

Trauma in vulnerable populations

Background

Traumatic injuries can be easily missed in some patient populations leading to delays in care and worse outcomes¹. These include older people (aged 65 years and older) and those with long term physical or learning disability. This is because:

- Frailty is a condition characterised by loss of biological reserve and failure of physiological mechanisms leading to an increased vulnerability to a range of stressors. Frailty is a risk factor for poor recovery after trauma. Increasing frailty means injuries can be sustained from low mechanisms (e.g. a fall from standing) that are often not considered 'major trauma'. The result is consistent under-triage and under-recognition at all stages of the care pathway with delays in diagnosis and management.
- Whilst osteoporosis is commonly associated with older age it is also prevalent in younger patients with learning disabilities². An ageing population means the prevalence of osteoporosis is expected to increase. Osteoporosis is a silent disease characterised by low bone mass density and often remains undiagnosed until a person sustains a fragility fracture.
- Cognitive impairment can lead to communication challenges that mean health care providers fail to appreciate that an individual is in pain. Conversely pain can worsen cognitive impairment.
- Co-morbidity can greatly increase the impact of injuries (e.g. chest wall injuries in the context of chronic lung disease).
- Anti-coagulant and anti-platelet injuries will worsen bleeding from traumatic injuries.
- Pre-existing hypertension may mean relative *hypotension* from bleeding is not recognised.
- Some chronic health conditions can predispose to specific injuries – e.g. catastrophic spinal fractures in ankylosing spondylitis.

Pre-hospital approach

The [YAS major trauma triage tool](#) does not contain explicit reference to age or frailty within the 3 steps but does emphasise the importance of clinical judgement & the impact of patient characteristics such as age, medications and co-morbidities. In addition to those patients triggering as 'major trauma', YAS should provide [pre-alert calls](#) (to the TU or the MTC) for any patient 65 or older with injuries from stairs.

ED Approach

All departments within the network should utilise an appropriate triage safety net to identify patients who, whenever possible, should have an early primary survey by a senior ED doctor (see below). The clinician must have a low threshold for requesting imaging and must consider the implications of co-morbidities and medications the patient may be on.

Following admission

All staff must continue to be aware of the potential for occult injuries in these patient groups during their admission. All major trauma patients should have a 'tertiary survey' performed following admission as part of their assessment. Early identification of frailty using the Rookwood Clinical Frailty Scale (CFS) should be done on all older patients. Ideally, patients with a CFS score of 5 or above should have access to specialist geriatrician services within 72 hours of admission.

¹ TARN: Major Trauma in Older People 2017

² https://fingertips.phe.org.uk/documents/Health_inequalities_osteoporosis.pdf

Example 'Silver / Frailty' Triage tool [CLICK HERE FOR EDITABLE VERSION](#)

Emergency
Department



Silver Trauma Safety Net

Aged >65 years/ CFS>4/ Learning Disability[^]?

Trigger a Silver Trauma Primary Survey by a Senior Doctor with any of the following:

PHYSIOLOGY	ANATOMY	MECHANISM
<ul style="list-style-type: none"> SBP<110mmHg in the presence of significant injury* Anticoagulant Medication in the presence of injury** <p style="font-size: 8px; margin-top: 5px;">*Excludes minor abrasions, lacerations, haematoma or fractures distal to ankles / wrists **common drugs include Warfarin, Rivaroxaban, Apixaban, LMWH, Aspirin PLUS clopidogrel.</p>	<ul style="list-style-type: none"> Injury to 2 or more body regions* Suspected shaft of femur # <ul style="list-style-type: none"> Open Fracture* <p style="font-size: 8px; margin-top: 5px;">*Excludes injuries distal to ankles / wrists</p>	<ul style="list-style-type: none"> Fall down > 3 steps Pedestrian vs bicycle or car Road Traffic Collision* <p style="font-size: 8px; margin-top: 5px;">*>30mph, entrapment>30minutes, ejection, death in same incident, pedestrian or cyclist vs car</p>

[^]https://fingertips.phe.org.uk/documents/Health_inequalities_osteoporosis.pdf
A Danecki 2018. Revised 2024 (v4)

Further reading / educational resources

TARN – Major Trauma in Older People 2024

<https://www.wymtn.com/uploads/5/1/8/9/51899421/major-trauma-in-older-people-2017-1.pdf>

Peninsula Trauma Network – Frailty Trauma Podcast

<https://theptn.co.uk/frailty-trauma/>

A national study of 23 major trauma centres to investigate the effect of a geriatrician assessment on clinical outcomes in older people admitted with serious injury in England (FITR 2): a multicentre observational cohort study

Braude, Philip et al. [The Lancet](#) Healthy Longevity, Volume 3, Issue 8, e549 - e557

London Major Trauma System: [Management of Older Major Trauma Patients](#). 3rd Ed 2021

Rockwood Frailty Scale https://www.england.nhs.uk/south/wp-content/uploads/sites/6/2022/02/rockwood-frailty-scale_.pdf

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