



# Dealing with Reduced Horsepower: Geriatrics in EMS

Christopher B. Colwell, MD

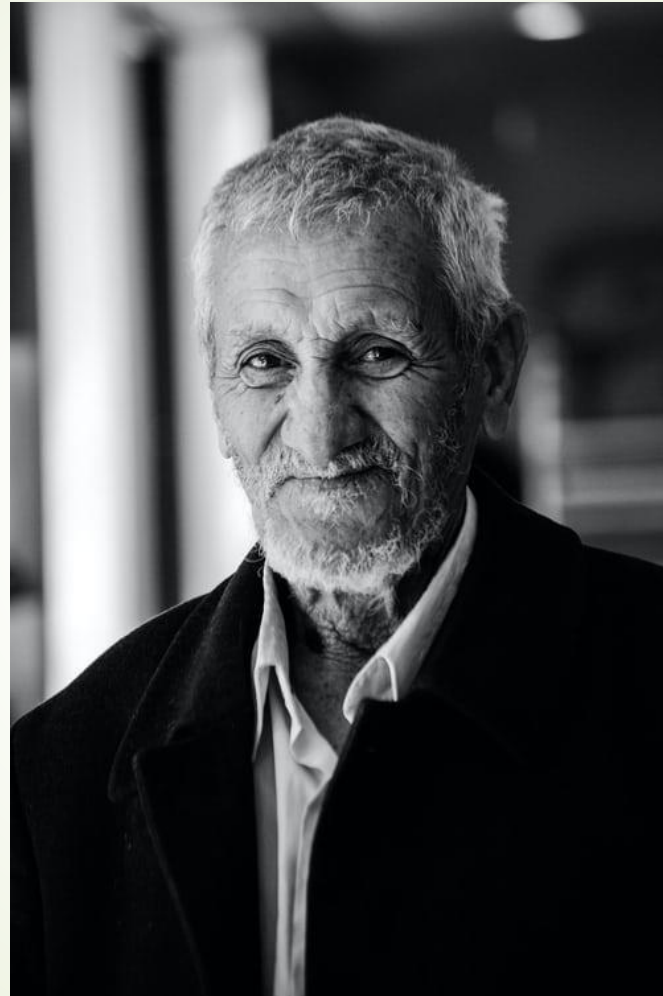
San Francisco General Hospital and Trauma Center

UCSF Department of Emergency Medicine

San Francisco EMS



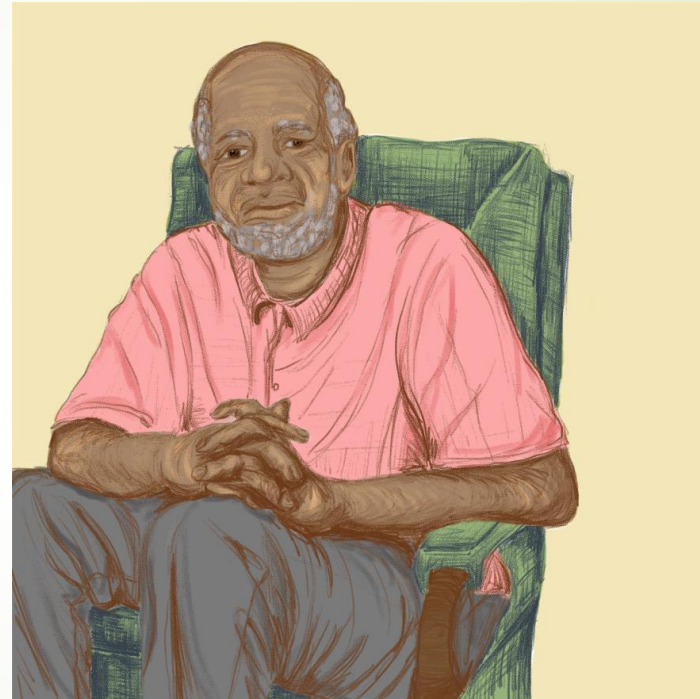




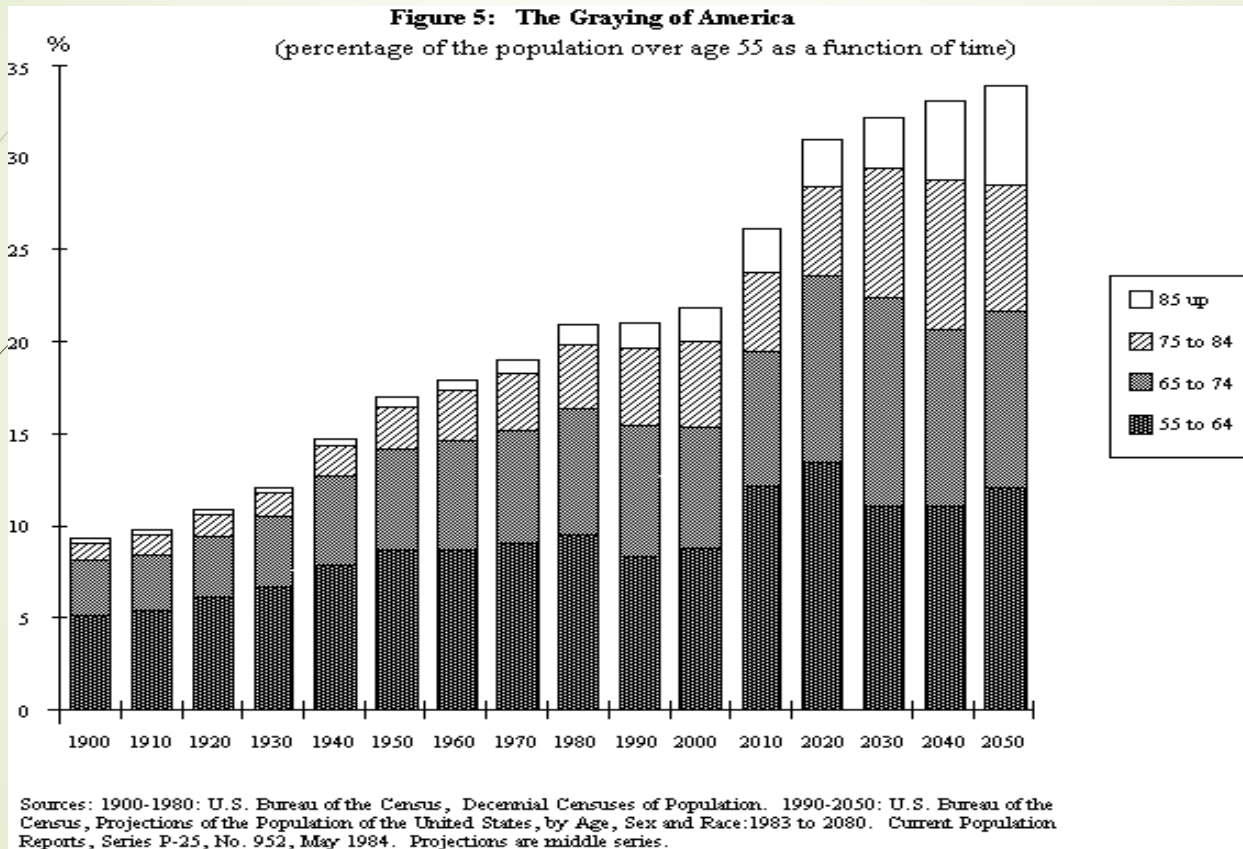


# Getting Older

- ▶ 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



The elderly comprise 17% of the U.S. population; **By 2030, it will be more than 20%**



# The Elderly

## ➤ Profile

- Arthritis is the most common chronic condition
  - 47%
- 25% have some form of cancer
- 20% have diabetes
- 28% have cognitive issues
  - Administration on Aging
- Maine has the oldest median age
  - 45.1



# Elderly Definitions

- Older than 65
- Case for over 35
  - Outcomes worsen
  - Increased incidence of pneumonia
- Young old: 65-80
- Old old: >80
- ATLS: >55
  - ACS directs those over 55 to trauma centers
- No literature clearly delineates "geriatric"
- Physiologic age vs. chronologic age





# Not Just Older Adults

- ▶ Different mechanisms
- ▶ More severe response to any injury or pathology
- ▶ Difficult presentations
  - ▶ Delays
- ▶ Different patterns of injury
- ▶ Worse outcomes
- ▶ Higher cost / quality year saved
- ▶ Special knowledge and skills required



# Why Are They Different?

Pre-existing  
conditions

Decreased reserve



# 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

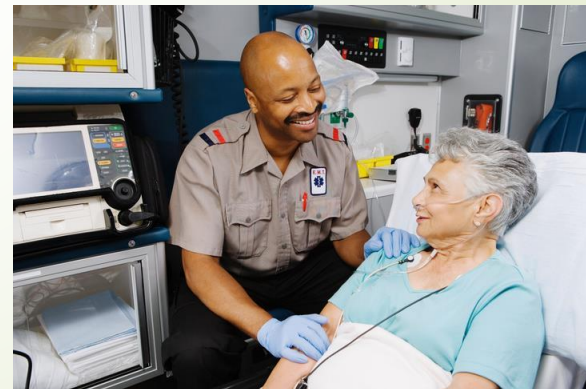
- Age is the major determinant of EMS use
  - Svenson
    - Am J Emerg Med, 2000
- 30% longer on scene time in non-transports
  - Goldstein et al, 2015
- Between 1994 and 2008, transports for older adults increased 75%
  - Lowthian et al
    - Med J Aust, 2011





# 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



# Trauma in the Elderly: Causes

- More active life style
- Diminished sight and hearing
- Slow reaction times
- Impaired motor and cognitive functions
  - Problems with gait and coordination
    - Impaired sensation and proprioception
    - Weakness of musculature
    - Degenerative joint disease
    - Neuromuscular disorders
  - Dementia



# Geriatric Trauma

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



# If We Don't Count Them, We Will Never Know

- ▶ Between 18 and 80% of seriously injured were not captured by trauma registries
  - ▶ Newgard et al
    - ▶ JAMA Surg, 2019
- ▶ Injury transported by EMS?
  - ▶ Sentinel event in those over 65 with death typically occurring within months
    - ▶ Newgard et al
      - ▶ Injury, 2019

Research

JAMA Surgery | Original Investigation

## Comparison of Injured Older Adults Included in vs Excluded From Trauma Registries With 1-Year Follow-up

Craig D. Newgard, MD, MPH; Aaron Caughey, MD, PhD; K. John McConnell, PhD; Amber Lin, MS; Elizabeth Eckstrom, MD; Denise Griffiths, BS; Susan Malveau, MS; Eileen Bulger, MD

**IMPORTANCE** Trauma registries are the primary data mechanism in trauma systems to evaluate and improve the care of injured patients. Research has suggested that trauma registries may miss high-risk older adults, who commonly experience morbidity and mortality after injury.

**OBJECTIVE** To compare injured older adults who were included in with those excluded from trauma registries, with a focus on patients with serious injuries, requiring major surgery, or dying after injury.

**DESIGN, SETTING, AND PARTICIPANTS** This cohort study included all injured adults 65 years

[+ Invited Commentary](#)

[+ Supplemental content](#)



# Early Treatment Improves Survival

- ▶ Early operative management improves survival
  - ▶ Mun et al
    - ▶ Injury, 2022
- ▶ Prognosis is improving
  - ▶ Especially with early intervention
    - ▶ Nishimura et al
      - ▶ Trauma Surg Acute Care Open, 2022
- ▶ Factors that improve survival:
  - ▶ Adherence to best practices
  - ▶ Minimizing CVC use
  - ▶ Addressing poly-pharmacy
  - ▶ Early, competent operative management
    - ▶ Ang et al
      - ▶ Ann Surg, 2022



# Cause of Injury: Falls are Number 1

- ▶ Account for 50% of trauma in the elderly
- ▶ 30% over 65 fall each year
- ▶ 10% lead to major injuries
- ▶ Ground level
- ▶ Injuries
  - ▶ Fracture most common
  - ▶ Cerebral contusions and subdural hematomas

▶ Spaniolas et al, J Trauma 2010



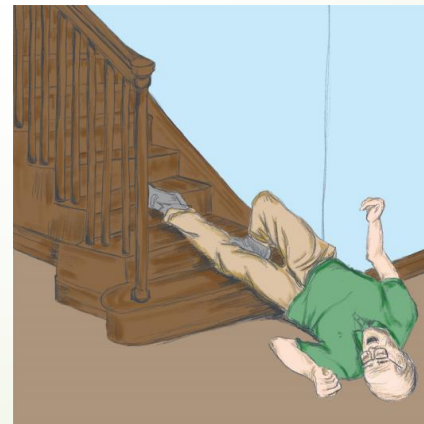
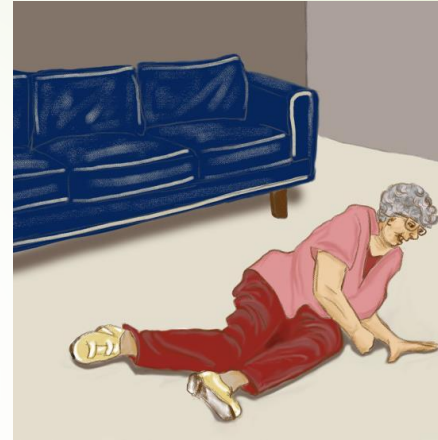
# Older Adults

- ▶ 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



# Falls in the Elderly

- ▶ Geriatric trauma admits
  - ▶ 78% were falls
    - ▶ Hip fractures
    - ▶ Rib fractures
    - ▶ ICH
      - ▶ Maxwell et al
        - ▶ Am Surg, 2015
  - ▶ “Old age starts with the first fall”
    - ▶ Gabriel Garcia Marquez





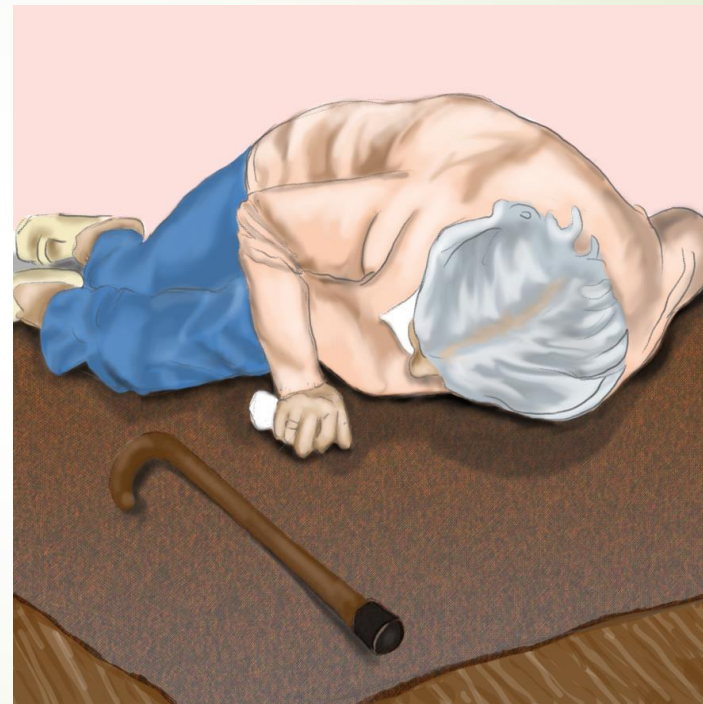
# Elderly Falls and EMS

- ▶ 11%-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
  - Underlying infection
  - Medications
    - Insulin reaction
    - Sedatives
- Elder abuse

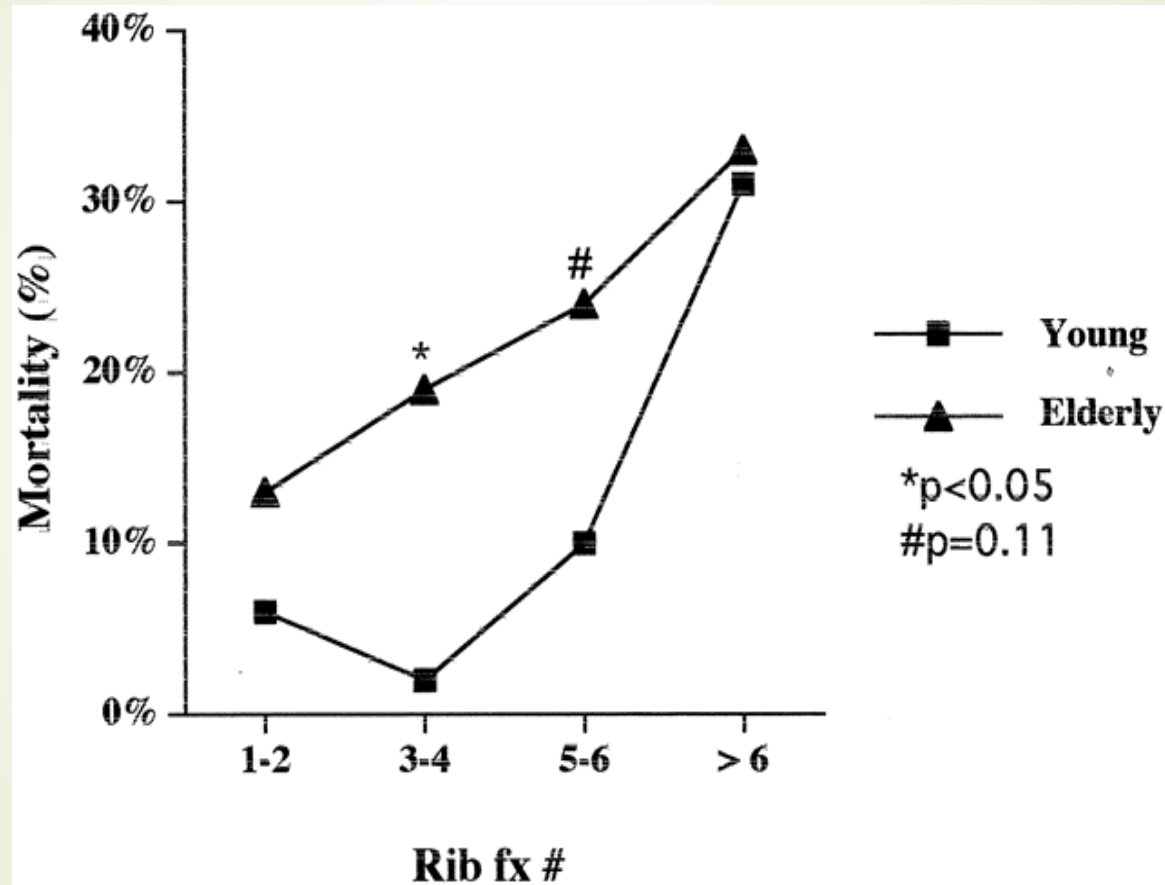


# “Mechanical” Fall?

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



# AGE AND RIB FRACTURES



Bulger EM et al, J Trauma 2000; 48:1040



# Spinal Motion Restriction

- ▶ Cervical spine motion restriction after blunt trauma
  - ▶ The Brass Tacks: Concise reviews of published evidence
  - ▶ Serigano, Riscinti
    - ▶ Acad Emerg Med, 2021
  - ▶ Cochrane systematic review searched for trials studying the effects of spinal immobilization
    - ▶ **No studies of sufficient quality were found**

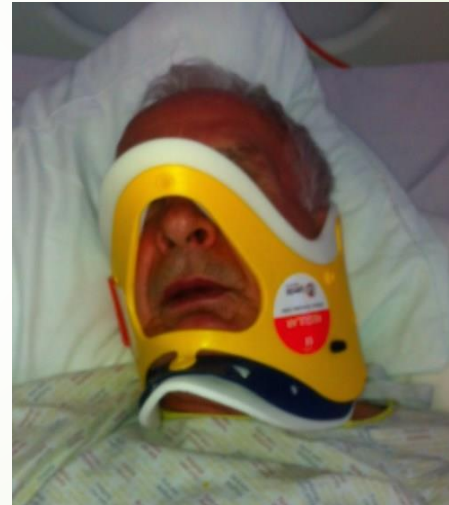




➤ **“No studies of sufficient quality were found”**

# Cervical Collars

- ▶ Known harm
  - ▶ Increased intracranial pressure
    - ▶ May be worse with underlying elevated ICP
  - ▶ Complicates airway management
  - ▶ Increased risk of aspiration
  - ▶ Concealed wounds
  - ▶ Patient discomfort/agitation
- ▶ No known benefit



- Known harm
- No known benefit



# Geriatric Trauma

- Functional decline after nonhospitalized injuries in older patients: results from the Canadian emergency team initiative cohort in elders
  - Sirois et al
    - Ann Emerg Med, 2022
  - 2919 patients over the age of 65
  - Mechanisms
    - Falls (66%)
    - MVAs (19%)





# Geriatric Trauma

- ▶ 17% of “minor” injuries experience persistent functional decline over 6 months following their ED visit
  - ▶ 4 frailty-related determinants were identified
    - ▶ Occasional use of a walking device
    - ▶ Less than 5 outings/week
    - ▶ Frailty
    - ▶ Older age
- ▶ We need to address screening and follow up with this in mind



# History – Key Questions

What happened before the trauma?

What medication is the patient taking?

What underlying illness is present?



# Polypharmacy

14% increase in falls for every medication over 4

Newly started medication?

Many ADEs are dose-related

Start with lower doses

Sensitivities to some drugs decrease with age

The CNS is especially vulnerable in the elderly

More study is needed

Now.....



# Pediatrics versus the Elderly

## PEDIATRIC VITAL SIGNS

Age	HEART RATE		RESP	BLOOD PRESSURE			
	Awake HR (beats/min)	Sleeping HR (beats/min)	Resp Rate (breaths/min)	Minimal Systolic Pressure (mmHg)	Systolic Pressure (mmHg)	Diastolic Pressure (mmHg)	Mean Arterial Pressure (mmHg)
Neonate (0-30 days)	100-205	90-160	40-60	60	60-84	31-53	48-60
Infant (1-12 months)	100-180	90-160	30-53	70	72-104	37-56	50-62
Toddler (1-2 years)	98-140	80-120	22-37	74	86-106	42-63	49-62
Preschooler (3-5 years)	80-120	65-100	20-28	78	89-112	46-72	58-69
School aged (6-9 years)	75-118	58-90	18-25	86	97-115	57-76	66-72
10+ years	60-100	50-90	12- 20	90	102-131	61-83	71-79

Approved by Dr. Daftary | July 2021



Child's Weight	Tylenol Milligram Dosage	Tylenol Infant Oral Suspension 160mg/5mL	Tylenol Children's liquid 160mg/5mL	Tylenol Chewable 80mg each	Tylenol Junior 160mg each
6 – 8 lbs	40 mg	¼ tsp (1.25 mL)	¼ tsp (1.25 mL)		
9 – 11 lbs	60 mg	½ tsp (1.875 mL)	½ tsp (1.875 mL)		
12 – 17 lbs	80 mg	¾ tsp (2.5 mL)	¾ tsp (2.5 mL)		
18 – 23 lbs	120 mg	1 ¼ tsp (3.75 mL)	1 ¼ tsp (3.75 mL)		
24 – 35 lbs	160 mg	1 tsp (5 mL)	1 tsp (5 mL)	2 tablets	1 tablet
36 – 47 lbs	240 mg	1 ½ tsp (7.5 mL)	1 ½ tsp (7.5 mL)	3 tablets	1 ½ tablet
48 – 59 lbs	320 mg	2 tsp (10 mL)	2 tsp (10 mL)	4 tablets	2 tablets
60 – 71 lbs	400 mg	2 ½ tsp (12.5 mL)	2 ½ tsp (12.5 mL)	5 tablets	2 ½ tablets
72 – 95 lbs	500 mg	3 tsp (15 mL)	3 tsp (15 mL)	6 tablets	3 tablets



# 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



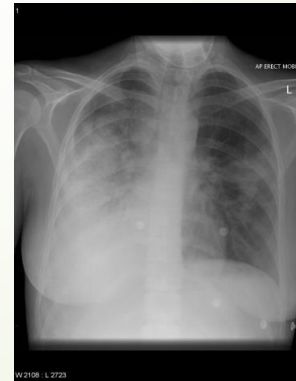
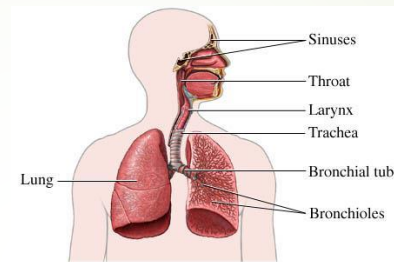
# Cardiovascular

- ▶ Exaggerated response to cold, hypoxia, and acidosis
  - ▶ Delayed clinical signs
- ▶ Less responsive to circulating catecholamines
- ▶ Hypovolemia is often compensated by increases in SVR rather than increased cardiac output
- ▶ Underlying coronary disease



# Respiratory

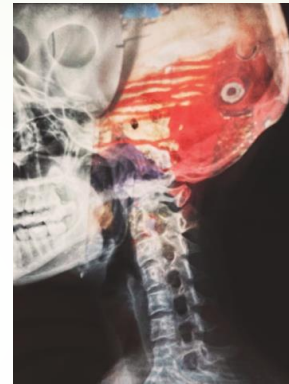
- Reduction in vital capacity and FEV1
- Joint fusion with loss of compliance of the chest wall
- Osteoporosis
- Weakened intercostal and accessory muscles of respiration
- Result:
  - High susceptibility to
    - Rib fractures
    - Sternal fractures
    - Pulmonary contusions





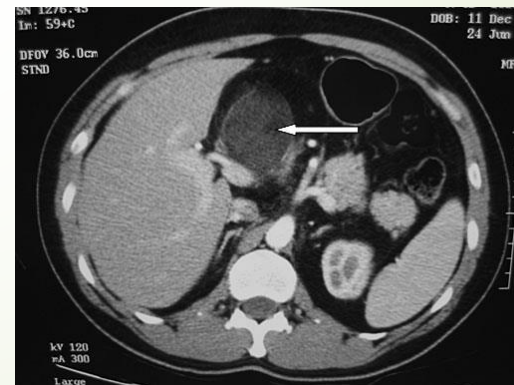
# Central Nervous System

- ▶ Dura is more adherent to the skull
  - ▶ Epidural hematomas are rare
  - ▶ Subdural hematomas are more common
- ▶ Cerebral atrophy
  - ▶ 10% weight loss of brain between 30 and 70
- ▶ Medications
  - ▶ ASA
  - ▶ Coumadin
  - ▶ NOACs
  - ▶ Others.....



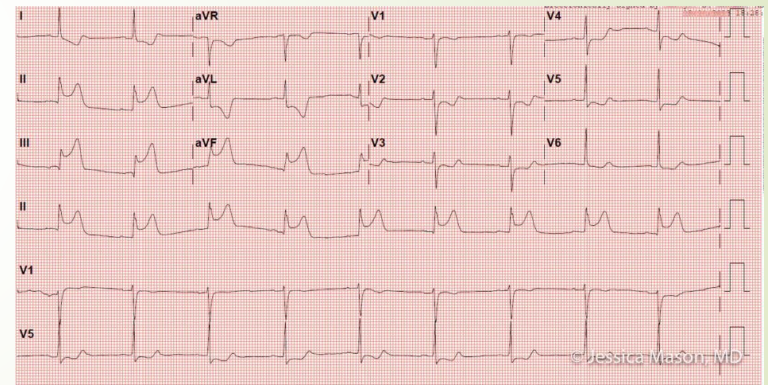
# Abdominal Pain in the Elderly

- 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



# Altered Mental Status

- ▶ Older patients presenting with a chief complaint of altered mental status had worse short-term mortality than those with chest pain, headache, or abdominal pain
- ▶ Altered mental status often indicates underlying brain dysfunction (delirium)
  - ▶ Stanich et al
    - ▶ Am J Emerg Med, 2022





# 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



# Substance Use Disorder

- ▶ 65% report high risk drinking
  - ▶ 10% binge drink
    - ▶ Grant et al
      - ▶ JAMA Psychiatr, 2017
- ▶ Easy to confuse substance use disorder symptoms with those of other chronic health conditions in the elderly












# 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




# Frailty

- Frailty index is a known predictor of adverse outcomes in geriatric patients
- Trauma-specific frailty index is an independent predictor of worse outcomes
  - Both short and long-term
    - Joseph et al
    - J Trauma Acute Care Surg, 2023

CLINICAL FRAILTY SCALE	
	<p><b>1</b> <b>VERY FIT</b> People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.</p>
	<p><b>2</b> <b>FIT</b> People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g., seasonally.</p>
	<p><b>3</b> <b>MANAGING WELL</b> People whose medical problems are well controlled, even if occasionally symptomatic, but often are not regularly active beyond routine walking.</p>
	<p><b>4</b> <b>LIVING WITH VERY MILD FRAILTY</b> Previously "vulnerable" this category marks early transition from complete independence. While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up" and/or being tired during the day.</p>
	<p><b>5</b> <b>LIVING WITH MILD FRAILTY</b> People who often have more evident slowing, and need help with high order instrumental activities of daily living (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.</p>
	<p><b>6</b> <b>LIVING WITH MODERATE FRAILTY</b> People who need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.</p>
	<p><b>7</b> <b>LIVING WITH SEVERE FRAILTY</b> Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).</p>
	<p><b>8</b> <b>LIVING WITH VERY SEVERE FRAILTY</b> Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.</p>
	<p><b>9</b> <b>TERMINALLY ILL</b> Approaching the end of life. This category applies to people with a life expectancy &lt;6 months, who are not otherwise living with severe frailty. (Many terminally ill people can still exercise until very close to death.)</p>

SCORING FRAILTY IN PEOPLE WITH DEMENTIA	
<p>The degree of frailty generally corresponds to the degree of dementia. Common symptoms in mild dementia include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.</p>	<p>In moderate dementia, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting. In severe dementia, they cannot do personal care without help. In very severe dementia they are often bedfast. Many are virtually mute.</p>



 Clinical Frailty Scale ©2005–2010 Rockwood, Version 2.0 (EN). All rights reserved. For permission: www.geriatricmedicine.ca  
 Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

# Trauma-Specific Frailty Index

- ▶ Decreased readmission rates following use of modified trauma-specific frailty index in older trauma patients
  - ▶ Saberian et al
  - ▶ Injury, 2023

15 Variable Trauma Specific Frailty Index					
<b>Comorbidities</b>					
Cancer History	Yes (1)		No (0)		
Coronary Heart Disease	MI (1)	CABG (0.75)	PCI (0.5)	Medication (0.25)	None (0)
Dementia	Severe (1)	Moderate (0.5)	Mild (0.25)	No (0)	
<b>Daily Activities</b>					
Help with grooming	Yes (1)		No (0)		
Help with managing money	Yes (1)		No (0)		
Help doing housework	Yes (1)		No (0)		
Help toileting					
Help walking	Wheelchair (1)	Walker (0.75)	Cane (0.5)	No (0)	
<b>Health Attitude</b>					
Feel less useful	Most time (1)	Sometimes (0.5)		Never (0)	
Feel sad	Most time (1)	Sometimes (0.5)		Never (0)	
Feel effort to do everything	Most time (1)	Sometimes (0.5)		Never (0)	
Feel lonely	Most time (1)	Sometimes (0.5)		Never (0)	
Falls	Within last month (1)	Present not in last month (0.5)		None (0)	
<b>Function</b>					
Sexually active	Yes (0)		No (1)		
<b>Nutrition</b>					
Albumin	<3g/dL (1)		>3g/dL (0)		
<b>SCORE</b>					
SCORE	FI (Score/15)		>0.25 = Frail		



# Social Frailty

- ▶ Social frailty contributes to older adults vulnerability
  - ▶ Corollary to physical frailty
- ▶ Fewer resources to draw upon
  - ▶ Fewer relationships
    - ▶ Less able to rely on others
- ▶ A social determinant of health
  - ▶ Linked to poor health outcomes



# What are the Patient's Wishes?

- ▶ Is CPR right for everyone?
  - ▶ NPR
    - ▶ May 29<sup>th</sup>, 2023
- ▶ CPR can be harmful not just for patients, but also for medical providers. In 2021, a study found that 60% of providers experienced moral distress from futile resuscitations, and that these experiences were associated with burnout.



# What are the Patient's Wishes?

- POLST
- Advanced Directives
- Living will
- Family meeting?
- Just because you can, does not mean you must

**Advance Health Care Directive**

This form lets you have a say about how you want to be cared for if you cannot speak for yourself.

This form has 3 parts:

- Part 1** Choose a medical decision maker, Page 3  
A medical decision maker is a person who can make health care decisions for you if you are not able to make them yourself. They are also called a health care agent, proxy, or surrogate.
- Part 2** Make your own health care choices, Page 6  
This form lets you choose the kind of health care you want. This way, those who care for you will not have to guess what you want if you are not able to tell them yourself.
- Part 3** Sign the form, Page 11  
The form must be signed before it can be used.

You can fill out Part 1, Part 2, or both.  
Fill out only the parts you want. Always sign the form in Part 3.  
2 witnesses need to sign on Page 12, or a notary on Page 13.

Your Name \_\_\_\_\_

**PREPARE**  
Colorado's Program for End-of-Life Choices

**HIPAA PERMITS DISCLOSURE OF POLST TO OTHER HEALTH CARE PROVIDERS AS NECESSARY**

**Physician Orders for Life-Sustaining Treatment (POLST)**

Print, fill in, photocopy, return, date, contact  
Physician/PA: A copy of the signed POLST form is a legally valid physician order. Any section not completed makes full return to this section. POLST complements an Advance Directive and is not intended to replace that document.

Patient Last Name: \_\_\_\_\_ Date Form Prepared: \_\_\_\_\_  
Patient First Name: \_\_\_\_\_ Patient Date of Birth: \_\_\_\_\_  
Patient Middle Name: \_\_\_\_\_ Patient Record #: \_\_\_\_\_

**A CARDIOPULMONARY RESUSCITATION (CPR):** If patient has no pulse and is not breathing, if patient is NOT in cardiopulmonary arrest, follow orders in Sections B and C.

Check One  
 Attempt Resuscitation/CPR (Selecting CPR in Section A **allows** selecting Full Treatment in Section B)  
 Do Not Attempt Resuscitation/DNR (Allow Natural Death)

**B MEDICAL INTERVENTIONS:** If patient is found with a pulse and/or is breathing.

Check One  
 **Full Treatment** - primary goal of prolonging life by all medically effective means. In addition to treatment described in Selective Treatment and Comfort Focused Treatment, use intubation, advanced airway interventions, mechanical ventilation, and cardiopulmonary resuscitation as indicated.  
 **Selective Treatment** - goal of treating medical conditions while avoiding burdensome measures. In addition to treatment described in Comfort Focused Treatment, use medical treatment, IV antibiotics, and IV fluids as indicated. Do not intubate. May use non-invasive positive airway pressure. Generally avoid intensive care.  
 **Comfort Focused Treatment** - primary goal of maximizing comfort. Treats pain and suffering with medication to any route as needed, use oxygen, suctioning, and manual treatment of airway obstruction. Do not use treatments listed in Full and Selective Treatment unless consistent with comfort goal. Request transfer to hospital only if comfort needs cannot be met in current location.

Additional Orders  
 Request transfer to hospital only if comfort needs cannot be met in current location.

**C ARTIFICIALLY ADMINISTERED NUTRITION:** Offer food by mouth if feasible and desired.

Check One  
 Long-term artificial nutrition, including feeding tubes. Additional Orders: \_\_\_\_\_  
 Trial period of artificial nutrition, including feeding tubes. \_\_\_\_\_  
 No artificial means of nutrition, including feeding tubes. \_\_\_\_\_

**D INFORMATION AND SIGNATURES:**

Deceased with:  Patient (Patient Has Capacity)  Legally Recognized Decisionmaker  
 Advance Directive (agent) - designate and empowered in: Health Care Agent/Proxy in Advance Directive: Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
 No Advance Directive

Signature of Physician / Nurse Practitioner / Physician Assistant (Physician/NP/PA)  
 Print Physician/NP/PA Name: \_\_\_\_\_ Physician/NP/PA Phone #: \_\_\_\_\_ Physician/NP/PA License # NP Cert. #: \_\_\_\_\_  
 Physician/NP/PA Signature: (required) \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Patient or Legally Recognized Decisionmaker  
 (Do not sign this form unless you are signing for the patient; medical decisions are considered final the moment signed.)  
 Print Name: \_\_\_\_\_ Relationship: (circle and complete) \_\_\_\_\_  
 Signature: (required) \_\_\_\_\_ Date: \_\_\_\_\_  
 Mailing Address (street/city/state/zip): \_\_\_\_\_ Phone Number: \_\_\_\_\_

Your POLST may be added to a secure electronic registry to be accessible to health providers, as permitted by statute.

**SEND FORM WITH PATIENT WHENEVER TRANSFERRED OR DISCHARGED**

\*Forms prepared with effective dates of 1/1/2008, 4/1/2011, 10/22/14 and 3/19/2018 are also valid.

# 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
  - Aggressive care and resuscitation may have a dramatic effect in improving outcomes
- We must do a better job with anticipating issues and prevention



Thank You!

➤ Christopher.Colwell  
@ucsf.edu

