, lesions and pigmentations; condition of teeth; gingival color, inflammation,

and bleeding; tongue color, moisture, tremor and coating; buccal mucosa inflammation and eruptions; soft palate; odor of breath. If patient wears dentures, remove them.

Throat
Mucosal color, exudates and lesions; tonsil size, symmetry and exudates; post-nasal discharge.

Neck
Range of motion; pain and tenderness; tracheal position, thyroid size, symmetry and consistency; carotid impulse strength and bruits.

Back
Range of motion; pain and tenderness over spine, muscles and costovertebral angle; symmetry.

Thorax
Shape and symmetry in excursion; intercostal retractions; rib tenderness and chest wall masses.

Lungs
Percussion, auscultation, bronchophony, egophony, pectoriloquy and fremitus.

Breasts
Size, shape, symmetry, tenderness and masses.

Heart
Precordial movement, apical impulse, rate and rhythm; heart sounds, murmurs, rubs and gallops.

Abdomen
Shape, tenderness, bowel sounds and bruits; size of liver, spleen, and kidneys; masses
.
Extremities
Deformities, tenderness, localized swelling, peripheral pulses and edema, cyanosis, clubbing, temperature, varicose veins, and hair loss.

Musculoskeletal
Joint mobility, tenderness, effusion, erythema and deformity.

Neurologic
Screening exam in non-neurologic cases, otherwise full exam. Mental status; cranial nerves; peripheral strength, tone and sensation; deep tendon reflexes; Rhomberg and gait.

Female Pelvic and Rectal
External genitalia; speculum exam for vaginal mucosa and cervix, bimanual exam for uterus, adnexa, masses and tenderness; digital rectal.

Male Pelvic and Rectal
Inguinal hernias; scrotal and testicular masses and tenderness; digital rectal, with prostate exam.

Components of the Geriatric Assessment

The geriatric assessment incorporates all aspects of a conventional medical history including demographic data, chief complaint, present illness, past and current medical problems, family and social history, and review of systems. There are several features of the geriatric history, however, that require special attention given the nature of this population. What follows is a supplement to your Physical Diagnosis H&P.

Demographic Data

Clinical medicine, largely a scientific endeavor, relies heavily on the acquisition of objective information. Although virtually all historical data is subjective to one degree or another, clinicians must ultimately base their medical decision on accurate information. Geriatric practitioners often find it challenging to obtain objective historical information especially when it is subject to the incomplete memory of patients with impaired cognition, or the biased interpretation of family members and others caregivers. You should, therefore, always note the identity of the historian and your assessment of their reliability and objectivity.

Chief Complaint and Present Illness

Elderly patients are famous for presenting with any combination of non-specific, apparently unrelated and seemingly trivial complaints. Sometimes they have no complaint at all. Unlike many younger patients, it is the rare elder who walks in and hands her physician a discrete and easily recognizable diagnosis. This is for several reasons. First, many older patients interpret their pain or dysfunction as "normal" signs of aging. It would not occur to them to seek medical attention for say, joint pain or insomnia. They may visit their physicians simply to mollify a spouse or child. (Unfortunately, during such visits, many physicians simply confirm the views of the patient.) Fear and denial may also play a role when patients present with no, or irrelevant, complaints. Elderly patients suffer disproportionally from a number of chronically painful conditions, with arthritis leading the list. With so many effective ways to manage pain, is critically important to explicitly address the possibility of concealed pain in all elderly patients.

Second, in geriatrics, multiple problems are the rule. In some ways, systems-based medicine is poorly adapted to care for the elderly given their penchant for multisystem disorders. Complex pathophysiology presents in clinically complex ways, and it is not unusual for one organ system to signal pathology in another.

And third, insurmountable communication barriers may prevent elderly patients from receiving effective medical attention. Cultural incompatibilities, memory loss, depression, and hearing impairment may all contribute to the collection of an inadequate, or even unintelligible, description of the chief complaint and present illness.

Past Medical History

This section of the geriatric assessment is similar to the information obtained from

other patient populations. The only difference is that the data are more extensive, generated by more providers, and the source is potentially more distant. Patients and caregivers alike may not know or recall important details from medical or surgical events taking place thirty, forty or fifty years ago. In their effort to be comprehensive and accurate, therefore, geriatric practitioners need to frequently locate and obtain medical records from multiple sources existing long ago and far away.
Of the items listed in this section, a thorough medication history deserves explicit attention as an absolutely crucial part of the geriatric assessment. Because elderly patients are so frequently on multiple medications, prescribed by different physicians, over extended periods of time, they are at considerable risk for adverse drug interaction and overmedication. Central to the assessment objectives is careful documentation of all medication (prescription an over-the-counter) their doses, indications and effects.

Nutrition

Diet is covered under Past Medical History in your H&P. However, due to its considerable importance in the geriatric assessment, we grant it here a separate section.
Compared to the general population, the elderly are more vulnerable to inadequate nutrition for a number of reasons. These predominantly include (1) limited dentition or ill-fitting dentures, (2) diminished appetite due to loneliness, depression or appetite-suppressing drugs, (3) prevalent medical conditions including constipation, congestive heart failure, cancer and dementia, (4) lack of financial resources, and (5) non-compensated disabilities resulting in limited access to food and/or inability to prepare meals. Conversely, an elder is at increased risk of obesity by inactivity, low socioeconomic status, and limitations in food variety. Geriatric practitioners should consider performing a complete nutritional evaluation with any change in presenting symptoms, medical condition or functional status. Many times such changes are associated with dietary intake and nutritional requirements. At a minimum, a nutritional assessment involves the evaluation of :

- current weight in comparison to ideal body weight, with determination of BMI to evaluate for underweight or obesity.
- recent changes in body weight.
- current medications and their potential to affect the patient's nutritional status.
- functional status to determine if the patient can purchase and prepare food for himself, plus mental status with regard to their interest in food.
- food intake by food groups for a quick estimation of adequacy of diet.
- vitamin/mineral supplementation.

Information from the medical and social histories that has direct bearing on nutritional status in the elderly includes:

<u>Medical</u>
- virtually any significant chronic disease
- any recent acute illness or surgery
- presence of allergies
- family history of diet-related disease
- usual weight and recent involuntary weight changes
- presence of dentures and satisfaction with them
- cognitive impairment

- depression and other psychiatric diagnoses
- a wide array of medications and their adverse interactions with food
- exercise and sleep patterns

Social
- occupation, retirement and income level
- participation in economic assistance programs
- living arrangements
- availability of transportation and shopping
- educational and reading level
- motivation and adherence to medical recommendations

Geriatric Nutritional Assessment

Beyond the medical and social assessments, there are four components specific to the geriatric nutritional assessment. (1) A nutritional history performed with some version of a nutritional health checklist. (2) A detailed dietary assessment using a 24-hour recall, "usual intake" or food record. (3) A physical exam with particular reference to signs associated with over-consumption and inadequate nutrition. And (4), selected laboratory tests if applicable.

Nutritional Health Checklist. The Nutritional Health Checklist was developed for the Nutrition Screening Initiative for the elderly. The patient or practitioner may complete the questionnaire. A "yes" answer for any one of the ten questions listed below is a flag for a potential nutritional problem:

- I have an illness or condition that made me change the kind and/or amount of food I eat.
- I eat fewer than two meals per day.
- I eat few fruits, vegetables or milk products.
- I have three or more drinks of beer, liquor, or wine almost every day.
- I have tooth or mouth problems that make it hard for me to eat.
- I don't always have enough money to buy the food I need.
- I eat alone most of the time.
- I take three or more different prescribed or over-the-counter drugs per day.
- Without wanting to, I have lost or gained 10 lbs. in the last six months.
- I am not always physically able to shop, cook, and/or feed myself.

Dietary Assessment. A dietary assessment includes information about the patient's intake of food and liquids during a "usual day", preferably the previous 24 hours. This includes quantitative and qualitative questions breakfast, lunch, dinner, snacks, and vitamin/mineral supplements. Such information is generalizable since there is typically little variability in intake patterns from day to day, especially in the elderly. The practitioner can then evaluate the patients diet in light of their medical history, medications and supplements. They can use the encounter to make specific dietary suggestions based on standardized guidelines such as the food pyramid. The areas of particular concern in this population include adequate protein intake, five or more servings of fruits and vegetables, three servings of dairy foods for adequate calcium intake, and appropriate quantity of food. In the reference section on Nutrition in the Elderly you will find a copy of the food pyramid and a 24-hour intake sample sheet.

Physical Examination. Numerous findings on physical exam may be indicators of nutritional status. The examiner must pay particular attention to the patient's

general appearance, anthropometrics (height and weight), oral cavity, vision and hearing, and upper extremity mobility. In the Nutritional Appendix is a list of clinical signs and symptoms associated with specific nutritional deficiencies.

Selected Laboratory Tests. There is not a routine panel of blood tests that is appropriate to all geriatric patients, or any patients for that matter. Clinicians must carefully select each laboratory test based on the totality of the patient's clinical presentation. However, the following tests may enhance the overall nutritional assessment of elderly patients:.

- Serum albumin to help determine protein and immune status.
- Serum cholesterol and homocysteine to determine risk level for CVD. (Total cholesterol levels above 240 mg/dl indicate considerable risk for CVD; levels below 160 may indicate gastrointestinal problems.)
- Blood glucose in diabetics and periodically in non-diabetic elders since glucose intolerance increases with aging.
- Hemoglobin/hematocrit to evaluate for anemia, a prevalent condition in the elderly.
- Vitamin B12 (especially in vegans, with indications of achlorhydria and gastrointestinal problems).

Geriatric practitioners may use the accumulated data from the foregoing assessments to identify and evaluate potential nutritional problems in their elderly patients. Questions to consider include: Are there "flags" for nutritional risk? How can they be managed? Are the patient's dietary supplements appropriate? Are there any potential nutrient-drug interactions? What nutrients are affected and are the pharmaceutical benefits worth the nutritional risk? Is the patient's dietary intake adequate, and if not, what specific changes can the patient make to optimize his or her health?

Social History

The social evaluation covers a vast area of information ranging from a patient's level of education to their views on terminal care. In fact, the terrain is so vast and complex that epidemiologists and clinicians alike have yet to fully embrace its tremendous impact on health. Nevertheless, an impressive and growing body of research demonstrates a consistent association between social exposures, such as income gradients and interpersonal isolation, with a number of significant health outcomes, including mortality. Translating this evidence into effective patient care is enormously challenging and, in most clinical settings, physicians do not make the attempt.

One exception to this is lifestyle modification. Many physicians routinely ask their patients about personal behaviors that may place them "at risk" of harm. Although such lifestyle "choices" are always influenced by society, most clinicians view them as attributes of the patient, largely independent of her social environment. Nevertheless, practitioners typically place "habits" information under the social history, unless the specific behaviors have particular relevance to the chief complaint, in which case they include it in the present illness.

Definitive research literature on the social determinants of health applies to all populations. Understandably, however, the well being of physically dependent populations, like the elderly, is affected more by prevailing social conditions than

most other populations. Living arrangements, financial security, transportation, crime, and access to medical services all have a demonstrably direct impact on health outcomes in older adults. Less obvious, though, are the equally significant health effects of interpersonal conditions, usually falling under the rubric of "psychosocial" influences. The death of a spouse or detachment from a community is clearly associated with higher rates of morbidity and mortality in the elderly. Despite these risks, physicians operating in customary clinical settings are ill equipped to sufficiently address the social status of their elderly patients. For this reason, the geriatric assessment must explicitly incorporate an extensive social evaluation. There is no well-recognized, formal screening tool that has been validated for social risk. As part of a typical geriatric assessment, one or several members of the team will gradually collect socially relevant information over several encounters. Although this is frequently done in the office or institutional setting, the best place to perform a social evaluation is in the patient's own social environment.

As a supplement to the Social History section in your H&P above, we outline below additional components relevant to geriatric assessment. The social assessment questions you will actually ask appear in the DGA.

Vocation and Education

It is important to remember that raising a family, looking for a job, going to school and enjoying retirement are all legitimate "vocations". Many older adults who have retired from their "careers" continue to work part time or volunteer. The potential benefits of working include community connections, financial independence, personal accomplishment and self-respect, all of which are potential determinants of health. For populations, there is considerable evidence that level of education varies directly with health status. Whether this applies to individual elders is less clear, but it is certainly reasonable to include academic accomplishments in the assessment.

Habits

Decades of research have firmly established the link between an individual's lifestyle and his health. An important, and often overlooked, feature of this research is the time-dependent nature of exposures and outcomes. With few exception (drug addiction and sleep being the most notable), individuals experience the health effects of their habits decades in the future. This has obvious and important ramifications for health-related activities in the elderly. Depending on the patient's age, much of the relevant exposure has already taken place and is beyond intervention. Conversely, much of the predicted health outcomes from their current behavior will be irrelevant; the patient having long since succumbed to the accumulated effects of youthful indiscretion. Still, where the activity has relatively swift consequences or the patient can expect to be around for another two or three decades, it is reasonable to screen for certain behaviors, particular those with convincing evidence in support of their effects on health and modifiability.

Exercise. The numerous and beneficial health effects of regular exercise in the elderly operate in both the short and long-term. Exercise decreases blood pressure, weight, cardiovascular and cerebrovascular risk, osteoarthritic joint pain and stiffness, osteoporosis and overall mortality. It improves glucose tolerance, strength, cardiopulmonary fitness, agility and flexibility, balance, sleep, mood and cognition. It is hard to come up with a compelling argument against some form of exercise, even

in the frailest elderly. Information obtained in the assessment ought to include the frequency and duration of aerobic and non-aerobic exercise, the type of activity (walking, swimming, gardening, heavy housework), method of monitoring intensity (heart rate, fatigue, pain), presence of orthopedic and or cardiovascular diagnoses or symptoms, and the occurrence and nature of injuries.

Sleep. Sleep physiology changes dramatically with age. Older adults tend to sleep fewer hours and often find it difficult to fall asleep (sleep latency) or stay asleep. A poor night sleep may have a range of health effects including mood disorders, cognitive impairment and even immunologic dysfunction. Plus, the pharmacologic treatment of sleep disorders in the elderly is fraught with iatrogenic hazards. Practitioners need to carefully assess the sleep quantity (nighttime duration frequency and duration of daytime naps), sleep quality (sleep latency and ability to stay asleep, vigilance on waking, and presence of nightmares), sleep environment, bedtime habits, and medical conditions affecting sleep (depression, congestive heart failure, carpal tunnel syndrome).

Sexual Activity. Elders have sex. Although pregnancy is not an issue, sexually transmitted diseases are not irrelevant to geriatrics, and physicians often make incorrect assumptions regarding monogamy and safe sexual practices. Although a minority of elderly patients may be at risk from sexual indiscretion, most are far more concerned about the opposite problem, sexual dysfunction. Even though impotence, diminished libido and dyspareunia (pain with intercourse, usually related to vaginal dryness) are extremely common in older adults, they are uncommonly the topic of conversation in their doctors' offices. Since all three conditions are potentially treatable (more so recently with the introduction of Viagra), it is crucial that practitioners obtain such information, despite their own misgivings about broaching the subject, especially when a generation or two separates them from their patients. Asking straightforward, close-ended questions in a non-judgmental fashion ("Are you currently sexually active?" as opposed to "Are you still sexually active after all these years?), usually works well.

Recreational Activity. How a person spends his or her leisure time may influence their health in three major ways. (1) To the extent that the activity involves consistent exercise, the participant is bound to experience an overall health benefit. (2) To the extent that the activity is harmful or dangerous (cruising bars, for example, with its associated binge drinking and driving), it will increase the risk of disease, injury and premature mortality. And (3), most recreational activities are designed to relieve stress (golf notwithstanding). Experimental evidence linking strain (an individual's response to stress) with disease, suggests a mechanisms for the protective health effects of activities mitigating stress.

Substance Use. Although the prevalence of illicit drug use in the geriatric population is relatively low, older adults do not lose interest in most other substances. It is extremely rare for anyone to take up smoking late in life, so the vast majority of elders who smoke have been doing so for decades. Similarly, elders who have no prior history of alcoholism, or other addictive behavior, do not suddenly develop a pattern of addictive behavior in their seventies and eighties. Elderly alcoholics almost always have a history of substance abuse or misuse, of one form or another, dating back to their youth. Medically relevant addictive behavior can be divided into two categories based on their associated psychosocial harm. The abuse of alcohol and other drugs (most notably prescription hypnotics in the elderly) are often far more psychosocially devastating than the effects of tobacco use and the

over-consumption of saturated fats. It is more sensible, therefore, to save the evaluation of alcohol and drug abuse for the Neuropsychiatric section of the assessment. Dietary fat consumption appears in the Nutritional Evaluation above, leaving tobacco use for this section.
Although the prevalence of American smokers has declined since the mid-1960's, about 25% of Americans continue to smoke. This drops to about 19% in persons 65 to 74 year old and 9% in those over 75 years (at least partially due to their smoking attributable premature mortality). Smoking accounts for about one out of every five deaths in the United States making it the most important modifiable cause of death. Many older smokers reasonably assume that the damage from years of smoking has been done; the common refrain being "If it hasn't killed them yet, why quit?" While this mindset is difficult to overcome, there is considerable evidence that mortality is significant postponed even in smokers who quit after the age of 70. Smoking cessation is worth pursuing in the elderly. Useful assessment questions include: Is the patient a current or former smoker? What does he smoke (or chew) and how much (recorded in pack-years)? Have there been attempts to quit and were they successful? Is there any exposure to environmental (second-hand) tobacco smoke?

Living Arrangements and Services

According to the U.S. Census Bureau, of the non-institutionalized adults over 65 years and older, approximately 70% live with a spouse or extended family and 30% live alone. As we've discussed earlier in the course, due to their relative longevity, considerably more women than men live alone, while conversely, more men than women live with their spouse. Whereas only about once percent of Americans between 65 and 74 live in nursing homes, about one-fourth of those 85 and older are institutionalized. The determination of appropriate living arrangements for elderly patients is one of the assessment's most significant functions. Although options for elder housing vary widely, there are three basic types: private homes in the community, assisting living residences, and skilled nursing facilities (rehabilitation hospitals and nursing homes). Ideally, the most highly functioning elders remain in their homes as long as possible, frequently with the aide of a personal caregiver, usually a spouse or other close relative. It is always important to ask about co-dwellers, both to determine the level of interpersonal support (see below) and to evaluate for the possibility of caregiver stress, a relatively common phenomenon, particularly among elderly spouses.

Security. As elders become more dependent, their vulnerability to intentional injury and loss of property increases. For this reason, the social assessment must include an evaluation of security risks experienced by patients living in the community. Has the apartment building hired a doorman? Is the home equipped with security alarms and fire detectors? Is there a working telephone? Are trustworthy neighbors easily accessible?

Injury Risk. Of all the possible sources of harm that may come their way, falls are among the most common and serious. They occur in both community and institutional settings. One in four elders living in the community will suffer a fall, and on average, a resident in a long-term care facility will fall one to two times per year. About one in forty falls results in hospitalizations. About half of hospitalized fallers are institutionalized, and up to 20% of them are dead within the year. The reason for most falls is complex, having to do with an aggregation of medical factors including drugs and alcohol, dementia, depression, visual impairment and dysmobility. All of these potential etiologies, covered elsewhere in the assessment, combine with a

patient's environment to pose a significant risk of unintentional injury. At this point in the assessment, the focus is on the patient's physical surroundings at home and his or her history of falling. How adequate is the ambient lighting? How many levels must occupants traverse over stairs? Is the house or apartment fully accessible by wheelchair? Where are the bathroom, kitchen and bedroom in relation to one another? Are there throw rugs and other trip hazards? Are there grab bars and mats in the tubs? How many times has the patient fallen in the past year? What were the circumstances and consequences of the falls? Has the patient develop a fear of falling out of proportion to the physical risks?

Community Services. Although family members and other non-professionals provide upwards of 80% of the care received by non-institutionalized elders, there is a long list of community-based services. Largely due to interest in cost-containment and recent advancements in technology, the home healthcare industry has boomed in recent years. In addition to selected hospital-based services (like dialysis and intravenous antibiotic treatment), in-home support includes hospice care, physician house calls, visiting nurses, home health aides, Meals on Wheels, and hired homemakers to name of few. Group counseling, adult day centers, congregate meals and respite-care are examples of out-of-home support. Community-based health care services include a designated primary care physician, ambulatory care center, acute and rehabilitative facilities, mental health providers and provision of pharmaceuticals.

Long-term Care. Elders who cannot manage alone at home and do not have family members able or available to provide adequate support may take advantage of various long-term care settings. Assisted living residences provide various levels of services for elderly adults who do not require skilled nursing care but who, nonetheless, cannot continue to safely live at home. Although some assisted living residents have mild to moderate dementia, they tend not to have seriously disabling conditions. Assisted living is truly a long-term care option. Most residents do not return to their original homes, and many go onto more intensive settings, like nursing homes. Skilled nursing facilities include nursing homes and similar long-term care institutions employing skilled medical professionals. Most residents of nursing homes suffer from chronic disabled conditions requiring 24-hour nursing care for the indefinite future. A smaller percentage of residents at some facilities receive rehabilitative services after an acute event (such as a fall or stroke) during a relatively short, well-defined admission. Short-term (usually about two weeks) respite stays are a third type of admission in which elders living at home occupy a nursing home bed in order to provide their caregivers with a much needed break.

Social Networks

Social networks may take the form of intimate, tightly knit relationships or broad-based community affiliations. Interestingly, studies suggest that the health of elder women benefits more from group relationships, as opposed to elder men who thrive better on close personal relationships with family members, particularly a spouse. The assessment of social networks involves collecting information on (1) marital status, (2) number of children and the frequency of their visits, (3) existence and involvement of other close relatives or close friends, and (4) frequency of attendance at religious and secular meetings or events. Supportive arrangements within a patient’s network include (1) practical assistance with daily tasks (such as transportation, shopping and cooking), and (2) emotional assistance from family members, friends, or community groups. Conversely, questions about abusive

behavior directed at the patient are a critical to the social assessment. Elder abuse may take the form of direct physical harm, neglect, or emotional harassment. The assessment concludes with self-perceptive questions regarding a patient's sense of isolation or association.

Caregivers. Since, as mentioned above, family members meet the great majority of disabled elders' needs, the patient of interest is frequently also a caregiver. If this is the case, assessment questions turn to the beneficiary of such care and its affect on the patient. Who is she caring for and how ill or disabled is this person? How often and for how long does she provide care, and what exactly is involved? Are her responsibilities causes stress and exhaustion, ill health, or an unacceptable loss of independence?

Financial Security

According to the American Association of Retired Persons, about one in five older Americans live below 125% of the poverty line. Compared to elderly men, the poverty rate is almost double for women such that roughly the same proportion of older women live in poverty as do children in this country. Despite these figures, Americans 75 years and older have a net worth well above the national average. Since income level is clearly associated with health at all ages, financial security is an essential component of the geriatric assessment. Nevertheless, many physicians are uncomfortable about discussing their patients' assets, viewing the topic as outside their professional jurisdiction. To obtain this information, it is usually unnecessary to discuss a patient's annual gross income or estate plan in any detail. Inquiring in general terms about current sources of income and ability to meet expenses now and in the future is usually sufficient.

Health care coverage

An especially important assessment topic is health care coverage, both public entitlement programs (Medicare and Medicaid) and private insurance plans. Most elders use a combination of Medicare benefits and private supplemental insurance to pay for acute hospital services and physician visits. They rely on Medicaid and out-of-pocket resources for nursing home care. Although most practitioners are abundantly aware of their patient's coverage, they do not routinely explore its adequacy, except as part of a thorough geriatric assessment.

Transportation

An important objective of the geriatric assessment is to make decisions that maximizes an elder's independence and minimizes risk to his safety and the safety of others. Physicians frequently find themselves in the unenviable position of deciding when it is time for older drivers to give up their licenses. According to the AAA Foundation for Traffic Safety, more than one in four drivers will be 65 and over by the year 2000. Although older drivers are on the road for fewer miles than their younger counterparts, the number of crash-related injuries and deaths per million drivers increases after age 60. Among other things, these accidents seem to reflect errors of inattention, failure to yield, a difficult time maneuvering and driving too slowly. As was the case with falls above, there are multiple risk factors for motor vehicle accidents in the elderly, all of which are evaluated elsewhere in the assessment. These include cognitive impairment, vision and hearing loss, psychomotor slowing, decreased musculoskeletal endurance and coordination,

polypharmacy, and attention deficits due to any number of chronic medical problems. This part of the assessment focuses on the patient's transportation requirements, driving habits, and accident history. How does the patient get around (own car, public transportation, private livery service)? Is this acceptable? What are the typical destinations and what is the frequency of travel? If the patient drives, what type of vehicle? Does she possess a valid driver's license? Is a seatbelt routinely used (of course, this applies to all patient populations)? How many traffic violations have there been in the past year? How many accidents, including related injuries and hospitalizations?

Adaptation

Emotional adaptability and fortitude provide considerable protection against declining health in elderly patients. Disease, illness, disability and loss are inevitable challenges faced by everyone with the good fortune to live long enough. A patient's resilience in the face of adversity is often a better predictor of health outcomes than the specific nature of that adversity. Even though it is difficult to reliably measure anyone's ability to favorably confront his destiny, given the relevance of such a confrontation with advancing age, the geriatric assessment is an important place to try. Two approaches that may help gauge a patient's adaptability include assessing (1) stability during extreme change or adversity and (2) self-perception. What was the nature of the event (loss of a spouse or institutionalization, for instance)? What was the patient's response (worsening cognition, depression or decompensation from a chronic medical condition)? How long did it take to recover? How does the patient feel about any impending changes? Evaluating self-perception, of course, requires a certain minimal level of cognition. Has the patient achieved his life's goals? How content is he with his current situation? Does he look forward to any future prospects? A number of studies support the contention that an affirmative answer to at least this last question predicts longevity.

Values

An individual's moral philosophy may or may not affect her health, but it certainly affects her health care. This is especially true for older adults who are routinely confronted with enormous ethical decisions. As part of every geriatric assessment, practitioners must therefore have an open and honest discussion with patients and families about their views on therapeutic interventions and terminal care. Well before an elderly patient's life is immediately threatened, she should have some kind of advanced directive in place (such as identification of a healthcare proxy) to guide the future decisions of her physicians and family members. And, in the face of imminent death, the physician should approach the patient and her family about writing a "Do-Not-Resuscitate (DNR)" order on the chart. The geriatric assessment, part of which involves the determination of medical competency (see below), is an ideal opportunity to firmly establish the wishes of patients who may soon face the prospect of terminal illness and impending death.

Family History

Individuals who are genetically predisposed to a disease tend to manifest it prematurely, that is, before the general population. Therefore, most diseases that go undiagnosed until late in life, probably result more from an accumulation of environmental stressors than from the predisposing effects of genotype. This makes an elder's family less relevant to the geriatric assessment than other potential

determinants of health. Nevertheless, the family history still provides useful information about familial predisposition to diseases that are virtually always late in onset, most notably osteoporosis and Alzheimer's disease.

Review of Systems

Any thorough clinical evaluation includes a complete review of systems (ROS). The geriatric assessment's ROS emphasizes questions specifically pertaining to the functional capabilities of elders. The list below, including common complaints in older adults and their etiologies, is not comprehensive. It is intended to demonstrate the type of ROS information practitioners obtain as part of a typical geriatric assessment. In the interest of efficiency, most physicians perform the ROS during the physical exam.

System	Symptoms	Possible Problems
Visual	Loss of near vision (presbyopia) Loss of central vision Loss of peripheral vision Glare from lights at night Eye pain	common with age macular degeneration glaucoma, stroke cataracts glaucoma, temporal arteritis
Auditory	Hearing loss Loss of high-frequency range (presbycussis)	acoustic neuroma, cerumen, Paget's disease, drug-induced ototoxicity common with age
Cardiovascular	Difficulty eating or sleeping, over-fatigue, shortness of breath, orthopnea	congestive heart failure (CHF)
Pulmonary	Chronic cough, shortness of Breath	chronic obstructive pulmonary disease
Gastrointestinal	Constipation Fecal incontinence	hypothyroidism, dehydration, hypokalemia, colorectal cancer, inadequate fiber, inactivity, drugs fecal impaction, rectal carcinoma
Genitourinary	Urinary frequency, hesitancy Urinary incontinence	benign prostatic hyperplasia (BPH) estrogen deficiency, destrusor instability, BPH
Musculoskeletal	Proximal muscle pain/weakness Joint pain Back pain	polymylagia rheumatica osteoarthritis, rheumatoid arthritis osteoarthritis, osteoporotic compression fracture, cancer
Neurologic/ Psychiatric	Syncope Transient loss of power, sensation or speech	postural hypotension, seizure, cardiac dysrythmia, aortic stenosis, hypoglycemia transient ischemic attack

	Persistent aphasia or dysarthria Disturbance of gait Insomnia Loss of memory	stroke Parkinson's disease, stroke circadian rhythm disturbance, drugs, sleep apnea, mood disorder Alzheimer's disease, multiinfarct dementia
Extremities	Leg and foot swelling Leg pain	osteoarthritis, radiculopathy, intermittent claudication, night cramps CHF, venous insufficiency
Weight change	Refer to Nutritional Evaluation below	

Preventive Interventions

Separating out preventive interventions and placing them into their own subcategory is a departure from your Physical Diagnosis H&P format. While most (but not all) of the information can be gathered from other parts of the assessment, it is useful to view preventive interventions as a bundle of services applicable to a specific patients based on their age and other risk factors. These "periodic health examinations", as they are often referred to, organize an otherwise disparate set of recommendations into a single, easily referenced package. They consist of three components: screening, immunizations and chemoprophylaxis, and counseling to reduce risk. Screening is the early detection of asymptomatic disease and predisposition to disease. Practitioners may screen their patients using the full range of clinical resources: history, physical examination, and laboratory studies. Immunizations and chemoprophylactic agents mitigate risk by altering the recipients' response to their environment. Immunizations protect against infectious disease usually by actively stimulating an immune response against a specific pathogen. Chemoprophylactic agents metabolically provide partial protection against an array of diseases. Although, strictly speaking, counseling is not part of an "assessment", sometimes all it takes to change behavior is simply raising an issue and making patients aware. Unfortunately, however, there is very little evidence that physicians significantly influence their patients' health behaviors (albeit with a few notable exceptions).

The most efficacious preventive interventions focus on those conditions that are (1) associated with considerable morbidity and mortality and (2) highly prevalent in the target population. Although it sounds harsh, clinicians practicing prevention need to ask themselves "What is likely to kill my patient?" Knowing the top five or six causes of death for a particular population is essential to the practice of clinical prevention.

Based on a systematic review of the research literature, the U.S. Preventive Services Task Force (USPSTF) has established recommendations for age-specific periodic health examinations. For each age group, they list the leading causes of death and recommend preventive services for two subpopulations, general and high risk. The chart below pertains to our population of interest.

Periodic Health Exam of Adults 65 and Older

(Adapted from USPSTF Guide to Clinical Preventive Services, 2005 Recommendations. http://www.ahrq.gov/clinic/pocketgd.pdf; viewed Sept 2005)

Leading Causes of Death

Heart disease
Malignant neoplasms
Cerebrovascular disease
Chronic obstructive
pulmonary disease
Pneumonia and influenza

Interventions for the General Population

Screening	Alcohol misuse Blood pressure Breast cancer[1] Cervical cancer[2] Colorectal cancer[3] Depression[4] Type 2 Diabetes[5] Dyslipidemia Obesity Osteoporosis Tobacco use
Immunizations/ Chemoprophylaxis	Pneumococcal once Influenza annually Tetanus-diphtheria (Td) booster every 10 years Low-dose aspirin[6]
Counseling	Alcohol abuse Healthful diet[7] Regular physical activity Seatbelts and helmet use Fall risk Firearm safety Smoke detectors Hot water heater to < 120-130° F Household members trained in CPR Regular dental care

1 Mammography every 1-2 years for women 40 and older
2 Women who have been sexually active and have a cervix
3 Men and women 50 and older
4 In clinical practices that acan assure accurate diagnosis, effective treatment and follow-up
5 In adults with hypertension or dyslipidemia
6 Adults at increased risk for coronary heart disease
7 Adults at risk for coronary heart disease and other diet-related chronic diseases

Neuropsychiatric Examination

Neurological and psychiatric examinations comprise a significant portion of the Geriatric Assessment. This is so not only because illnesses such as dementia and delirium are common among elderly patients, but also because virtually all medical conditions and medical/surgical treatments affect brain function to some degree.

Time constraints preclude a detailed inspection of the neuropsychiatric exam, so we'll focus on the key elements here.

In the Directed Geriatric Assessment, we will focus specifically on the assessment of cognition and mood and their implications for substance abuse and competency.

Cognitive Assessment

Cognition involves the basic processes of perception, attention, memory, reasoning, decision-making and problem solving. When these processes are disrupted, the consequences for the individual can be disastrous; unintentional overdose of prescription medication, motor vehicle accidents, and squandered life savings are only a few examples. Disease, medication, or accidents (especially those involving head injury) can disrupt cognition. Before testing cognition, it is important to know that the patient s primary sensory abilities (vision and hearing) are intact, since deficits in primary sensation could mislead you to conclude that the patient was cognitively impaired. It is for this reason that vision and hearing testing are a routine part of the geriatric assessment.

There are many ways to assess cognition, some clearly superior to others. Getting a feel for the cognitive abilities of a patient by way of the medical interview is an ill-advised strategy, since many cognitively impaired patients will be able to compensate for any deficits and appear to be intact unless individual capacities are explicitly tested. For this purpose, the best-validated and most widely used instrument is the Mini Mental State Exam (MMSE) originated by Folstein, et al. It has recently been made available in annotated form, the Annotated MMSE, or AMMSE (reproduced in the Directed Geriatric Assessment for your use).

The (A)MMSE covers the cognitive domains of orientation, memory, attention, calculation, language, and constructional ability. As shown in the reproduced instrument (see DGA), it involves putting a series of standardized questions directly to the patient, and recording the patient s verbatim answers. It has a total score of 30 points, and a general cutoff score of <24 is abnormal. Performance on this exam depends on age and education, however, so normative data adjusted for these variables are available in various published references.

The (A)MMSE is usually performed at the end of the interview (history) portion of the assessment, when the patient is seated in a chair and remains fully clothed. It is best introduced simply by saying, "Now I am going to ask you some questions to test your memory." (Although the (A)MMSE does go beyond memory, this is usually the quickest and least objectionable way to introduce it.)

Mood Assessment

Although it is true that the entire spectrum of mood disorders is represented among the elderly, overwhelmingly the problem in this population is that of major depression. As you will learn in lecture, undiagnosed and untreated major depression is one of the most significant contributors to excess morbidity and mortality in geriatrics. Physicians who see elderly patients are well advised to be aggressive in seeking out and treating this condition, since it has an impact on all aspects of medical and surgical care.

Major depression is diagnosed using the core criteria of the Diagnostic & Statistical Manual of Mental Disorders, 4th Ed (DSM-IV). These criteria can be recalled using the mnemonic, "Depressed? SIG E CAPS". The acronym stands for depressed mood, sleep, interests, guilt, energy, concentration, appetite, psychomotor abnormality, and suicidal ideation. Medical illnesses common in the elderly population can greatly affect functions such as sleep and appetite, however, and so confound this assessment. It is often useful in these patients to take a closer look at attitudes and feelings that could indicate the presence of depression. For this purpose, an instrument such as the Geriatric Depression Scale (GDS) can be used. A copy of the Abbreviated Version of this scale is included in your Directed Assessment.

The depression assessment is made as part of the mental status exam, before the (A)MMSE is administered. The patient or an interviewer may fill out the GDS. Yes or no answers are recorded to each of 15 questions. Hits are scored as shown on the form (see DGA), and one point is assigned for each hit. Major depression should be suspected in any patient with a score of 5 or more points.

Substance Abuse

Like adolescent or adult populations, the elderly are at risk for substance abuse. However, unlike younger people who use a wide range of drugs including hallucinogens, stimulants and opioids, addictions in older individuals are largely restricted to sedative-hypnotics and alcohol. Due to their high prevalence of sleep disturbances, hypnotics like benzodiazepines are frequently prescribed (often inappropriately) to older patients, sometimes resulting in abuse. Including an alcohol screen in the geriatric assessment is important. Unlike their younger counterparts who are more likely to come to the attention of employers, police, and family members, older alcoholics usually come to the attention of the medical system first, often with subtle or confusing symptoms.

A number of factors place elderly patients at increased risk for alcoholic complications. They include (1) a decrease in lean body mass, (2) diminished efficiency of hepatic metabolism, (3) an increase in brain sensitivity to alcohol, (4) a high prevalence of medical and psychosocial comorbidities, and (5) a high incidence of alcohol-drug interactions due to polypharmacy.

In assessing a person's risk of alcoholism, questions about total volume of consumption is less useful than questions about frequency, pattern and consequences of drinking too much. There are a number of assessment tools for establishing a risk of alcoholism, two of which are the Michigan Alcoholism Screening Test (MAST) and its geriatric adaptation (MAST-G), and the CAGE Questionnaire. Even though the MAST is more detailed and better validated, the easy-to-remember mnemonic is more popular with primary care physicians. Your lecture on Neuropsychiatric Illness covers these screening exams, and the topic of alcoholism in more detail.

CAGE Questionnaire for Alcoholism

Cut down	Have you ever felt you should cut down on your drinking?
Annoyed	Have people annoyed you by criticizing your drinking?
Guilty	Have you ever felt bad or guilty about your drinking?
Eye-opener	Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?

Competency

Due to psychiatric illness, mental retardation, delirium, or dementia, elderly patients may in some situations be incapable of making decisions that safeguard their own self-interests. Although the MMSE provides useful information regarding a patient's global cognitive function, it is important to assess, by way of an interview, his or her competency in at least two areas: medical and financial decision-making. Following are questions to consider in the evaluation of a person's competency to make decisions directly affecting their health and financial security:

- Is the patient aware they have a mental illness (as listed above)?
- Does the patient understand the nature of the proposed treatment?
- Does the patient understand the need for treatment and the implications of refusing treatment?
- Does the mental illness interfere with judgment and reasoning so much that it accounts for refusal of treatment?
- Does the patient have knowledge of their current assets?
- Does the patient have knowledge of their monthly expenses and bills?
- Does the patient know where their assets are located and being managed?
- Can the patient complete simple calculations?
- Is the person's judgment so affected that their finances would be in jeopardy?

Neither the substance abuse nor competency assessments appear in the DGA.

Physical Examination

Although a complete physical examination is an essential part of the geriatric assessment, our intention here is to highlight those areas that are of particular relevance to the elderly patient. Again, this is intended as a supplement to your Physical Diagnosis H&P above. Any redundancy is due to the high prevalence of the findings in both the geriatric and adult populations.

General Appearance

One of the most important and useful parts of the exam is your overall impression of the patient's state of health by observation. Just greeting the patient and inviting him or her into the exam room gives you valuable information about level of consciousness, mobility and gait, muscle strength, social interactive ability, hygiene, color, and obvious discomfort. From these data, you can create a composite picture of your patient's general health and learn specific details about his or her medical history before either of you utter a single word.

Vital Signs

Blood pressure. Up to 30% of patients 75 years and older will have orthostatic hypotension, meaning their systolic blood pressure drops by 20 or more mmHg with a change in position from supine to standing. To determine orthostatic blood pressure values, first obtain the blood pressure lying down. Then have the patient stand upright (he or she may use you or an object nearby for support), wait at least 2 minutes, take the blood pressure again, and compare the two values. Up to 5% of elderly patients have artifactual hypertension. Atherosclerotic hardening of the brachial arteries may artifactually raise the blood pressure as much as 10 - 20 mmHg.

Heart rate. Bradycardia (heart rate < 60 bpm) is common in the elderly. Atrial fibrillation, also occurring with increased frequency in older adults, presents as an irregular rhythm detectable by checking the pulse. Use the radial or carotid artery.

Respiratory rate. Becomes clinically significant when it rises above 20 - 24 breaths per minute. Increased rate may be the first sign of lower respiratory tract infection.

Temperature. Elderly patients not uncommonly have lower than average core temperatures. This is important, since an elderly patient presenting with an infection may actually be "febrile" with an oral temperature of 98.6° F if their baseline temperature is 96.0° F.

Height & Weight
Anthropometric measurements are an essential part of geriatric evaluation because of the high prevalence of nutritional disorders (obesity and malnutrition) in this population. An unintentional sustained weight loss of 10% or more requires further diagnostic evaluation.

Head
Check for frontal bossing (Paget's disease), temporal artery tenderness (temporal arteritis), and asymmetrical facial or extraocular muscle weakness or paralysis (stroke).

Eyes
Check for impaired visual acuity (using pocket Jaeger chart and with patient's corrective glasses on), ocular lens opacification (cataracts), and fundoscopic abnormalities (glaucoma, macular degeneration).

Ears
Check for hearing loss (patients' response to whispered commands), cerumen in auditory canals, and faulty or ill-fitting hearing aid.

Mouth and throat
Remove and inspect dentures. Check for mucosal dryness (xerostomia), dental and periodontal disease, cancerous and precancerous lesions (eg, leukoplakia).

Neck
Check for thyroid enlargement and nodularity (hypo- and hyperthyroidism, and for carotid pulses and bruits (aortic stenosis and cerebrovascular disease).

Cardiac
Check for S4 (left ventricular thickening) and systolic ejection and regurgitant murmurs (valvular arteriosclerosis).

Pulmonary
Exaggerated dorsal kyphosis in elderly women with osteoporosis may mimic the barrel chest of a patient with emphysema.

Breasts
Nearly half of breast carcinomas occur in elderly women. Replacement of glandular tissue with fatty and fibrous tissue may make findings on physical exam confusing. Fortunately, it also improves the sensitivity of mammography.

Abdomen
Check for presence of abdominal aortic aneurysm that can be palpated as a pulsatile mass, typically greater than 3 cm across.

Genital/Rectal
Check for atrophy of the vaginal mucosa; bladder, uterine or rectal prolapse; and urinary leakage. Obtain a Pap smear if patient has not had two negative smears within the past three years. Ovaries are not palpable in elderly women, meaning any adnexal mass is suspicious for cancer. Prostate nodules, rectal masses and/or occult blood may be the first signs of prostate or colorectal cancer.

Extremities
Check for Heberden's nodes at distal interphalangeal joints (osteoarthritis), diminished or absent lower extremity pulses (peripheral vascular disease), pedal edema (venous insufficiency, congestive heart failure), and abnormalities of the feet (onychomycosis, bunions, pallor, and skin atrophy).

Musculoskeletal
Check for muscle wasting (atrophy), dorsal kyphosis and vertebral tenderness (osteoporosis), diminished range of motion (arthritis) and pain.

Skin
Check for premalignant lesions (actinic keratoses), squamous and basal cell carcinomas and malignant melanoma; skin over pressure points for erythema and ulceration (pressure sore) in immobilized patients; unexplained bruises (elder abuse).

Neurologic
Perform mental status examination (cognitive impairment). Check for ataxia, postural sway (patient stands with feet together and closes eyes), and lower extremity weakness (sitting in and rising from chair), all of which may contribute to falls. Check for tremor (with rigidity and diminished facial expression, may represent Parkinson's disease.)

Functional Examination

Health is considerably more than absence of active disease. It is the height of impertinence to tell a patient that her medications are compensating well for her heart failure when she has just told you that she is distressed by her continuing inability to play with her grandchildren. Keeping blood sugar "within normal limits" is immaterial to a patient whose diabetic retinopathy makes it impossible for him to fix his own meals. Clinical parameters such as oxygen saturation and blood glucose are never the endpoints in the care of patients. What matters is how well patients function in the life they wish to lead. Nowhere is this concept more relevant than in geriatrics.

The functional assessment has become an indispensable part of the geriatric assessment, for a number of reasons: (1) As patients live longer with chronic incurable conditions, they survive longer periods with functional impairments that require some sort of medical and social response. (2) Our society places great emphasis on autonomy and independence, both of which are directly threatened by functional disability. (3) In the geriatric patient, the first sign of a medical problem is

commonly manifest as a change in functional status. (4) From a cost-of-care standpoint, effective medical management is that which takes into account total function rather than revolving around crisis management of recurrent, acute symptoms.
Many options exist for assessment of functional status in the geriatric patient. The simplest is direct examination of a specific capability. For example, if you need to know whether your diabetic patient is capable of checking his own blood sugar at home, the best way to find out is to watch him while he goes through the steps of doing this in his hospital room or in your office. More extensive evaluations of function can involve physical therapy for assessment of ability to use a walker, or occupational therapy for assessment of safety in the kitchen.

Activities of Daily Living

When a patient is admitted to the hospital or other facility such as a nursing home, the staff will want to know immediately how much assistance the patient will need for their Activities of Daily Living . The ADLs are self-care activities that people must accomplish to survive independently. They include bathing, dressing, toileting, transferring, continence and feeding. The sequence is not arbitrary; patients generally lose these skills in that order and they are regained in the reverse order during rehabilitation. Patients who cannot perform these tasks usually require caregiver support 12 to 24 hours per day. Other ADLs include communication, grooming, visual capability, walking and the use of the upper extremities. Independent functioning is based on actual status and not ability. Patients who refuse to perform a function are considered not able to perform the function even though they are able.

Instrumental Activities of Daily Living

When a discharge home is anticipated, it becomes important to determine how the patient functions in terms of their Instrumental Activities of Daily Living. IADLs are those higher-level activities people must perform in order to remain independent in a house or apartment. They include the functional ability to shop, prepare food, clean house, do laundry, drive or use public transportation, administer medications, and handle finances. These activities are bit more subjective than the ADL's since they are more complex and involve a person's interaction with his or her environment. An example of the distinction between ADL and IADLs is the ability to simply eat a meal versus the ability to prepare it.
Like some other assessment tools, the ADLs and IADLs are best left unscored. They seem to be most useful when incorporated, without numerical interpretation, into the overall assessment picture. For example, if a physician determines that one or more of a patient's ADLs or IADLs are deficient, he or she would take steps to determine whether or not the patient has sufficient caregiving support and is linked with an adequate social network. If not, then the patient's functional impairment becomes an item on the problem list. You will find ADL and IADL instruments in your DGA.

Problem List

As practitioners collect assessment data, they need to record it in such a way that all members of the team can quickly and confidently access the information. Traditionally, practitioners generate a problem list for this purpose. The entries include any disease, syndrome, or event requiring new or ongoing attention by anyone caring for the patient. Unlike most conventional problem lists, the geriatric

assessment list needs to include (1) the medical, nutritional, functional and social implications, and (2) proposed intervention targets.

A 78-year-old woman, for example, is recovering from a stroke in an acute care hospital. She is left with persistent right upper and lower extremity weakness and mild dysarthria (difficulty speaking). Physical and occupational therapy have already evaluated her, and she wishes to return home.

After performing an evaluation of this woman, the team might generate an expanded version of the sample problem list on the following page for each problem. You and your partner will develop a problem list after each of your site visit assessments.

Abbreviated Problem List

Condition	**Medical**	**Nutritional**	**Functional**	**Social**
Stroke	Risk of recurrence; BP control; other CVD complications; falls and risk of anticoagulation	Aspiration risk; can't purchase or prepare food; hypertension, obesity	Able to use telephone; wheelchair bound; cannot safely bathe herself; can take own meds; cannot pick up own prescriptions	Lives alone; bathroom too small; doorways too narrow for wheelchair; no immediate help in medical emergency; isolated with limited family support; frightened and pessimistic about future
Inter-ventions	• No coumadin, daily aspirin only • Adjust BP meds to avoid orhtostatic hypotension • Daily home health aide for close BP monitoring	• Soft diet • Low calorie, low fat, low Na+, high K+ • Arrange meal delivery program	• Daily home health aide • Arrange for medication delivery service	• Monitor for signs of depression • Contact daughter, arrange for frequent visitations • Arrange for carpentry work • Daily home health aide • Register for emergency medical service

Additional entries could include other prominent medical and social problems including dementia, depression, polypharmacy, lack of preventive care, terminal illness and fixed income.