



Queensland Trauma Education

**PREHOSPITAL AND RETRIEVAL**

# Preparing for retrieval

Case discussion  
Facilitator resource kit

## Queensland Trauma Education

The resources developed for Queensland Trauma Education are designed for use in any Queensland Health facility that cares for patients who have been injured as a result of trauma. Each resource can be modified by the facilitator and scaled to the learners needs as well as the environment in which the education is being delivered, from tertiary to rural and remote facilities.

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### Queensland Trauma Education

#### Prehospital and Retrieval – Preparing for retrieval: Case discussion – Facilitator resource kit Version 1.0

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## About this training resource kit

This resource kit provides clinicians with the knowledge and skills to prepare a patient for retrieval and transfer to another hospital.

### National Safety and Quality Health Service (NSQHS) Standards



### Target audience

Emergency department medical and nursing clinicians.

### Duration

30 minutes.

### Group size

Suited to small group participation.

### Learning objectives

By the end of this session the participant will be able to:

- Recognise the indications for patient transfer
- Understand the limitations and challenges of performing interventions during transfer
- Discuss the potential physiological effects of a patient during transfer

### Facilitation guide

1. Use attached infographic to highlight the preparation for safe retrieval.
2. Use question and answer guide to facilitate discussion.

### Supporting resources (in Printable resources)

- Preparation for retrieval – Trauma Victoria
- Criteria for early notification of trauma for interfacility transfer - RSQ

## Case discussion

### Case study

A 24yr old male is the front seat passenger in a high speed RTC in which the driver is deceased at scene. On arrival by the prehospital team the patient is located entrapped in the vehicle by his R leg in the footwell.

He is extricated from the vehicle by the QFES on to the ambulance stretcher.

He is GCS 5 (E2V1M2), boggy haematoma to occiput, ongoing epistaxis and bleeding from his mouth. His L pupil is ovoid and unreactive, his R pupil is 2mm but sluggish. Other vital signs: HR 130, BP 90/70mmHg, saturations 87% RA, respiratory rate 22.

The location is 65 minutes by road to the nearest major trauma centre. There is a helicopter enroute, but it is 15 minutes from scene.

## Question and answer guide

### 1. What prehospital teams respond to trauma cases in Queensland?

Prehospital care in Queensland is provided by both road retrieval and aeromedical services.

Queensland Ambulance Service (QAS) has 302 response locations, across the 15 Local Ambulance Service Networks (LASN). In addition to providing care to emergency and non-emergency prehospital patients, they are involved in the planning and response to multi-casualty incidents and disasters.

The Royal Flying Doctor Service (RFDS) provides primary healthcare and responds to emergencies in the rural and remote setting. There are over 2000 landing strips across QLD to support the RFDS network allowing care to be delivered to the regions.

LifeFlight Retrieval Medicine provides the medical and paramedic teams to attend primary trauma cases by helicopter and fixed wing platforms.

Retrieval Services Queensland (RSQ) provides telehealth, co-ordination and medical advice in addition to the provision of aeromedical delivery of primary trauma response and the transfer of patients between institutions. This occurs by coordination the multiple agencies including QAS, RFDS Qld, LifeFlight Retrieval Medicine, QGAir Helicopter Rescue.

### 2. What are the clinical priorities for this patient on extrication from the vehicle?

- Identify life threatening injuries
- Recognise resuscitation requirements
- Consider interventions for safe transfer to major trauma centres
- Consider retrieval platform for the transfer

### 3. What life threatening injuries are likely in this patient?

- Traumatic brain injury
- Facial fractures
- Spinal injury
- Chest injury
- Abdominal injury
- Pelvis and limb fractures

### 4. What interventions available prehospital may improve his oxygenation?

- Apply oxygen- NRB 15L/min
- Decompression and relief of pneumothorax- needle/surgical
- Intubation

### 5. How can his haemodynamic state be improved prehospital?

- Relief of obstructive shock- if evidence of tension hemopneumothorax, cardiac tamponade
- Volume replacement- blood and blood products or crystalloid
- Vasopressor support- if likely neurogenic shock and other causes excluded

## **6. What challenges occur in aeromedical retrieval compared to road-based transfer?**

- Small cabin space
- May not be pressurised- effect on ventilation
- Unable to stop vehicle
- Limited crew members
- Access to perform procedures

## **7. What is the most appropriate platform to transfer this patient to the major trauma centre?**

Decision will be based on:

- Resources available- highest clinical support available
- Availability of aeromedical team
- Time to access retrieval platform vs leave scene
- Distance to clinical centre

In this scenario the helicopter is 15 minutes from scene, but will have a significantly shorter transfer time

## **8. What procedures should be completed prior to aeromedical retrieval?**

Invasive procedures are best performed prior to loading due to technical difficulty in the aircraft

For this patient: control of airway with intubation, bilateral surgical thoracostomies to decompress possible pneumothorax, commencement of blood resuscitation with TXA and calcium

## **9. What does 'packaging' of the trauma patient aim to achieve?**

The packaging procedure aims to:

- Minimise clot disturbance and repeated blood loss by reducing patient movement, application of pelvic binder or limb splints and limiting repeated log rolls.
- Minimise spinal movements.
- Minimise cytokine release.
- Maintain normothermia.
- Prevent pressure induced skin injuries. (1)

## Acronyms and abbreviations

Term	Definition
<b>RTC</b>	Road traffic collision
<b>QFES</b>	Queensland fire and emergency services
<b>NRB</b>	Non-breather mask
<b>TXA</b>	Tranexamic acid

## References

1. Trauma Victoria. (2024). Preparation for retrieval.  
<https://trauma.reach.vic.gov.au/guidelines/preparation-for-retrieval/process-of-transfer>

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