

Geriatric Trauma in the Emergency Department

Naomi George, MD MPH, University of New Mexico

March 8th 2022





Why are we here?

My name is Naomi

I am here because I'm passionate about improving ED care for older adults...

You can contact me nageorge@salud.unm.edu





OBJECTIVES

Major

Physiology, Geriatric Trauma Triage?
Management Pearls and Pitfalls,

Minor

ED Geriatric Falls Assessment, Prevention,
Programs, and Evidence

Misc.

Elder Speak, Clinical Momentum and
Clinical Nihilism



THE SILVER TSUNAMI IS COMING!

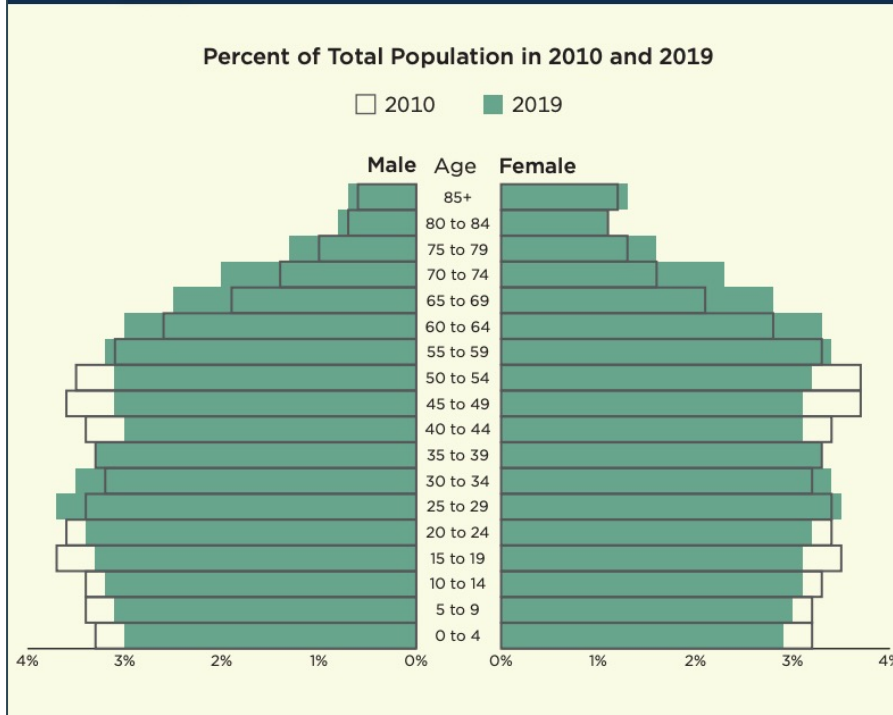
SAVE SENIOR AND DISABILITY
COMMUNITY SERVICES!



A Wave of Change

Age Structure of the U.S. Resident Population by Sex: 2010 vs. 2019

[Download](#)



United States[®]
Census
Bureau

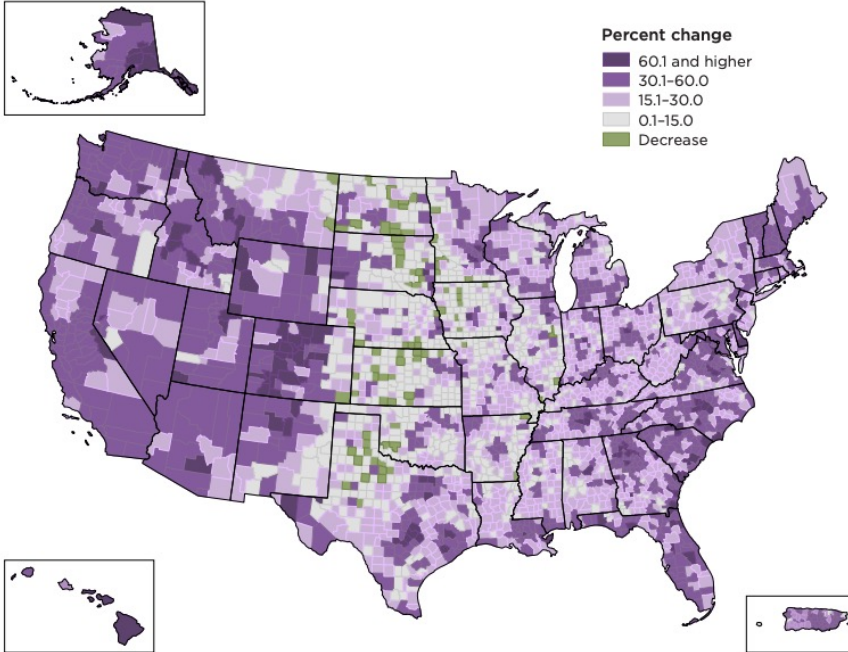
U.S. Department of Commerce
U.S. CENSUS BUREAU
[census.gov](https://www.census.gov)

Source: Vintage 2019 Population Estimates
www.census.gov/programs-surveys/popest.htm

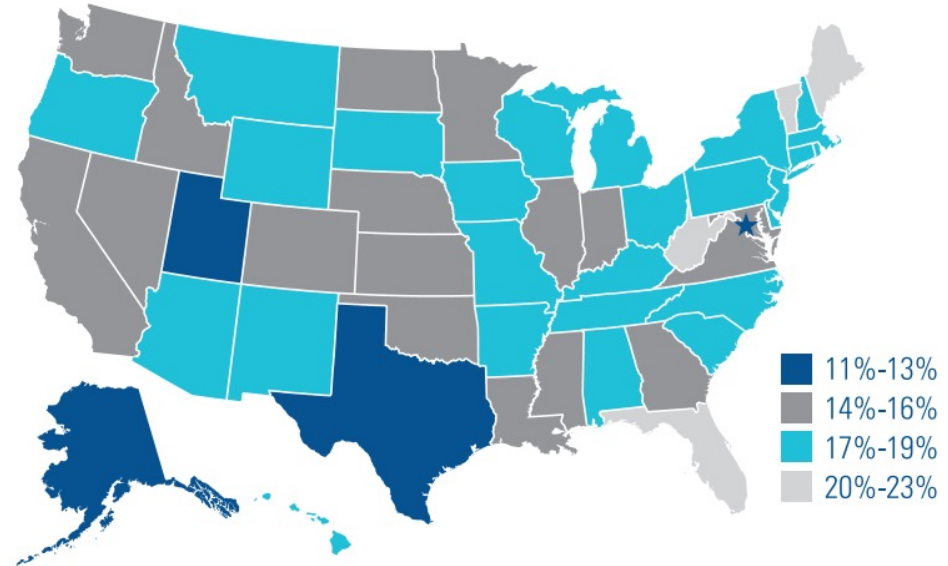


Older and Growing

Percent Change among the 65 and Older Population: 2010 to 2019



Persons Age 65 and Older as a Percentage of Total Population, 2019



Source: U.S. Census Bureau, Population Estimates

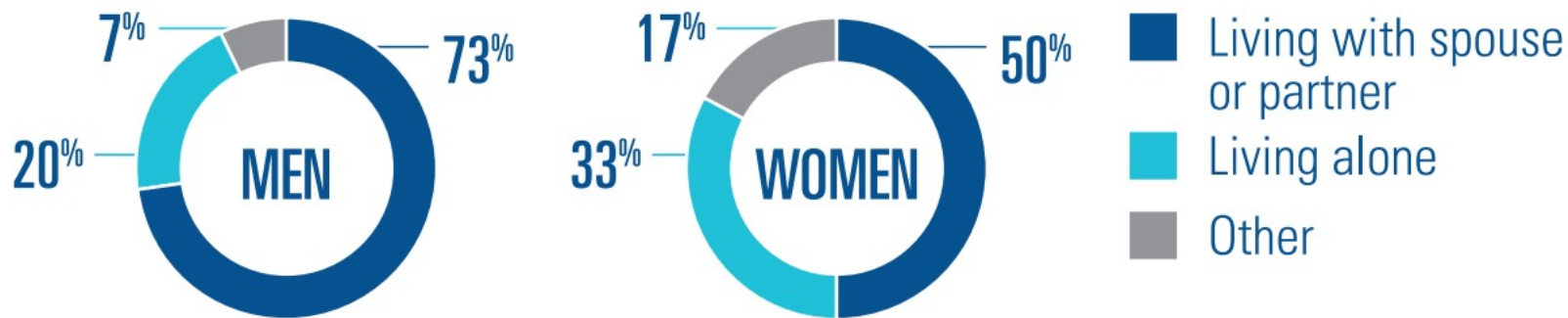
Poll:

What Percentage of Older Adults Reside in a Nursing Home?

- a) < 1%
- b) 1-2%
- c) 5-10%
- d) 10-15%
- e) >15%



Living Arrangements of Persons Age 65 and Older, 2020



Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement



Increasing Population, More Trauma

National Trauma Data Bank

- 2003: 23% >65
- 2009: 30% > 65



1 Major Trauma





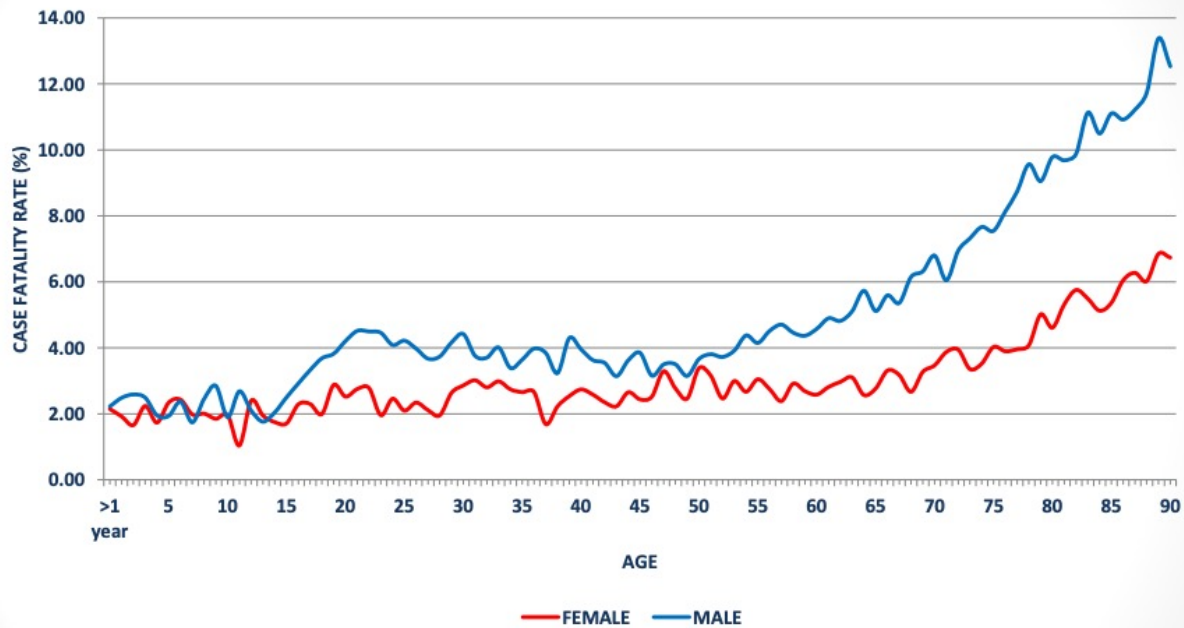
Major Trauma in The Elderly

- What are the key physiological changes?
- How should we approach trauma triage
- How should we adapt trauma assessment?
- What are the key management issues?



Figure 11B

Case Fatality Rate by Age and Gender



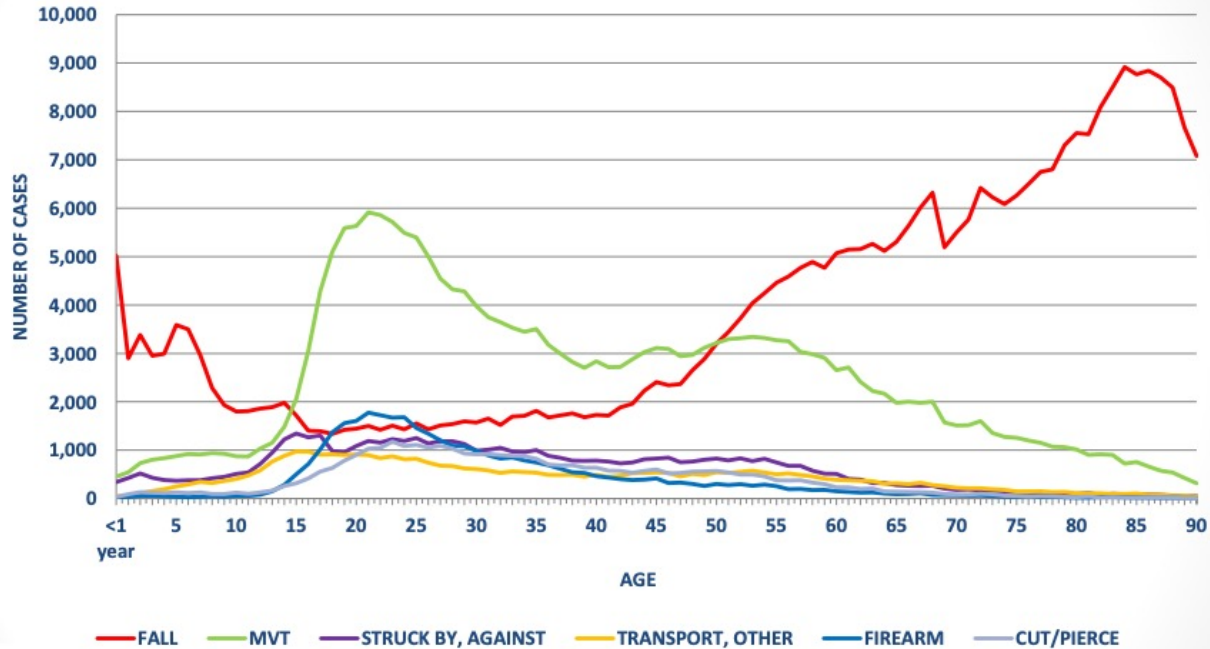
AMERICAN COLLEGE OF SURGEONS

Inspiring Quality:
Highest Standards, Better Outcomes

100+years

Figure 16

Incidents by Selected Mechanism of Injury and Age



AMERICAN COLLEGE OF SURGEONS

Inspiring Quality:
Highest Standards, Better Outcomes

100+ years

Figure
40



AMERICAN COLLEGE OF SURGEONS

*Inspiring Quality:
Highest Standards, Better Outcomes*

100+years

NTDB[®]
NATIONAL TRAUMA DATA BANK

National Trauma Data Bank 2016

Annual Report

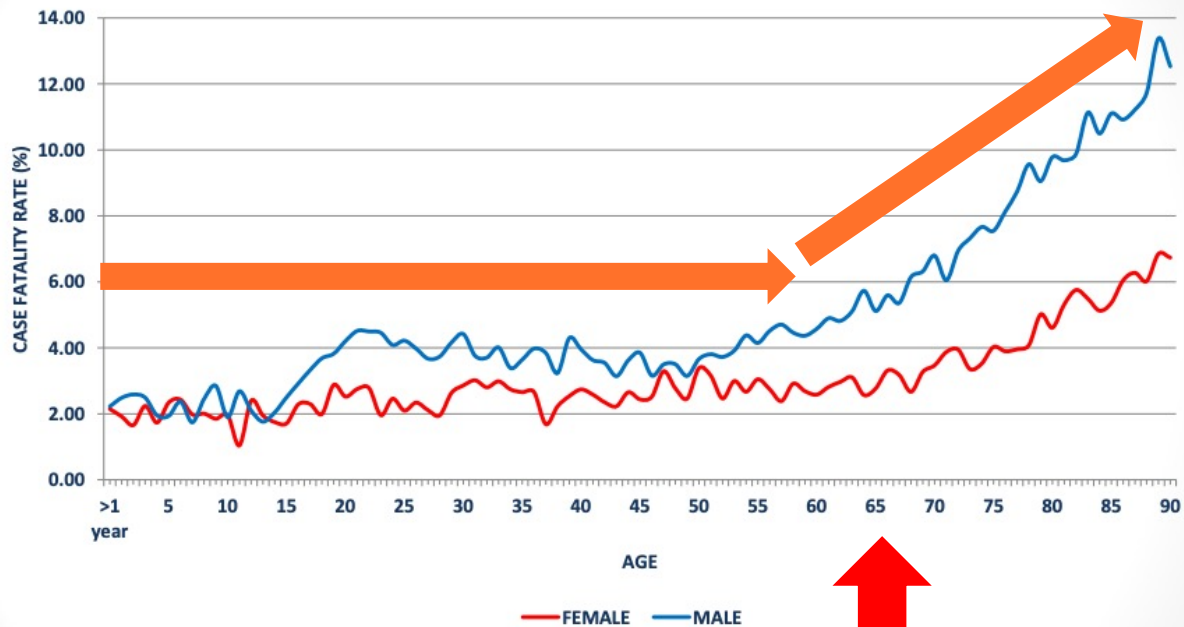


*Inspiring Quality:
Highest Standards, Better*

100+years

Figure 11B

Case Fatality Rate by Age and Gender



AMERICAN COLLEGE OF SURGEONS
Inspiring Quality:
Highest Standards, Better Outcomes

100+years

The Big Question?

When it comes to outcomes, is the **age** of the trauma patient that matters, **pre-existing comorbidities**, or **both**?





Physiology in Geriatrics

CNS

- ↓ Cortical volume
- ↓ Synaptic density
- ↓ Processing Speed
- ↓ Attention
- ↓ Memory

Respiratory

- ↓ Elastic recoil
- ↓ Lung Volume
- ↓ Ventilation-perfusion ratio

Cardiovascular

- ↓ Cardiac output
- ↓ Heart rate modulation
- ↓ Arterial compliance
- Cardiac hypertrophy,
- Impaired endothelium
- Conduction abnormalities

Liver

- ↓ Volume
- ↓ Blood flow
- ↓ First pass metabolism
- ↓ Drug clearance

Kidneys

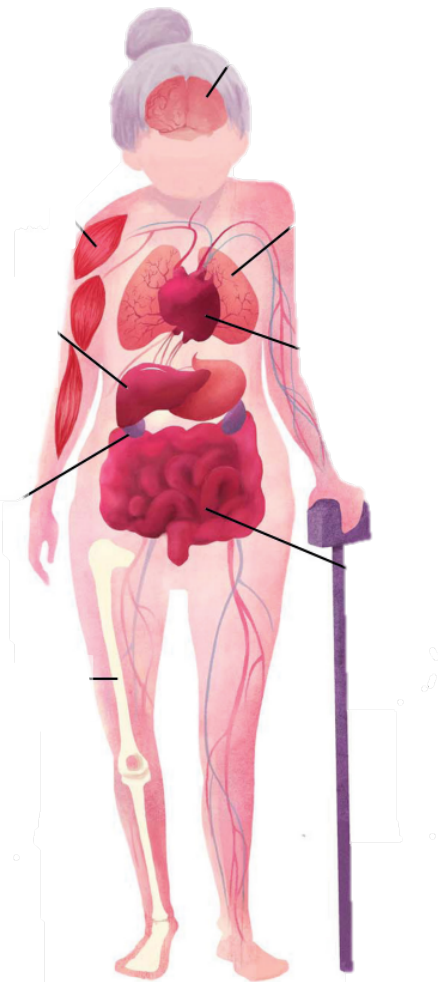
- ↓ Renal mass
- ↓ GFR
- ↓ Drug clearance

Skeletal

- ↓ Muscle mass
- ↓ Strength and power
- ↓ Bone density
- ↑ Fracture risk

Digestive

- ↓ Acid secretion
- ↓ Drug absorption





The Aging Brain

A normal human brain may shrink up to 15% over a lifetime.



BRAIN-SHRINKING CONDITIONS AFFECTING THE ELDERLY INCLUDE:

DEPRESSION can shrink a brain structure called the **hippocampus** that is important in learning and memory, compared with people who have never been depressed.

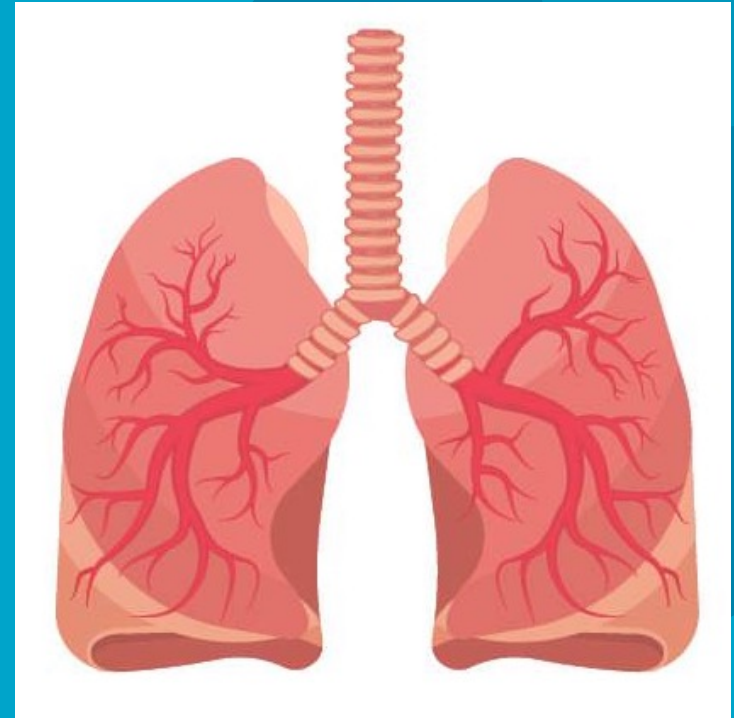
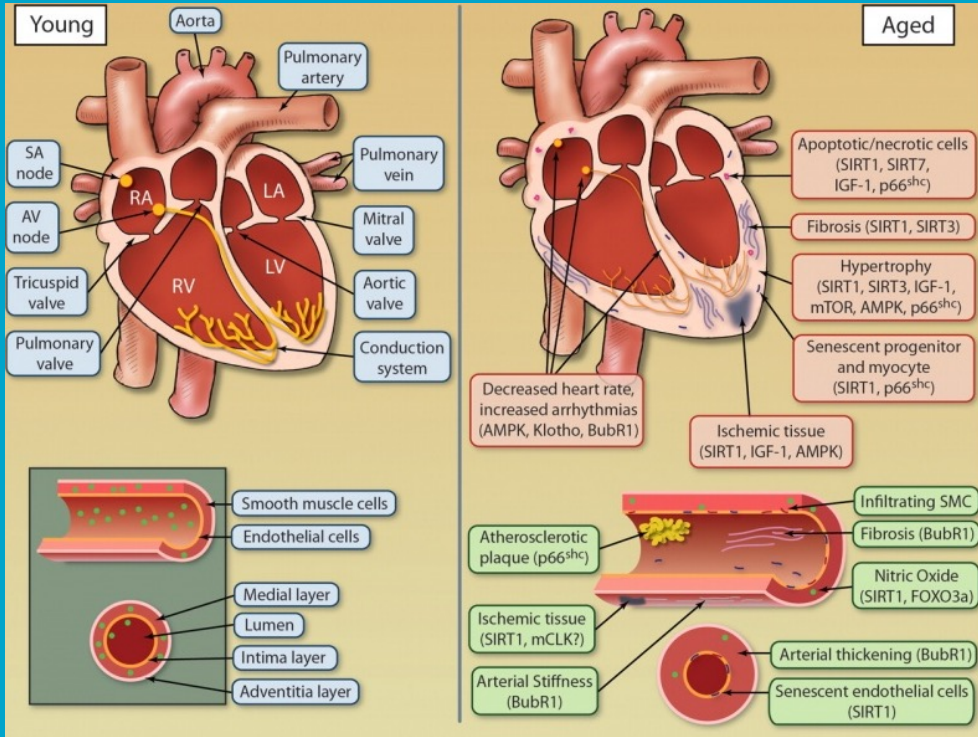
ALZHEIMER'S DISEASE can shrink the brain by about 10%, compared to those of healthy people. In its later stages, the **cerebral cortex** atrophies, which affects judgment and emotional control. But several brain regions also appear enlarged among those with the disease.

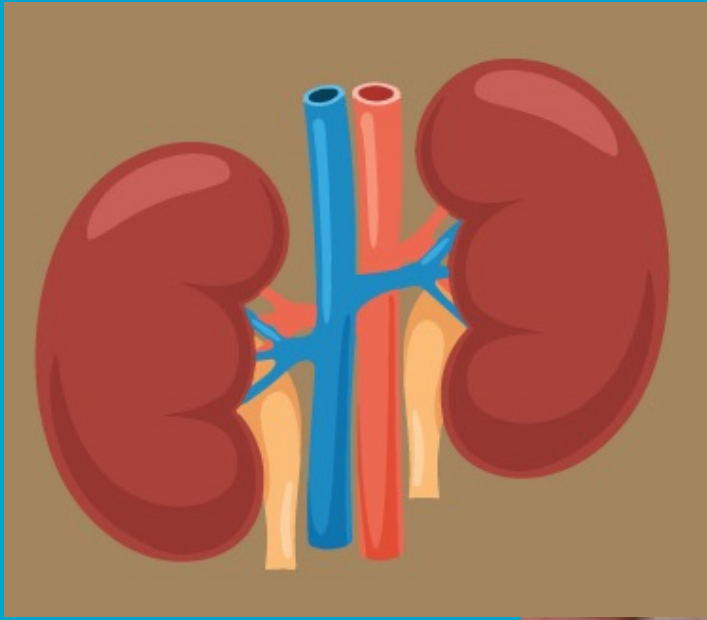
POOR MEMORY may stem from a fractional shrinkage in the **hippocampus**. People who occasionally forget an appointment or a friend's name, or whose thinking has slowed may have lost brain volume.

Loss of neural tissue and white matter

Reduction in blood flow

Decrease serotonin, dopamine, acetylcholine receptors





Geriatric Triage?

High Mortality

Poor sensitivity and
specificity

Improve outcomes?



Increased cost

Over triage and
unmanageable volumes

Blunting enthusiasm/
response



Geriatric Trauma Triage: Benefits

Why Triage?

- Goal: ensure proper injured resources and disposition

Should age matter?

- Goal: Ensure proper resources for geriatric patients

How should care change for geriatric trauma patient?

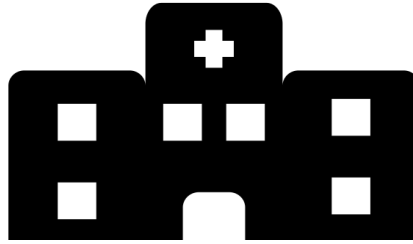
- Goal: ensure best outcomes for geriatric trauma patients



What is triage?



Pre-hospital



Emergency
Department

(trauma team activation)

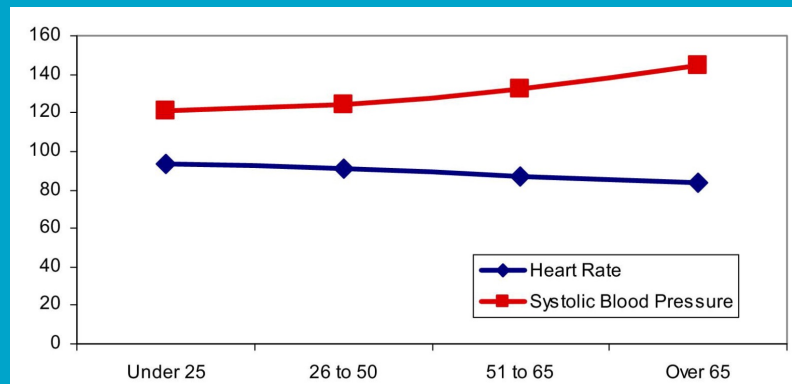


Care pathways
within hospital

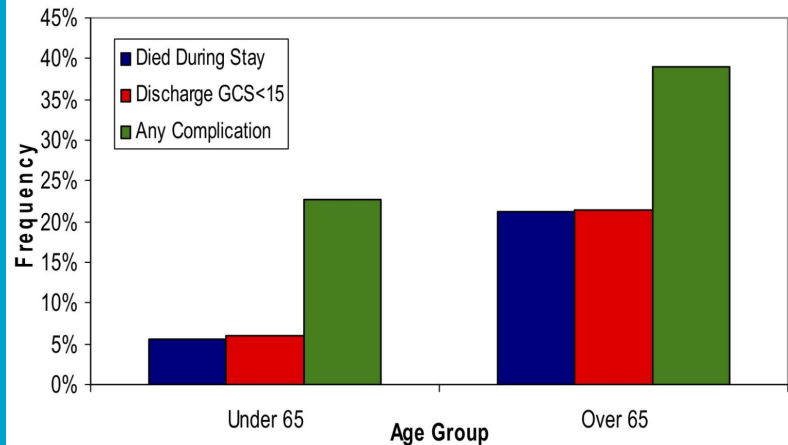


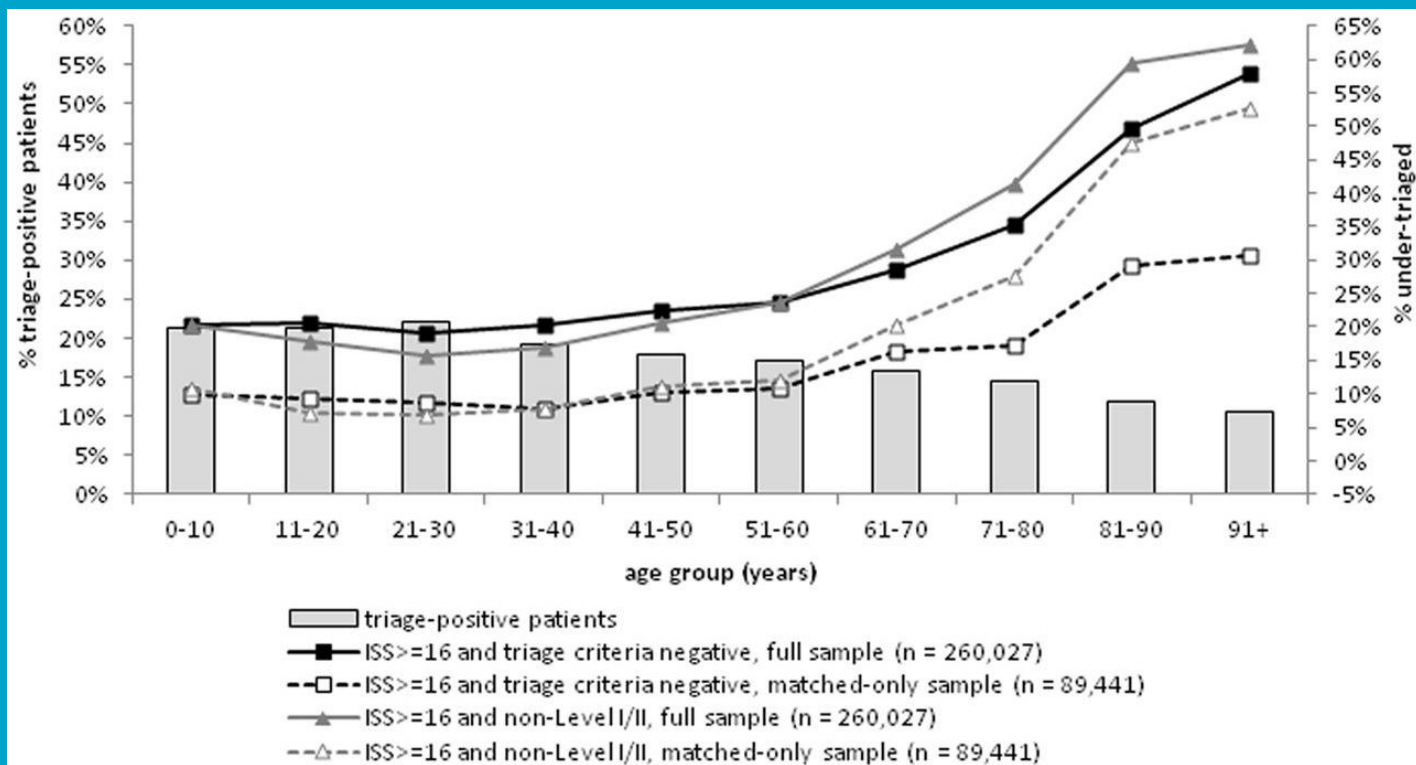
Pre-Hospital Triage

- 2009 study state of Washington trauma triage 2000-2004
- Examined physiological parameters based on age quartiles
- HR was lower and BP higher for geriatric patients
- **No difference in ISS between young and old, but far fewer trauma activations**



Impact of Under-triage: Elderly vs. Non-elderly.





Under triage increased with age. Age may not be sufficient to modify trauma triage

Guidelines for Field Triage of Injured Patients

Recommendations of the National Expert Panel on Field Triage, 2011

Step Four

- Older adults^{¶¶}
 - Risk of injury/death increases after age 55 years
 - SBP < 110 might represent shock after age 65 years
 - Low impact mechanisms (e.g. ground level falls) might result in severe injury
- Children
 - Should be triaged preferentially to pediatric capable trauma centers
- Anticoagulants and bleeding disorders
 - Patients with head injury are at high risk for rapid deterioration
- Burns
 - Without other trauma mechanism: triage to burn facility^{***}
 - With trauma mechanism: triage to trauma center^{***}
- Pregnancy > 20 weeks
- EMS provider judgment



State of Ohio Geriatric Triage

- Retrospective all adults 2006- 2011
- > 100k patients
- Geriatric =/ $>$ 70
- Comparison of Ohio triage to standard
- Outcome of proper triage (ISS $>$ 15, OR visit within 48 hours, any ICU stay, hospital mortality)

Table 1. Differences between Ohio's 2009 geriatric trauma triage criteria and adult trauma triage criteria for EMS providers.²³

Geriatric Triage Criteria (Age \geq70 Years)*	Corresponding Adult Triage Criteria
Physiologic	
Systolic blood pressure less than 100 mm Hg, or absent radial pulse with carotid pulse present	Systolic blood pressure less than 90 mm Hg, or absent radial pulse with carotid pulse present
GCS score \leq 14 in trauma patient with a known or suspected traumatic brain injury	GCS score \leq 13
Anatomic	
Fracture of 1 proximal long bone sustained from motor vehicle crash	Fractures of 2 or more proximal long bones
Injury sustained in 2 or more body regions	No corresponding adult criteria
Cause of injury	
Pedestrian struck by motor vehicle	No corresponding adult criteria
Fall from any height, including standing falls, with evidence of a traumatic brain injury*	No corresponding adult criteria

*Traumatic brain injury is defined as decrease in level of consciousness from baseline, unequal pupils, blurred vision, severe or persistent headache, nausea or vomiting, or change in neurologic status.²³

Table 3. Test characteristics of geriatric and adult trauma triage criteria for predicting need for trauma center care, stratified by age.*

Outcome Measure	Percentage						Differences Between Criteria	
	Geriatric Triage Criteria			Adult Triage Criteria			Difference in Sensitivity (95% CI) [†]	Difference in Specificity (95% CI) [†]
	Sensitivity (95% CI)	Specificity (95% CI)	AUC	Sensitivity (95% CI)	Specificity (95% CI)	AUC		
ISS score >15								
Age ≥70 y	93 (92 to 93)	49 (48 to 49)	0.71	61 (60 to 62)	61 (61 to 62)	0.61	32 (30 to 33)	-12 (-12 to -13)
Age ≤70 y	94 (94 to 95)	35 (35 to 35)	0.65	87 (86 to 87)	44 (44 to 45)	0.65	8 (7 to 8)	-9 (-9 to -9)
OR visit <48 h								
Age ≥70 y	47 (46 to 49)	42 (41 to 42)	0.44	35 (34 to 37)	57 (56 to 58)	0.46	12 (11 to 13)	-16 (-15 to -16)
Age ≤70 y	73 (72 to 73)	27 (26 to 27)	0.5	65 (64 to 65)	36 (35 to 36)	0.5	8 (8 to 8)	-9 (-9 to -9)
ICU stay								
Age ≥70 y	81 (80 to 82)	48 (47 to 48)	0.64	56 (55 to 57)	61 (60 to 62)	0.58	25 (24 to 26)	-13 (-13 to -13)
Age ≤70 y	91 (90 to 91)	34 (33 to 34)	0.62	82 (82-83)	42 (42 to 43)	0.62	8 (8 to 9)	-9 (-9 to -9)
Mortality								
Age ≥70 y	90 (89 to 91)	45 (45 to 46)	0.68	74 (72 to 76)	60 (60 to 61)	0.67	16 (14 to 17)	-15 (-15 to -15)
Age ≤70 y	99 (99 to 100)	30 (29 to 30)	0.64	98 (97 to 98)	39 (39 to 39)	0.68	2 (0 to 2)	-9 (-9 to -10)

AUC, Area under the curve.

*Data derived from combining all 5 imputed data sets, using Rubin's rules.

†Differences are geriatric criteria minus adult criteria.



Pre-Hospital Triage: Systematic Review

- 11 studies of geriatric triage tools
- Different definitions of “geriatric”: >55 >65 and > 70
- Triage Criteria
 - SBP < 110 < 100 < 90
 - HR < 60 or > 100
 - Mechanisms, Anticoagulation use
- ISS > 15 gold standard of “seriously injured patients”
- Conclusion: Improved sensitivity at the expense of specificity



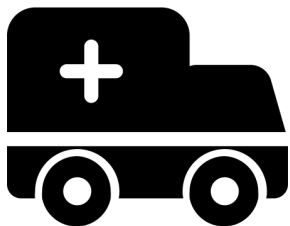
Field Trauma Triage among Older Adults: A Cost-Effectiveness Analysis

Brandon C Maughan, MD, MHS, MSHP, Amber Lin, MS, Aaron B Caughey, MD, PhD,
Eileen M Bulger, MD, FACS, K John McConnell, PhD, Susan Malveau, MS, Denise Griffiths, BS, CCRP,
Craig D Newgard, MD, MPH

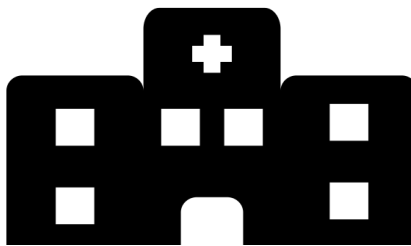
- Used Modeling to demonstrate effects of changing field triage for injured elderly patients, based on 3621 patients: **What happens if we use BP < 110 & HR > 100?**
- Outcomes:
 - Increased transport of severely injured patients 23% → 35%
 - Results in increased transport of 70/10,000 patients to a trauma center
 - 1,892 non-seriously injured patients
 - **Cost: \$ 1,236,295 per quality adjusted life year**



What is triage?



Pre-hospital



Emergency
Department

(trauma team activation)



Care pathways
within hospital



Trauma Team Activation (TTA)

- 2019, retrospective 5 yr of TTA for > 70
 - Geriatric TTA criteria= >70 + mechanism
 - How does geriatric TTA criteria perform compared to standard TTT criteria?
 - Outcomes:
 - mortality,
 - ICU, OR/IR
 - ED intubation,
 - ISS>15
- 73% age alone, 27% met standard TTA
 - Over triage rate: 40%
 - Geriatric TTA alone (neg standard TTA)
 - 9% mortality
 - 27% ISS > 15
 - 56% ICU admission
 - 13% intubated in the ED
 - 12% OR/IR



Increased trauma activation is not equally beneficial for all elderly trauma patients

Bryan W. Carr, MD, Peter M. Hammer, MD, Lava Timsina, PhD, MPH, Grace Rozycki, MD, MBA, David V. Feliciano, MD, and Jamie J. Coleman, MD, Indianapolis, Indiana

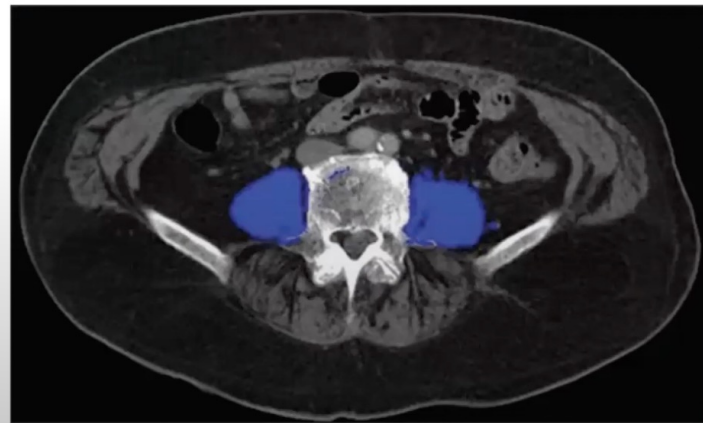
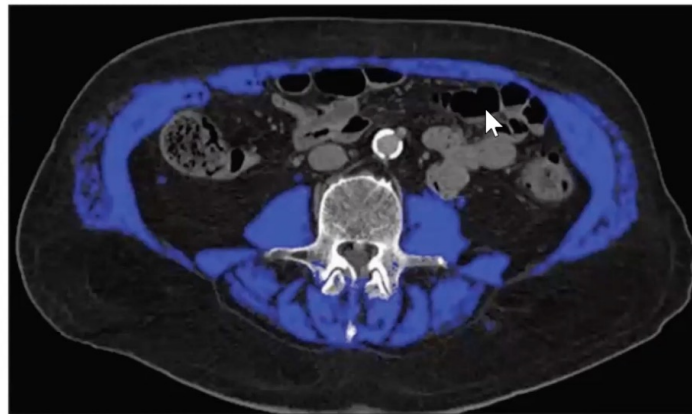
- Age > 70 = full TTA
- 2400 patients had full TTA 2011 – 2016
- Outcomes: mortality & LOS
- TTA \$21,326 x 1645 over triaged patients = total cost \$9,823,940

	Pre Age > 70 FTTA	Post Age > 70 FTTA
N	1919	2422
Age	80.4	81
ISS	11.58	12.45
LOS	5.9	5.8
Mortality	8%	7.1%
FTTA	220	696
PTTA	768	495



Is Age Just a Number?

- Retrospective study 2011 – 2014
- Age =>65
- Trauma CT scan
- Sarcopenia: total cross-sectional psoas mm at L3
- Osteopenia: < 100 HF at the L3 vertebra
- Outcomes: complications, LOS, mortality disposition

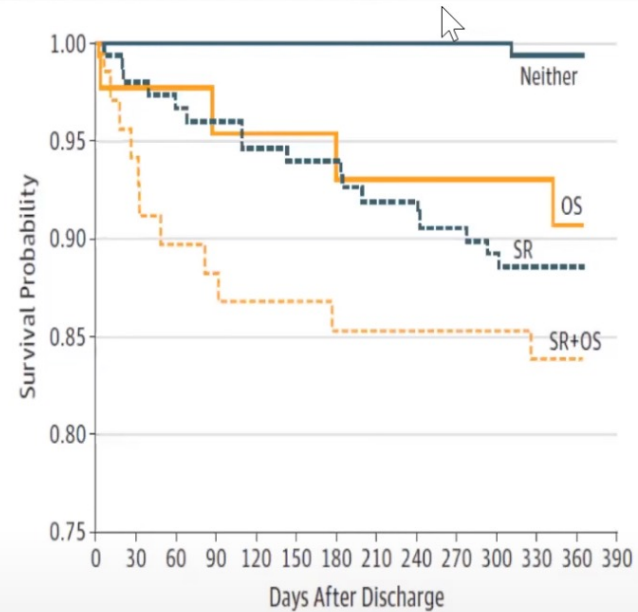




Sarcopenia and Osteopenia

- Increased mortality at 1-year for sarcopenia, osteopenia and both

Figure 2. Kaplan-Meier Survival Estimates Stratified by Radiologic Indicators of Frailty



No. at risk	0	30	60	90	120	150	180	210	240	270	300	330	360	390
SR+OS	68	65	62	61	59	59	58	58	58	58	58	58	57	
SR	148	146	144	142	142	139	136	136	133	133	133	133	131	
OS	43	42	42	42	41	41	41	40	40	40	40	40	39	
Neither	149	149	149	149	149	149	149	149	149	149	149	149	148	



Frailty Screening

- Prospective 2011-2013 of trauma pts > 65
- Frailty Index (50 pre-admit variables)
- Frailty = score > 0.25
- 250 pts, mean age 75
- 41% rate of frailty
- Compared to non-frail patients, frail patients had higher rates of hospital complication and mortality

Table 2. In-Hospital Complications

Complication	No. (%)		P Value
	Frail Status (n = 110)	Nonfrail Status (n = 140)	
Infectious			
Sepsis	4 (3.6)	2 (1.4)	.01
Urinary tract	12 (10.9)	9 (6.4)	.04
Hematologic			
Deep venous thrombosis	7 (6.4)	5 (3.6)	.01
Disseminated intravascular coagulation	2 (1.8)	2 (1.4)	.10
Pulmonary			
Pneumonia	10 (9.1)	6 (4.3)	.01
Pulmonary embolism	2 (1.8)	3 (2.1)	.11
Reoperation	4 (3.6)	3 (2.1)	.54
Cardiac	0	0	NA
Renal	0	0	NA

Table 3. Outcome Measures

Variable	Frail Status (n = 110)	Nonfrail Status (n = 140)	P Value
Length of stay, mean (SD), d			
Hospital	7.3 (6.2)	5.4 (4.8)	.01
Intensive care unit	4.6 (3.2)	3.0 (2.1)	.01
Ventilator use	1.6 (0.9)	1.4 (0.7)	.35
Discharge disposition, No. (%)			
Home	45 (40.9)	75 (53.6)	.04
Rehabilitation	24 (21.8)	47 (33.6)	.04
Skilled nursing facility	36 (32.7)	18 (12.9)	.01
In-hospital mortality	5 (4.5)	0	.01

- Trauma pts > 65
- 5-item FRAIL Scale >> 90% screened as frail
- Pathway” early ambulation, non-pharm delirium prevention, bowel/pain reg, nutrition, PT/OT, geriatric assessment
- Decreased delirium and 30 day readmissions

Table 3. Patient Outcomes after Implementation of the Frailty Identification and Care Pathway

Patient outcome	Pre-intervention group, % (n = 125)	Post-intervention group, % (n = 144)	p Value	Absolute risk reduction, %
Delirium	21.60	12.50	0.04*	9.1
Major complication	28.00	28.47	0.93	-0.4
In-hospital mortality	7.20	4.17	0.28	3.0
Readmission within 30 d	9.60	2.78	0.01*	6.8

*Significant.

Frailty Pathways Can Improve Outcomes

Geriatric Trauma Triage: Approach

Should we use geriatric triage?

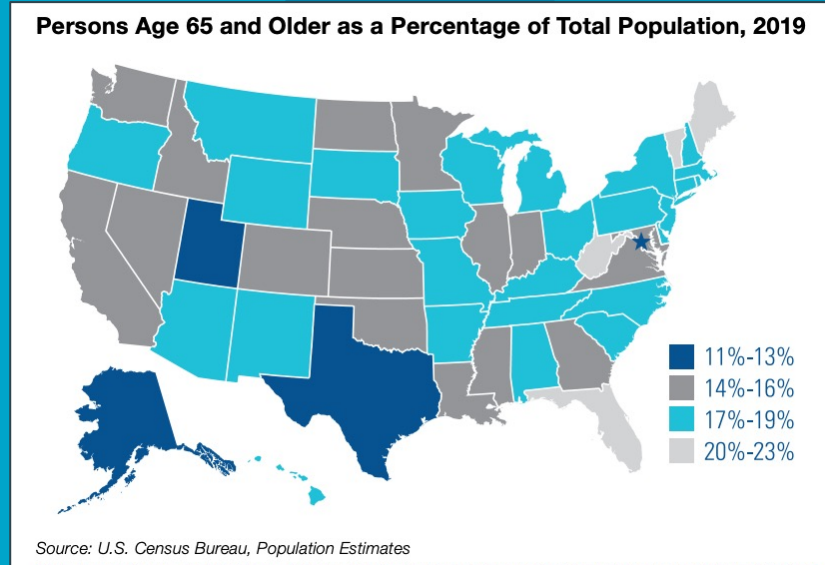
- Yes...but what thresholds?

Should age matter?

- Yes, but only until we can perform more accurate risk assessment

Should care change for geriatric trauma pts?

- Yes, frailty pathways can improve outcomes



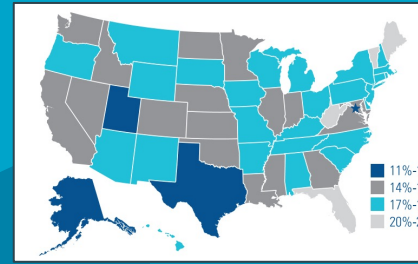
Geriatric Trauma Triage

Local and Regional Capacity:

- How many EMS systems in your area?
- Create concordance around a geriatric triage guideline that allows you to meet your communities needs, based on your resources
- How many hospitals are in your area? Does it matter which hospital you go to?
- Create an approach to regional geriatric care based on your hospital capacity and that of others in the area
- ED Capacity: do you have a pharmacist? A CT scan, an MA to perform Frailty Screening?



Geriatric Trauma Triage: Transfer



- Most elderly trauma patients are cared for at non-trauma centers
- Elderly less likely to be transferred to a trauma center when matched with younger patients
- Yet, transfer to geriatric trauma center is associated with 25% reduction in mortality
- Strongly consider transfer for these patients if your center does not have multidisciplinary geriatric trauma care



OBJECTIVES

Major

~~Physiology-Geriatric-Trauma-Triage?~~
Management Pearls and Pitfalls,

Minor

ED Geriatric Falls Assessment, Prevention,
Programs, and Evidence

Misc.

Elder Speak, Transitions of Care,
Decision Making





Geriatric Trauma Assessment



Airway: Macroglossia/upper airway obstruction; lower esophageal sphincter tone, aspiration risk; arthritis/ decreased neck mobility, difficult airway

Breathing: chest wall rigidity, decreased compliance, tendency for rib fractures, hypoxia, increased V/Q mismatch and decreased gas diffusion > hypoxia

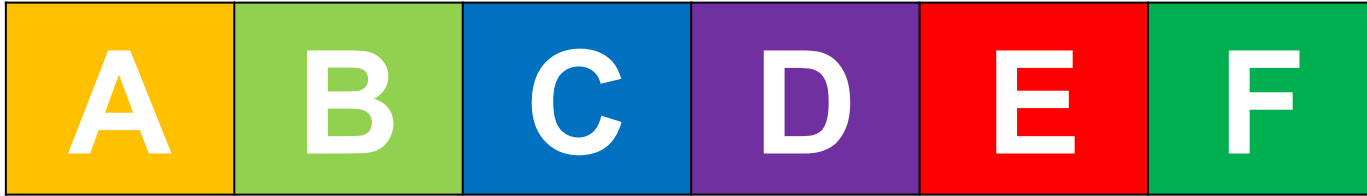
Circulation: diastolic dysfunction along with decrease vessel compliance, catecholamine response, conduction abnormalities, BB and anticoagulant use.

Disability: Increased risk of bleeding, tearing bridging veins in the dura, plaques may increase risk of strokes. Consider ASAP backboard removal, vigilant c-spine protection

Exposure: Decreased thermo-regulation, risk of skin-break down tears



Geriatric Trauma Assessment



80F admitted to the ICU after mechanical fall down 4 stairs. Injuries include: L SDH, L 3-8 rib fractures, and L hip Fracture:

Patient A:

- Hx of HTN, HLP, COPD
- Lives with daughter
- Requires help with shopping, housework, as well as problems with stairs and preparing meals

Patient B:

- HTN, HLP, COPD
- Lives independently
- Walks daily
- No assistance needed for ADLs

Frailty

“A phenotype of multi-system impairment and expanding vulnerability which is associated with a much higher risk of adverse health outcomes that are not entirely explained by aging”

Increased morbidity and mortality

Independent predictor of adverse disposition

Independent predictor of increased complications and LOS



Clinical Frailty Scale*



7 Severely Frail – Completely dependent for personal care from whatever cause (physical or

> [J Nutr Health Aging](#). 2012 Apr;16(4):313-8. doi: 10.1007/s12603-011-0155-9.

Screening for frailty in elderly emergency department patients by using the Identification of Seniors At Risk (ISAR)

F Salvi ¹, V Morichi, A Grilli, L Lancioni, L Spazzafumo, S Polonara, A M Abbatecola, G De Tommaso, P Dessi-Fulgheri, F Lattanzio

Affiliations + expand

PMID: 22499448 DOI: [10.1007/s12603-011-0155-9](#)

Abstract

Objectives: Frail older adults are at an increased risk for adverse outcomes after an Emergency Department (ED) visit. Comprehensive geriatric assessment (CGA) has been proposed to screen for frailty in the ED, but it is difficult to carry out. We tested whether a CGA-based approach using the Identification of Seniors At Risk (ISAR) screening tool was associated with the brief deficit accumulation index (DAI) of frailty.

Design: Prospective observational study.

Setting: Two urban EDs in Italy.

Participants: A cohort of 200 elderly (≥65 years) ED patients.

Measurements: Identifiers, triage, clinical and social data along with the administration of ISAR. CGA was performed using: Charlson Index, Short Portable Mental Status Questionnaire and Katz's

ADL. Follow-up data at 30 and 180 days including mortality, ED revisit, hospital admission and... frailty status. Of the 280 patients screened, complete data were available for 265, with a median age of 79 (interquartile ±9): 54%



PMCID: PMC6801910

PMID: [31569689](#)

Emergency

[Flannery](#),¹ [Liam O'Reilly](#),⁵ ,^{2,4} and [John O'Donnell](#)⁵

[er](#)

Go to:

very of comprehensive
As several instruments are
the Emergency Department
uments to identify frailty in a
ere screened using the
d the Programme on
questionnaire (PRISMA-7). An
frailty status. Of the 280

Thomas Gilbert,

primary care settings.
secondary care data.

elderly people admitted

Information Linkage
3 (0)

1 Very Fit – People who are robust, active, and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 Well – People who have no active disease symptoms but are less fit than category 1. Occasionally exercise or are very active occasionally, e.g. 1-2 times per week.

Feasibility and older trauma patient study

[Heather Jarman](#) , [Robert C Sivapathasuntharam](#), [Cara J](#)

[Scandinavian Journal of Trauma](#)
[Cite this article](#)

2648 Accesses | 3 Citations

Abstract

Background

The burden of frailty on older adults with morbidity and long term functional disability from traumatic injury there is the greatest on these outcomes. The aim of this study was to evaluate the feasibility of frailty screening in patients admitted to major trauma centres.

Secondary Survey

- Missed injuries are common
 - Decreased pain perception
 - Difficulty localizing pain
- Common and concerning occult injuries
 - Head injury
 - Cervical Spine Fracture
 - Clavicular
 - Rib Fractures
 - Hip Fracture
 - Pelvic Fracture



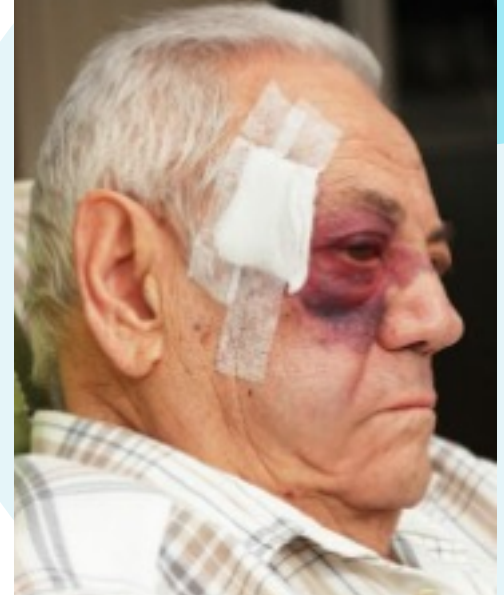
Work-up

- Labs
 - Lactate and base deficit
 - EtOH and tox
- Imaging
 - CT Brain and C-spine
 - Chest / Pelvic xray
 - Chest CT
 - CT Abdomen Pelvis
- Misc.
 - Social hx
 - Medication hx
 - Mini-mental status



Injury Patterns: TBI

- Primary cause of death in geriatric trauma
- Elderly w/ severe TBI = 80% death or major disability
- Most head trauma is 2/2 falls
- GCS and exam are NOT reliable
- HCT almost always indicated
- Observation period after initial normal HCT?



Injury Patterns: C-SPINE

Consider CT-Cervical Spine any time you are getting a HCT.

- Increased rates of injury
- Decreased pain/localization
- Most are from low mechanisms
- Mortality is high

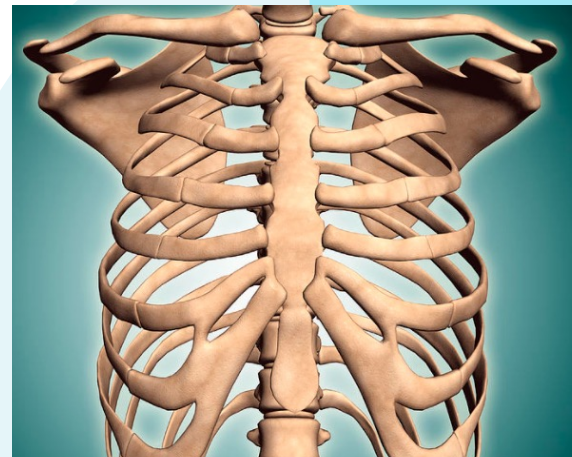
Clear the C-spine ASAP

- Harm associated with delayed clearance



Injury Patterns: Rib Fx

- Age is a strong predictor of outcomes
- Imaging
 - CXR misses up to 50% of rib fractures
 - Always consider CT if concerned
- Analgesia is essential
- Early multimodal pain relief
- Consider transfer if > 3 fractures, bilateral, flail, or lung disease



Injury Pattern: Hip Fracture

Surgical Management is still superior to medical management:

- Medical 4x risk of 1-yr mortality vs surgical management

Early Mobilization is a key component of therapy:

- Among non-operative patients assigned to 30d bed rest had 4x mortality compared to early mobilization

'Accelerated' surgery is not better:

- Accelerated (< 6hours) promoted based on meta-analysis (of observational data)
- HIP ATTACK: Large RCT (<6hr surgery vs 24h) No difference in mortality or complication
- Observational data that adjusts for comorbidities: no difference in outcomes up to 120 hr.





OBJECTIVES

Major

Physiology, Geriatric Trauma Triage? Trauma Evaluation

Minor

ED Geriatric Falls Assessment, Prevention, Programs, and Evidence

Misc.

Elder Speak, Transitions of Care, Decision Making



Geriatric Trauma : Falls

- Aging process increases falls
- Effects of falls of the individual and the healthcare system
- Consider ways to promote safe mobility in the ED



Physiology of Falls



What are some of the age-related changes disposing to falls?

- Vision loss
- Hearing loss
- Decreases in sensation
- Decrease mobility, flexibility, strength
- Decrease dexterity
- MSK changes

Epidemiology of Falls

Falls are common

27% or 1 in 4 older adults falls each year

Every 20 minutes an older adult dies from a fall in the US

Falls are costly

Falls cost the US healthcare system \$50 billion each year

75% of total falls cost are paid by Medicare and Medicaid

Accidental Falls – Caused by environmental hazards or errors

Anticipated physiological falls – Known fall risk, balance loss, impaired cognition, mobility, vision

Unanticipated physiological falls – Cannot be predicted by fall risk scale, e.g. unexpected orthostasis, hypoglycemia, stroke

Intentional fall – Purposeful act

Recurrent fallers – Fallers are twice as likely to fall again

Regardless of mechanism, all older adult fallers have increased mortality after an ED fall visit

Risk Factors for Geriatric Falls

Unsafe Home Environment

- loose carpets
- bathtubs without rails
- poor lighting
- cluttered walkways
- unsafe stairs

High-risk Medications

- antidepressants
- sedatives
- opiates
- hypnotics

Comorbidities

- Parkinson disease
- peripheral neuropathy
- poor vision
- cognitive impairment

Nutritional Deficiencies

- low calcium
- vitamin D

Lack of Exercise

- lack of balance
- strength training

STEADI –

Stopping Elderly Accidents, Deaths, & Injuries



www.cdc.gov

STEADI

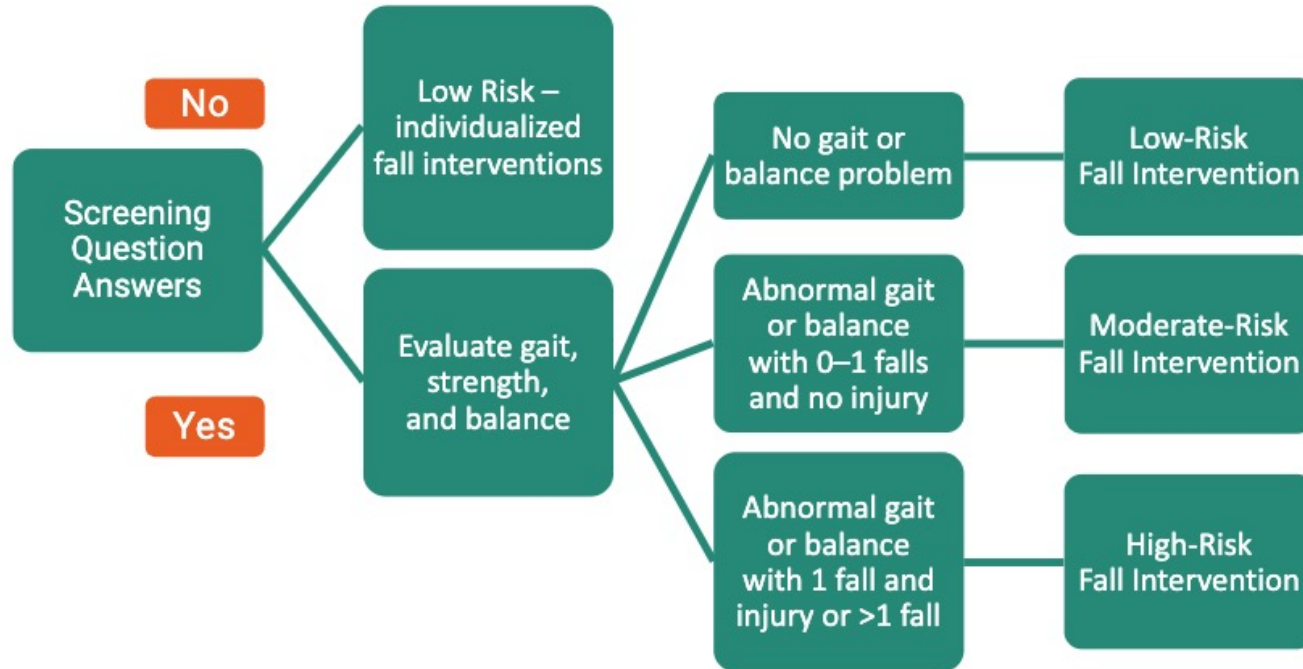
Stopping Elderly
Accidents, Deaths & Injuries

Screening ED Older Adults

- Have you fallen in the past year?
 - How many times?
 - Where you injured?
- Do you feel unsteady when you walk or stand?
- Do you worry about falling?



STEADI – Algorithm For Fall Risk



What to do with a positive screen?



- Do a multifactorial risk assessment
- Direct interventions to identified risk factors
- Best evidence interventions:
 - Improve home environment
 - Balance, strength, and gait training
 - Vitamin D supplements > 800 IU per day

ED Fall Programs

- Multi-disciplinary ED fall interventions are common in other countries
- Fewer trials in the US
- Multiple recent interventions showing promise:
- Geriatric Acute and Post-acute Fall Prevention Intervention (GAPcare):
 - RCT, community dwelling ED elderly pts, post-fall
 - Multidisciplinary (pharmacist, physical therapy) approach

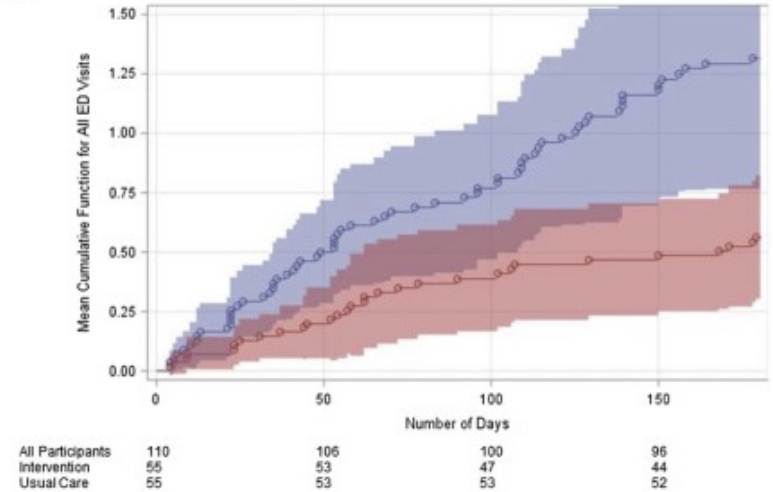
ED GAPCare: Outcomes

- Decrease Increased rates of injury
- Decreased pain/localization
- Most are from low mechanisms
- Mortality is high

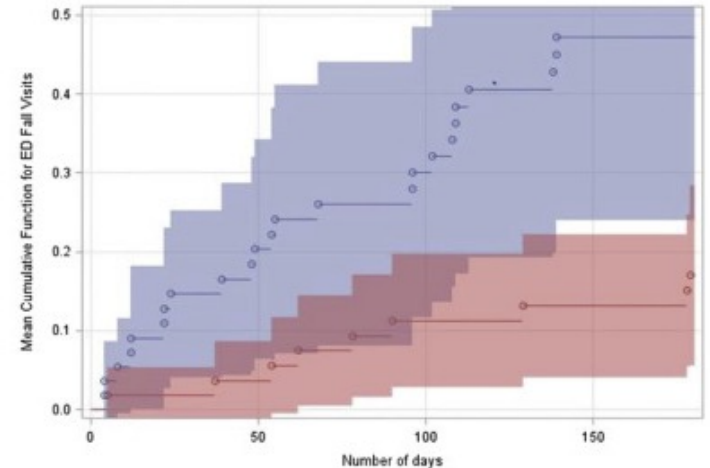
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A



B





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Elder Speak, Clinical Momentum and Clinical Nihilism



Clinical Momentum and Clinical Nihilism

“system-level, latent, previously unrecognized property of clinical care that may contribute to the provision of unwanted, medically aggressive care”

versus

“the contention that it is impossible to patients through treatment..that many “treatments” do more harm than good, and that one should instead allow nature to take its course”



Elderspeak



A form of communication over-accommodation used w elderly:

- Inappropriately juvenile lexical choices and/or exaggerated prosody;
- Arises from implicit ageist stereotypes;
- Carries goals of expressing care, exerting control, and/or facilitating comprehension; and
- May lead to negative self-perceptions in older adults and challenging behaviors in persons with dementia.

Thank You!