

Make early contact with ARV for advice from the major trauma services and to initiate retrieval.

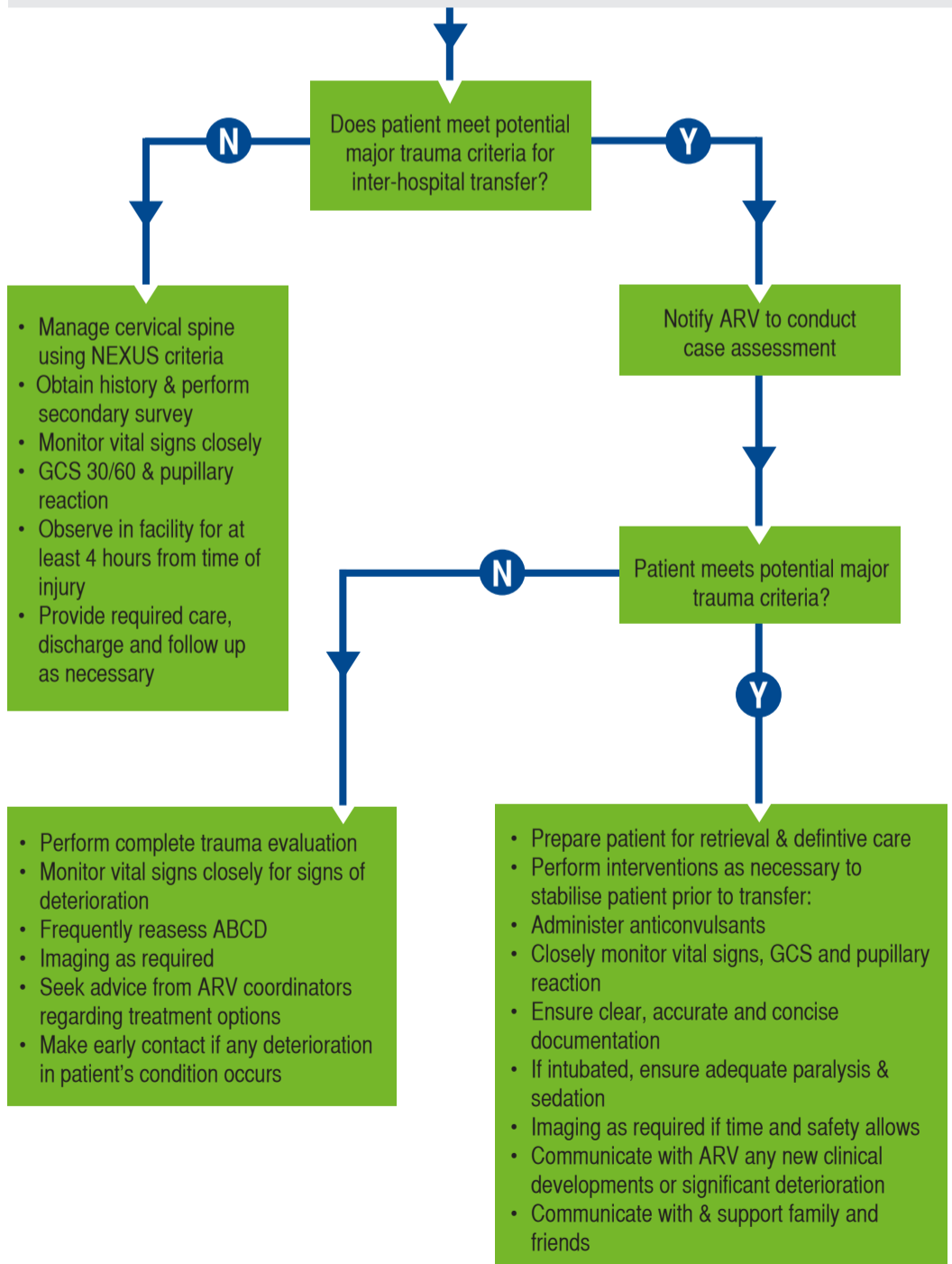
- A patient with a decreased level of consciousness (GCS \leq 8) is unable to protect their airway.
- Prevention of 2^o brain injury is vital in early management.
- Signs of deterioration may indicate impending herniation.

Early Activation

- Gather vital information
- Activate Trauma Team
- Designate roles
- Set up to receive patient
- Ensure safety using PPE

Primary Survey

AIRWAY / C-SPINE	BREATHING	CIRCULATION	DISABILITY	EXPOSURE / ENVIRONMENT	ADJUNCTS
<ul style="list-style-type: none"> • Assess airway stability & protect as needed • Early intubation for GCS \leq 8 • Maintain full spinal precautions if suspected injury 	<ul style="list-style-type: none"> • Identify & treat life threats • Assess RR, work of breathing, SpO₂ and symmetry • Oxygen therapy to maintain SpO₂ 94 - 98% • Aim for ETCO₂ 35-40mmHg if intubated 	<ul style="list-style-type: none"> • Identify & control any bleeding • Insert x 2 large bore IV cannulas • Assess HR/Cap Refill/BP & aim for SBP \geq110mmHg: • Initial management of hypovolaemia - crystalloid fluids, 20mL/kg 	<ul style="list-style-type: none"> • Assess level of consciousness - AVPU • Check pupils • Check BSL - Avoid hypoglycaemia 	<ul style="list-style-type: none"> • Fully expose patient • Ensure normothermia • Log roll 	<ul style="list-style-type: none"> • FAST scan • X rays: Chest, Pelvis • 12 lead ECG • Analgesia • Bloods - FBE, X-match, U&E, Lactate, ABG • Orogastric tube if intubated • AMPLE mnemonic



Key Points

- Prevention of secondary brain injury.**
- It is essential to prevent secondary brain injury by maintaining oxygenation & cerebral perfusion.
- Aim for:**
- SpO₂ 94 - 98%
 - ETCO₂ 35 - 40mmHg
 - Sys BP > 110mmHg
- Early Intubation**
- A decreased level of consciousness puts the patient at risk of airway compromise, early intubation is recommended by a skilled practitioner.
- Signs of deterioration**
- Early:**
- Confusion
 - Vomiting
 - Agitation
 - Severe headache
 - Drowsiness
- Late**
- Dilated pupils
 - Decrease in GCS by 2 or more.
 - Cushing's response (bradycardia and hypertension).
 - Seizure activity

Management Considerations

- Rapid deterioration:**
- If there are clinical signs of deterioration & impending herniation, contact ARV for advice regarding when to initiate the following:
- Hyperventilate, aiming for an ETCO₂ of 30 mmHg. Monitor the response with ETCO₂ readings and/ or ABG.
 - Consider osmotherapy such as Mannitol 20% / hypertonic saline.
 - Emergency burr hole craniectomy may be necessary where time to definitive care is prolonged.
- Anticoagulation and head trauma**
- Patients on anticoagulation medication may deteriorate rapidly due to extension of their bleed. Reversal agents should be considered early.
 - Contact haematologist via ARV.
- Anticonvulsants**
- Phenytoin or Levetiracetam is indicated in the early stages following moderate to severe TBI to reduce the incidence of seizures.