



# Clinical Practice Guidelines: Trauma/Pre-hospital trauma by-pass

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<b>Date</b>	February, 2021
<b>Purpose</b>	To ensure a consistent approach to pre-hospital trauma by-pass.
<b>Scope</b>	Applies to Queensland Ambulance Service (QAS) clinical staff.
<b>Health care setting</b>	Pre-hospital assessment and treatment.
<b>Population</b>	Applies to all ages unless stated otherwise.
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# Pre-hospital trauma by-pass

February, 2021

The **trauma by-pass** clinical practice guideline is designed to identify trauma patients who require transport to a Major Trauma Service.

Three elements must be considered for the triage of trauma patients in Queensland:<sup>[1]</sup>

1. Vital signs
2. Mechanisms of injury
3. Patterns of injury

## Vital signs criteria

	NEONATE First 28 days	INFANT 1–12 months	CHILD 1–8 years	OLDER CHILD 9–12 years	ADULTS > 14 years
<i>Conscious state</i>	ALOC	ALOC	ALOC	ALOC	ALOC
<i>Respiratory rate</i>	< 40 or > 60	< 20 or > 50	< 20 or > 35	< 15 or > 25	< 10 or > 30
<i>SpO<sub>2</sub> (room air)</i>	< 95%	< 95%	< 95%	< 95%	< 95%
<i>Heart rate</i>	< 100 or > 170	< 90 or > 170	< 75 or > 130	< 65 or > 120	> 120
<i>Systolic BP</i>	N/A	< 60 mmHg	< 70 mmHg	< 80 mmHg	< 90 mmHg

**Table 1:** Abnormal vital signs

## Mechanisms of injury criteria

Triage by mechanism of injury has limited accuracy, however it may help detect significant occult injury.

### High-risk mechanisms include:

- Ejected from a vehicle
- Fall from a height of 3 metres or more
- Involved in an explosion
- Involved in a high impact RTC with incursion into the occupant's compartment
- Involved in a vehicle rollover
- Involved in an RTC in which there was a fatality in the same vehicle
- Entrapped for longer than 30 minutes

## Patterns of injury criteria

- Injuries to the head, neck, chest, abdomen, pelvis, axilla, or groin that:
  - are penetrating
  - are sustained from blasts
  - involve two or more of those regions
- Limb amputation above the wrist or ankle.
- Suspected spinal cord injuries.
- Burns in adults greater than 20%, or in children greater than 10%, or other complicated burn injury including burn injury to the hand, face, genitals, airway, or respiratory tract.
- Serious crush injury.
- Major open fracture, or open dislocation with vascular compromise.
- Fractured pelvis.
- Fractures involving two or more of the following: femur, tibia, or humerus.

### Clinical features



#### Procedure:<sup>[1]</sup>

- If any of the vital signs criteria or patterns of injury criteria are present, the patient must be transported to a Major Trauma Service if there is one within 60 minutes road transport time.



### Clinical features (cont.)

- If a Major Trauma Service is longer than 60 minutes road transport time, the patient should be transported to the highest level Regional Trauma Service hospital, if there is one within 60 minute road transport time.
- If the nearest Regional Trauma Service is longer than 60 minutes road transport time, the patient must be taken to the closest local hospital. Under these circumstances the Retrieval Services Queensland (RSQ) must be notified via the appropriate OpCen to ensure consideration for early secondary transport.
- If any of the mechanisms of injury criteria are present, clinicians must take into account the potential for occult major trauma and consider transporting the patient as per the above procedure.
- If none of the triage criteria are met, the patient should be transported to the nearest appropriate facility.

***SPECIAL NOTE:*** *If a Major Trauma Service is within 60 minutes road transport time, it should be the preferred destination, if the patient fits the criteria as stated above – even if this means bypassing a Regional Trauma Service which may be closer.*

## Clinical features (cont.)



### *Transporting patients directly to specialist facilities*

- Patients with the following injuries should be transported directly to the appropriate facility offering specialist services, providing it is within 60 minutes road transport time:
  - Adults with burns greater than 20% body surface area or complicated burns should be transported to the Royal Brisbane and Women's Hospital.
  - Children with burns greater than 10% body surface area or complicated burns should be transported to the Queensland Children's Hospital.
  - Patients with spinal injuries with a neurological deficit should be transported to the Princess Alexandra Hospital.
  - Patients with amputations should be transported to a major trauma service.

## Additional information

### *The Major Trauma Service facilities are:*

- Gold Coast University Hospital
- Queensland Children's Hospital
- Princess Alexandra Hospital
- Royal Brisbane & Women's Hospital
- The Townsville University Hospital

### *The Regional Trauma Service facilities are:*

- Bundaberg Hospital
- Caboolture Hospital
- Cairns Hospital
- Hervey Bay Hospital
- Ipswich Hospital
- Logan Hospital
- Mackay Base Hospital
- Mater Hospital Brisbane
- Mt Isa Hospital
- Redcliffe Hospital
- Rockhampton Hospital
- Sunshine Coast University Hospital
- The Tweed Hospital (New South Wales)
- Toowoomba Hospital

## SPECIAL NOTE:

### **Use of retrieval team** <sup>[2]</sup>

Clinicians should consider the use of a medical retrieval team for patients who are entrapped and/or require interventions beyond the scope of practice of the treating clinicians.

Pre-hospital medical retrieval teams should not unnecessarily delay the transport of the patient to a definitive treatment medical facility. Refer to local work instructions regarding the availability of pre-hospital medical retrieval teams.

### **Traumatic cardiac arrest**

If the patient has life-threatening injuries and suffers a cardiac arrest immediately before or during transport, the patient should be transported to a Major Trauma Service Facility, if there is one within 15 minutes road transport time. If transport time to a Major Trauma Service Facility is longer than 15 minutes, consider transport to the nearest appropriate hospital.

