Sorting in a Minefield: Geriatric Triage

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No disclosures or competing interests

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Objectives

Update on ED triage strategies for older patients

Update on pre-hospital and trauma triage for older adults

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United States 2022 Data on Emergency Department Visits

- Number of visits: 155.4 million
- Number of injury-related visits (includes poisoning and adverse effects): 43.5 million
- Number of visits per 100 persons: 47.3
- Number of emergency department visits resulting in hospital admission: 17.8 million
- Number of emergency department visits resulting in admission to critical care unit: 3.1 million
- Percent of visits with patient seen in fewer than 15 minutes: 40.6%
- Percent of visits resulting in hospital admission: 11.5%
- Percent of visits resulting in transfer to a different (psychiatric or other) hospital: 2.4%

Source: National Hospital Ambulatory Medical Care Survey: 2022 National Summary Tables, table 1, 3, 15, 23 [PDF – 1 MB]

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Which age range accounts for largest percentage?

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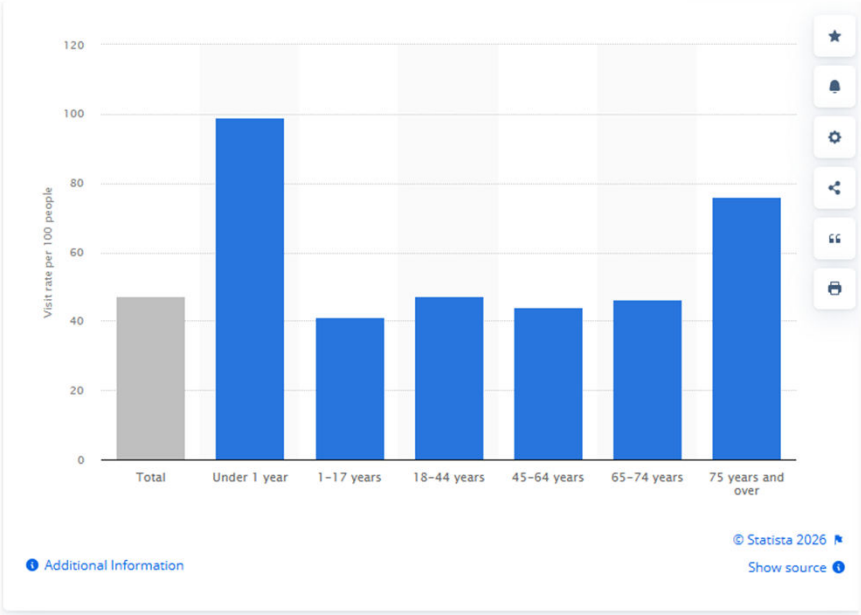
Number of emergency department visits per 100 people in the United States in 2022, by age group



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In 2017–2018, initial injury-related emergency department visit rates for unintentional falls were higher for females than for males, though differences varied by age group.

Figure. Initial injury-related visits to hospital emergency departments for unintentional falls, by sex and age group: United States, 2017–2018

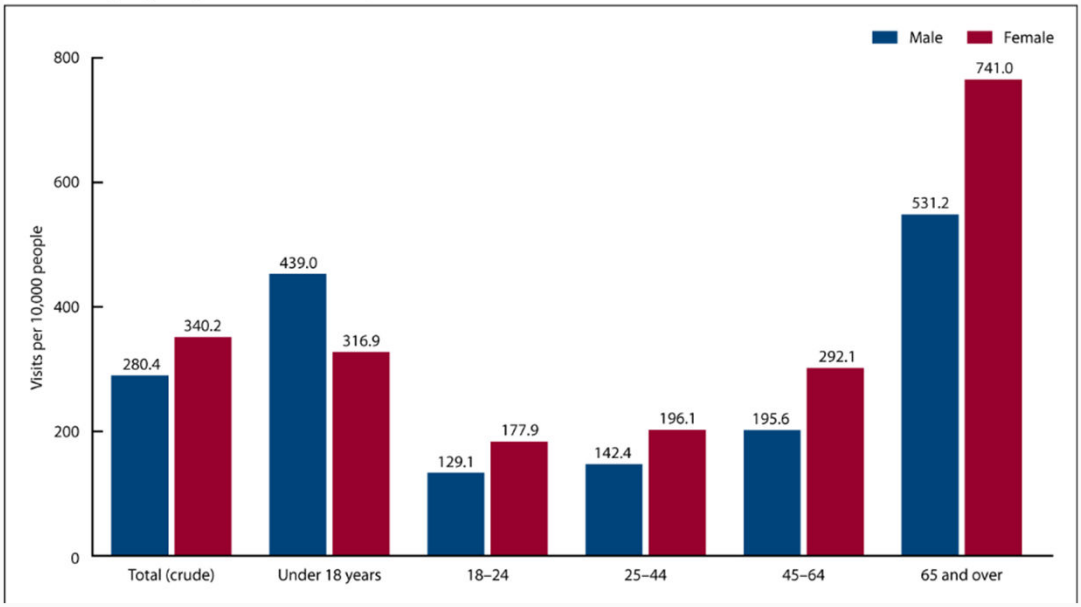

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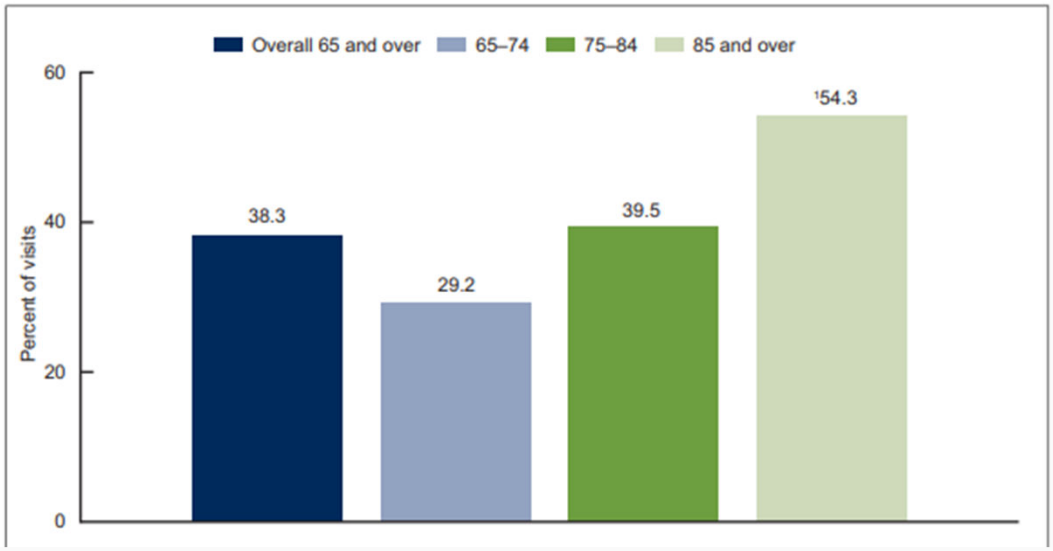
Figure 3. Percentage of emergency department visits arriving by ambulance for persons aged 65 and over: United States, 2009–2010



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Why are older ED patients different?

-Frailty

-Medications

-Non-specifc complaints (weakness, nausea, fatigue, non-localizing pain)

-Dementia vs delirium

-Physiologic response

-Vision and hearing changes

-Fear of loss of autonomy

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ED Triage: What do we use?

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ESI- Emergency Severity Index

Level	Description	Examples
1	Immediate, life-saving intervention required without delay	Cardiac arrest Unresponsive Profound hypotension or hypoglycemia
2	High risk of deterioration, or signs of a time-critical problem	Cardiac-related chest pain Asthma attack Altered mental status
3	Stable, with multiple types of resources needed to investigate or treat (such as lab tests plus diagnostic imaging)	Abdominal pain High fever with cough Persistent headache
4	Stable, with only one type of resource anticipated (such as only an x-ray, or only sutures)	Simple laceration Rabies vaccination Sore throat
5	Stable, with no resources anticipated except oral or topical medications, or prescriptions	Suture removal Prescription refill Foreign body in eye

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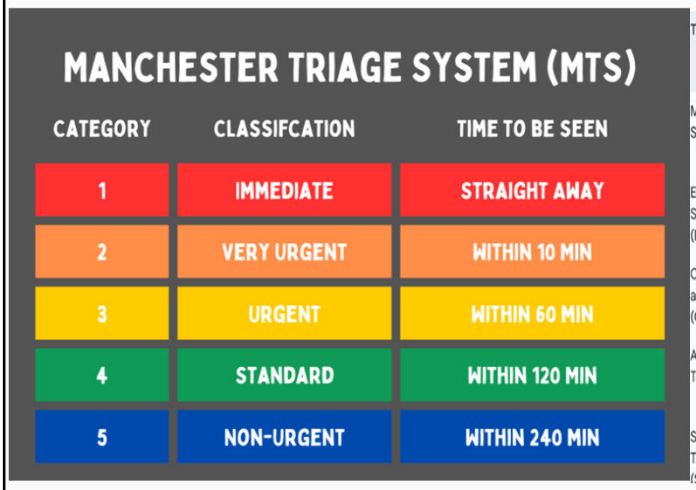
Internationally



Triage System	Number of Acuity Levels	Primary Basis for Acuity Assignment	Key Origin / Primary Use Region(s)	Official Governing/Supporting Body
Manchester Triage System (MTS)	5	Presentational flowcharts & clinical discriminators (symptom-based)	United Kingdom / Europe	Advanced Life Support Group (ALSG) Manchester
Emergency Severity Index (ESI)	5	Acuity & anticipated resource utilization (for levels 3-5)	United States	Emergency Nurses Association (ENA)
Canadian Triage and Acuity Scale (CTAS)	5	Chief complaint & first/second order clinical/physiological modifiers	Canada	CTAS National Advisory Committee (CAEP & NENA partnership)
Australasian Triage Scale (ATS)	5	Clinical urgency based on physiological predictors & maximum waiting times	Australia / New Zealand	Australasian College for Emergency Medicine (ACEM)
South African Triage Scale (SATS)	4-5 (see description)	Triage Early Warning Score (TEWS - physiological) & clinical discriminators	South Africa / Low- & Middle-Income Countries (LMICs)	Emergency Medicine Society of South Africa (EMSSA)

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Comparing Triage Systems

MTS and ESI show limited sensitivity in older patients, particularly with nonspecific presentations. ESI provided better discrimination of clinical urgency. Findings support revising triage systems to account for age, atypical symptoms, and geriatric vulnerability.

Citation: Ingielewicz A, Szarafińska M, Zając M, Brunka Z, Grażewicz M, Szczupak M, et al. (2025) Triage and hospitalization outcomes in the geriatric population of an emergency department: A retrospective cohort study comparing the manchester triage system and the emergency severity index. PLoS One 20(9): e0332304. https://doi.org/10.1371/journal.pone.0332304

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Scales, Measures, Prognostication

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FRAIL

GMT **WT_** CAM

ISAR

Pro-AGE

Frailty Index

Barthel Index for Activities of Daily Living

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The Bottom Line

-Pick one you like and uses it

-Lots of studies comparing them and they all say the same thing:

Older Patients with Underlying Disease/Frailty Do Worse

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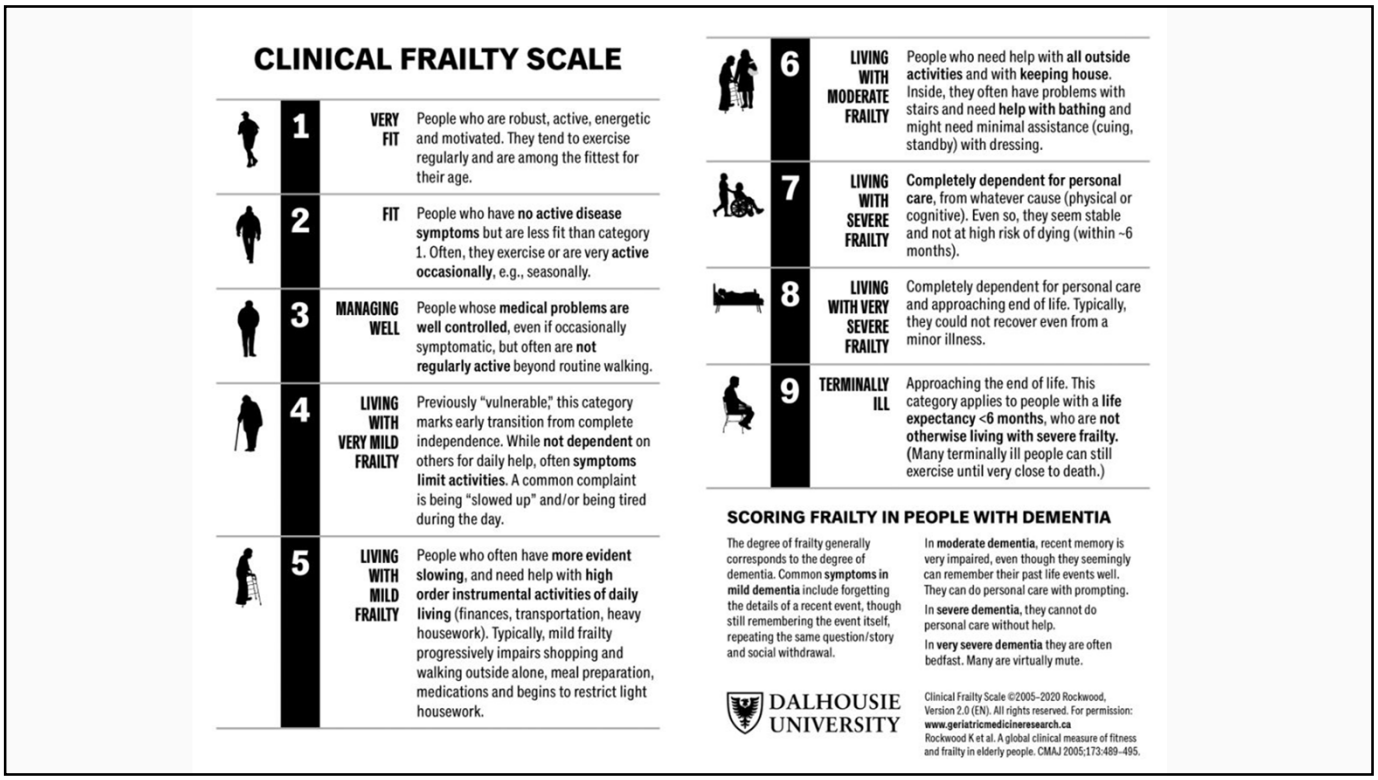

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Frail Scale

Component	Question
Fatigue	How much time during the previous 4 weeks did you feel tired? (all of the time, most of the time = 1 points)
Resistance	Do you have any difficulty walking up 10 steps alone without resting and without aids? (yes = 1 point)
Ambulation	Do you have any difficulty walking several hundred years alone with without aids? (yes = 1 point)
Illness	How many illnesses do you have out of a list of 11 total? (5 or more = 1 point)
Loss of Weight	Have you had weight loss of 5% or more? (yes = 1 point)

Frail Scale scores range from 0-5, one point for each component, 0=best to 5=worst
Robust = 0 points
Pre-Frail = 0-1 points
Frail = 3-5 points

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Barthel Index of Activities of Daily Living

FEEDING
0 = unable
5 = needs help cutting, spreading butter, etc., or requires modified diet
10 = independent ____

BATHING
0 = dependent
5 = independent (or in shower) ____

GROOMING
0 = needs to help with personal care
5 = independent face/hair/teeth/shaving (implements provided) ____

DRESSING
0 = dependent
5 = needs help but can do about half unaided
10 = independent (including buttons, zips, laces, etc.) ____

BOWELS
0 = incontinent (or needs to be given enemas)
5 = occasional accident
10 = continent ____

BLADDER
0 = incontinent, or catheterized and unable to manage alone
5 = occasional accident
10 = continent ____

TOILET USE
0 = dependent
5 = needs some help, but can do something alone
10 = independent (on and off, dressing, wiping) ____

TRANSFERS (BED TO CHAIR AND BACK)
0 = unable, no sitting balance
5 = major help (one or two people, physical), can sit
10 = minor help (verbal or physical)
15 = independent ____

MOBILITY (ON LEVEL SURFACES)
0 = immobile or < 50 yards
5 = wheelchair independent, including corners, > 50 yards
10 = walks with help of one person (verbal or physical) > 50 yards
15 = independent (but may use any aid; for example, stick) > 50 yards ____

STAIRS
0 = unable
5 = needs help (verbal, physical, carrying aid)
10 = independent ____

TOTAL (0–100): ____

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Geriatric Measurement Tool

-FRAIL plus Barthel

-Started as prognostication for pneumonia in Covid patients

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Back to Triage

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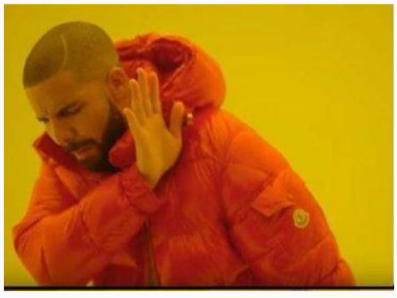
Triage Plus Strategy

Combine your favorite triage scale with your favorite geriatric prognostication tool



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Trauma Triage

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Older trauma patients

-Higher mortality for comparable injury (1.8% vs 0.5%)

-Falls from standing most common-head injury, rib and pelvic injury

-Occult injury common-under triaged to trauma centers (53.8%)

-More difficult to assess- different physiology, comorbid conditions, medications, hearing impairment

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Trauma Center Criteria (American College of Surgeons)

	Age under 65	Age over 65
Heart Rate	>120	>90
Blood Pressure	<90	<110
Fall on AC		Yes
GCS <14 GLF		Yes

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Conclusions

-Older patients present to the ED with atypical signs and symptoms

-Older patients do not have reliable physiology

-Current triage scales rely on physiology and vital signs to predict resource need and acuity making them inaccurate for older patients

-Consider increasing triage score one level in older patients

-Frailty prognostication can help with determining disposition/outcomes

-Trauma is a balance of over/under triage- ACS may over triage but no clear answer

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Sorting in a Minefield: Geriatric Triage

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