



# Midlands Silver Safety Net Information Guide

Following on from the publication of the TARN Report “Major Trauma in Older People” (2017)<sup>1</sup>, the single most important finding was the difficulty that current systems have in the early identification of older patients with major trauma. By failing to identify major trauma in older people, there is a lower rate of bypass to Major Trauma Centres (MTC); low levels of pre-alert; low levels of trauma team activation and initial management by relatively junior clinicians.

For all centres and units, there is a need to address this issue for *patients*. Delayed identification of injury, suboptimal pain management or hydration strategies can all contribute to the onset of delirium. It is therefore vital that care is optimised as early as possible in a patient’s journey and we work towards early identification of major trauma for older people.

The “Silver Safety Net” is a tool designed to be implemented at a Regional Trauma Desk (RTD) level to improve pre-alerts for older people with traumatic injuries and to assist pre-hospital crews in deciding the most appropriate method of conveyance to an MTC or Trauma Unit (TU).

The tool is to be used in conjunction with existing Major Trauma Triage Tools whereby if an older person with injuries meets any of the POSITIVE criteria that warrant direct MTC conveyance or trauma team activation these take precedence over the Silver Safety Net.

## Pre-Hospital

If a pre-hospital team has any concern about a patient with low-energy trauma they should contact the RTD for advice who will apply the tool and will pre-alert the appropriate Emergency Department.

### Silver Trauma Safety Net Aged 65 years and over? With any of the following:

PHYSIOLOGY	ANATOMY	MECHANISM
<ul style="list-style-type: none"> <li>Systolic BP &lt;110mmHg following an accident</li> </ul>	<ul style="list-style-type: none"> <li>Injury to 2 or more body regions (excluding injuries distal to wrist/ankle joints)</li> <li>Suspected shaft of femur fractures</li> <li>Open fracture proximal to wrist / ankle</li> </ul>	<ul style="list-style-type: none"> <li>Fall downstairs</li> <li>From an RTC:               <ul style="list-style-type: none"> <li>Entrapment &gt;30mins</li> <li>Ejection</li> <li>Death in same incident</li> <li>Pedestrian vs Car – direct to MTC</li> <li>Cyclist vs Car – direct to MTC</li> </ul> </li> </ul>

Discuss the case with the RTD who will then ‘silver trauma pre-alert’ the appropriate Emergency Department

***Be aware of patients on anticoagulants as the destination may need upgrading from a TU to an MTC.***

V2 Oct 2020

## Hospital-Based Response

When the Emergency Department receives a Silver Trauma Pre-Alert they should make the following arrangements:

1. Allocate a cubicle to receive the patient
2. Allocate *at least* a middle grade clinician to assess the patient upon arrival as a priority
3. Consider if they need to activate your trauma team policy

If a patient arrives on a scoop stretcher or with any form of spinal immobilisation, the assessing team should make an early judgement as to whether or not this protection can be removed or whether some other form of protection is required until imaging is performed.

The Silver Trauma Pre-Alert is not an indication that a formal Trauma Team response is required – some patients may have their injuries cleared very quickly and be in need of more urgent medical attention (e.g. treatment of arrhythmias as a cause for an initial fall). It is merely designed to ensure quicker access to more senior clinicians to facilitate optimum care and earlier access to imaging.

## Data

Data will be collected by the Ambulance Service and the Midlands Trauma Network will use this and the TARN (Trauma Audit & Research Network) data to analyse the improvements and progress being made and the results will be shared with pre-hospital personnel and trauma network colleagues.

## Level I, II & III Trauma Triage Tool Triggers

The Tool has been designed to follow the Level I, II and III triggers of existing Major Trauma Triage Tools, in terms of physiology, anatomy of injury, and mechanism of injury.

**Physiology:** Older People with a systolic blood pressure of less than 110mmHg should be pre-alerted to the hospital. This is not a requirement for MTC-transfer as this would place a huge burden on attendances at MTCs. The blood pressure may be lowered by pre-existing disease, concurrent illness or poly-pharmacy and not be caused by traumatic injury. When a patient has been found to have sustained a significant injury and their blood pressure is less than 110mmHg, a \*Silver Trauma Pre-Alert should be issued.

The Blood Pressure limit for older people after trauma is higher than the existing Level I triggers of two successive readings of a systolic blood pressure of 90mmHg or less. This takes into account evidence that mortality rates in older people with a systolic blood pressure less than 110mmHg are equivalent to those found in younger people with systolic of less than 90mmHg<sup>2/3</sup>.

Glasgow Coma Scale has not been included as a trigger in this section as evidence suggests that older people with a head injury with a given AIS will have a higher presenting GCS than their younger counterparts<sup>4</sup>. It would overwhelm services if a higher GCS score than the current level were to be implemented as a criterion for trauma team activation. The Midlands' Silver Trauma Group believes that hospital teams should develop their own triage mechanisms to identify older people at risk of head injury at the time of their arrival, such as the EFGHI Score<sup>5</sup>.

**Anatomy:** From a practical perspective older people with suspected shaft of femur fracture or compound fracture are likely to need rapid assessment for pain management and splintage of fractures, hence the diagnosis or suspicion of these injuries should trigger a pre-alert to the hospital.

Patients with injuries to two or more body regions (e.g. head and neck trauma; head and chest wall injury) would benefit from a Silver Trauma Pre-Alert. Hospital-based teams may decide to accommodate such individuals in Resuscitation Room, or they may decide to prioritise their care in the triage queue to enable rapid assessment and decisions on the need for imaging or performing acts such as clearing an individual's cervical spine. Either way, it would allow hospital teams to mobilise senior clinicians to assess older people at an earlier stage of their journey.

**Mechanism:** Most major trauma in older people is sustained following a fall less than 2M. Higher energy mechanisms of injury are more likely to lead to multi-system trauma, especially to the ageing individual, so these types of mechanism should trigger a Silver Trauma Pre-Alert. For the purposes of the Silver Safety Net, the following mechanisms are listed with the associated response:

Mechanism of Injury	Response
Fall downstairs	Take to TU or MTC Silver Trauma Pre-Alert or Trauma Team activation
Road Traffic Collision (entrapment>30mins; intrusion into cabin; death in same incident; telemetry suggests high energy transfer)	Direct MTC Transfer Trauma Team activation
Pedestrian or Cyclist vs Car / Lorry etc..	Direct MTC Transfer Trauma Team activation

If any older person sustains one of the above mechanisms of injury and are taking anticoagulant medication (e.g. warfarin, dabigatran, rivaroxaban, apixaban), there should be a lower threshold for conveyance towards a major trauma centre.

## References

1. The Trauma Audit and Research Network. "Major Trauma in Older People" April 2017.
2. Heffernan DS, Thakkar RK, Monaghan SF et al. Normal presenting signs are unreliable in geriatric blunt trauma victims. *J Trauma* 2010; 69 (4): 813-820
3. Hranjee T, Sawyer RG, Young JS et al. Mortality factors in geriatric blunt trauma patients: creation of a highly predictive statistical model for mortality using 50,765 consecutive elderly trauma admissions from the national sample project. *Am Surgeon* 2012; 78(12): 1369-75.
4. Kehoe A, Rennie S, Smith JE. Glasgow Coma Scale is unreliable for the prediction of severe head injury in elderly trauma patients. *Emerg Med J* 2014; 31(9): 775-7.
5. Hall R. Elderly Fallers Get Head Injuries: Early Identification of Head Injuries in the Elderly. *Midlands' Critical Care and Trauma Networks Elderly Trauma Conference*. May 2016.