Geriatric Pearls for Primary Care

A 50 yo man ask your advice on what exercise regimen will add the most years to his life. He enjoys long distance walking, tennis, cycling, swimming, and working out at the health club. Which of these appears to offer the greatest longevity?
A) Long distance walking  
B) Tennis  
C) Cycling  
D) Swimming  
E) Working out at health club

Leisure-Time Activities and Life Expectancy

- Prospective population study in Denmark, following people age 20-98 for participation in different sporting activities. Follow up to 25 years for all cause mortality
- Comparison made to sedentary group
  - Tennis + 9.7 years
  - Badminton + 6.2 years
  - Soccer +4.7 years
  - Cycling + 3.7 years
  - Swimming + 3.4 years
  - Jogging +3.2 years
  - Health club activities + 1.5 years

A 85 yo man with type 2 diabetes and hypertension comes to clinic for follow up. He is currently on metformin (500 mg BID), atorvastatin (20 mg) and aspirin (81mg). He has felt more depressed recently and is concerned about his memory. He is also very worried about heart disease. BP 130/80 P 80
What would you recommend?
A) Increase ASA to 325 mg  
B) Increase atorvastatin to 40 mg  
C) Check a vitamin B12 level  
D) Recommend walking 5000 steps/day

Increases in physical activity is as important as smoking cessation for reduction in total mortality in elderly men:
- Cohort of men in Oslo screened for CV in 1972 and again in 2000
- Among 14 846 men born during 1923–1932 and participating in 1972–1973, there were 5738 participants in 2000.
- Thirty minutes of PA per 6 days a week was associated with about 40% mortality risk reduction.
- There was a 5 years increased lifetime when comparing sedentary and moderate to vigorous physically active men
- Increase in PA was as beneficial as smoking cessation in reducing mortality.

Physical Activity Was As Important As Smoking Cessation In Elderly Men!!!
What Else Is Increased Physical Activity and Exercise Associated With in the Elderly?

- Decreased depression/depressive symptoms (1)
- Better Sleep (2)
- Decreased dementia/cognitive impairment (3)

2) Sleep Medicine 25 (2016) 122–129

A 80 yo man comes to clinic for medical advice. He has been very healthy, with no chronic medical problems other than osteoarthritis. He has good vision, hearing intact. Normal Fasting glucose and blood pressure. He is a non smoker and drinks 5 glasses of wine a week. What would be the most impactful advice in regards to mortality?

A) Order colonoscopy/PSA  
B) Check lipids/renal function  
C) Pneumococcal vaccines  
D) Advise not to use ladders


1) CV disease  
2) Cancer  
3) COPD  
4) Cerebrovascular  
5) Alzheimers  
6) Diabetes  
7) Influenza/pneumonia  
8) Unintentional injury/falls

Most Preventable Deaths in Elderly Without Chronic Disease

- Influenza  
- Pneumonia?  
- Falls

Keep The Elderly of Ladders!!!
86 yo woman is brought in by her son after a fall from a syncopal episode. He reports she has been confused over the past few days. She has a hx of HTN, CAD, Depression, AD, Type 2 DM and insomnia. Meds: Amlodipine, lisinopril, hydrochlorothiazide, simvastatin, fluoxetine, metformin, glyburide, donepezil, trazodone, Oxybutinin, omeprazole and aspirin.

PE: BP 130/50, P 56 O2, exam otherwise unremarkable. Lab: WBC 6, HCT 40, Bun 20 Cr 1.2, HCO3 26, chest xray ok, ura- no WBC’s.

**What Would You Recommend?**

1. Cholinesterase inhibitors and Syncope
   - Cholinesterase inhibitors and bradycardia
     - ChEI → RR bradycardia ↑ 1.4 (95% CI, 1.1–1.6)
     - Dose effect: donepezil > 10mg → 2.1 ↑ risk
   - Clinical significance: ChEI use associated with
     - Syncope: HR ↑ 1.76 (95% CI, 1.57–1.98)
     - ED visits for bradycardia: HR ↑ 1.69
     - Pacemaker placement: HR ↑ 1.49
     - Hip Fx: HR ↑ 1.18 (95% CI, 1.03–1.34)
       - Arch Intern Med 2009;169:867

2. **What Are The Medications That Should Be Stopped?**
   - Donepezil (Syncope)
   - Oxybutinin (confusion)
   - Trazodone (confusion)
   - Omeprazole (CDI risk, delerium?)
   - Glyburide (hypoglycemia risk)
   - A Antihypertensive medication (low diastolic BP/Syncpe)

3. **Risk of MI with NSAID Use**
   - Nationwide cohort study in Denmark. 99,187 patients with a mean age of 69
   - Studied pharmacy records and medical records for all patients over age 30 with a first time admission for myocardial infarction between 1997 and 2009. Subsequent NSAID use was tracked
   - HR for Death with NSAID use was 1.59 at 1 year, 1.63 at 5 years. Risk for recurrent MI was 1.3 at 1 year, 1.41 at 5 years.
NSAIDS and CHF in the elderly

- 365 cases of patients admitted with CHF compared to 658 control patients admitted without CHF
- NSAID users had an odds ratio of 2.1 for admission for CHF
- Odds ratio of 10.5 for first admit for CHF if patient had heart disease and used NSAIDS
- Risk of admission for CHF correlates with dose of NSAID and long acting drug

Is Celecoxib safer?

- PRECISION (Prospective Randomized Evaluation of Celecoxib Integrated Safety versus Ibuprofen or Naproxen) is a noninferiority, multicenter, randomized double-blind trial of celecoxib versus ibuprofen versus naproxen used for the daily treatment of osteoarthritis or rheumatoid arthritis in patients with an increased cardiovascular risk.
- Primary outcome CV events
- No statistical difference in CV outcomes: celecoxib, 2.3%; naproxen, 2.5%; and ibuprofen, 2.7%
- Less GI bleeding with celecoxib, renal events same with naproxen/celecoxib, more with ibuprofen

Scope of NSAID Induced Gastrointestinal Toxicity

- Combined gastric/duodenal ulcers in 10-25% of arthritis patients chronically treated with NSAIDS
- Estimated 103,000 hospitalizations annually in US for GI complications of NSAIDS
- Estimated cost > 2 Billion $
- 15th leading cause of death in US

SSRI’S and GI Bleeding

- Multiple retrospective studies show relative risk for UGI bleeding of 3-4 with the use of SSRI’s
- Risk is further increased with concurrent use of a nonsteroidal, Odds ratio 6.33 if SSRI combined with NSAID
- Risk is highest in the elderly
- Strongly consider gastroprotection if combination used in patients with history of UGI bleeding, in patients taking NSAIDS or the elderly

American Geriatric Society Guidelines For Pain Management

- (oral) NSAIDS should be considered very rarely and with extreme caution

- Use low doses, short term
- COX 2 inhibitors have lower GI bleeding risk, same CV/renal risk
- If patient is on them chronically, add PPI (weight risk of chronic PPI on decision) and monitor renal function
An 84-year-old man fractures his hip. He is on no medications. On Day 2 of hospitalization, he becomes confused and is diagnosed with delirium. BP 180/100, P 130, tremor present. Admission labs: Hct 36, MCV 103, Na 136, K 3.1, Mg 0.8.

What do you recommend?
A. Haloperidol
B. Olanzapine
C. Chlordiazepoxide
D. Zolpidem
E. Nipride drip

Delirium Causes
- Infection
- Medications
- Bladder catheter
- Restraints
- Decreased sleep
- New surroundings
- Alcohol withdrawal!!!
Alcohol in the Elderly
- Safe drinking guidelines recommend no more than 7 drinks/week in those >65.
- Many over the age of 65 drink much more than this, often 2-4 drinks daily and are at risk for ETOH withdrawal when hospitalized.

Delirium Do’s
- Provide orienting stimuli (clocks, calendars, windows)
- Put glasses on patients who wear them
- Hearing aids, if used
- Remove catheters and lines ASAP
- Reassurance, touch

A 76 yo man is evaluated for memory loss. He scores 20/30 on MMSE. Workup for reversible causes of dementia is negative. He is otherwise healthy with his only medical problem being knee osteoarthritis. What do you recommend?
A) Memantine
B) Donepezil
C) Vitamin E (2000 units)
D) Selegeline
E) No therapy

Dementia Therapy
- Medications work best when treating mild to moderate AD, slows progression
- Does not usually significantly improve cognition
- Mild to moderate AD, use cholinesterase inhibitor. For moderate to severe AD, consider adding Memantine
- Therapy may help neuropsychiatric symptoms

A 78 yo woman is brought in for evaluation of visual hallucinations. She describes seeing cats and cockroaches running across her floor. She was diagnosed with dementia last year, after getting lost driving. Her MMSE score was 20, losing points for inability to spell WORLD backwards, copy figures and inability to do calculations.
- She has done fairly well this past year, with only several episodes of getting suddenly confused.

She has had 2 falls in the past 3 months. What would be the most appropriate therapy for her symptoms?
A) Donepezil
B) Haloperidol
C) Resperidol
D) Lorazepam
E) Cataract surgery
**Lewy Body Dementia**

- Fluctuating levels of consciousness
- Visual spatial difficulties
- Hallucinations at onset has 83% PPV
- Falls more common (coexistent PD)
- Difficulty on MMSE with copying, calculations, and spelling world backwards
- Increased danger with use of neuroleptics

**Beware Prescribing Neuroleptics to Patients with Dementia**

- Will unlikely be the correct answer, as there is a higher mortality rate due to increased sudden death risk in this population
- In patients with LBD, potential for severe neuroleptic sensitivity reactions, including exacerbation of parkinsonism, confusion, or autonomic dysfunction

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An 83-year-old man presents to clinic to discuss his insomnia. He has problems falling asleep, usually falling asleep 2 hours after his wife goes to sleep. He has tried exercising in the late afternoon, reading in bed, and watching unstimulating TV at bedtime without benefit.

**What do you recommend?**

A. Exercise 2 hours before bedtime on his exercise bike.
B. Do not go to the bedroom until he is tired.
C. Trial of diphenhydramine at bedtime.
D. Trial of trazodone at bedtime.
E. Trial of lorazepam at bedtime.

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**Treatment of Insomnia in the Elderly**

- Get a good history; See if they actually have insomnia
- Check med list for drugs that could be causing insomnia — steroids, SSRIs, beta-agonists, quinolones
- **Sleep Hygiene**: Avoid caffeine; Go to bed only when sleepy; Set a schedule; Daily exercise, but not before bedtime; No bright lights, TV, computer right before bedtime
- CBT and sleep restriction
- Meds: Avoid benzos, antihistamines, trazodone, antipsychotics

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A 76-year-old man is seen for hypertension. He has had 8 outside BP readings (166/80, 160/80, 156/78, 180/77, 174/60, and 178/66). He has a history of GERD, depression, and gout.

**What would you recommend?**

A. No drug treatment
B. Hydrochlorothiazide
C. Atenolol
D. Amlodipine
E. Clonidine
Treatment of Hypertension in the Elderly
- Appropriate to treat isolated systolic hypertension; Definitely treat SBP > 160, JNC 8 recommends BP > 150/90
- Avoid β-blockers — not as effective as other agents; Especially avoid atenolol, not as effective as other β-blockers
- Avoid clonidine — increased CNS effects especially bad in the elderly
- Preferred drugs — low-dose diuretics (chlorthalidone > hydrochlorothiazide), dihydropyridines (e.g., amlodipine), ACEIs

A 76 yo man with a history of hypertension presents for care. He has otherwise been healthy, with no other medical problems. Meds: Lisinopril 10 mg daily, aspirin 81 mg daily. Exam: BP 120/70 P 70
- Labs: HBA1C 5.3, TC 200 HDL 46 LDL 150
- What do you recommend?
  A) Start Pravastatin 40 mg
  B) Start Atorvastatin 40 mg
  C) Start Fish oil
  D) No intervention

AHA Risk Calculator
- 27.9% 10 year risk of CV event
- Recommends considering moderate intensity statin
- No aspirin
- USPTF would not recommend starting a statin for primary prevention because of age

A 69 yo man presents with a 2 day history of a burning pain on his left forehead. He has not had fever or chills. This morning he has noticed blisters in the area on his forehead where the burning pain has been.
- What do you recommend?
  A) Acyclovir 800 mg 5X a day X 7 days
  B) Acyclovir 800 mg 5X a day X 10 days
  C) Acyclovir 800 mg 5X a day X 10 days and corticosteroids
  D) Valacyclovir 1 g TID X 7 days
  E) Valacyclovir 1 g TID X 10 days

Therapy for Herpes Zoster
- Initiate antiviral therapy within 72 hours of lesion onset
- In clinical studies Acyclovir, Valacyclovir and Famciclovir all lessen acute neuritis and resolve rash quicker
- Acyclovir more difficult to be compliant with because of 5X a day dosing (it is cheaper)
- Addition of steroids doesn’t not effect post herpetic neuralgia, may help with pain in severe cases*

A 78 yo man presents with 3 days of burning pain on the forehead and has noticed a blister on the tip of his nose and on his forehead. He has no eye pain or visual changes. On exam he has 3 blisters on the left forehead and one on the tip of the nose. Sclera/conjunctiva are not injected. In addition to starting an antiviral, what do you recommend?
- A) Emergent referral to the Ophthalmologist
- B) Evaluation by Ophthalmologist within 24-48 hours
- C) Evaluation by an Ophthalmologist within 1-2 weeks
- D) No eval by Ophthalmologist needed
When Do you Need an Ophthalmologic Eval in Patients With Zoster?

- Red eye and reduced vision - same day
- Red eye without visual complains - 24-48 hours
- Hutchinson sign with no red eye or visual complaints - 1-2 weeks

BMJ 2009;339:b2624
Med Clin N Am 2013; 97:503-522

A 65 yo man presents with symptoms of burning pain on his left forehead for the past 9 days. He has not noticed any rash or eye symptoms. On exam no rash is detected. He has hyperasthesia over the skin on the left side of the forehead.

What do you recommend?

A) Obtain MRI scan
B) Start Valacyclovir 1g TID X 7 days
C) Give patient prescription for Valacyclovir to fill if he develops rash
D) Start gabapentin

Herpes Zoster with extended Prodrome

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How Helpful is Gabapentin for Acute Pain Relief With Herpes Zoster?

87 patients age > 50 with onset of Herpes Zoster within 6 days (rash), worst pain in past 24 hours

Initiated 7 days of treatment with famciclovir in combination with 28 days of treatment with either controlled-release (CR) oxycodone, gabapentin, or placebo.

Treatment with CR-oxycodone reduced the mean worst pain over days 1-8 (p=0.01) and days 1-14 (p=0.02) relative to placebo. Gabapentin did not provide significantly greater pain relief than placebo.