



Geriatric Trauma Triage: The Scope of the Problem

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INTRODUCTION

The scene is a crowded Emergency Department (ED) triage corridor. Lined up among the patients, walking in or delivered by a queue of ambulances, there are three patients.

The Scene

1. A 76-year-old woman presenting via ambulance after falling down a couple of steps. She is a retired teacher living independently at home with a past medical history of hypertension. Her last fall was over a year ago. She had no preceding symptoms, suffered no head strike, and had a full recall of events. She had a prehospital blood pressure of 90/60 but, with no intervention, it is now 105/62 and other observations are normal. She stood and transferred to the ambulance trolley and paramedics reported no identifiable injuries.
2. A 91-year-old man and aged care facility resident with advanced dementia presents via ambulance after an unwitnessed fall. He has frequent falls and recently, monthly ED presentations. He has atrial fibrillation but isn't anticoagulated. He has a heart rate of 135 and otherwise normal observations. Paramedics have not found any obvious injuries.
3. An 82-year-old woman and another aged care facility resident with an unwitnessed fall. She has early dementia and was found on the ground with hypoactive delirium and an occipital scalp abrasion. She has hypertension and is anticoagulated for atrial fibrillation. She has normal observations and is in cervical spine precautions with paramedic concern for isolated head injury.

Goal of Triage

What is the goal of triage? Triage aims to consider these three patients within the cohort of all patients presenting to this ED door and assign them a level of urgency. That is, this patient should wait for a medical assessment and/or treatment, ideally no longer than “x” time. Triage aims to balance clinical justice so that patients receive the level and quality of care appropriate to their clinical needs with efficiency and the most useful application of our finite resources.¹ It must follow key principles of speed, thoroughness, and reproducibility, but does not aim to diagnose. Triage is a dynamic continuous process repeated at many stages in a patient’s journey and may have a streaming outcome with a certain pathway of care defined.

Process of Triage

Other than the ED front door, where in their healthcare journey are patients triaged and by whom? Or said another way, who is given the opportunity to assess a patient’s needs, define their urgency and advocate on their behalf? Triage occurs in many locations beginning wherever a patient’s health journey starts, such as their home which may be an aged-care facility. After a patient, caregiver, or bystander notices a problem, escalation may result in triage and re-triage by many people: advice line staff, community care

providers, primary care teams, hospital outreach staff, emergency responders, specialist ED clinicians, or specialist hospital and post-acute care providers. Triage may define the urgency of access to assessment, diagnostic or therapeutic procedures, or new locations of care. In the digital healthcare environment, phone, telehealth, and secondary triage providers continue to rapidly expand. In call cases, it is important to pause and consider:

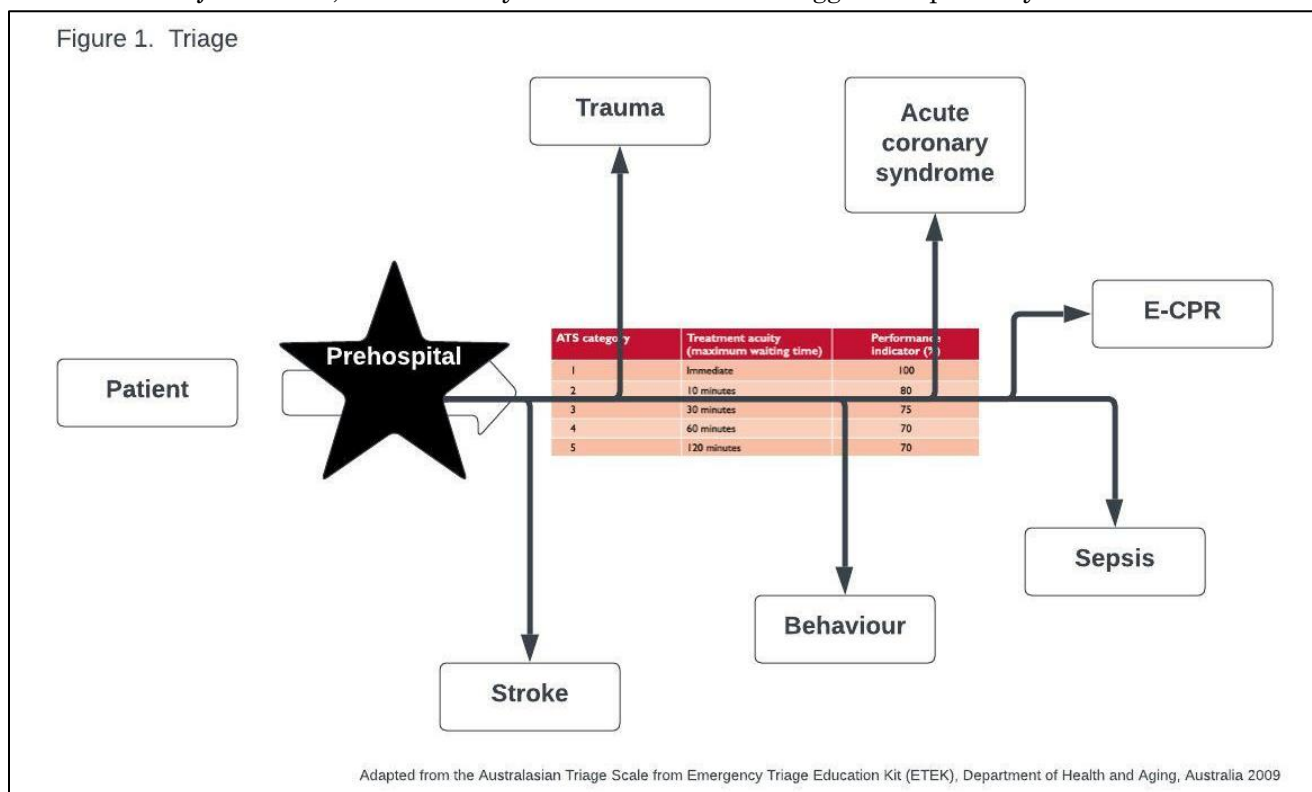
- What assumptions underpin the process of triage?
- What values are communicated by the process and outcomes of triage?
- For individual patients or cohorts, how does our current system of triage, of defining who is most urgent, work for them?
- But more importantly, for the patient in front of us, why does it matter?

The Evidence

In Australian and New Zealand (NZ) EDs, significant variability in assigned urgency using the Australasian Triage Scale (ATS) has been described. Variability was associated with the type of service, the age of the triage nurse, and the patient presenting problem with significant differences in concordance in mental health and pregnancy-related presentations.² In general, older patients are less likely to be assigned a higher urgency category, despite their presenting complaint being more likely to be trauma, and their discharge destination less likely to be home.³ In the prehospital setting, existing triage tools demonstrate huge variability in sensitivity (19.8 to 95.5%) and specificity (57.7 to 83.3%) for identifying older patients with major trauma.⁴ Evidence also suggests that across all patients, even experienced trauma clinicians performing standardized initial clinical assessments, have only a moderate ability to detect major trauma.⁵

Triage Evolution

Triage evolution has seen the addition of more problem-based triage designations. Contrary to the traditional goal of triage, Figure 1 describes that these triage designations aim to seek a certain primary diagnosis and elevate patients likely to have these, to more urgent pathways of care. We know that older patients with major trauma, are less likely to meet criteria that trigger this pathway.⁶



Epidemiology of Trauma and an Evidence Gap

In Australia and NZ, ground-level falls in patients over the age of 65 years are the most common cause of injury related hospitalization, and in five of nine jurisdictions, the most common cause of major traumatic injury.⁷ So in our modern context of overcrowded acute care services:

- Older patients carry the burden of injury.
- Triage systems are less likely to identify older injured patients as urgent.
- Older injured patients compete for priority with younger, less physiologically complex patients, where the early identification of major trauma patients remains challenging.

Given that, it is easy to understand how trauma systems deliver under-triage and missed injury in older patients. Under-triage is under-recognition of serious injury or illness, resulting in treatment in a setting that lacks adequate resources, with less effective intervention and poorer patient-centred outcomes. However, the definition of under-triage assumes that we know:

- Which older injured patients are at risk of a poor outcome?
- In which locations are older injured patients best cared for?
- Which models of injury care, with which interventions, optimise outcomes that matter to older injured patients?

We don't yet know the answers to these questions, and that should feel uncomfortable.⁸

CONCLUSION

Returning to the triage corridor, let's consider how the current system served our three patients.

The Scene

- Our first patient waited hours in the corridor and then in a cubicle before a trauma pan scan, ordered by an astute emergency physician, revealed her eighth rib fracture and grade five splenic laceration with haemoperitoneum. She was treated with angioembolisation resulting in functional asplenia, with a 15-day hospital length of stay (LOS) complicated by anaemia, aspiration pneumonia, and bilateral pulmonary embolus before being discharged home.
- Our second patient was discharged to hospital in the home (HITH) after a 24-hour stay in the ED for management of atrial fibrillation. A visiting HITH nurse found ongoing left-sided flank pain and a CT revealed five rib fractures missed on ED assessment. He had a 13-day HITH LOS with analgesic titration and delirium management.
- Our third patient spent five hours in the ambulance corridor before being discharged home with a diagnosis of urinary tract infection, after a normal head and cervical spine CT. She returned a few days later with a missed neck of femur fracture and four undisplaced rib fractures. She went on to have surgery, a 10-day LOS, and was discharged to a higher level of aged care facility.

THE FUTURE

With these older injured patients in mind, what might triage look like if it aimed to achieve not only clinical justice, efficiency, speed, thoroughness, and reproducibility - but also added equity? We recommend:

1. That triage processes are acknowledged as opportunities to evaluate patient risk and define urgency. This requires subsequent processes that offer further assessment of individual needs, diagnostic accuracy, and patient-centred care.

2. That triage processes are resourced to incorporate standardised assessments of vulnerability associated with greater risk of poorer outcomes and missed injury. These should be evidence based and may include age, frailty, and cognition.
3. That injury assessment tools such as structured clinical examinations and timely access to diagnostic adjuncts such as bedside ultrasound, pathology, and radiology services, are equitably accessible to older patients after ground-level falls. This should be monitored as a key quality indicator with capacity building across all who care for older patients.
4. That trauma systems acknowledge a positive duty to identify and eliminate systemic inequity, including ageism, in injury care. This commitment could be supported by reviewing trauma systems with an equity lens, resourcing responses to prevent inequity in known areas of concern, internationally standardized trauma registry data to provide evaluation, monitoring, and timely policy recommendations regarding equity in trauma care.⁹
5. That at risk cohorts, for example older people, and specialists in their care, are included in co-design of jurisdictional trauma systems.

We are waiting for evidence, trauma systems, and triage processes to catch up with the epidemiology of trauma. While waiting, when next assessing an older patient after a ground level fall, consider how can we ensure equity in their access to trauma care, and improve outcomes that matter to them?

KEYWORDS

Triage, Injury, Trauma, Falls, Older Adult

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The author has no conflict to report.

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