NO FINANCIAL DISCLOSURES

Grandpa, would you ever wear an adult diaper?

Depends.
WHAT IS GERIATRIC EM

Optimizing the care of older patients in the ED.

Safe Discharge

Needed Admissions

Starting best practices early that continue through discharge or hospitalization
GERIATRIC EM

Overview of Geriatric EM
How are Emergency Departments changing for older patients
(structures, staff, systems)

Geriatric Syndromes - falls and delirium
Emergenc Medicine Model

Traditional EM Management Pathway

1. Prehospital Assessments and Interventions
2. Initial Evaluation of Injury or Illness Acuity
3. Stabilization
4. History, Physical Exam, Differential Diagnosis
5. Testing
6. Diagnostic Refinement
7. Further Management Plan

Settings Where Processes Occur:
- **Yellow** = Home, Clinic, Accident-Scene or Nursing Home Environment
- **Blue** = Waiting Room or Triage station
- **Red** = ED patient room or hallway
- **Purple** = Observation Unit, Inpatient or Outpatient Setting
WHERE DO PATIENTS GO FROM THE ED?
GERIATRIC SYNDROMES

Delirium*
Dementia
(Defession)
Falls*
Functional decline / Frailty
Pressure ulcers
Incontinence
(Obesity)
WHY DID I GET INTERESTED IN GERIATRICS
Exhibit 1.

Elderly Adults As a Share of the U.S. Population, 2000 to 2050

(Percent)

Source: Congressional Budget Office tabulations based on population projections reported in *The 2012 Long-Term Budget Outlook* (June 2012), www.cbo.gov/publication/43288.

Note: Members of the baby-boom generation (people born between 1946 and 1964) started turning 65 in 2011 and will turn 85 beginning in 2031.
Exhibit 2.

Elderly Adults As a Share of All Adults Age 18 or Older, 2010 to 2050

(Percent)

Source: Congressional Budget Office tabulations based on population projections reported in The 2012 Long-Term Budget Outlook (June 2012), www.cbo.gov/publication/43288.
Figure 6. Age and Sex Structure of the Population for the United States: 2010, 2030, and 2050
2008 National Projections
(In millions)

Source: U.S. Census Bureau, 2008.
You cannot teach a resident how to take great care of an elderly patient when the system is not taking care of the patient.

Ethan Cumbler MD
TEAMS

Stable groups united around a long term goal.
ANOTHER DAY IN PARADISE
LOTS OF PEOPLE ON GURNEYS (NOT JUST USA)
HERE’S WHAT A NORMAL ED LOOKS LIKE...
BUT OUR NEW ED...
SINGLE PATIENT ROOMS
EMERGENCY DEPARTMENTS

Loud
24/7
Multiple staff
Not comfortable

• Privacy
• Bathrooms
• Gurneys
• No good distractions
WHAT ARE WE DOING IN OUR ED?

Improving Care of the Elderly in the Emergency Department (ICEED).

Multidisciplinary Geriatric Journal Club

CVC day

Didactics

Care Plans like the Geriatric Fracture Program

Starting the Geriatric Emergency Medicine Fellowship
WHAT’S IN THE GERIATRIC ED GUIDELINES

Structures
Staff
Systems
WHAT’S IN THE GERIATRIC ED GUIDELINES

Structures
• Equipment / Supplies
• Rooms
• Overall environment

Staff

Systems
WHAT’S IN THE GERIATRIC ED GUIDELINES

Structures

Staff

• everyone and perhaps a few you had not thought of – RNs, MD/Dos, Techs, Social Workers, Discharge Planners, Navigators, Allied Health – PT, OT, Speech Therapy, Pharmacists.

Systems
WHAT’S IN THE GERIATRIC ED GUIDELINES

Structures

Staff

Systems

• Policies
• Procedures
10 THINGS WE COULD DO BETTER

1. Don’t lose their stuff
2. Think about withdrawal – alcohol & benzodiazepines
3. Give them their regular medications
4. Check in often (food, water, meds, re-orientation)
5. Don’t lose their records
6. Don’t snow them
7. Be careful with pain med dosing - Goldilocks
8. Get contact numbers for family
9. Not everyone needs a UA
10. Contact the care facility

Figure 2. Sample Geriatric ED Quality Assessment Instrument (Dashboard)

<table>
<thead>
<tr>
<th>GLOBAL MEASURES</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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</thead>
<tbody>
<tr>
<td>Patient volume &gt;65</td>
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<tr>
<td>% of total admissions</td>
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<td>Readmissions</td>
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<td>72 hour ED revisits</td>
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<tr>
<td>24 hour admission upgrades</td>
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<tr>
<td>Geriatric abuse</td>
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<td>Deaths</td>
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</tbody>
</table>

| DISEASE SPECIFIC                                   |     |     |     |     |     |     |     |     |     |     |     |     |
| FALLS                                              |     |     |     |     |     |     |     |     |     |     |     |     |
| Hip Fractures                                      |     |     |     |     |     |     |     |     |     |     |     |     |
| Traumatic ICH                                      |     |     |     |     |     |     |     |     |     |     |     |     |
| Blunt Abdominal Injury                             |     |     |     |     |     |     |     |     |     |     |     |     |
| Death                                              |     |     |     |     |     |     |     |     |     |     |     |     |
| Fall-Risk Assessment                               |     |     |     |     |     |     |     |     |     |     |     |     |
| Physical Therapy Eval                              |     |     |     |     |     |     |     |     |     |     |     |     |

| URINARY CATHETERS                                  |     |     |     |     |     |     |     |     |     |     |     |     |
| Check List Used                                    |     |     |     |     |     |     |     |     |     |     |     |     |
| Catheter Days                                      |     |     |     |     |     |     |     |     |     |     |     |     |
| Automatic Discontinue                              |     |     |     |     |     |     |     |     |     |     |     |     |
| CAUTI Stay Length                                  |     |     |     |     |     |     |     |     |     |     |     |     |

| MEDICINE MANAGEMENT                                |     |     |     |     |     |     |     |     |     |     |     |     |
| High Risk Meds Noted                               |     |     |     |     |     |     |     |     |     |     |     |     |
| ED High Risk Meds                                  |     |     |     |     |     |     |     |     |     |     |     |     |
| Adverse Reaction Revisit                           |     |     |     |     |     |     |     |     |     |     |     |     |
| Non-compliance Revisit                             |     |     |     |     |     |     |     |     |     |     |     |     |

| DELIRIUM                                           |     |     |     |     |     |     |     |     |     |     |     |     |
| Screen Documented                                  |     |     |     |     |     |     |     |     |     |     |     |     |
| Restraint Indications                              |     |     |     |     |     |     |     |     |     |     |     |     |
| Chemical Restraint Attempt                         |     |     |     |     |     |     |     |     |     |     |     |     |
| Behavior Physical Restraint Used                   |     |     |     |     |     |     |     |     |     |     |     |     |
DELIRIUM
WHO COULD IGNORE THAT?

ACUTE BRAIN FAILURE

Causes and Interactions of Pain, Agitation, and Delirium

- Neurologic diagnosis (e.g., head injury)
- Preexisting mental impairment
- Medical comorbidity
- Severity of illness
- Advanced age
- Observable and occult metabolic abnormalities
- Withdrawal from chronic psychoactive medications (e.g., benzodiazepines, opioids)
- Sleep deprivation
- Substance abuse or withdrawal
- Noise
- Sedatives

Pain
- Elements of routine ICU care (e.g., turning, physical therapy)
- Tissue injury (e.g., surgery, trauma, pressure areas)
- Vascular access
- Affective component (e.g., “this pain means I’m more likely to die”)

Agitation; unpleasant awareness
- Anxiety (appropriate or pathologic)
- Frustration
- Lack of homeostasis (e.g., thirst, hunger, dyspnea)
- Inability to communicate
- Ventilator dyssynchrony

Delirium
- Advanced age
- Medical comorbidity
- Severity of illness

Review Article: Critical Care Medicine
Sedation and Delirium in the Intensive Care Unit
Michael C. Reade, M.B., B.S., D.Phil., and Simon Finfer, M.D
PAIN CONTROL

Optimize pain control
Regular acetaminophen
Start low and go slow
Risk of opioids versus risk of pain
Regional Anesthesia especially for Hip Fractures
DELIRIUM

Very expensive
US health system costs of delirium $150B per year

30-40% of cases of delirium prevented by low cost-high touch interventions


HOW CAN WE MISS THIS?

We don’t recognize it
We don’t name it
“It’s just dementia”
“Altered Mental State”

Hidden in plain sight


IF YOU DON’T SCREEN YOU WILL MISS IT...

We miss up to 75% without screening
No diagnostic blood, electrophysiological, or imaging test for delirium

Remains a clinical diagnosis
WHO GETS IT?

Children

Elderly

Community 1-2%

Hospitalized:
ED elderly 8-17%
NH patients in the ED 40%
Gen Med up to 30%
ICU 50-80%
Pre-existing dementia 50%

OUTCOMES – MORTALITY FROM DELIRIUM

ICU have a 2-4-times ↑ risk of death both in and out of hospital

General medicine or old age medicine wards have a 1.5 x ↑ risk for death in the year after hospital admission

ED pts have a roughly 70% ↑ risk of death during the first 6 months after the visit.


COGNITIVE IMPAIRMENT OUTCOMES FROM DELIRIUM

Common, and lasts beyond initial period
Up to a year

Delirium is more common in patients with dementia
Dementia more likely to subsequently develop in patients who have had delirium
HYPERACTIVE---------HYPOACTIVE
DELIRIUM SUBTYPES


**HYPERACTIVE**

Easy to recognize

Agitated

Hypervigilent

Risk to self - agitated, falls**

Distressing to families and staff

**HYPOACTIVE**

Harder to recognize

Quieter

Easier to care for

Perhaps worse outcomes overall

Not distressing to medical staff or families
POSTOPERATIVE DELIRIUM IN OLDER ADULTS:
BEST PRACTICE STATEMENT AGS

Most common surgical complication in older adults

Occurs in 5% - 50% of older patients after an operation

More than one-third of all inpatient operations in USA on patients 65 years or older.

Episode of delirium can initiate a cascade of deleterious clinical events

- major postoperative complications
- prolonged hospitalization
- loss of functional independence
- reduced cognitive function
- Death

Preventable in up to 40% of patients
Prevention interventions that should be implemented peri-operatively

- Nonpharmacologic
- Pharmacologic

Treatment/Management interventions that should be implemented peri-operatively

- Nonpharmacologic
- Pharmacologic
PREVENTION

Aimed at primary prevention

High risk individuals:

Postoperative Delirium in Older Adults: Best Practice Statement
American Geriatrics Society
Inouye, Sharon K. et al.
Journal of the American College of Surgeons, Volume 220, Issue 2, 136-148.e1
LEADING PREDISPOSING RISK FACTORS

dementia or cognitive impairment
functional impairment,
visual impairment
history of alcohol misuse
advanced age (>70 years).
NICE GUIDELINES – DELIRIUM RISK FACTORS

Age > 65yo

Cognitive impairment
  • Past or present
  • Hx dementia

Current hip fracture

Severe acute illness

NICE Guidelines
Published 2012, updated 2014
RESTRAINTS

Restraints includes
single tethers
Oxygen tubing
Foley catheters
2.4RR
IVs
INFECTION

Pneumonia
Urinary tract infections
Skin
CNS uncommon

MEDICATIONS

Anticholinergics
Anti-inflammatory including steroids
Cardiovascular drugs esp digoxin, anti-HTN, diuretics
Lithium
Toxicity or withdrawal
  • Alcohol
  • Benzodiazepines
  • Opiates

OTHER CLINICAL CONDITIONS

Metabolic – hypo/hyperglycemia, dehydration, electrolyte imbalance, end-organ failure, hypercapnia, hypoxia

CVS – arrhythmia, HF, MI

CNS – stroke/TIA, seizures, SDH, tumors
Causes and Interactions of Pain, Agitation, and Delirium

Review Article: Critical Care Medicine
Sedation and Delirium in the Intensive Care Unit
Michael C. Reade, M.B., B.S., D.Phil., and Simon Finfer, M.D
IN THE ED:
FIDGETS
PAIN MANAGEMENT
Algorithm for the Coordinated Management of Pain, Agitation, and Delirium.

Review Article: Critical Care Medicine
Sedation and Delirium in the Intensive Care Unit
Michael C. Reade, M.B., B.S., D.Phil., and Simon Finfer, M.D
FALLS

One out of three older adults (those aged 65 or older) falls each year.

Among older adults, falls are the leading cause of both fatal and nonfatal injuries.

CDC
STEADI - stopping elderly accidents, deaths and injuries
FALLS - OUTCOMES

Injury - fractures, lacerations

Fragility fractures: distal radius, vertebral body, pelvis, hip fractures**

Falls are the most common cause of traumatic brain injury

Fear of Falling

CDC
STEADI - stopping elderly accidents deaths and injuries
FEAR OF FALLING

Negative spiral of reduced activity

Fear limits activities, which leads to reduced mobility and loss of physical fitness, and in turn increases their actual risk of falling
SIMPLE WAYS TO INCORPORATE FALL SCREENING
FALL SCREENING

Three Questions to Ask Your Older Adult Patients

1. Have you fallen in the past year?
2. Do you feel unsteady when standing or walking?
3. Do you worry about falling?
ASK patients if they’ve fallen in the past year, feel unsteady, or worry about falling.

REVIEW medications and stop, switch, or reduce the dosage of drugs that increase fall risk.

RECOMMEND Vitamin D supplements of at least 800 IU/day with calcium.
> Conduct multifactorial risk assessment
- Review *Stay Independent* brochure
- Falls history
- Physical exam including:
  - Postural dizziness/postural hypotension
  - Medication review
  - Cognitive screen
  - Feet & footwear
  - Use of mobility aids
  - Visual acuity check

> HIGH RISK Individualized fall interventions
- Educate patient
- Vitamin D +/- calcium
- Refer to PT to enhance functional mobility & improve strength & balance
- Manage & monitor hypotension
- Modify medications
- Address foot problems
- Optimize vision
- Optimize home safety

> Follow up with HIGH RISK patient within 30 days
- Review care plan
- Assess & encourage fall risk reduction behaviors
- Discuss & address barriers to adherence
  - Transition to maintenance exercise program when patient is ready

≥ 2 falls → Injury
1 fall → No injury
0 falls → Refer to PT to improve gait, strength & balance or refer to a community fall prevention program
# Fall Risk Checklist

<table>
<thead>
<tr>
<th>Fall Risk Factor Identified</th>
<th>Factor Present?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Falls History</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any falls in past year?</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Worries about falling or feels unsteady when standing or walking?</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td><strong>Medical Conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems with heart rate and/or rhythm</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Incontinence</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Foot problems</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Other medical conditions (Specify)</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td><strong>Medications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any psychoactive medications, medications with anticholinergic side effects, and/or sedating OTCs? (e.g., Benadryl, Tylenol PM)</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td><strong>Gait, Strength &amp; Balance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timed Up and Go (TUG) Test</td>
<td>☐ Yes ☐ No</td>
<td></td>
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<tr>
<td>≥12 seconds</td>
<td></td>
<td></td>
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<tr>
<td>30-Second Chair Stand Test</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Below average score (See table on back)</td>
<td></td>
<td></td>
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<tr>
<td>4-Stage Balance Test</td>
<td>☐ Yes ☐ No</td>
<td></td>
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<tr>
<td>Full tandem stance &lt;10 seconds</td>
<td></td>
<td></td>
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<tr>
<td><strong>Vision</strong></td>
<td></td>
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<tr>
<td>Acuity &lt;20/40 OR no eye exam in &gt;1 year</td>
<td>☐ Yes ☐ No</td>
<td></td>
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<tr>
<td><strong>Postural Hypotension</strong></td>
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<tr>
<td>A decrease in systolic BP ≥20 mm Hg or a diastolic bp of ≥10 mm Hg or lightheadedness or dizziness from lying to standing?</td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td><strong>Other Risk Factors (Specify)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>☐ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>☐ Yes ☐ No</td>
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</tbody>
</table>
STEADI Materials for Health Care Providers

Make Fall Prevention Part of Your Practice

- **Triage Your Patients Based on Fall Risk**
  This tool walks health care providers through assessing a patient’s fall risk, educating patients, selecting interventions, and following up.

- **Stay Independent**
  **Mantenga su independencia**
  This brochure offers a checklist that providers and patients can use to check for risk of falling. (Available in both English and Spanish.)
  **Order:** English version

- **Prevent Falls in Older Patients, Provider Pocket Guide**
  This small, easy-to-use tool walks health care providers through key points of fall prevention.

- **See Your Patient's Risk at a Glance**
  This checklist allows health care providers to summarize an older patient’s fall risk.

- **Integrate Fall Prevention into Your Practice**
  This wall chart helps health care providers determine who in their practice will be responsible for conducting fall risk assessments, delivering interventions, and providing education to older patients.

- **Talk about Fall Prevention with Your Patients**
  This document can help health care providers comfortably talk about fall prevention with patients.

Get Background Information about Falls

- **Falls Are a Major Threat for Your Patients**
  Learn how serious a problem falls are for older adults.

- **Risk Factors for Falls**
  Learn which modifiable risk factors you should focus on first to prevent falls among your patients.

- **Medications Linked to Falls**
  Learn how medication management can reduce falls.
WHO SHOULD EXERCISE?

EVERYONE, UP TO AND INCLUDING PEOPLE ON VENTILATORS
WHAT KIND OF EXERCISE SHOULD I DO?

The kind you keep doing…
TYPES OF EXERCISE

Strength
Balance
Cardiovascular (cardio) or Endurance
Stretching or flexibility
IF EXERCISE IS NEW TO YOU...

Check with your doctor first.
Start slow and go slow.
Persistence is key
Start simple
Make it fun
Technology can help
HOW MUCH?

A summary of the WHO recommendations for exercise for people aged 65 years and older

At least 150 min of moderate-intensity aerobic activity, or at least 75 min of vigorous-intensity aerobic activity, or an equivalent combination.

Aerobic activity should be performed in bouts of at least 10 min duration.

People with poor mobility should do balance exercise to prevent falls on 3 or more days.

Muscle-strengthening activities should be done on two or more days.

If older adults are unable to do the recommended amounts of physical activity due to health conditions, they should be as physically active as they are able.
MAKE IT FUN AND FUNCTIONAL
TYPES OF EXERCISE

Strength
Balance
Cardiovascular (cardio) or Endurance
Stretching or flexibility
BALANCE EXERCISES TO PREVENT FALLS

Prevent falls

Prevent injuries caused by falling.

• especially fractures.

Tai Chi is the best studied.
IF EXERCISE IS NEW TO YOU...

Check with your doctor first.
Start slow and go slow.
Persistence is key
Start simple
Make it fun
Technology can help
EXERCISE

Older people tend to honor appointments with others.
Outpatient rehab, physical therapy.
BONE ATTACK
OUTCOMES FROM HIP FRACTURE

5% die in hospital
10% dead within one month
20-30% dead within one year

75% in women
Men have higher mortality
50% from community live in NH at one year
GERIATRIC FRACTURE PROGRAM

Replicates programs in other centers
Our LOS for Hip fractures > 8 days
ICU admissions >20%

National average <6 days
GFP <5 days
GERIATRIC FRACTURE PROGRAM

Minimum Standards for the Management of Hip Fracture in the Older Person

HIP FRACTURE:
Every day more than 40 Australians break their hip. Most are aged 65 years or over, and more than half are aged 85 or over.

Once a person has had one fracture they have two to three times higher risk of another fracture than their peers.

In 2011/12, the NSW Ministry of Health spent $145 M on acute services for hip fractures. This cost continues to rise every year.

The Agency for Clinical Innovation (ACI) has developed Seven Minimum Standards to ensure hospitals in providing best practice care for older people admitted to a NSW hospital with a hip fracture and to support patient outcomes.

The Minimum Standards aim to:
- Improve function and quality of life
- Reduce morbidity and mortality
- Result in increased value from the health dollars spent

The ACI has developed resources to explain the Minimum Standards and aid implementation. It is anticipated that hospital teams will tailor the implementation of the Minimum Standards based on patient needs, local knowledge and available resources.


STANDARD 1: Collaborative care by orthopedic and geriatric services

STANDARD 2: Optimal pain management

STANDARD 3: Surgery within 48 hours and in hours (regardless of inter-hospital transfers)

STANDARD 4: Patient’s surgery is not cancelled

STANDARD 5: Commencement of mobilisation within 24 hours of surgery

STANDARD 6: Re-fracture Prevention

STANDARD 7: Local Ownership of data systems and processes to drive improvements in care

Person presents with suspected hip fracture
Assess the patient

Analgesia

Hip Fracture Programme

Patient information and support

Surgery

Multidisciplinary rehabilitation

Assess future fracture risk
GERIATRIC FRACTURE PROGRAMS

Co-managed / collaborative model – orthopedics & geriatrics

Multidisciplinary model – especially case management & PT

Optimize pain management

Early operative fixation
  within 48 hours
  during regular hours
  not cancelled

Early mobilization - 24 hours post operative.
PAIN MANAGEMENT
BUNDLE

Early and often
Goldilocks – not too little and not too much
Pain meds before imaging
If need more than TWO doses of opioids, consider regional anesthesia.

At UC Davis – we perform the Fascia Iliaca Compartment Block
PAIN MANAGEMENT BUNDLE

1  Compassionate
2  Reduces delirium

Fascia Iliaca Compartment block is easy and has low risk of complications.
SIMPLE LANDMARK BASED TECHNIQUE +/- ULTRASOUND
THANK YOU
USEFUL RESOURCES

CDC STEADI

http://www.cdc.gov/homeandrecreationalandsafety/Falls/steadi/materials.html

Geriatric ED Guidelines:

http://www.acep.org/geriEDguidelines/

Delirium: