

SGIM Annual Meeting 2009

Session WE03

Title: Geriatric Clinical and Educational Skills Workshop

Schedule: Friday, May 15 2009 2:00PM - 3:30PM

Room: Flash Room, 4th Floor

Station 1: Falls and Gait Assessment

Station 2: Cognitive Screening

Station 3: Writing an Exercise Prescription

Station 4: Driving Risk Assessment

Station 5: Hazards of Hospitalization

**Faculty:**

Peter Boling

Hollis Day

Anne Fabiny

Helen Kao

Sharon Levine

Gail Sullivan

Eric Widera

**Online Geriatric Resources**

Portal of Geriatric Online Education

Geriatric Education Centers

Academic Geriatric Resource Center

Care of Hospitalized Aging Medical Patient

Yale Hospital Elder Life Program

<http://www.pogoe.org>

<http://bhpr.hrsa.gov/geriatric/resources/HRSAdefault.asp>

[http://www.ucsfagrc.org/curriculum\\_home.html](http://www.ucsfagrc.org/curriculum_home.html)

<http://champ.bsd.uchicago.edu/>

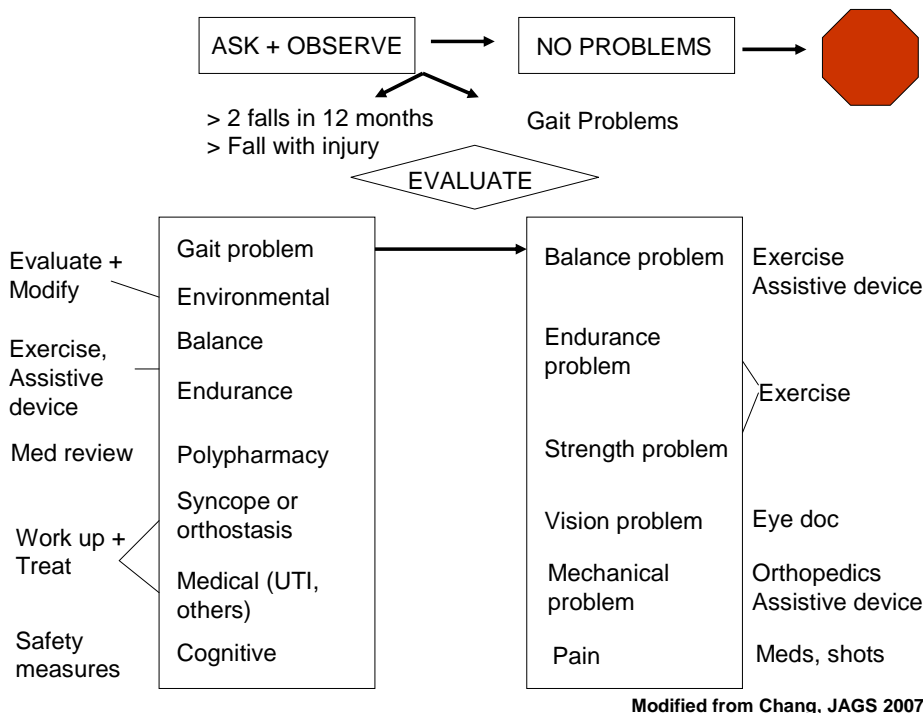
<http://elderlife.med.yale.edu>

**Station 1: Falls and Gait Assessment** (Peter Boling MD, Sharon Levine MD)

- 1) Review case scenarios
- 2) Observe video clips
- 3) Generate differential diagnosis
- 4) Propose action plan

**2009 Joint Commission National Patient Safety Goal # 9**  
**Reduce the risk of patient harm resulting from falls**

- ▶ **NPSG.09.02.01:** The organization implements a fall reduction program that includes an evaluation of the effectiveness of the program.
  - *Applies to: Critical Access Hospital, Disease-Specific Care, Home Care, Hospital, Long Term Care*
- ▶ All applicable Goals & Requirements, or acceptable alternative approaches, must be implemented.
- ▶ Surveyors evaluate the actual performance, not just the intent of meeting the Goals and Requirements.
- ▶ NPSG Requirements are scored as either Compliant or Not Compliant.
- ▶ Failure to comply with a NPSG Requirement will result in a “Requirement for Improvement” (RFI).
- ▶ [www.jointcommission.org](http://www.jointcommission.org)



## FALLS IN THE ELDERLY

### ❖ Epidemiology of non-syncopal falls

- Event that results in a person inadvertently coming to rest on the ground or other lower level (*not* as a result of loss of consciousness).
- Common: one-third of community-dwelling elderly and 50% of institutionalized elderly fall; 50% who fall do so more than once.
- Mortal and morbid: accidents are the seventh leading cause of death in the elderly, and such accidents are mostly due to falls (men >> women); 5-10% of falls result in serious soft-tissue injury; 5% result in fracture, 1% result in hip fracture; 3% of fallers have a long lie, 50% can't get up without help; 40-73% of fallers develop fear of falling, 41-43% curtail activities; falls are a strong predictor for NH placement.

### ❖ Pathophysiology

- Almost always multi-factorial involving an interaction of intrinsic and environmental factors.
- Intrinsic factors: sensory deficits, orthostatic hypotension, gait and balance changes, musculoskeletal changes, cognitive impairment, and medications.
- Environmental factors: poor lighting, clutter, loose rugs, ill-fitting clothes, wires, wet floors, etc.

### ❖ History

- What, where, when, why? (including environment)
- Premonitory symptoms?
- Problems with gait and balance?
- Incontinence? (slip and fall)
- Chest pain? (arrhythmia or ischemia)
- Hearing, eyesight, sensation, memory problems, depression
- Drug/ETOH abuse?
- Ask family
- Medications—over-the-counter and prescribed

### ❖ Physical exam

- Postural BP
- Skin turgor
- HEENT—visual acuity, gaze preference, nystagmus, visual fields, hearing, carotid bruits, ROM at neck
- Chest—rales, egophony
- Cardiac—AS murmur, rhythm, gallops
- Extremities—corns, calluses, bunions, long nails, ill-fitting or unevenly worn shoes, ulcers
- Neuro—MSE, focal motor deficits, proprioception and vibration, "Get Up and Go" or Tinetti Gait and Balance

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### ❖ Labs and diagnostic evaluation (as indicated)

- CBC—infection, anemia
- Electrolytes, BUN, creatinine — volume status
- Glucose—diabetes or hypoglycemia
- Calcium—delirium
- Vitamin B<sub>12</sub> — peripheral neuropathy, dementia
- Thyroid function tests if none recently
- Urinalysis — R/O infection PRN (often)
- Electrocardiogram—arrhythmia, MI
- Chest x-ray—CHF, pneumonia
- CT/MRI Head—SDH, hydrocephalus, tumor
- Toxicology screen and ETOH level (PRN)
- Echocardiogram— if valve lesion if suspected

### ❖ Management

- Ask about falls routinely
- Weigh risks and benefits of meds
- Review all over-the-counter and prescription meds
- Treat orthostatic hypotension: adjust meds, mineralocorticoids, graded-pressure hose
- PT and OT for assistive devices and gait training
- Strength and balance training
- Instruct patient how to arise from a fall
- Home assessment for environmental hazards

Gait abnormalities have multiple potential contributors, but of particular note are:

- Mechanical and neurological
- Assessment: make a special point to watch your older patients walk!
- Focused attention to: ability to rise, strength, step length and step height, arm swing, fluidity of motion, posture, balance when turning, Romberg
- Neurologic: stroke, Parkinson's, NPH, peripheral neuropathy (and others)
- Orthopedic: hip and knee arthritis and bursitis, scoliosis, spinal stenosis, evidence of pain with walking
- Foot and shoe problems

## Literature

Sherrington C, Whitney JC, Lord SR, Herbert RD, Cumming RG, Close JCT. Effective Exercise for the Prevention of Falls: A Systematic Review and Meta-Analysis. *JAGS* 56:2234–2243, 2008

17% reduction overall, highly significant result

Garwood CL, Corbett TL. Use of Anticoagulation in Elderly Patients with Atrial Fibrillation Who Are at Risk for Falls. *Annals of Pharmacotherapy*. 2008; April, Volume 42:523

Falls (if < 300/year) are not a reason a priori to stop warfarin in A-fib patients

Gates S, Lamb SE, Fisher JD, Cooke MW, Carter YH. Multifactorial assessment and targeted intervention for preventing falls and injuries among older people in community and emergency care settings: systematic review and meta-analysis. [BMJ](#). 2008 Jan 19;336(7636):130-3. Epub

Results vary from study to study and it matters how you operate your falls program

Hartikainen S, Lonnroos E, Louhivuori K. Medication as a Risk Factor for Falls: Critical Systematic Review *Journal of Gerontology: Medical Sciences*. 2007. 62A(10):1172–1181

Benzodiazepines, other CNS meds strongly associated, others weak/less studied

Chang JT, Ganz DA. Quality Indicators for Falls and Mobility Problems in Vulnerable Elders *JAGS* 55:S327–S334, 2007

Evidence review, includes useful flow diagram for fall evaluation

Bischoff-Ferrari HA, Willett WC, Wong JB, et al. Fracture Prevention With Vitamin D Supplementation: A Meta-analysis of Randomized Controlled Trials. *JAMA*. 2005;293(18):2257-2264

Vitamin D at doses of 700-800 units per day reduce fall risk

Tinetti ME et al. A multifactorial intervention to reduce the risk of falling among elderly people living in the community. *NEJM* 1994;331:821-827

Falls can be reduced 30% with a robust multi-faceted strategy, landmark study

Leipzig RM, Cumming RG, Tinetti ME. Drugs and falls in older people: A systematic review and meta-analysis; I) Psychotropic drugs. *J Am Ger Soc* 1999;47:30-39 and Leipzig et al. Drugs and falls in older people: a systematic review and meta-analysis; II) Cardiac and Analgesic Drugs. *J Am Geri Soc* 1999;47:40-50

## **Station 2: Cognitive Screening** (Anne Fabiny MD, Eric Widera MD)

**Station objectives:** by the end of the station, participants will be able to

- Identify at least 5 benefits of the early diagnosis of dementia
- Use and interpret at least 3 different cognitive screening tools
- Identify evaluation

**Activity:** Participants will be asked to review the possible benefits and burdens of cognitive screening in the elderly. Participants will then learn 2 quick alternatives to the Mini Mental Status exam that can be performed quickly in the outpatient setting. Finally they will practice at least one of these tests with another participant.

### **Handouts:**

- USPSTF Recommendations for Screening
- Brief Screening Tests Instructions

### **Bibliography:**

- Borson S, Scanlan J, Brush M, Vitaliano P, Dokmark A. The mini-cog: a cognitive: “vital signs” measure for dementia screening in multi-lingual elderly. *Int J Geriatr Psychiatry* 2000;15(11):1021-1027.
- Folstein M, Folstein S, McHugh P: Mini-mental state: A practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res.* 1975;12:189-198.
- Sands L, Yaffe K, Covinski K, et al. Cognitive screening predicts magnitude of functional recovery from admission to 3 months after discharge in hospitalized elders. *Journal of Gerontology: Medical Sciences* 2003;58: 37-45.
- Boustani M, Peterson B, Hanson L, Harris R, Lohr K. Screening for Dementia in Primary Care: A Summary of the Evidence for the U.S. Preventive Services Task Force. *Ann Int Med* 2003;138;927-37.
- M. Olafsdottir, I. Skoog, and J. Marcusson. Detection of dementia in primary care: the Linkoping study *Dement Geriatr Cogn Disord* 2000. 11: 223-229
- S.A. Sternberg, C. Wolfson, and M. Baumgarten. Undetected dementia in community-dwelling older people: the Canadian Study of Health and Aging *J Am Geriatr Soc* 2000. 48: 1430-1434. (PubMed)
- V. Valcour, K. Masaki, J. Curb, and P. Blanchette. The detection of dementia in the primary care setting *Arch Intern Med* 2000. 160: 2964-2968.
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- Holsinger T, Deveau J, et. al. Does This Patient Have Dementia? *JAMA.* 2007;297;2391-2404.
- Leifer BP. Early Diagnosis of Alzheimer’s Dementia: Clinical and Economic Benefits. *J Am Geriatr Soc* 2003. 51;S281-S288.

## Background

Dementia is a common and often unrecognized illness. There are over 4 million people with dementia in the US, a number that is projected to grow to 14 million by 2050. Age is the strongest risk factor for dementia; at age 65 the prevalence is 8-12% and at age 85 the prevalence is nearly 30-50%.

## U.S. Preventive Services Task Force (USPSTF) Recommendations

- **USPSTF concludes that the evidence is insufficient to recommend for or against routine screening for dementia in older adults.**
  - **Rating: [I Recommendation](#).**
  - *Rationale:* The USPSTF found good evidence that some screening tests have good sensitivity but only fair specificity in detecting cognitive impairment and dementia. There is fair to good evidence that several drug therapies have a beneficial effect on cognitive function (equivalent to delaying the natural progression of Alzheimer's disease from 2 to 7 months), but the evidence of their beneficial effects on instrumental activities of daily living is mixed, with the benefit being small, at best. There is insufficient evidence to determine whether the benefits observed in drug trials are generalizable to patients whose disease would be detected by screening in primary care settings. The accuracy of diagnosis, the feasibility of screening and treatment in routine clinical practice, and the potential harms of screening (e.g., labeling effects) are also unknown. The Task Force therefore could not determine whether the benefits of screening for dementia outweigh the harms.
- **Clinical Considerations from the USPSTF**
  - The Mini-Mental Status Examination (MMSE) is the best-studied instrument for screening for cognitive impairment. When the MMSE is used to screen unselected patients, the predictive value of a positive result is only fair. The accuracy of the MMSE depends upon a person's age and educational level: using an arbitrary cut-point may potentially lead to more false-positives among older people with lower educational levels, and more false-negatives among younger people with higher educational levels. Tests that assess functional limitations rather than cognitive impairment, such as the Functional Activities Questionnaire (FAQ), can detect dementia with sensitivity and specificity comparable to that of the MMSE.
  - Early recognition of cognitive impairment, in addition to helping make diagnostic and treatment decisions, allows clinicians to anticipate problems the patients may have in understanding and adhering to recommended therapy. This information may also be useful to the patient's caregiver(s) and family member(s) in helping to anticipate and plan for future problems that may develop as a result of progression of cognitive impairment.
  - Although current evidence does not support routine screening of patients in whom cognitive impairment is not otherwise suspected, clinicians should assess cognitive function whenever cognitive impairment or deterioration is suspected, based on direct observation, patient report, or concerns raised by family members, friends, or caretakers.

## Benefits of Early Diagnosis of Cognitive Impairment

- **Correction of Reversible Dementias** (probability in finding a truly reversible cause is less than 1.5%)
  - Thyroid disease
  - Vitamin B12 Deficiency
  - Neurosyphilis
  - Normal Pressure Hydrocephalus
- **Correction of contributing factors:**
  - Treatment or elimination of contributing factors
    - Depression
    - Delirium
      - Eliminating or limiting drugs with CNS activity
    - Control of Vascular Dementia risk factors
- **Pharmacological Interventions**
  - Cholinesterase inhibitors: donepezil, rivastigmine, and galantamine
  - Memantine
- **Improve Functional Autonomy**
  - Help with IADLs and ADLs
    - Homemaking services
    - home health aide services
    - Visiting nurses
    - Meal on Wheels
- **Improve Safety**
  - Home Safety Evaluation
  - Removal of guns and other dangerous items
  - Fall Assessment
  - Dementia reportable to DMV
  - Safe Return program
- **Lower Care Giver Stress**
  - helps prevent mistreatment of patients and possibly decreased institutionalization
  - respite care
  - Adult Day Health
  - referral to available support services (eg, Alzheimer's Association support groups, social workers, aging services)
- **Help with Advance care planning:**
  - Medical planning – must determine decision-making capacity; can fundamentally shift goals of care; name HCP while patient is still able to do so
  - Financial planning – name power of attorney

## Brief Screening Tests

### 1. Mini-Cog

- similar sensitivity to MMSE
- overall accuracy of classification equal to MMSE
- sensitivity and specificity not affected by low literacy or low education
- Advantage is that it is faster to administer
- Disadvantage: doesn't tell you about severity

### MINI-COG

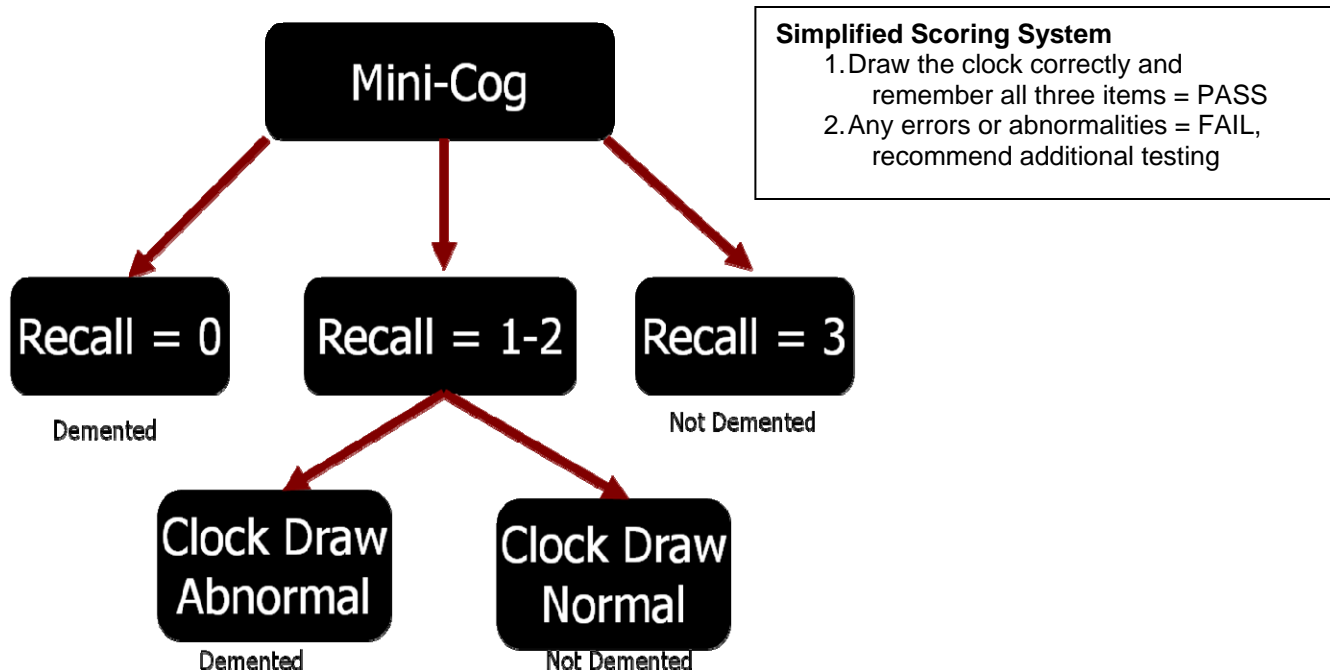
1. Instruct patient to listen carefully to and remember 3 unrelated words and then to repeat the words.
2. CDT distractor: Instruct the patient to draw the face of the clock, either on a blank piece of paper, or on a sheet with the clock circle already drawn on the page. After the patient puts the numbers on the clock face, ask him or her to draw the hands of the clock to read a specific time (11:20). The instructions may be repeated but no additional instructions should be given. Give the patient as much time as needed to complete the task
3. Ask the patient to repeat the 3 previously presented words

SCORING: Give 1 Point for each recalled words after the CDT distractor

- A score of 0 is a positive test
- A score of 1-2 with an abnormal CDT is a + test
- A score of 1-2 with a normal CDT is a – test
- A score of 3 is a negative screen for dementia

*\*The CDT is considered normal if all the numbers are present in the correct sequence and position, and the hands display the requested time.*

Borson S, et al. Int J Geriatr Psychiatry 2000;15:1021-1027



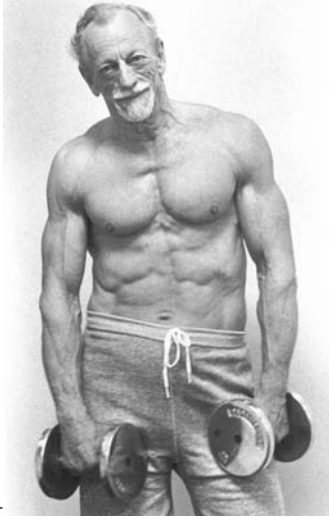
## 2. Clock Draw Test

- Instructions:
  - “Draw the face of a clock. I’ll then ask you to indicate a time after you are done.”
  - Ask the patient to draw in the hands at ten minutes after eleven or twenty minutes after eight.
- Scoring:
  - Draws closed circle: 1 point
  - Places numbers in correct position: 1 point
  - Includes all 12 correct numbers: 1 point
  - Places hands in correct position: 1 point
- Interpretation:
  - Clinical judgment **MUST** be applied
  - Cognitively impaired people typically don’t draw a perfect clock
    - CDT of 4 approximates a MMSE of near 30 or mild cognitive impairment
    - CDT of 2 puts patient in the moderate impairment of MMSE scores of high teens.
    - CDT of 1 reflects moderate-to-severe scores on MMSE (low teens)
    - Abnormal results suggests need for further assessment

## 3. The Memory Impairment Screen

- Instructions:
  - Give the patient 4 words in 4 different categories (i.e. city, animal, piece of furniture, color)
  - Two minutes later ask for the 4 words. Score 2 points for each correct recall. Highest possible score is 8.
  - If patient can't remember an item, provide a prompt. If the patient can then remember the word, score 1 point. Score 0 if can't recall with one prompt.
- Scoring
  - Four points is the cut-off score for passing. Less than 4 requires further evaluation.

### **Station 3: Writing an Exercise Prescription** (Gail Sullivan MD MPH)



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#### **Steps to Success**

1. Determine patient's own goals
2. Determine type of exercise most valuable to patient
3. Determine which "stage of change" patient is in
4. Tailor suggestions to patient's stage
5. Write FITTS exercise prescription

#### **Potential Patient Goals**

Improve or maintain current function  
Improve pain or other symptoms (e.g., DOE)  
Avoid or reduce falls; be able to get up from fall  
Stay at home; avoid hospitalizations  
Reduce medications  
Lose weight

#### **Stages of Change Model**

**Precontemplator:** What, me, exercise?

Identify barriers, patient's (mis)conceptions of exercise, dispel myths/provide information  
« Think about becoming active, think about possible benefits, talk to other active people»

**Contemplator:** Well, maybe . . .

Identify barriers, increase patient's self-efficacy, identify supports, provide information  
Handouts & info about local exercise options useful

**Preparation:** I want to start

Assess barriers, increase self-efficacy, provide specifics, assess risks and w/u as appropriate  
Write exercise prescription tailored to patient

**Action:** I did it!

Reinforce goals, assess barriers, offer praise & reinforcement  
Follow-up at each visit or telephone

**Maintenance/Relapse**

Reinforce progress, relate to goals & conditions, prevent injuries, respond to relapses  
Follow-up; help re-start program after illness or other interruptions

#### **Exercise Components**

Stretching (flexibility)

Resistance training (strength) = contraction of muscle groups a few times against mod. to high resistance

Endurance training (aerobic) = rhythmic use of large muscle groups w/ many repetitions, low resistance

Balance training

#### **Exercise Benefits**

CAD

Osteoarthritis

Falls

Frailty, functional decline

Alzheimer's

& treatment of DM, HTN, CHF, obesity, insomnia, Parkinson's disease, osteoporosis, depression, COPD, lipids

#### **MD Role: Dispel Myths!**

Decreased activity is inevitable with aging

Exercise is dangerous in the elderly

Frailty is never reversible

Exercise is of little benefit in elderly because it is "too late"

**Common Barriers**

- Time/ commitments
- Place
- Weather
- Safety
- Empowerment - self confidence
- Memory of past failures

**Identify Supports**

- Family
- Friends
- Local programs – senior centers, YMCA, Curves for Women
- Exercise as a time to reflect, plan your day, relieve stress, meet people

**FITTS** F requency I ntensity T ype T ime S pecific precautions or modifications

|  |                        |
|--|------------------------|
| <b>EXERCISE PRESCRIPTION (FITTS)</b>   |                        |
| NAME _____   | DATE _____             |
| <b><u>FREQUENCY</u> (circle)</b>   |                        |
| 3x weekly  | Daily                  |
|  | Other _____            |
| <b><u>INTENSITY</u></b>  |                        |
| <b>Moderate</b><br>(Comfortable Pace, can sustain for 20 minutes,<br>~3-4 miles per hour walk)   | HR 50-75% MPRH = _____ |
| <b>Vigorous</b><br>(Can talk, but cannot sing.<br>If untrained, cannot sustain for > 20 minutes) | HR 80-90% MPRH = _____ |
| <b><u>TYPE</u></b>   | <b><u>TIME</u></b>     |
| Warm up<br>(Gentle stretches/ other)   | 5 minutes or _____     |
| Exercise<br>(Walk/ other)  | 20 minutes or _____    |
| Cool Down<br>(Gentle stretches/ other)   | 5 minutes or _____     |
| <b><u>SPECIFIC</u> Instructions, Precautions, Modifications</b>                                  |                        |
| (MPHR = 220 – patient age)   |                        |

**American Heart Association Target Heart Rate Ranges**

| <u>Age (years)</u> | <u>Target HR (bpm)*</u> | <u>Average maximum HR (bpm)</u> |
|--------------------|-------------------------|---------------------------------|
| 60                 | 80 to 120               | 160                             |
| 65                 | 78 to 116               | 155                             |
| 70                 | 75 to 113               | 150                             |
| 75                 | 73 to 109               | 145                             |

HR = heart rate; bpm = beats per minute. \*50 to 75 percent of maximum HR.

**Exercise Calendar**

Exercise goal: \_\_\_ minutes per week

| Sun                             | Mon | Tues | Wed | Thur | Fri | Sat | Week Total |
|---------------------------------|-----|------|-----|------|-----|-----|------------|
|                                 |     |      |     |      |     |     |            |
|                                 |     |      |     |      |     |     |            |
| <b>Self-Praise Message here</b> |     |      |     |      |     |     |            |
|                                 |     |      |     |      |     |     |            |
|                                 |     |      |     |      |     |     |            |

**Exercise can include walking, swimming, aquatic programs, weight training, circuit training, step training, exercise to music or video, dancing, chair-based exercise, tai chi, tennis, bowling, walking the dog**

$$\text{Motivation} = \frac{\text{Perceived Chance of Success} \times \text{Perceived Importance of the Goal}}{\text{Perceived Cost} \times \text{Inclination to Remain Sedentary}}$$

**Writing the Exercise Prescription**

- Warm up
- Exercise
- Cool down
- Precautions and modifications
- Understanding the risks for this patient

**Exercise: Stretching**

- To combat muscle & tendon tightening, & achieve cardio respiratory readiness
- For the very deconditioned, stretching = exercise
- Static stretch of 30 seconds/muscle group (or even longer)
- Pull, no pain, no bounce
- Daily to increase ROM & reduce aches/pains

### **Exercise: Resistance Training**

- Increase strength & muscle mass
- Cross training effect (improves endurance)
- Increase lean body mass
- Increase tendon strength, flexibility, ROM
- May improve balance
- May be required before endurance training possible, for very deconditioned

### **Resistance (Strength) Training**

- Dynamic better than static
- ≤ 80% maximum lift, no use of momentum
- < 6 muscle groups
- 8-12 repetitions/set (set = until fatigue)
- Benefit in 6-8 weeks
- Benefit rapidly lost after stopping

### **Exercise: Endurance (Aerobic) Training**

- Improves all age-related physiologic changes except maximum HR
- Improves body composition
- Less effect on strength or balance
- Magnitude of response similar in older & younger persons

- In elders start low (walking 5 minutes, 4-5 times per week) and go slow (increase by 5 min./week)
- Intensity related to speed, # muscles used, resistance
- Increase duration before intensity
- Goals: 20-30 minutes *at least* 3X per week
  - Aim for anaerobic threshold (= dyspnea)
- Individualize to maximize compliance – aquatic, walking, dance, machines, etc

### **Exercise: Balance**

- Most studies use high-tech/multimodal interventions
- Unclear which type of exercise best
- Tai Chi promising & available
- Emphasize movements needed for daily function

### **Exercise: Cool Down**

- Goal = gradual decrease in vasodilatation and heat to decrease risk of dizziness & syncope
- Especially important in patients with CAD
- 5-10 minutes
- Slow walking/movements, or stretching

### **Precautions & Modifications: Discuss with Patient**

#### **Osteoarthritis**

- Patients with OA can exercise
- Exercises decreases pain & disability
- Exercise maintains function
- Aquatic or other NWB best

Worrisome signs & symptoms to be alert for  
 Drug-exercise interactions  
 Diuretics  
 Vasodilators  
 Beta-blockers  
 Insulin  
 Sympathomimetics  
 Adjust for illness, climate changes  
 Risks of exercise – overuse syndromes, injuries

**Guidelines for Minimizing Cardiac Risk**

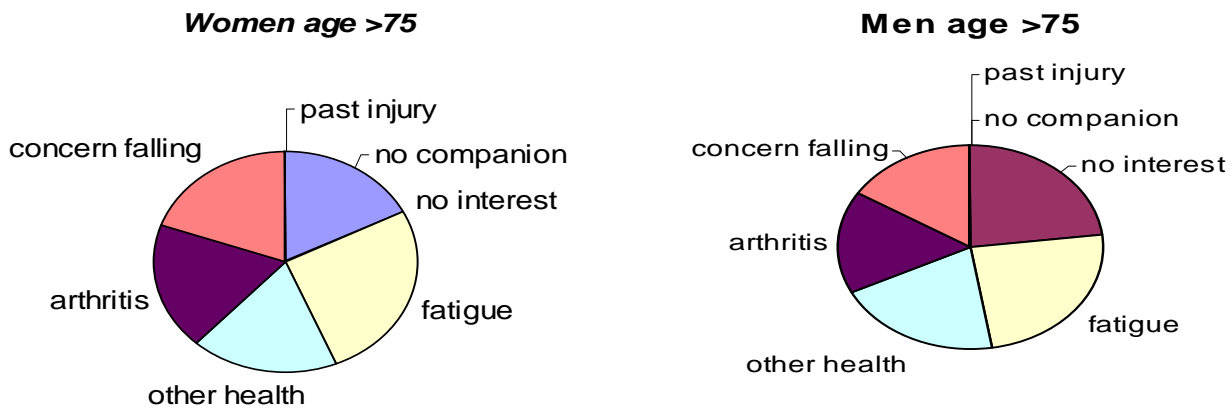
Identify special circumstances:  
 MI within 6 months or active angina  
 Signs & symptoms of CHF – not a contra-indication, but need modification of exercise  
 Resting sysBP >200 or diasBP > 110  
 Test cardiac reserve: Walk up flight of stairs or cycle for 1 minute  
 If unable, further evaluation or closely monitor (e.g., in a program or with PT)  
 Lower risk by starting w/low intensity program  
 Gait training, balance, Tai-chi, self-paced walking, lower extremity resistance training  
 Understand circulatory stressors  
 Stairs > heavy load > incline w/moderate load > incline > horizontal walking  
 Warm up & cool down

**Exercise Risks: MI** Increased risk with heavy exertion (jogging, shoveling)  
 Greatest risk in sedentary group (no weekly exercise)

**Exercise Risk: Musculoskeletal**

Most frequent cause of morbidity; occurs less vs. younger exercisers  
 Risk by exercise type: Jogging 57% injury rate age 70-79 vs. low-impact activity 5-10%  
 Usually self-limited  
 Avoid exercise with acutely inflamed joints  
 Assess & modify according to fall risk: chair-based or aquatic for high fall risk

**Reasons to Avoid Exercise – Women vs. Men** Santaraino, JAGS 2000



## **Interventions to Increase Motivation**

|                                       |                              |
|---------------------------------------|------------------------------|
| Education                             | Treating current morbidities |
| Physical therapy                      | Accessible activity options  |
| Occupational therapy                  | Senior exercise programs     |
| Adapted activities and equipment      | Safety training              |
| Write exercise prescription on Rx pad | Gradual activity progression |
| Socialization                         | Affordable options           |

## **Primary Care – Try Using Chronic Disease Model**

PCP Letter to patients and single meeting to participate in an exercise program -  
30% response to letter, 10% eligible to participate, 10% already too active. *JAGS 1999; 47:477-481.*

Meet in small groups to discuss the details of how to become active  
Peer “social” support, monthly meetings, “participants” not patients  
Exercise logs

## **Sample Exercise Prescription**

*for a 70-year-old retired man with sleep complaints, lack of energy, back stiffness, & knee pain. He has weak quadriceps & abdominal muscles, & tight hip flexor & hamstring muscles*

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### **Lifestyle modification**

*Brisk dog walk:* 15 min. each morning & evening, regardless of weather, 7 days/wk with wife; (Borg RPE\* at 13-14)

*Take the stairs:* One flight up, two flights down – wherever stairs found

*Park at perimeter of parking lots:* Walk to entrances

*Yard work:* One day/ wk, weather permitting

### **Aerobic exercise**

*Brisk dog walk:* See above

*Group circuit training class:* 50 minutes, two mornings per week of bicycle or elliptical training at local senior center

### **Flexibility training**

*Balance ball:* Stretch back, chest, hamstrings, gastrocnemius, & Achilles tendon for 5 min. each morning & 10 min. each evening, 7 days/wk using physician-provided, illustrated handouts with stretch variations

*Introductory yoga video:* 60 min each Sunday morning for 1 month, then reassess with physician

### **Progressive resistance training**

*Group circuit training class:* 50 min., 2 morning/ wk of total body strength & ROM at senior ctr; (Borg RPE\* 12-15)

*Balance ball:* Core muscle training (abd. curls, back extensions) ev. other day watching TV: 1 set, 10 repetitions/ exercise

RPE= rate of perceived exertion. \* Borg RPE scale: [http://www.cdc.gov/nccdphp/dnpa/physical/measuring/perceived\\_exertion.htm](http://www.cdc.gov/nccdphp/dnpa/physical/measuring/perceived_exertion.htm)

## **References**

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## **Web Resources - Patients**

- ACSM Fit Society Page (click publications and other media) Web site: <http://www.acsm.org>
- ACSM Position Papers Web site: <http://www.acsm-msse.org/pt/re/msse/positionstandards.htm>
- CDC Physical Activity for Everyone Web site: <http://www.cdc.gov/nccdphp/dnpa/physical/index.htm>
- CDC Report of the Surgeon General Web site: <http://www.cdc.gov/nccdphp/sgr/fact.htm>
- ICAA: Common Questions and Answers About Exercise  
Web site: <http://www.icaa.cc/FacilityLocator/Doctors/physiciantools.htm>
- Shape Up America! Web site: <http://www.shapeup.org/>
- AARP: Pep Up Your Life booklet Web site: <http://www.aarp.org/programs/pepup/home.html>
- National Institute on Aging exercise booklets Web site: <http://www.exnflex.com/>
- Surgeon General Report on Physical Activity and Health Web site: [www.cdc.gov/nccdphp/sgr/sgr.htm](http://www.cdc.gov/nccdphp/sgr/sgr.htm)
- Canadian Soc. for Exercise Physiology: Activity readiness questionnaires Web site: <http://www.csep.ca/forms.asp>
- ACSM = American College of Sports Medicine; CDC = Centers for Disease Control & Prevention; ICAA = International Council on Active Aging.

## **Station 4: Driving Risk Assessment** (Hollis Day MD)

### How is Driving Evaluated?

Criteria for determining risk not yet validated, Preliminary screen should assess:

- Driving frequency and distances
- Driving patterns (e.g. freeway vs. local roads, day vs. night driving)
- Changes in driving patterns in the past year
- Number of accidents and situations
- Use of medications known to impair driving
- Presence of driving-impairing medical conditions
- Condition of driving-related functions

### 10 Questions to ask the patient

- Have you noticed any change in your driving skills?
- Do others honk at you or show signs of irritation?
- Have you ever become lost while driving?
- Have you lost any confidence in your overall driving ability, leading you to drive less often or only in good weather?
- Have you ever forgotten where you were going?
- Do you think at present you are an unsafe driver?
- Have you had any car accidents in the last year?
- Any minor fender-benders with other cars in parking lots?
- Have you received any traffic citations for speeding, going too slow, improper turns, failure to stop etc.?
- Have others criticized your driving or refused to drive with you?

### 10 Questions to ask the family

- Do you feel uncomfortable in any way driving with the patient?
- Have you noted any abnormal or unsafe driving behavior?
- Has the patient had any recent crashes?
- Has the patient had near misses that could be attributed to mental/physical decline?
- Has the patient received any tickets/traffic violations?
- Are other drivers forced to drive defensively to accommodate the patient's error in judgment?
- Have there been any occasions where the patient has gotten lost or experienced navigational confusion?
- Does the person need many cues or directions from passengers?
- Does the patient need a co-pilot to alert them of potentially hazardous events or conditions?
- Have others commented on the patient's unsafe driving?

### Basic Physical Exam

- Cardiovascular

- Neurological including some assessment of cognitive status\*: One of the best tests is the Trails B neuropsychological test. If can't be done in the time allowed then need to consider driving evaluation
- Musculoskeletal
- Vision\*\*

\*Note: MMSE score does not necessarily correlate with ability to drive although scores adjusting for age and educational level < 20 should raise concern

\*\* Vision requirements are different state by state and you should check with your DMV to understand the requirements. Usual visual testing not always enough as those with peripheral visual problems may benefit more from visual field testing.

### Driving Counseling

- Advising the patient and family of why the patient can't drive (getting patient buy-in)
- Discussing alternatives for transportation
- Reporting to DMV if legally required in your state
- Follow up visits require determining driving status and screening for depression
- DOCUMENT DCOUMENT DOCUMENT

## **Resources**

### Assessment of driving safety

Assessing patient driving safety- patient questionnaire

<http://www.ama-assn.org/ama/pub/category/8925.html>

AMA physicians guide to the older adult driver

<http://www.ama-assn.org/ama/pub/category/10791.html>

### Coping with driving restrictions: patients and families

Alzheimer's Association

[www.alz.org](http://www.alz.org)

When you are concerned: a handbook for families, friends and caregivers worried about the safety of an aging driver

<http://aging.state.ny.us/caring/concerned/handbook.pdf>

At the crossroads: a guide to Alzheimer's disease, dementia and driving

[www.thehartford.com/alzheimers/105013final.pdf](http://www.thehartford.com/alzheimers/105013final.pdf)

### Physician resources

National Highway Transportation Safety Authority (includes brochures, booklets etc.)  
<http://www.nhtsa.dot.gov/people/injury/olddrive/>

Website to locate driver evaluation programs in your area: [www.driver-ed.org](http://www.driver-ed.org)

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3. Carr D. The Older Adult Driver. *American Family Physician* 61(1):141-146 January 2000
4. Marottoli R. The Assesment of Older Drivers In Hazzard, Blass, Ettinger et. al. eds, Principals of Geriatrics pp 267-274, McGraw Hill, NY, NY. 1998

## **Station 5: Hazards of Hospitalization** (Helen Kao MD)

**Station objectives:** by the end of the station, participants will be able to

- identify hospital hazards which place patients at risk of delirium and functional decline
- name at least 3 interventions for reducing these risks
- translate this activity into ‘environmental rounds’ for housestaff at their own institution

**Activity:** Participants will receive a set of 4 photos of real hospital patients and their inpatient environment. Each photo is accompanied by a brief clinical scenario. Based on the case, participants have 2 minutes per photo to identify Hospital Hazards. Final 10 minutes will be spent reviewing everyone’s answers as a group, understanding the importance of identifying hospital hazards, and describing ways to teach these principles to housestaff on ‘environmental rounds.’

Handouts:

Photos with cases (4)

Hazards “pearl” sheet

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### **Hazards of Hospitalization Pearls**

#### Hazards of Hospitalization

Iatrogenic harm in geriatric patients leads to:

- Infection
- Delirium
- Functional decline

#### Physiologic changes with prolonged bedrest

Muscle loss ~10% per week

Reduced ventilation and aerobic capacity

Reduced plasma volume (as much as 600ml in 2 days), increasing orthostasis

Increased resting heart rate

Accelerated bone loss

Contractures

#### Why should we understand hazards of hospitalization?

**Physiological markers generally improve and often normalize between hospital admission and discharge.**

**However, in hospitalized older adults, functional measures often fail to improve and frequently worsen:**

- **> 1/3 of older patients are discharged with worse functional status than baseline**
- **1/2 of these patients acquire their deficits during their hospitalization**

Functional debility is a greater predictor measures for hospital mortality than acute physiologic measures

Of patients with new or additional ADL impairment at discharge:

- 41% have died at 1 year
- Fewer than 1/3 regain their baseline function

Patients and families are often most concerned about function, for example:

- weakness and dyspnea limiting ambulation
- falling or instability
- cognitive changes and inability to care for self
- new incontinence

### Hazards to avoid and minimize

|  |  |  |  |
|--|--|--|--|
| Bedrest: avoid ordering as an activity level or inadvertently through physical/chemical restraints | Vision impairment: locate glasses, large print clock/calendar; large button phone  | Hearing impairment: locate hearing aides, pocket talkers and amplifiers                            | Dehydration: cognitive or physical inability to access water; impaired swallow mechanism |
| Urinary catheters  | PIVs which are no longer necessary   | Restraints   | TED/SCDs which are no longer necessary   |
| Improper medications: sedatives, anticholinergics, inappropriate antipsychotics                    | Disorienting environment: reorient, utilize family and volunteers to engage patient in discussions, activities, current events | Immobility: aside from PT/OT, order patient OOB, utilize family and volunteers to ambulate patient | Insomnia: maintain quiet environment; eg. order TV turned off and reschedule medications |

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