Approach to the Geriatric Patient in the Emergency Department

MOA
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Objectives

• At the end of this discussion the audience will know:
  • Reasons geriatric patients visit the ED
  • Importance of accurate and complete health information
  • Reasons geriatric patients delay seeking ED care
  • Utilization of Hospice, Palliative care
  • Need for a knowledgeable POA, medical advocate
  • Variations in geriatric patient presentations compared to younger adults
What do we know about the Geriatric EM population?

• Normal aging is hard to avoid
• Families less engaged – variety of reasons

• The population >65 is rising, 2010: 15% ; 2030: expected to be 20%
• 2010: 15% of all ED visits were from those >65
• There is recently the development of a Geriatric EM focus, and Geriatric EDs
What do we know about the Geriatric EM patient population?

• Hard of hearing can make them seem like they have dementia
• Some voices are easier to discern than others due to voice frequency
Figure 1. Number and rate of emergency department visits for persons aged 65 and over: United States, 2009–2010

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number of Visits (Millions)</th>
<th>Rate per 1,000 Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall 65 and over</td>
<td>19.6</td>
<td>1,832</td>
</tr>
<tr>
<td>65–74</td>
<td>8.3</td>
<td>573</td>
</tr>
<tr>
<td>75–84</td>
<td>7.2</td>
<td>511</td>
</tr>
<tr>
<td>85 and over</td>
<td>4.1</td>
<td>398</td>
</tr>
</tbody>
</table>

1Linear trend shown is significant (p < 0.05) based on a weighted least-squares regression test.

NOTES: Figures are based on 2-year averages. A sample of 10,279 emergency department visits were made by persons aged 65 and over, representing an annual average weighted total of 10.6 million visits. Visit rates are based on the July 1, 2009, and July 1, 2010, set of estimates of the civilian noninstitutionalized population of the United States as developed by the U.S. Census Bureau’s Population Division.


https://www.cdc.gov/nchs/products/databriefs/db130.htm; NCHS Data Brief No. 130, October 2013
Figure 2. Percentage of emergency department visits by nursing home residents for persons aged 65 and over: United States, 2009–2010

1Linear trend shown is significant ($p < 0.05$) based on a weighted least-squares regression test.

NOTES: Figures are based on 2-year averages. A sample of 1,151 emergency department visits were made by nursing home residents aged 65 and over, representing an annual average weighted total of 2.2 million visits.

Figure 3. Percentage of emergency department visits arriving by ambulance for persons aged 65 and over: United States, 2009–2010

1Linear trend shown is significant (p < 0.05) based on a weighted least-squares regression test.

NOTES: Figures are based on 2-year averages. A sample of 3,887 emergency department visits were made by persons aged 65 and over arriving by ambulance, representing an annual average weighted total of 7.5 million visits.

Figure 4. Percentage of emergency department visits caused by any injury and by unintentional falls for persons aged 65 and over: United States, 2009–2010

1Percentage is significantly higher (p < 0.05) than for younger age groups, based on a two-tailed t test.
2Linear trend shown is significant (p < 0.05) based on a weighted least-squares regression test.
NOTES: Unintentional falls were defined as first-listed external cause of injury codes 880–886 or 888 in the international Classification of Diseases, Ninth Revision, Clinical Modification (ICD–9–CM). Figures are based on 2-year averages. A sample of 3,065 emergency department (ED) visits caused by injury were made by patients aged 65 and over, representing an annual average weighted total of 5.7 million visits. A sample of 1,374 ED visits caused by falls were made by patients aged 65 and over, representing an annual average weighted total of 2.6 million visits.
Figure 5. Percentage of emergency department visits resulting in hospital admission for persons aged 65 and over: United States, 2009–2010

1Linear trend shown is significant ($p < 0.05$) based on a weighted least-squares regression test.

NOTES: Figures are based on 2-year averages. A sample of 3,679 emergency department visits resulting in hospital admission were made by patients aged 65 and over, representing an annual average weighted total of 7.2 million visits.

Before we discuss diseases:

• What do they bring to the ED
• What should they bring to the ED
• How can you help?
What should they bring to the ED?

• Detailed AVS from your last office visit that lists:
  • Current problems
  • Current meds with time of administration
  • Current allergies with reactions
  • Current surgeries
  • Advanced directives
  • Power of attorney form
  • Specialist physicians’ names if any

• We can provide the toothbrush and gown!!
How can you encourage this behavior?

• EMR is often limited in information it holds
• Provide them with an AVS and explain the importance of keeping it
• Explain the risks to them as a person including delay in treatment, incorrect care, undesired care, medication reactions, other serious adverse events by not having accurate information
• Many do not have the luxury of someone who is medically intelligent, and willing to participate in their ER care, so often come alone – they need a medical advocate/power of attorney that they have communicated their desires to
Where should this material be located in their house or apartment?

• On the refrigerator – a packet or paper that states where it is in a folder with their name on it

• Encourage recycling of old prescription medications, because EMS often just grabs everything they find

• Carry a brief health history card in their wallet or purse
Who should be encouraged to have a list?

• Everyone who has any chronic medical condition
• Medic Alerts
Why don’t they come when they should?

• Worry about cost
• Observation admits- costly for seniors
• Lack of education despite all the ads on TV about stroke, MI
• Non-specific symptoms are much more common in the elderly population
• ‘I thought it would go away, so I waited a while’ is not a good plan

Why don’t they come when they should?

Typical admits are usually covered by Medicare, but…

Seniors are wise to the observation admit –

Many will routinely refuse an observation admission, or worse yet, wait until they are at death’s door
Hospice Care

![Graph showing average and median length of service for hospice care over years 2010, 2011, and 2012. The average length of service is 67.4 days in 2010, 69.1 days in 2011, and 71.8 days in 2012. The median length of service is 19.7 days in 2010, 19.1 days in 2011, and 18.7 days in 2012.](http://hospiceactionnetwork.org/linked_documents/get_informed/policy_resources/PolicyBriefing_LengthofStay_March2014.pdf)
Hospice Care: Under or Overutilized?

- <7 days: 35.5%
- 30 - 89 days: 17.4%
- 8 - 29 days: 27.0%
- 90 - 179 days: 8.8%
- 180+ days: 11.5%
The elderly and their beliefs on CPR

• JAOA Article: 81% of survey responders believed that their chance of surviving inpatient CPR and leaving the hospital was 50% or better, and 23% believed that their chance was 90% or better. 9% thought it was 10% or less.

• Primary sources of healthcare information was TV, physicians, or both.

• 44% of patients reported having a DNR order on file though.

• JAMA article from 1996: Medical TV dramas shown during “prime time” showcase survival rates as high as 75%. Overall, characters in TV dramas survive CPR attempts 67% of the time
The actual numbers:

• A Dutch study looked at survival after cardiac arrest by meta analysis of existing studies.

• Patients > 70 years had less chance of surviving to discharge after an out-of-hospital cardiac arrest (4.1%) 

• Patients who did not get ROSC out of hospital had a 0.6% chance of normal neurologic function.
The real mortality for chronic conditions

- **Hip fracture**: 1 year mortality ~30%
- **COPD**: 1 year mortality after exacerbation is 7-43%; 2-year mortality rate for people with severe COPD is ~ 50%
- **CHF**: 1 year 17-34%,
  - acute pulmonary edema initial mortality 27%, 4 year mortality 67%
- **CVA- ischemic**: 7 day is 7%, 30 day is 12% and 1 year is 24%
Major reasons to visit

-Traumatic Visits
-Medical Visits

Most common Geriatric ED complaints

• Trauma
  • Falls – 15-30% - most common

• Medical
  • Altered mental status high on the non-traumatic list of complaints – up to 25%
  • Variety of causes, often metabolic or infectious
  • Many with dementia also develop delirium
  • Polypharmacy
Most common Geriatric ED complaints

• Many visits are the results of polypharmacy causing altered mental status
• Three drug classes cause about 50% of all ED visits for ADE: anticoagulants, antidiabetic, and agents with narrow therapeutic window

Falls and the elderly

• Every second of every day in the U.S. an older adult falls, making falls the number one cause of injuries and deaths from injury among older Americans.

• In 2014 alone, older Americans experienced 29 million falls causing seven million injuries and costing an estimated $31 billion in annual Medicare costs.

• Assess for alcohol consumption – often a substitute for loneliness and boredom – and leads to many falls and injuries/accidents.

Falls

• The highest rates of TBI-related ED visits, hospitalizations, and deaths were observed among persons aged ≥75 years;
• this suggests an urgent need to enhance fall-prevention efforts in the elderly
• age-adjusted TBI-related death rates attributable to falls increased from 3.8 in 2007 to 4.5 in 2013, primarily among older adults.
Falls

- Brazilian study by Coutinho et al studied those over age 60 who suffered a fall with serious fractures and compared them to aged matched controls and followed over a 1 year period.

- Those with a fall had a mortality of 25% in the first year, whereas control group had mortality of 4%.

- 40% of those with a fall with serious fracture never returned to independent living.
Fall Risk Quick Screen

Start preventing falls with these 3 steps:

SCREEN
Screen for fall risk using these 3 questions:
1. Have you fallen in the past year?
2. Do you feel unsteady when standing or walking?
3. Do you worry about falling?

REVIEW
Review and manage medications linked to falls.
Recommend vitamin D for improved bone, muscle, and nerve health.
Consider Calcium supplementation
Algorithm for Fall Risk Assessment & Interventions

Patient completes Stay Independent brochure

Screen for falls and/or fall risk
Patient answers YES to any key question:
- Fell in past year? If YES ask:
  - How many times? and,
  - Were you injured?
- Feels unsteady when standing or walking?
- Worries about falling?

NO to all key questions

YES to any key question

Evaluate gait, strength & balance
- Timed Up & Go (recommended)
- 30 Second Chair Stand (optional)
- 4 Stage Balance Test (optional)

No gait, strength or balance problems*

Gait, strength or balance problem

≥ 2 falls
Injury

1 fall

0 falls
No injury

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

LOW RISK
Individualized fall interventions
- Educate patient
- Vitamin D +/- calcium
- Refer for strength & balance exercise (community exercise or fall prevention program)

MODERATE RISK
Individualized fall interventions
- Educate patient
- Review & modify medications
- Vitamin D +/- calcium
- Refer to PT to improve gait, strength & balance
  - or refer to a community fall prevention program

*For these patients, consider additional risk assessment (e.g., medication review, cognitive screen, syncope)
Algorithm for Fall Risk Assessment & Interventions

Patient completes Stay Independent brochure

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Patient answers YES to any key question:
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Low Risk
Algorithm for Fall Risk Assessment & Interventions

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YES to any key question

Evaluate gait, strength & balance
- Timed Up & Go (recommended)
- 30 Second Chair Stand (optional)
- 4 Stage Balance Test (optional)

Gait, strength or balance problem

1 fall

0 falls

No injury

MODERATE RISK
Individualized fall interventions
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Evaluate gait, strength & balance
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Gait, strength or balance problem

≥ 2 falls 1 fall

Injury

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Fall, TBI and the patient on anticoagulants

• Current recommendations is to CT scan everyone who falls on anticoagulant or antiplatelet therapy, even if they didn’t hit their head

• Overall rate of ICH is 7-8%, higher in those with LOC and with altered mental status from baseline

• Should we admit and rescan all those with negative CT to r/o delayed bleeds?
Fall, TBI and the patient on anticoagulants

- Geriatric: Fall: Anticoagulation:
- Increase incidence of ICH compared to those not on anticoagulation (8.0% vs. 5.3%, $p < 0.0001$),
- Increase mortality in those with ICH (21.9% vs. 15.2%, $p = 0.04$).
- Use of warfarin prior to blunt head trauma increases mortality compared to those not taking anticoagulants, with an odds ratio of 2.008 (95% confidence interval [CI] 1.634–2.467).
Fall, TBI and the patient on anticoagulants

• Geriatric: Fall: Anticoagulation-antiplatelet:
• Approximately 12% of patients have bleed on initial CT
• Approximately 1% will develop delayed bleed
• At risk for several days following the fall
• GCS 15 with normal neuro exam: d/c if negative initial CT and reliable caregiver, return for any changes probably prudent
• All others, case by case
Dementia vs. Delirium

## Delirium vs Dementia

<table>
<thead>
<tr>
<th></th>
<th>Dementia</th>
<th>Delirium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset</td>
<td>Progressive</td>
<td>Acute</td>
</tr>
<tr>
<td>Moment of Onset</td>
<td>Uncertain, hard to identify</td>
<td>Often precise</td>
</tr>
<tr>
<td>Progression</td>
<td>Slow chronic decline over years</td>
<td>Fluctuates and is reversible</td>
</tr>
<tr>
<td>Duration</td>
<td>Long - years</td>
<td>Short – hours to weeks</td>
</tr>
<tr>
<td>Vigilance</td>
<td>Normal</td>
<td>Fluctuates between hypo and hyper</td>
</tr>
<tr>
<td>Orientation</td>
<td>Space and time orientation disorders late in disease</td>
<td>Disorders appear early and may fluctuate</td>
</tr>
</tbody>
</table>
Delirium vs. Dementia - CAM

- CAM is Confusion Assessment Method:
- The diagnosis of delirium by CAM requires the presence of:
  - **features 1 and 2**
  - **either 3 or 4**
Delirium vs. Dementia: CAM – both 1 and 2

• 1. Is there evidence of an acute change in mental status from the patient’s baseline?  Needs to be YES

• 2a. Did the patient have difficulty focusing attention, for example, being easily distractible, or having difficulty keeping track of what was being said?  Needs to be YES

• 2b. Did the behavior fluctuate during the interview, that is, tend to come and go, or increase and decrease in severity?  Needs to be YES
Delirium vs. Dementia: CAM – then either 3 or 4

• 3. Was the patient’s thinking **disorganized or incoherent**, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject?

• 4. Overall, how would you rate this patient’s level of consciousness?
  • alert (normal)
  • vigilant (hyper-alert)
  • lethargic (drowsy, easily aroused)
  • stupor (difficult to arouse)
  • coma (unarousable)

• (feature shown by any answer other than “alert”)

At least one of these items from 3 or 4 needs to be YES
Most common other ED complaints for Geriatric patients

• Other non-traumatic causes of patient visits to the ED, that may induce trauma include:
• Syncope
• Medication changes
• Sudden changes in renal or hepatic function that allow for medications to become toxic
• Not all ‘trauma’ in the ED has a ‘trauma etiology’
• Need careful attention to the event leading up to the trauma
ICU stay and mortality

- In a Dutch study patients with an ICU stay of over 72 hours were followed for a year
- 26% died in the ICU
- 1 year mortality for those getting out of the ICU was 28% with 50% of these dying within the first week, most while still in the hospital but not in the ICU
- 50% did not return to prehospital function
- Most had a much lower Health Related Quality of Life score as well
Abdominal Pain

- Patients >60 presenting to the ED with abdominal pain:
  - 60% required admission
  - 20% required surgery in the ensuing 2 weeks
  - 5% died
- Less inflammatory response
- More non-specific symptoms
- Delayed presentation
- More missed diagnoses
- Fever and temperature accuracy
So what can patients do – and you recommend to keep them safer?
Summary

• Talk so they can hear you
• Educate them on the very real mortality of a fall
• Make fall prevention a part of every visit
• Require advanced directives and DPOA forms be completed if over the age of 60, or with any chronic medical conditions
• Use the CAM screen to help determine if dementia or delirium is causing the mental status changes
• Always encourage a complete and up to date medication list be kept in an easy to spot location
• Encourage recycling of medications no longer being taken
Every visit you could add this to your geriatric visit summary and quickly review:

• Encourage them to avoid the ‘see if it gets better’ method
• Give them an assignment to get their advanced directives done, and get a power of attorney on file with you and their hospital of choice then check with them at the next appointment
• Have them bring the check sheet back of how to ‘fall proof your home’ and see what they have accomplished from one visit to the next
• Get them in the habit of bringing their healthcare folder with them – have them keep any questions in it to ask, and all labs, test reports and your most important AVS from the last visit should be there.
QUESTIONS?

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