Geriatrics 2013
Internal Medicine Board Review

Eric Widera, MD
Associate Professor of Medicine
Director, Hospice & Palliative Medicine, SFVAMC
Director, UCSF Geriatrics Fellowship

From ABIM - Your Exam Will Be:

Cross-Content Category | Relative Percentage
--- | ---
Critical Care Medicine | 10%
Geriatric Medicine | 10%
Prevention | 6%
Women's Health | 6%
Clinical Epidemiology | 3%
Ethics | 3%
Nutrition | 3%
Palliative/End-of-Life Care | 3%
Adolescent Medicine | 2%
Occupational Medicine | 2%
Patient Safety | 2%
Substance Abuse | 2%

From ABIM (continued):

Top Categories Asked In Geriatric Medicine
1. Rheumatology/Orthopedics in the elderly
2. Neurology in the elderly
3. Cardiovascular disease in the elderly
4. Other primary geriatric topics

Others Geriatric Specific Questions:
- Dermatology, Endocrinology, End-of-life/Palliative care, Ethics, Gastroenterology, Hematology, Infectious disease, Nephrology/Urology, Nutrition, Oncology, Ophthalmology, Psychiatry, Pulmonary disease, Principles of the geriatric assessment, Rehabilitation in the elderly
Geriatric Syndromes:

- Multifactorial
  - 48% of Medicare participants aged 65 have ≥ 3 chronic conditions
    - Partnership for Solutions 2000
  - Means likely more than 1 cause AND more than 1 helpful intervention for a case
- Effective intervention(s)
  - may require attention to functional impairments in seemingly unrelated systems

Geriatric Issue – Hearing Impairment

Question #1: Hearing Impairment

An 82 y/o male complains of hearing loss worsening for 5 years. The following audiogram was obtained.
What is the best therapy?
1. Hearing aids
2. Diuretics
3. Cerumen Removal
4. Stapedectomy

---

What is the best therapy?
1. Hearing aids
2. Diuretics
3. Cerumen Removal
4. Stapedectomy

---

Answer #1: Hearing Aids

- Presbycusis
  - Age Related hearing loss
  - Symmetric, high frequency, sensorineural, gradual onset
  - Difficulty understanding speech in noisy places
- Menière’s Disease
  - Low frequency, sensorineural early on then flattens out.
  - Episodes of vertigo, aural fullness, tinnitus
  - Rx: avoidance of triggers; diuretics when diet fails
- Cerumen Impaction
  - Conductive Hearing Loss (air/bone gap)
- Otosclerosis
  - Bony overgrowth of stapes
  - Conductive Hearing Loss (air/bone gap)
Rinne Weber

<table>
<thead>
<tr>
<th>Rinne</th>
<th>Weber</th>
</tr>
</thead>
<tbody>
<tr>
<td>512 Hz tuning fork is placed against the mastoid until the patient can no longer hear it, then it is placed 1-2 cm from the auditory canal to determine if they can hear it.</td>
<td>256 Hz fork is placed on the bony middle forehead.</td>
</tr>
<tr>
<td>Normal should be air conduction &gt; bone conduction</td>
<td>Normal is equal sound in each ear</td>
</tr>
<tr>
<td>Conductive loss: bone &gt; air</td>
<td>Conductive loss: lateralization toward affected side</td>
</tr>
<tr>
<td>Sensorineural loss: equally poor conduction</td>
<td>Sensorineural loss: lateralization opposite deficit</td>
</tr>
</tbody>
</table>

Physiologic Changes in Aging:

- **Hearing:**
  - Presbycusis (bilateral, high frequency, sensorineural)

- **Vision:**
  - Difficulty with glare & dark adaptation
  - Decreased accommodation
  - Decreased acuity
  - Decreased tear production

- **Decreased immunity** (Primarily cell mediated)
- **Decreased physiologic reserve and homeostasis:**
  - Recovery takes longer

Physiologic Changes in Aging:

- **Sleep**
  - Decreased sleep efficiency
  - Decreased total sleep time
  - Less and earlier REM sleep
  - Less deep (stage 3 and 4) sleep; more Stage 1 and 2
  - More napping, night time awakening, early morning awakening

- **Skeletal System**
  - Decrease in Bone Density
Geriatric Issue – Polypharmacy

An 80 y.o. woman with CHF, Afib, depression and DM2 presents with several months of intermittent nausea and anorexia without vomiting. She takes:
- digoxin 0.25 mg qd,
- warfarin sodium 5 mg qd,
- furosemide 40 mg qd,
- lisinopril 20 mg qd,
- glipizide 6 mg qd,
- citalopram 20 mg qd, and
- occasional acetaminophen.
She has been on these doses for 5 years.

Question 2: Polypharmacy

- Denies other GI symptoms or recent illnesses, and has not been taking other medications.
- Other than a 10 lb weight loss (110lbs to 100lbs), her vital signs and exam are normal except for a heart rate of 55.
- Serum creatinine is 1.2 mg/dl (unchanged in past 10 years), electrolytes normal, hemoglobin A1C is 7.2%, INR is 3.0, and hemoglobin 12.5 g/dl.
**Question 2: Polypharmacy**

What physiologic change(s) best explain her symptoms:
1. Age related changes in drug absorption
2. Age related changes in hepatic glucuronidation
3. Age related changes in body composition and renal function
4. Age related changes in absorption and protein binding
5. Drug Drug Interaction

**Answer #2: Polypharmacy**

What physiologic change(s) best explain her symptoms:
1. Age related changes in drug absorption
2. Age related changes in hepatic glucuronidation
3. Age related changes in body composition and renal function
4. Age related changes in absorption and protein binding
5. Drug Drug Interaction

**Drugs - Physiologic Changes in Aging:**

- **Pharmacokinetics:**
  - Absorption: unchanged
  - Volume of Distribution:
    - Water soluble drugs: more concentrated (digoxin)
    - Fat soluble drugs: longer T1/2 (BDZ’ s)
  - Metabolism/elimination:
    - Liver: glucuronidation generally not affected, may have reductions in cytochrome p450
    - Renal function may be affected
Drugs - Practical Considerations:

- Pharmacodynamics:
  - Older adults may have increased sensitivity to medications at standard doses:
    - Increased sedation with some benzodiazepines
    - Increased sensitivity to opiates
    - Urinary retention / delirium with anti-cholinergic drugs (Benadryl, TCAs)
- Psychosocial dynamics: adherence may be limited by cognition, dependency, lack of resources

Beers List: Drugs to Avoid (except if...)

<table>
<thead>
<tr>
<th>Organ System or TC or Drug</th>
<th>Rationale</th>
<th>Recommend</th>
<th>Quality of Evidence</th>
<th>Strength of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrofurantoin Pulmonary tox</td>
<td>Alternatives Lack of efficacy &lt;60 mL/min</td>
<td>Avoid long term suppression; avoid if CrCl &lt;60 mL/min</td>
<td>Moderate</td>
<td>Strong</td>
</tr>
<tr>
<td>Antipsychotics (conventional or atypical) Increase CVA and CV mortality in dementia</td>
<td>Avoid unless danger to self/others and non pharm has failed</td>
<td>Moderate</td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td>Insulin, sliding scale Hypeglycemia risk</td>
<td>Avoid</td>
<td>Moderate</td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td>Chlorpropamide Glyburide Hypeglycemia risk</td>
<td>Avoid</td>
<td>High</td>
<td>Strong</td>
<td></td>
</tr>
</tbody>
</table>
Beers List: Drugs to Avoid (except if…)

<table>
<thead>
<tr>
<th>Organ System or TC of Drug</th>
<th>Rationale</th>
<th>Recommend</th>
<th>Quality of Evidence</th>
<th>Strength of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Benzodiazepines</td>
<td>Risk cognitive effects and injury (fall/MVA); same ADE as benzos</td>
<td>Avoid chronic use, &gt;90 days</td>
<td>Moderate</td>
<td>Strong</td>
</tr>
<tr>
<td>Hypnotics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estrogens with orwithout progestin</td>
<td>Carcinogenic potential, lack of efficacy in dementia/CV disease prevention</td>
<td>Avoid oral and topical patch. Topical cream safe and effective for vaginal symptoms</td>
<td>High</td>
<td>Strong</td>
</tr>
<tr>
<td>Muscle Relaxants</td>
<td>Ineffective at tolerated doses, antichol, falls</td>
<td>Avoid</td>
<td>Moderate</td>
<td>Strong</td>
</tr>
</tbody>
</table>

Drugs – Pearls for the Boards:

- Always put drug effect or drug interaction in the differential diagnosis for an elderly patient
- Don’t automatically “treat” a new symptom with a new drug
- Often the answer requires dose adjustment or drug discontinuation
- Older patients with a normal creatinine may have modestly impaired renal function

Geriatric Issue: Falls
Question #3: Falls

- A 78 y.o. woman with a history of coronary artery disease, hypertension, and dementia is brought in by her daughter for frequent falls that occur at night. She is often found disoriented and “wandering” out of her room.
- No syncope or any injuries with the falls.
- Denies palpitations, nausea, vomiting, shortness of breath, or chest pain

Question #3: Which is the best way to prevent future FALLS in this patient?

1. Hip Protectors
2. Educate Family on modification of home hazards
3. Vitamin D 800IU Daily
4. Hospital Bed at home w/ Bilateral Full Side rails
5. Olanzapine for wandering behavior

Answer #3: Which is the best way to prevent future FALLS in this patient?

1. Hip Protectors
2. Educate Family on modification of home hazards
3. Vitamin D 800IU Daily
4. Hospital Bed at home w/ Bilateral Full Side rails
5. Olanzapine for wandering behavior
Falls – Increase morbidity/mortality:

• 1/3 of older adults fall each year
• 10% of falls in the elderly result in a serious injury
• Fear of falling can lead to limitation of activity and increased debility

Stevens et al. JAMA 2008
French et al. JAGS 2008

Falls - A multifactorial problem:

• Risk factors (history of falls strongest predictor):
  – Extrinsic:
    • environmental factors and hazards, footwear
  – Intrinsic:
    • Gait Disturbances
    • Decreased strength/flexibility
    • Cardiovascular function/response
    • Polypharmacy (especially psychotropics)
    • Comorbid conditions (Parkinson’s, Dementia, Urinary Incontinence)
    • Sensory changes

Hip Protectors & Home Hazards

• Hip Protectors
  – No evidence for decrease in falls
  – Of question of their usefulness in fractures
• Non-specific advise about modification of home hazards
  – No proven effectiveness
• Multi-Factorial/Disciplinary Strategies
  – Best effectiveness

JAMA. 2007;298:413-422, 454-455
**Vitamin D & Falls**

- 700-800IU of Vitamin D a day have shown a decrease in falls and fractures.
- 400IU trials do not show consistent benefit
- Good for nursing home residents and patients with adequate sun exposure as well

**Bilateral Full Side rails**

- No reduction in likelihood for falls, serious injuries, or recurrent falls
- Adverse effects: increased immobility, infections, negative psychological effects, and urinary incontinence and infections
- 1985-2006: 691 entrapment reports, 413 deaths

**Anti-Psychotics And Dementia**

- May increase falls due to adverse effects
  - Parkinsonian Symptoms
  - Sedation
  - Edema
- Does not effect wandering
  - Best used for “aggressive behaviors” associated with AD
- **Increased Mortality Risk**
  - 2004 Meta-analysis of 15 RCTs
  - 1.5-1.7 fold increase in death with atypical antipsychotics during typical 6-12 week study period
  - Schneider, et al. JAMA 2005
Falls – Summary of Interventions

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Risk Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discontinue psychotropic medications</td>
<td>39%</td>
</tr>
<tr>
<td>Balance and Gait Training and strengthening</td>
<td>14-27%</td>
</tr>
<tr>
<td>exercise</td>
<td></td>
</tr>
<tr>
<td>Home Hazard Reduction after Hospitalization</td>
<td>19%</td>
</tr>
<tr>
<td>Multi-factorial risk assessment with targeted</td>
<td>25-39%</td>
</tr>
<tr>
<td>management</td>
<td></td>
</tr>
</tbody>
</table>

Tinetti. NEJM 2003

Geriatric Issue: Urinary Incontinence

Question #5: Urinary Incontinence

- The wife of your 75 y.o. moderately demented patient asks you to prescribe incontinence supplies.
- He has been having abrupt urgency, frequency, and nocturia. He denies dysuria, hesitancy, thirst, polyuria.
Question #5: Urinary Incontinence

- He has a history of hypertension, osteoarthritis, vascular dementia, and hyperlipidemia. He had a TURP 8 years ago without complications.
- Medications include aspirin, hydrochlorothiazide 12.5 mg daily, simvastatin 20 mg daily, and donepezil 10 mg daily.
- His general physical exam, including prostate exam, is normal. A post-void residual is 18 cc.

Of the following, which would be the best initial treatment of his urinary incontinence is:

1. Tolterodine
2. Decrease diuretic dose
3. Surgery
4. Tamsulosin

Of the following, which would be the best initial treatment of his urinary incontinence is:

1. Tolterodine
2. Decrease diuretic dose
3. Surgery
4. Tamsulosin
Urinary Incontinence: First Things to Rule Out - DIAPPERS

- Delirium
- Infection
- A trophy
- P harmaceuticals
- Psychologic
- Endocrine or excess urine output
- Restricted mobility
- Tool impaction

Medications Associated with UI

<table>
<thead>
<tr>
<th>Drug</th>
<th>Effect on Continence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Frequency, Urgency, sedation</td>
</tr>
<tr>
<td>ACE inhibitors</td>
<td>Stress due to cough</td>
</tr>
<tr>
<td>Anticholinergics (TCAs, urge incontinence meds)</td>
<td>Impaired emptying, retention, constipation, delirium</td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>Impaired detrusor contractility, pedal edema causing nocturnal polyuria</td>
</tr>
<tr>
<td>NSAIDS</td>
<td>Pedal edema causing nocturnal polyuria</td>
</tr>
<tr>
<td>Cholinesterase inhibitors</td>
<td>Urinary frequency</td>
</tr>
<tr>
<td>Loop Diuretics</td>
<td>Polyuria, frequency</td>
</tr>
<tr>
<td>Opioids</td>
<td>Retention, fecal impaction</td>
</tr>
</tbody>
</table>

Urge Incontinence with Detrusor Overactivity

- Definition:
  - Loss of urine with sensation of urgency
- Risks:
  - Age, local bladder irritation (UTI, stones, tumors), stroke,
- Symptoms/Signs:
  - Urgency, Low PVR
- Behavioral Therapy
  - Cognitively Intact: Bladder Training
  - Cognitively Impaired: Scheduled Voiding
- Pharmacotherapy
  - Anticholinergics - oxybutinin, tolterodine
    - Efficacy: 60-70% reduction in urge UI (30-50% placebo effect)
    - Adverse events: Dry mouth in 20-25% (5% “severe”)
Urge Incontinence, Falls, and Fractures

- 6,049 women, mean age 78.5
- 25% reported urge UI (at least weekly)
- Followed for 3 yrs
- 55% reported falls, 8.5% fractures
- Odds ratios for urge UI and
  - Falls: 1.26
  - Non-spine fracture: 1.34


Stress Incontinence

- Definition:
  - Loss of urine on effort or exertion, or on sneezing or coughing
- Cause:
  - Impaired urethral sphincter mechanism
  - Childbirth, pelvic floor laxity, radical prostatectomy, alpha antagonists
- Signs/Symptoms:
  - Leakage with cough/sneeze, low PVR
- Treatment:
  - Pelvic floor exercises (Kegels)
  - Role of estrogen less clear
  - Surgery

Incomplete Bladder Emptying (Overflow)

- Bladder Outlet Obstruction
  - BPH
  - Small volume leakage, high PVR
  - alpha antagonists (prazocin, terazocin, tamsulosin, doxazocin) +/- finasteride, surgery
  - Saw palmetto - no better than placebo
- Impaired Detrusor Contractility
  - "Neurogenic", high PVR
  - Supportive treatment, intermittent catheterization
Mixed Incontinence

- Mixed incontinence is the most common type of incontinence in older women, accounting for approximately one-half of all cases
  - Urgency incontinence alone next most common and stress incontinence the least common

Functional Incontinence

To stay dry requires adequate:
- Lower urinary tract function
- Mental function
- Mobility, Dexterity
- Environment
- Motivation (patients, caregivers)

Geriatric Issue - Dementia
Question: Dementia

Mr. D, a 70 year old man with coronary artery disease, chronic obstructive pulmonary disease, and dementia, is brought in by his family because of increased difficulty walking x 1 year. They are also concerned by his report that family members, long deceased, have been “visiting” him in the evenings for the last 6 months. Mr. D’s caregivers are worried about his “visitors” and his tendency to roam around the house at night.

Exam is significant for tremor & rigidity in upper extremeties, MMSE of 20/30, and normal labs including a normal TSH and B12.

Question #6: Mr. D’s clinical presentation is most consistent with which of the following?

1. Fronto-temporal dementia
2. Vascular dementia
3. Dementia with Lewy bodies
4. Alzheimer’s Disease
5. Delirium

Answer #6: Mr. D’s clinical presentation is most consistent with which of the following?

1. Fronto-temporal dementia
2. Vascular dementia
3. Dementia with Lewy bodies
4. Alzheimer’s Disease
5. Delirium
Dementia:

- Diagnostic criteria
  - Memory impairment WITH 1 or more of:
    - Aphasia (impairment in language)
    - Apraxia (impairment in learned movements)
    - Agnosia (impairment in recognition)
    - Decreased executive functioning
  - Deficits limit social or occupational function
  - Deficits represent change from prior level of functioning

- Mild cognitive impairment (MCI)
  - MCI causes memory deficits generally without functional impairment.
  - Risk of progression to Alzheimer’s disease was 16% over 3 years in one study

R. Petersen, NEJM 2005

<table>
<thead>
<tr>
<th>Dementia</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alzheimer’s</td>
<td>Most common; early and gradual memory impairment; Level of consciousness preserved until late visual-spatial and executive fn impairments</td>
</tr>
<tr>
<td>Lewy Body</td>
<td>Parkinsonism; unexplained falls; hallucinations; dementia; fluctuating Extreme sensitivity to antipsychotics</td>
</tr>
<tr>
<td>Vascular</td>
<td>patchy cognitive impairment, often with focal neurologic signs and symptoms; “step-wise progression”</td>
</tr>
<tr>
<td>Parkinson’s Disease</td>
<td>Dementia late in Disease</td>
</tr>
<tr>
<td>Frontotemporal dementia</td>
<td>Onset before age 60; language difficulties; memory often preserved early on; prominent personality changes with behavioral disturbances</td>
</tr>
<tr>
<td>NPH</td>
<td>wet/wacky/wobbly</td>
</tr>
</tbody>
</table>
Delirium vs Dementia:

<table>
<thead>
<tr>
<th>DELIRIUM</th>
<th>DEMENTIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute onset</td>
<td>Insidious onset</td>
</tr>
<tr>
<td>Changes with time</td>
<td>Slowly progressive over years</td>
</tr>
<tr>
<td>(wax and wane)</td>
<td></td>
</tr>
<tr>
<td>Attention severely</td>
<td>Memory mainly affected</td>
</tr>
<tr>
<td>affected</td>
<td></td>
</tr>
<tr>
<td>Often reversible</td>
<td>Not reversible</td>
</tr>
<tr>
<td>Needs urgent attention</td>
<td>Better to dx after hospitalization</td>
</tr>
</tbody>
</table>

Tools to test for cognitive impairment

Mini-Mental State Examination (MMSE)

1. Orientation: name, place, date, season
2. Registration: 1-2-3-4
3. Attention and calculation: + - =
4. Recall: list, repeated three times, 1-2-3-4
5. Language: repeat, delayed, repeated three times
6. Praxis: use hands, right hand, right hand
7. Copy: block test, regular, rotated

Score range: 0-30
Dementia - Diagnostic Workup:

- History and Physical: look for reversible causes
- Neuropsychological testing:
  - not required for diagnosis, but may help
- Neuroimaging: either CT or MRI
  - Controversial, but recommended by the American Academy of Neurology
- Laboratory testing:
  - CBC, Calcium, Renal/lytes, B12, TSH
  - RPR and HIV not routinely done: evaluate pt’s risk
  - Heavy metal testing if supported by history
  - APOE is NOT recommended
Dementia - Treatment Options:

- Acetylcholinesterase inhibitors
  - Donepezil, rivastigmine, galantamine
  - Some benefit in mild-moderate dementia (MMSE 18-24): AD2000 1 point increase in MMSE at 2 yr
  - Controversies: severe dementia, MCI
  - Main side effects
    - GI: nausea, vomiting, diarrhea, anorexia
    - Symptomatic bradycardia
    - Syncope and incontinence;
- NMDA receptor blockers: Memantine
  - For moderate to severe AD
  - Main SE are CNS: confusion, dizziness

Feeding Tubes and Dementia

- 2001 survey of 195 primary care physicians of tube feeding in advanced dementia
- 76% believed it reduced aspiration pneumonia
- 61% believed it prolonged survival
- 94% believed it improved nutrition


Feeding Tubes: High expectations
Evidence Base for Feeding Tubes

• No RCTs
• 7 observational controlled studies showed no evidence of:
  – Increased survival
  – Decreased mortality
  – Improved quality of life
  – Improved nutritional parameters (weight, albumen)
  – Physical functioning.
  – Improvement or reduced incidence of pressure ulcers

Sampson EL, Candy B, Jones L. Cochrane Database of Systematic Reviews 2009

Informed Consent for Feeding Tubes in Dementia

• 486 next-of-kin of decedents
• Of those who received a feeding tube:
  – 14% reported no discussion before feeding tube insertion
  – Of those that reported a discussion, 42% reported that the conversation lasted less than 15 minutes.
  – Discussion of the risks of feeding tube insertion occurred in only half of the cases.
  – In 1/3 of cases, the possibility of hand-feeding was not discussed
  – 38% of the time a physician was “strongly in favor” of a feeding tube
  – 11% felt the physician pressured to put in a feeding tube.
  – 20% stated the feeding tube was inserted to make it easier for staff to feed the patient.

J Am Geriatr Soc. 2011 May;59(5):881-6

HARMS

• 26% were physically restrained after feeding tube placement.
• 29% needed sedating medications to prevent them from pulling out the feeding tube
• 40% of family members stated that the feeding tube seemed to bother the patient.
• Only one third of family members believed the feeding tube improved the patient’s quality of life
• Nearly a quarter (23%) of family members stated that they regretted the decision to insert the feeding tube.

J Am Geriatr Soc. 2011 May;59(5):881-6
Geriatric Issue
Delirium

Question #7: Delirium

Which of the following cases carries the greatest risk of delirium?
1. An 82 y/o female with dementia seen in clinic for a UTI
2. A 72 y/o male with admitted to the wards for a heart failure exacerbation
3. A 78 y/o female post-op day #1 for an elective hip repair
4. A 70 y/o female admitted to the hospital for a hip fracture
5. A 70 y/o male admitted to the ICU with pneumonia

Answer #7: Delirium

Which of the following cases carries the greatest risk of delirium?
1. An 82 y/o female with dementia seen in clinic for a UTI
2. A 72 y/o male with admitted to the wards for a heart failure exacerbation
3. A 78 y/o female post-op day #1 for an elective hip repair
4. A 70 y/o female admitted to the hospital for a hip fracture
5. A 70 y/o male admitted to the ICU with pneumonia
How Common is it?

- 20-60% in the Nursing home or post-acute care
- 10-50% of hospitalized older patients
- 15-53% in postoperative patients
- 70-87% in the ICU

Inouye, NEJM. 2006.

Confusion Assessment Method (CAM)

-- Uses 4 criteria:
  1. acute onset and fluctuating course
  2. inattention
  3. disorganized thinking
  4. altered level of consciousness

-- The diagnosis of delirium requires the presence of criteria:
  (1), (2) and (3) or (4)


How to Work-Up & Treat Delirium

- Directed w/u
  - CBC, Renal panel, LFT’s, TSH, Ca, ABG, CXR, U/A,
  - Always check an EKG even without chest pains
  - Assure adequate hydration and oxygenation.
  - CT’s and EEG’s are rarely helpful if non-specific neuro exam, hx of trauma, or seizure activity
- Medications are related to 40% of case of delirium
- Think about ETOH and substance abuse
- Sitters are preferable to restraints.
- When all else fails:
  - Haldol starting at 0.5mg if QTc <500
  - Quetiapine if Lewy Body or Parkinson’s disease.
Medications!!

- Sleeping Meds
  - Benadryl
  - Ambien
- Anxiety Meds
  - Ativan, Valium
- Pain Meds
  - Meperidine (Demerol)
- Antiparkinsons Meds
- Anti-cholinergic Meds
  - Ditropan
  - Atropine
  - Benadryl
- Anti-nausea Meds
  - Phenergan
  - Reglan
- Anti-depressants
- Muscle Relaxants
  - Flexeril

Geriatric Issue - Pressure Ulcers

Question #8: Pressure Ulcers

The nursing home calls to report that your new admission, a frail 92 year old man who is recovering from pneumonia, has a 2.5 cm stage 2 ulcer on his sacrum with mild surrounding erythema and a 1 cm eschar on his left heel. He is bed bound and has been in the hospital for 10 days.
Question #8: Pressure Ulcers

In addition to improving his nutritional status and frequent turning, the most appropriate management for his skin issues would be:

1. Wet to dry dressing for sacrum, debride the heel eschar
2. Topical antibiotic to sacrum and enzymatic debridement to heel
3. Hydrocolloid dressing to sacrum and elevate heels
4. Hydrocolloid dressing to sacrum, elevate heels, and prescribe oral antibiotic

Answer #8: Pressure Ulcers

In addition to improving his nutritional status and frequent turning, the most appropriate management for his skin issues would be:

1. Wet to dry dressing for sacrum, debride the heel eschar
2. Topical antibiotic to sacrum and enzymatic debridement to heel
3. Hydrocolloid dressing to sacrum and elevate heels
4. Hydrocolloid dressing to sacrum, elevate heels, and prescribe oral antibiotic

Pressure Ulcers - Risk Factors

- Mechanical/local environmental factors
  - Pressure
  - Friction/shear
  - Moisture: urinary/fecal incontinence
- Host factors
  - Malnutrition, decreased albumin
  - Excessively dry skin
  - Immobility and debility
  - Sensory impairment
Pressure Ulcers - Friction and Shear

Friction: Skin/tissue against surface
Shear: bone against tissues

From: www.ahrq.gov

Pressure Ulcers - Classification:

- Stage I
  - Non-blanchable erythema of intact skin
- Stage II
  - Partial thickness loss of dermis presenting as a shallow open ulcer
- Stage III
  - Full thickness tissue loss. SQ fat may be visible but bone, tendon or muscle are not
- Stage IV
  - Damage down to the muscle, tendon, bone
- Unstageable
  - Full thickness tissue loss in which the base of the ulcer is covered by and/or eschar

*** Remove eschar prior to staging EXCEPT on heels

Pressure Ulcers - Treatment:

- Reduce pressure
- Keep surface moist and covered
- Absorb exudates
- Debride necrotic tissue
- Antibiotics only if signs of infection: fever, purulence, markedly increased erythema, osteomyelitis.
- As pressure ulcers are subject to polymicrobial colonization, routine wound cultures are generally not helpful.
Ethical Issues

Question #9: Ethical Issues

- Mrs. X is an 87 y/o retired attorney with dementia who is homebound due to severe arthritis.
- Lost 20 lbs in the last 12 months. Her home smells strongly of urine and there is a significant amount of clutter.
- She endorses depressive symptoms, but no suicidal ideation.
- She hasn’t refilled her medications in some time. She says that she doesn’t want to take pills anymore and likes things the way they are: “I want to stay here until I die.”

Question #9: Ethical Issues

- PMH: dementia, hypertension, urinary incontinence and chronic obstructive pulmonary disease.
- Exam: Her BP is 170/100, HR 100. Thin elderly female. 6/15 on the Geriatric Depression Scale (positive is > 5).
- Your plan is to start an antidepressant but she refuses.
Question #9: Ethical Issues

What is the most appropriate assessment of the current situation?
1. The patient is depressed and unable to make rational decisions
2. The patient may be depressed but is aware of the legal issues and is competent to make her own decisions
3. The patient may be depressed but has the capacity to make decisions
4. The patient may be depressed but her capacity is unknown

Answer #9: Ethical Issues

What is the most appropriate assessment of the current situation?
1. The patient is depressed and unable to make rational decisions
2. The patient may be depressed but is aware of the legal issues and is competent to make her own decisions
3. The patient may be depressed but has the capacity to make decisions
4. The patient may be depressed but her capacity is unknown

Ethical Issues - Capacity vs Competence:

- Decision making capacity is not the same as legal competence
- Capacity may be determined by the clinician
- Capacity is situational and specific to a particular decision
Ethical Issues - Capacity:

- Patients with decision making capacity:
  - Able to make and communicate a choice
  - Able to appreciate the medical situation and prognosis
  - Able to appreciate the nature of recommended care
  - Able to appreciate risks, benefits, and consequences of options
  - Decisions are not the result of delusions and are not coerced

Ethical Issues - If the patient lacks capacity:

- Is there an advance directive and/or has a health care proxy been identified?
  - If so, the DPOA for health care is legally able to make healthcare decisions.
- If there is no documented advance directive, is there a surrogate?
  - Role is to use "substituted judgment"
- If not, what is in the patient’s best interest? May require ethics consultation.

Ethical Issues – Elder Abuse

- Types
  - Self-Neglect
  - Neglect
  - Physical Abuse
  - Financial Abuse
  - Psychological Abuse
  - Sexual Abuse
- Screening questions:
  - Has anyone close to you tried to hurt or harm you recently?
  - Has anyone forced you to do things that you didn’t want to do?

www.elderabusecenter.org
Elder mistreatment

- Clinician’s responsibilities
  - Documentation of injuries/statements
  - Assessment of capacity: patients have the right to make poor choices
  - Appropriate referrals to social services / Adult Protective Services (APS)
  - Reporting: suspicion for abuse is grounds for mandatory reporting in most states

Palliative Medicine: Pain Management

Pain Management - Case #11:

A 75 year old woman with widely metastatic breast cancer has previously had good pain relief from sustained release morphine, 200 mg every 8 hours, but now she reports severe pain once every 3 days
Pain Management - Case #11:

Which of the following is the most appropriate therapy for her breakthrough pain?

1. Fentanyl 25mcg/h transdermal q3days prn
2. Morphine solution 60mg q2h prn
3. Oxycontin 10mg q4h prn
4. Codeine 30 mg q4h prn
5. Vicodin 5/500 q4h prn

Pain Management - Case #11:

Which of the following is the most appropriate therapy for her breakthrough pain?

1. Fentanyl 25mcg/h transdermal q3days prn
2. Morphine solution 60mg q2h prn
3. Oxycontin 10mg q4h prn
4. Codeine 30 mg q4h prn
5. Vicodin 5/500 q4h prn

Pain Management - Opiate Basics:

- Determine total opiate requirement in 24 hours
- Use extended release formulas around the clock if pain is continuous
  - fentanyl patch may take 12-24 hours to take effect, 72 hours to reach steady state
- Conversion of IV morphine to PO:
  - 1 mg iv morphine = 3 mg po morphine
- If uncontrolled, increase doses by 25-50% for mild-moderate pain, 50-100% for severe pain
Use an Equianalgesic Tables to Convert Between Opioids

<table>
<thead>
<tr>
<th>Drug</th>
<th>PO</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>30 mg</td>
<td>10 mg</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>30 mg</td>
<td>--</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>20 mg</td>
<td>--</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>7.5 mg</td>
<td>1.5 mg</td>
</tr>
<tr>
<td>Fentanyl*</td>
<td>2:1 Rule for Transdermal*</td>
<td>0.1 mg (100 mcg)</td>
</tr>
<tr>
<td>Methadone</td>
<td>see dosing guide</td>
<td></td>
</tr>
</tbody>
</table>

* 2:1 rule for patch (50 mg PO morphine approx 25 mcg/hr TD fentanyl)

Pain Management - Opiate Basics:

- Rescue or breakthrough analgesia is often needed
- Each rescue dose = 10% of total 24 hour dose
  - Example:
    - basal dose sustained release morphine 200 mg q8h (600 mg/24 hours)
    - then breakthrough is liquid morphine 60 mg q2h prn
  - For rapidly changing pain, offer q1h prn orally, q30 minutes prn SC/IM or q10 minutes prn IV.

Pain Management - Pearls

- Prevent constipation aggressively
  - Everyone on opioids gets senna
  - Methylnaltrexone SQ
- Opiate related nausea is mediated by D2 receptors
  - Antidopaminergic antiemetics: prochlorperazine, haloperidol.
- NSAIDs may be helpful for bone pain
- SNRI’s and tricyclic antidepressants may be helpful for neuropathic pain
Pain Meds - Some to Avoid

- Everyone
  - Meperidine (Demerol)
  - Codiene
- Renal Failure
  - Morphine, Codiene
  - NSAIDs
  - Caution: Oxycodeone, Hydromorphone
  - Safest: Fentanyl, Methadone
- Liver Failure
  - Decrease Tylenol max dose
  - Increase dosing interval and decrease dose for opioids
- Elderly: NSAIDs with caution