

# Practical Functional Assessment of Elderly Persons: A Primary-Care Approach

The following is abstracted from:

Fleming KC, Evans JM, Weber DC and Chutka DS. *Practical Functional Assessment of Elderly Persons: A Primary-Care Approach*. Mayo Clinic Proceedings 1995; 70:890-910.

“Studies have shown that use of formalized comprehensive geriatric assessments can result in improved survival, reduced hospital and nursing home stays, decreased medical costs, and improved functional status. In addition, geriatric assessment can help in determining patient placement, assistance needed for daily activities, selection of medications, and prognosis. This paradigm shift of care – from disease-oriented to function-oriented assistance – entails knowledge of social, cognitive, and mobility factors that are seldom considered within the scope of traditional medical practice. Older persons can benefit from this change in focus. Small improvements in functional, psychologic, or cognitive abilities may provide substantial benefits in the patient’s quality of life.”

**Table 1 – Activities of Daily Living That Should be Assessed in Elderly Patients**

Basic (self-care) (mnemonic “DEATH”) Dressing Eating Ambulating Toileting Hygiene
Instrumental (community interactions) (mnemonic “SHAFT”) Shopping Housework Accounting Food preparation Transportation

## Mobility

“For the Get Up and Go Test, no score is tallied; results are considered normal if none of the gait abnormalities is present. Undue slowness, hesitancy, unsafe maneuvers, excessive truncal sway, grabbing for support, and stumbling are additional abnormalities that indicate gait and balance problems. Severe abnormalities are considered present if the subject appears at risk for a fall at any time during the test. Although no norms have been established, timing the Get Up and Go Test facilitates serial comparisons. Indeed, self-selected gait speed is the single greatest predictor of self-perceived function and overall physical performance in a wide range of abilities.”

**Table 2 – The “Get Up and Go” Test for Gait Assessment in Elderly Patients**

Have the patient sit in a straight-backed high-seat chair

Instructions for patient

- Get up (without use of armrests, if possible)
- Stand still momentarily
- Walk forward 10 ft (3 m)
- Turn around and walk back to chair
- Turn and be seated

Factors to note

- Sitting balance
- Transfers from sitting to standing
- Pace and stability of walking
- Ability to turn without staggering

**Balance**

“In addition to the Get Up and Go Test, disorders of standing balance can be detected by using a modified Romberg test, in which the standing patient performs tasks of increasing difficulty, first with the eyes open and then with the eyes closed (Fig. 1). With each successive maneuver, stability is observed and the patient is asked, “Do you feel steady?” Thus, balance can be roughly estimated, and the maneuvers may help identify causative factors (for example, osteoarthritis, peripheral neuropathy, foot problems, atherosclerosis, weakness, stroke, pain, or contractures). For patients who are nonambulatory or who demonstrate gait impairments, ability to transfer from one surface or level to another should be assessed. Direct observation of sitting balance, transfers, and pivoting maneuvers can yield added information on strength, safety, and level of independence.”

**Figure 1.**

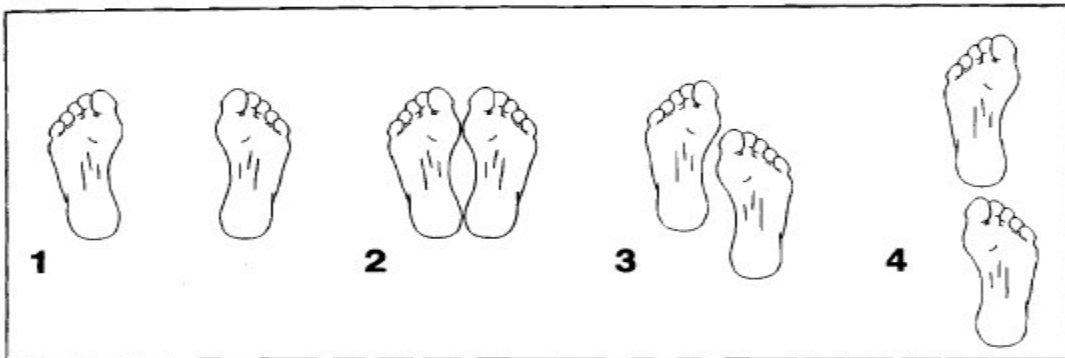


Fig. 1. Diagram of maneuvers to assess balance in elderly persons with use of modified Romberg test: (1) patient standing, feet comfortably apart (eyes open and then eyes closed); (2) feet together (eyes open and then closed); (3) feet placed heel to instep (eyes open and then closed); and (4) feet placed heel to toe (eyes open and then closed). Patient is asked, “Do you feel steady?” with successive stress changes. Testing is discontinued when instability is first noted.

“The Functional Reach Test is another simple tool for assessing balance (Fig. 2). A patient standing with one shoulder close to a wall is asked to extend the fist along the wall directly frontward. With the fist extended, the subject then leans forward as far as possible without taking a step or losing stability. The patient should be able to move the fist forward at least 6 in (15 cm); shorter distances indicate a substantial risk for falling.”

**Figure 2.**

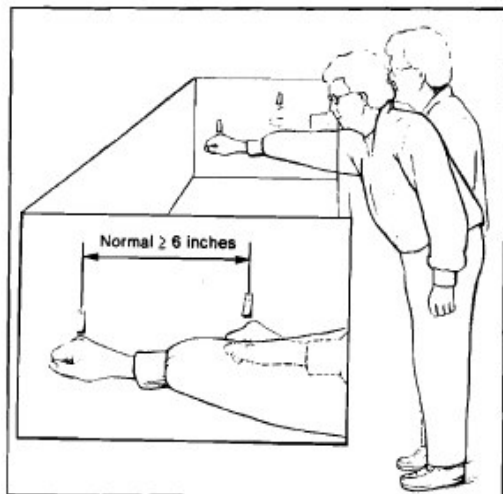


Fig. 2. Diagram of Functional Reach Test to assess balance in elderly persons. Subject stands with fist extended alongside a wall. Subject leans forward as far as possible, moving fist along wall without taking a step or losing stability. Length of fist movement is measured. Distances of less than 6 in (15 cm) indicate an increased risk of falling.

### **Shoulder Function**

“A simple screening measure of shoulder function includes inquiring about the presence of pain and observing ROM of the shoulder. The patient is asked to put both hands together in back of the waist and then behind the head (Figure 3). Any pain or limitations in shoulder mobility should prompt a more complete examination.”

**Figure 3**

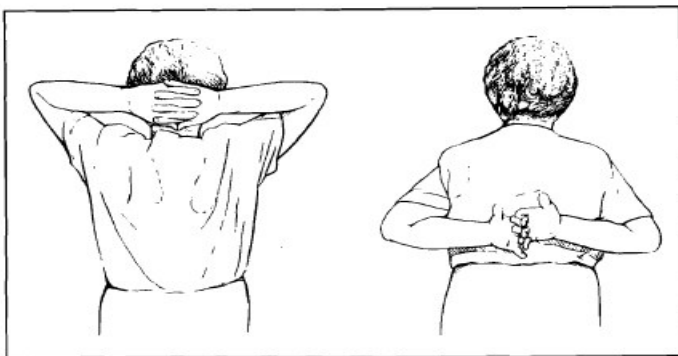


Fig. 3. Diagram of simple test of shoulder range of motion in elderly persons. *Left*, Subject is asked to put both hands together in back at waist level. *Right*, Subject is asked to put both hands together behind neck.

## **Hand Function**

“As a simple measure of grasp strength, the patient can be asked to squeeze two of the examiner’s fingers with each hand. Pinch strength can be assessed by having the patient firmly hold a piece of paper between the thumb and index finger while the examiner tries to pull the paper out. For a more direct test of dexterity and performance, the patient can be asked to pick up a penny, spoon, or toothbrush from a table (or, while seated, from the floor). Observation of the patient’s attempt to write a sentence as part of the Folstein Mini-Mental State Examination (MMSE – discussed in the next section) provides similar information.”

## **Cognitive Function**

Refer to Psychiatry Curriculum and Psychiatry Portfolio.

## **Vision**

“For the primary-care physician, sparse literature is available on the appropriate questions for screening for functional visual impairments. Useful factors for assessment are summarized in Table 3. Overall, the degree of visual impairment seems best assessed by its influence on the patient’s functional abilities, such as the ADLs. Any vision-related complaint suggests the need for formal ophthalmologic evaluation. A brief globe and fundus examination and simple standard confrontative visual field assessment can help identify specific ophthalmologic problems. These studies, however, can be difficult in the elderly population and are of unproven clinical utility as screening tools in patients who do not complain of visual problems.”

**Table 3 – Assessment of Functional Impairment of Vision in Elderly Patients.**

Diplopia, scotoma, eye pain  
Difficulty driving (glare, night vision problems)  
Inability to read, watch television, or do close handiwork  
Sudden or recent visual loss (central, partial, or complete)  
Occupational or lifestyle restrictions

## **Hearing**

“Otoscope examination for cerumen or serous otitis is essential and should be done before any testing for hearing loss. Cerumen obstruction commonly contributes to hearing loss, and its removal can dramatically improve acuity. Hearing acuity can be tested by simple methods such as asking the patient to identify the sound of a ticking watch or the presence of two fingers rubbing together by the ear. Difficulties with speech comprehension can be evaluated by whispering 10 words while standing 6 in (15 cm) behind the patient (the “whisper test”). An inability to repeat 50% of the words can identify those patients who may have poor results with

hearing aid because of dysfunctional auditory processing. Tuning forks are of limited utility in assessing auditory acuity.

Bone and air conduction can be assessed in patients with hearing loss by first placing a 256-Hz tuning fork base on the mastoid process (bone conduction) and then positioning the tines close to the ear (air conduction) and asking the patient which is louder. Waiting for the sound to fade is of doubtful added significance, as is assessing for lateralization. Normally, air conduction is louder than bone conduction. If hearing acuity is poor and sound conduction is normal, the patient most likely has presbycusis. The patient should then be referred for audiometry for further quantification of hearing loss.”

## **Continence**

“Because of embarrassment and worry about appearance and odor, or perhaps because of a perception that the condition is untreatable or is a normal accompaniment of aging, patients may not report incontinence unless directly asked by the physician. Some simple questions can easily introduce the subject (Table 4). Judgmental questions should be avoided – for example, “Do you ever wet yourself?” or “Do you wear a diaper?” Clinicians may find that repeated inquiries may be necessary before a patient will identify UI as a problem.”

**Table 4- Urinary Incontinence: Simple Questions to Ask Elderly Patients.**

- Do you ever leak urine?
- Do you have trouble holding your urine?
- Do you ever lose urine when you don’t want to?
- Does urine come out by itself – such as when you cough, laugh, or have the urge to urinate?

## **Nutrition**

“Perhaps the most useful indicators of nutritional status in elderly patients are a loss of weight from baseline or the development of anorexia. Weight loss of more than 5% of total body weight (or 5 lb [2.3 kg]) in 1 month or more than 10 lb [4.5 kg] in 6 months is significant. Because self-reported weights can be inaccurate, the weights of elderly patients should be regularly recorded (on each visit or every 6 to 12 months) to document any weight loss.”

## **Depression**

Refer to Psychiatry Curriculum and Psychiatry Portfolio.

## Alcoholism

“The CAGE questionnaire is portable, effective, and non-threatening, especially when coupled with a nonjudgmental, open-ended introduction. The positive predictive value with two or more affirmative answers exceeds 75% in elderly patients, although even one positive reply may warrant further inquiry.”

**Table 5- Screening for Alcoholism in Elderly Patients  
Use of the “CAGE” Mnemonic**

*Cut down*

Have you tried to cut down on your drinking?

*Annoyed or angered*

Have others annoyed or angered you by criticizing your drinking?

*Guilty*

Have you ever felt guilty about your drinking?

*Eye-Opener*

Have you used alcohol to steady your nerves or to reduce the effects of a hangover?

Table 7.—Summary of Practical Functional Assessment in Elderly Patients\*

Key area	Assessment	Target population	The next step
ADLs	Basic and instrumental ADLs (see Table 1) Timing and circumstances surrounding losses	All older adults; those with dementia, suspected functional decline, or possible need for home care or nursing home placement	With impairments, consider underlying or contributory cognitive, neurologic, or musculoskeletal disorders; assistance or adaptive equipment; and physical therapy
Mobility	Gait—ask about falls and fear of falling; observe transfers; “Get Up and Go” Test Balance—modified Romberg maneuver; Get Up and Go Test; Functional Reach Test  Shoulder function—ask about pain or painful activities; have patient put hands together behind head and behind waist  Hand function—have patient squeeze 2 fingers of examiner with each hand (tests grasp strength); squeeze paper between thumb and index finger while examiner tries to pull it out (tests pinch strength); pick up a penny, spoon, or toothbrush or write a sentence (tests dexterity)	All older adults; those with history of falls or indeterminate “spells”	Gait training Exercise, balance training (Tai Chi) Gait aids (cane or walker) Home safety assessment Consider physiatry consultation Treat underlying or contributory neurologic and musculoskeletal disorders Test hand function and upper extremity strength Consider x-ray studies Physical therapy (ROM, pain-relief modalities, and strengthening) Consider adaptive equipment, injections, or pain medications Test upper extremity strength Treat underlying or contributory neurologic and musculoskeletal disorders Consider x-ray studies Physical therapy (ROM, pain-relief modalities, and strengthening) Assess ADLs Consider adaptive equipment
Cognitive function	Folstein MMSE Clock-drawing ADLs Formal psychometrics	Patients >80 yr of age; nursing home residents; hospitalized elders; those with depression, delirium, new living situations, or impairments of ADLs	Perform evaluation for possible reversible causes Modify medications to remove or reduce exacerbating factors Discuss potential legal, financial, and psychosocial implications of the diagnosis Consider tacrine in mild or early disease Consider concurrent depression Discuss placement and advance directives
Vision	Read a newspaper headline and sentence; test vision with Snellen or Jaeger acuity chart	All older adults	Refer to ophthalmology Low-vision aids Adequate lighting Adaptive equipment Test gait and mobility
Hearing	Listen for rubbing fingers or ticking watch; the “whisper test”	All older adults	Refer for formal audiometry ENT evaluation Hearing aids Portable amplifier If both hearing and visual loss, test gait and mobility
Continence	Ask about incontinence	All older adults (twice as frequent in women)	Request incontinence diary to improve history Formal evaluation of incontinence Kegel exercises, fluid and voiding schedule, biofeedback, pessaries

Table 7.—Continued\*

Key area	Assessment	Target population	The next step
Nutrition	Inquire about weight loss and loss of appetite; establish baseline weight to substantiate actual loss	All older adults	Measure weight serially ENT, abdominal, rectal, neurologic, and CV examinations (for cause) Add nutritional supplement (such as instant breakfast) Discontinue or reduce contributing drugs Advise eating with friends or family to reduce isolation effect Consider abuse or neglect
Depression	Ask about depression Use Yesavage scale (see Appendix II)	Patients with bereavement, psychosocial losses, dementia, recent functional impairments, severe illness, or surgical procedures	DSM-IV criteria Anticipate depressive symptoms in at-risk elderly patients to increase awareness Consider counseling (if cognitively intact) or medication Consider psychiatric consultation if diagnosis is difficult, depression is severe, or patient is refractory to therapy Consider abuse or neglect
Alcohol abuse	ADLs Interview CAGE (see Table 5) or MAST (see Appendix III)	Hospitalized patients, psychiatric inpatients, those with new functional impairments, delirium, dementia, new nursing home admission, or associated clinical clues	Keep a high index of suspicion Advise complete abstinence Offer to arrange formal dependency counseling or AA assistance Add multivitamins with thiamine In dementia, use a substitute (for example, no-alcohol beer) Consider abuse or neglect
Needs assessment	Review risk factors Assess ADLs Interview family and caregivers Assess caregiver capacity and burden—Zarit Burden Interview (see Appendix IV) or Caregiver Strain Index (see Appendix V) Nursing or social work interview	See Table 6	Arrange for home assistance, adaptive equipment, home meal service, home nursing care, adult day care or respite services, hospice care, or rehabilitative services Seek social worker input Simplify medicines Advise firm plans for future care Consider abuse or neglect Discuss advance directives

\*AA = Alcoholics Anonymous; ADLs = activities of daily living; CAGE (see Table 5); CV = cardiovascular; DSM-IV = *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition; ENT = ear, nose, and throat; MAST = Michigan Alcoholism Screening Test; MMSE = Mini-Mental State Examination; ROM = range of motion.