
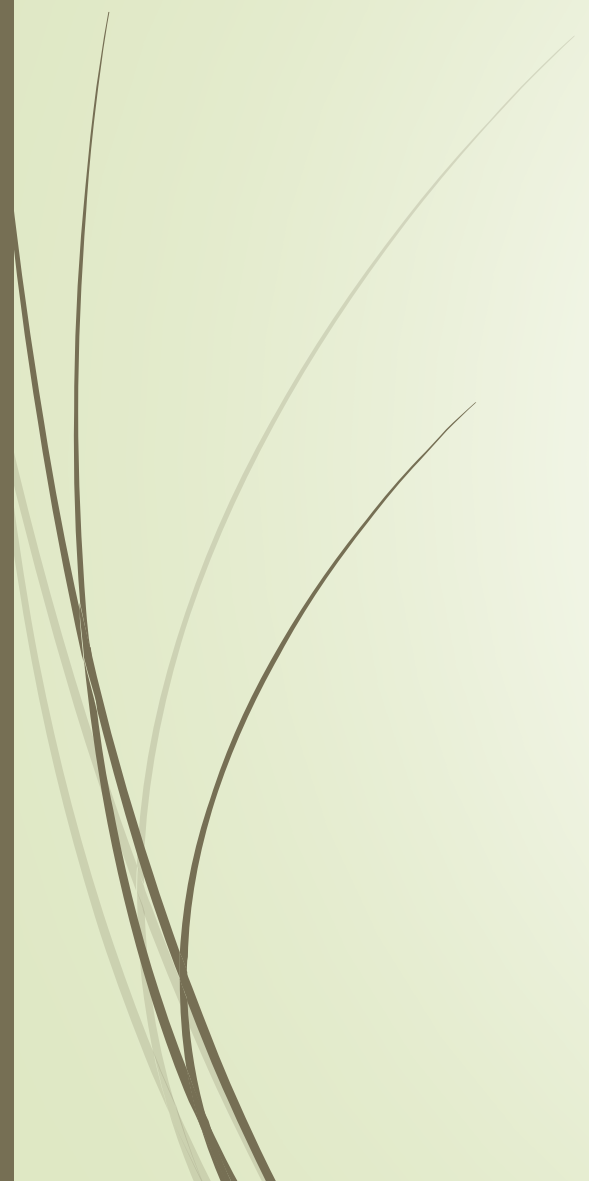


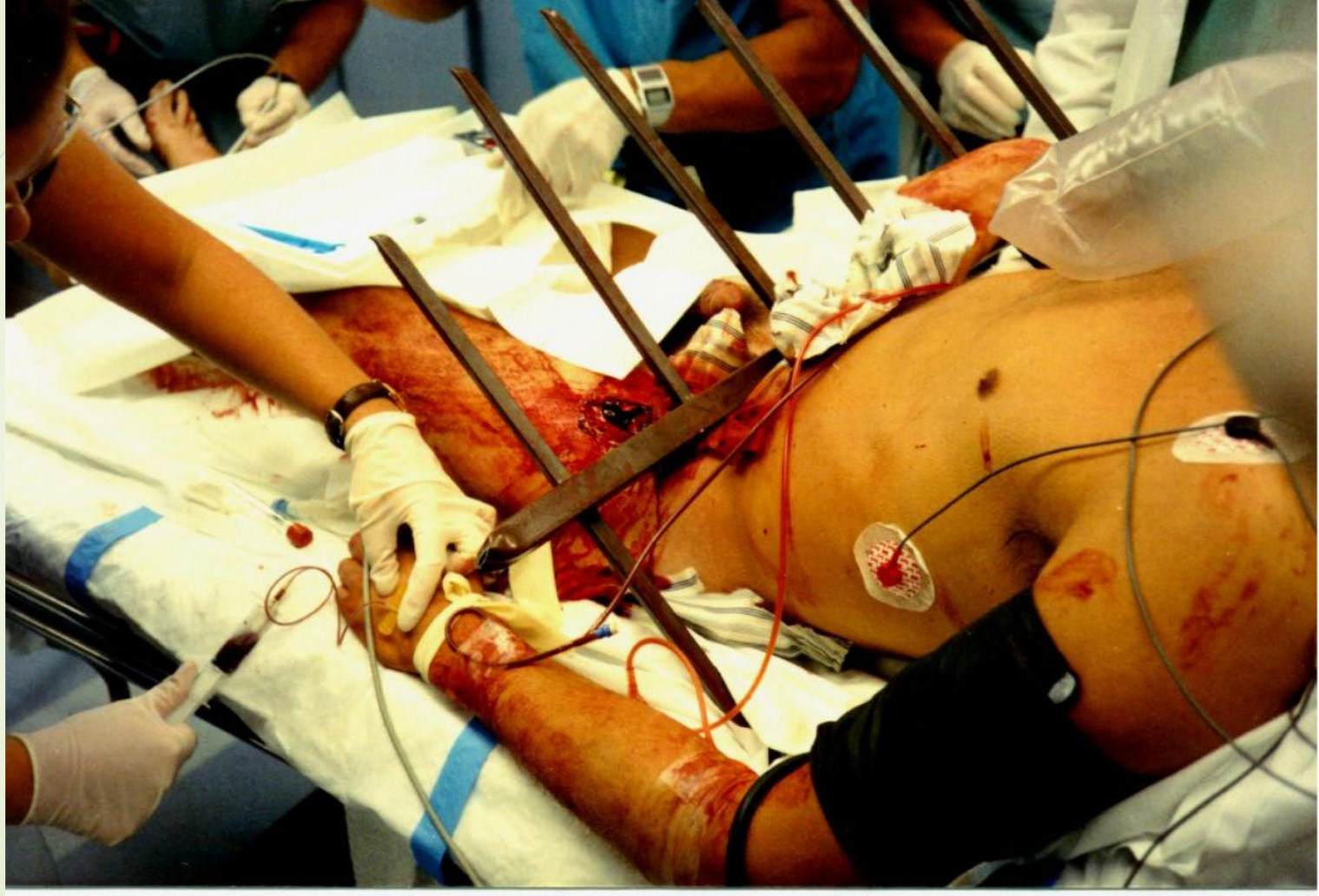
Much Older Remarks: With an Aging Boomer Population, What does EMS Need to Know about Geriatrics?

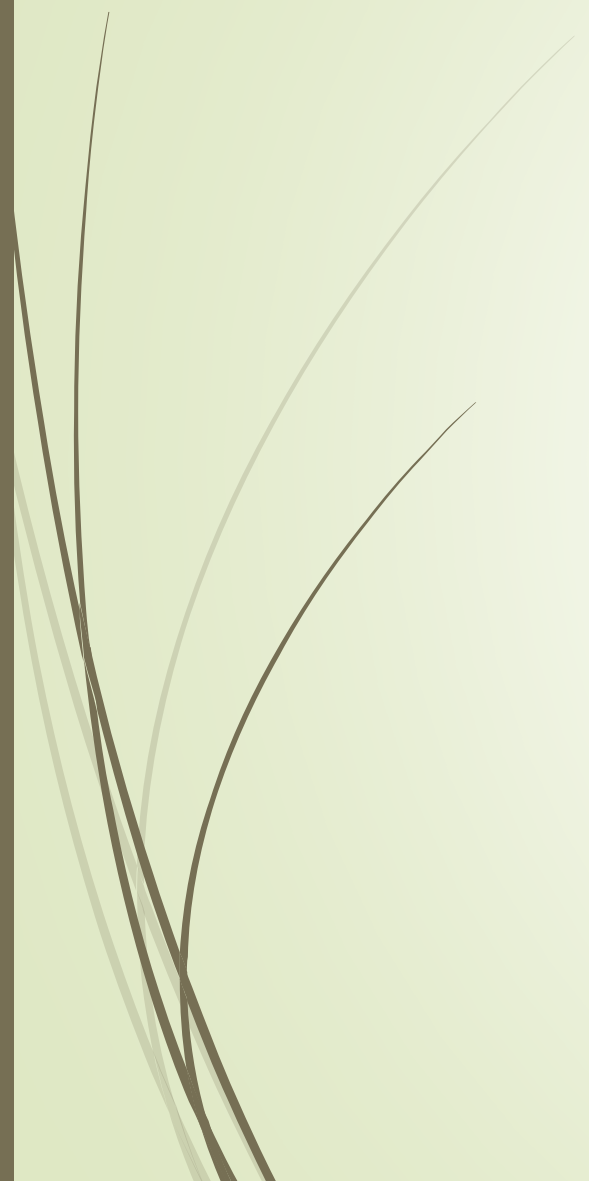


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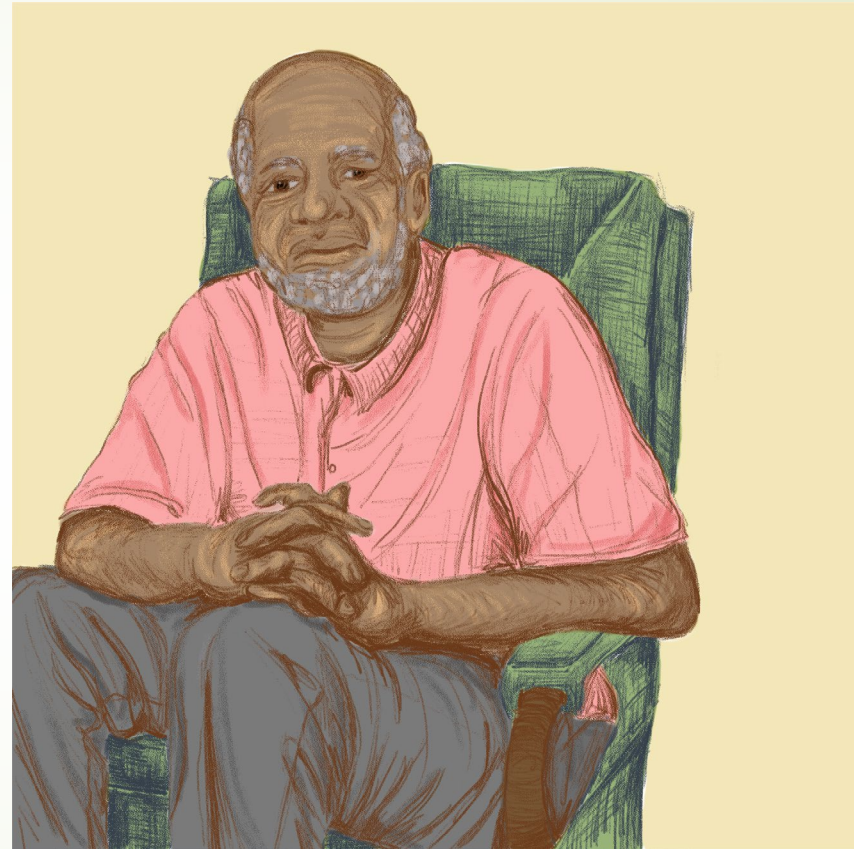






Getting Older

- ▶ The Elderly
 - ▶ 17% of the US population
 - ▶ 1 in 6
 - ▶ 20-25% by 2030
 - ▶ Longer life expectancy and declining birth rates
 - ▶ Almost 56 million
 - ▶ 38% increase since 2010
 - ▶ Fewer children under 5
 - ▶ Population over 65 grew 5 times faster than the total US population



Elderly Definitions

- Older than 65
- Case for over 35
 - Outcomes worsen
 - Increased incidence of pneumonia
- ATLS: >55
 - ACS directs those over 55 to trauma centers
- No literature clearly delineates "geriatric"
- Physiologic age vs. chronologic age



Impact on EMS

- ▶ 48.6% of EMS transports
 - ▶ Over 65
 - ▶ Average age: 80
 - ▶ Response, transport rates, and non-transport rates (per 1000) were all higher
 - ▶ Again in the oldest (> 85)
 - ▶ Most common presenting complaint
 - ▶ Transported and non-transported
 - ▶ Fall
 - ▶ Goldstein et al
 - ▶ CJEM, 2015



Impact on EMS

- Age is the major determinant of EMS use
 - Svenson
 - Am J Emerg Med, 2000
- 30% longer on scene time in non- transports
 - Goldstein et al, 2015
- Between 1994 and 2008, transports for older adults increased 75%
 - Lowthian et al
 - Med J Aust, 2011



Impact on EMS

- Repeat EMS use by older adults
 - 18% had a repeat EMS transport within 30 days
 - Highest with dispatch complaints of
 - SOB
 - Back pain
 - Diabetic problem
 - Psychiatric problem
 - Fall was the most common dispatch complaint
- Evans et al
 - Ann Emerg Med, 2017



Geriatric Trauma

- ▶ Under-triage remains a significant problem
 - ▶ Twice as common
- ▶ Traditional triage tools may mislead
 - ▶ Mechanism
 - ▶ Vital signs
 - ▶ ISS
 - ▶ CRAMS
 - ▶ TS



Older Adults

- 42,114 deaths in the US related to falls in 2020
 - 478,214 between 1999 and 2020
 - Santo-Lozada et al
 - JAMA Network Open, 2023



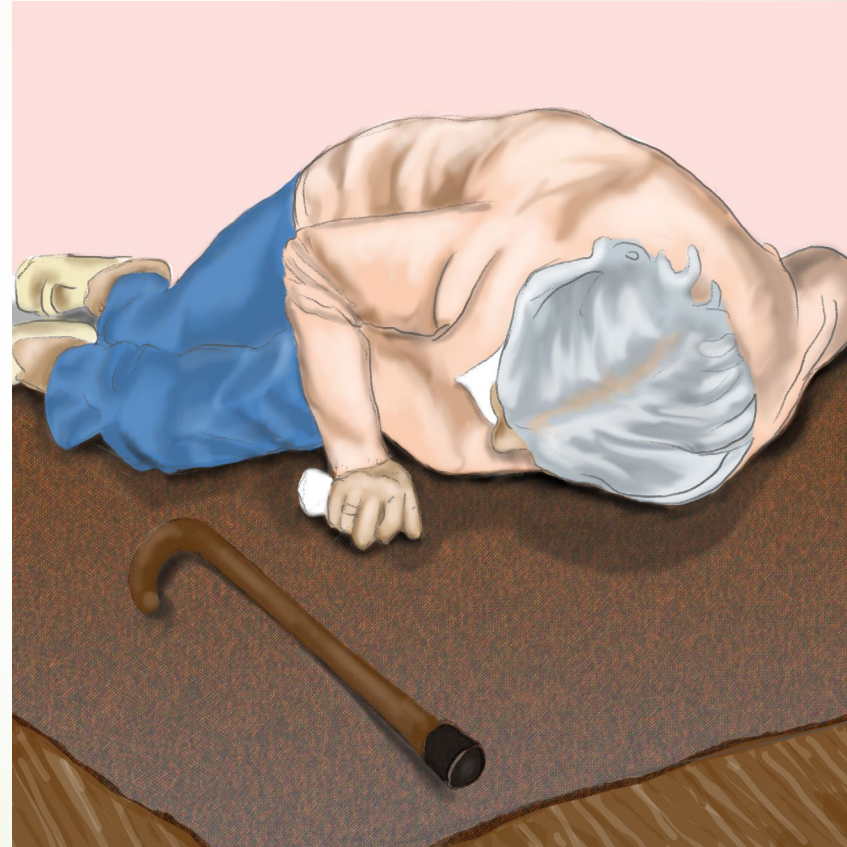
Elderly Falls and EMS

- ▶ Up to 56% of older adults who receive EMS treatment for a fall are not transported
 - ▶ Although not always obviously injured, they comprise a particularly vulnerable cohort
 - ▶ Mikolaizak et al
 - ▶ Australas J Ageing, 2013
- ▶ 49% of those not transported required medical care within 2 weeks
 - ▶ Snooks et al
 - ▶ Qual Saf Health Care, 2006



Causes of Falls in the Elderly

- ▶ 25% are due to underlying medical problems
 - ▶ Syncope or near-syncope
 - ▶ Hypovolemia
 - ▶ Delirium
 - ▶ Underlying infection
 - ▶ Medications
 - ▶ Insulin reaction
 - ▶ Sedatives
 - ▶ Elder abuse



“Mechanical” Fall?

- There is often more to a mechanical fall in the elderly than mechanics
 - Dehydration
 - Delirium
 - Infections
- Non-syncopal fall



Vital Signs: Pulse

- Normal should NOT reassure
 - What is normal?
- Falsely “normal” pulse is common
- Less responsive to circulating catecholamines
- Medications
 - Beta blockers
 - Calcium channel blockers
- Trend may be the most helpful



Vital Signs: Blood Pressure

- Often falsely normal
 - “Normal” may indicate significant hypovolemia
 - Baseline hypertension
- Maintained by increases in SVR because of poor cardiac response to hypovolemia
 - Heffernan et al, J Trauma, Oct 2010



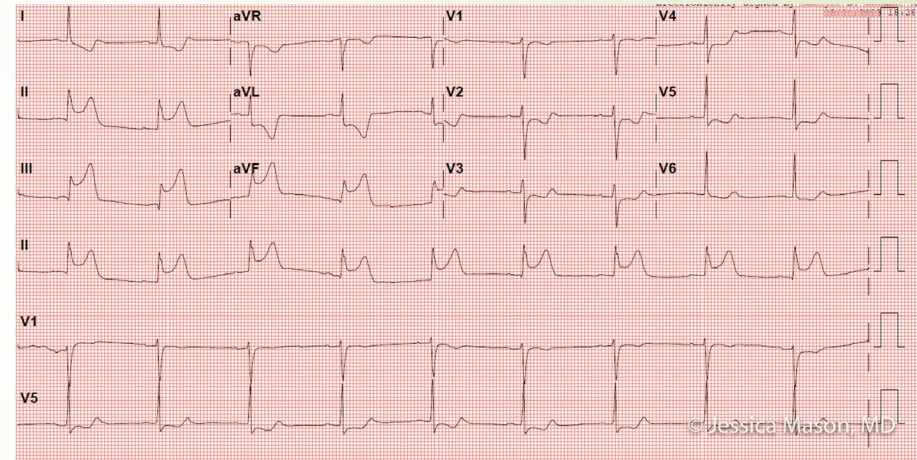
Abdominal Pain in the Elderly

- Mortality rate is 4 times greater than with the young
 - ➔ Up to 27%
- Abdominal exam is unreliable
 - ➔ Desensitized peritoneum



Acute Coronary Syndrome in the Elderly

- ▶ Less likely to have chest pain with ACS/AMI (<50%)
 - ▶ Shortness of breath
 - ▶ Nausea/vomiting
 - ▶ Weakness
 - ▶ Gupta et al
 - ▶ Emerg Med Clin N Amer, 2016
- ▶ But high risk when they do have chest pain
 - ▶ Poldervaart et al
 - ▶ Intern J Cardiol, 2017



Substance Use Disorder

- ▶ Alcohol use among older adults is increasing
 - ▶ 16% of men and 7% of women
 - ▶ Al-Rousan et al
 - ▶ J Am Geriatr Soc, 2022
 - ▶ Rate of ED visits for alcohol associated falls in the elderly increased from 2011 to 2019
 - ▶ Yuan et al
 - ▶ Ann Emerg Med, 2023



Elder Abuse

- ▶ 5% of the elderly population
- ▶ Contributing conditions
 - ▶ Recent changes in family structure
 - ▶ Cognitive deficits
 - ▶ Failing physical health
 - ▶ Financial burdens or changes in status
- ▶ Maxillofacial, dental, or neck injuries without upper or lower extremity injuries
 - ▶ Rosen et al
 - ▶ Ann Emerg Med, 2020



Coming to a Hospital Near You!



In Summary

- ▶ Not just older adults!
 - ▶ Break easily
 - ▶ Hide their injuries well
 - ▶ Worse outcomes
- ▶ Impact on EMS is already significant
 - ▶ And getting more so!
- ▶ Falls are important
 - ▶ Significant injuries
 - ▶ Significant impact on lives



In Summary

- Beware
 - Normal vital signs
 - “Minor” mechanisms
 - Elder abuse
- Think twice about “mechanical” falls
- Benefit from aggressive care
- We must do a better job with anticipating issues and prevention



Thank You!

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