Spinal Trauma



Make early contact with ARV for advice and to initiate retrieval where required.

- Ascending spinal cord injury
- Aspiration
- · Neurogenic Shock

Early Activation

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

Primary Survey



AIRWAY / C SPINE:

- Protect Airway
- Airway adjuncts as available
- Secure the airway using available means
- Maintain full spinal precautions



BREATHING:

- Identify and treat any life threats (i.e: pneumo)
- Apply oxygen
- Ventilate as necessary
- SpO₂ monitoring
- ETCO₂ monitoring



CIRCULATION:

- Control life threatening haemorrhage
- Insert x 2 large bore IV cannulas
- Assess HR/BP/Shock Index
- Take bloods
- Identify source of haemmorrhage
- Continuous ECG monitoring



DISABILITY:

- Assess level of consciousness
- Check pupils
- Check BSL



NO hand grip = C8 injury or above -> quadraplegia

NORMAL hand grip = C8-T1 injury -> paraplegia

DETAILED SCI ASSESSMENT:

ASIA assessment and examination



EXPOSURE / ENVIRONMENT:

- Fully expose patient
- Ensure normothermia



ADJUNCTS:

- FAST scan
- X rays: Lat c spine, Chest, Pelvis
- 12 lead ECG

Yes Does patient meet potential No No Major Trauma criteria for Inter-hospital transfer? Clear cervical spine using Notify ARV to conduct **NEXUS** criteria case assessment Perform secondary survey Monitor closely Observe in facility for at least 2 hours Patient meets urgent Provide required care, transfer criteria? discharge and follow up

- Perform complete trauma evaluation
- Monitor closely

as necessary

- Observe in facility
- Take advice from ARV coordinators regarding treatment options
- Provide required care
- Contact ARV if any deterioration in patient's condition occurs
- Take a history using AMPLE
 Perform any interventions as
- Perform any interventions as necessary to stabilise patient prior to transfer:
- Airway Management
- Fluid resuscitation
- Splint limbs
- Analgesia
- Continuously monitor patient
- Complete patient documentation
- Commence secondary survey if time allowsCommunicate with ARV any new clinical
- developments or significant deterioration
- Prepare patient for retrieval (see Prep'n for Retrieval Guideline)

Interhospital Transfer Guidelines (Discuss via ARV)

Paediatric MTP AND SCI

Adult MTP with SCI

Isolated SCI patient

Royal Children's Hospital Major Trauma S

Major Trauma Service Interhospital transfer Victorian Spinal Cord Service at Austin Health

Early Management

Airway management

- If there is potential that the patient's airway may deteriorate then intubation should be considered.
- Always have emergency airway equipment available.
- Prevent bradycardia during airway manipulation.

Fluid resuscitation

- Crystalloid fluids: Initial treatment of hypovolaemia with normal saline is recommended, up to 20 - 30 mL/kg.
- Avoid excess fluid administration-treat bradycardia and hypotension caused by neurogenic shock.
- Blood products: if minimal response to fluids, administration of packed red blood cells (PRBC) is advised if available.

Prevent hypothermia

Use warmed IV fluids; cover the patient with warm blankets as well as keeping the room warm, use a forced air warming machine if available.

In-dwelling catheter / Naso or orogastric tube

• Ensure the above are placed if necessary and time allows.

Glasgow Coma Scale

 Assess the patient's level of consciousness as well as pupillary size and reactivity, gross motor function and sensation.

Reassess

- Patients should be re-evaluated at regular intervals as deterioration in a patient's clinical condition can be swift
- If in doubt, repeat ABCDE.

Secondary Survey

History

- Take an adequate history from the patient, bystanders or emergency personnel of the surrounding events
- Use AMPLE to assist with gathering relevant information.

Head-to-toe examination

- A thorough exam of all body regions should take place.
- Consider using ASIA charts for assessment and communication.
- Assess for pressure area risk. Soft, rigid collar if available

Document any findings and treat accordingly.

Log Roll

- Maintain in-line stabilisation.
 Inspect the entire length of the neck and back noting any deformity, bruising and lacerations. Palpate for any tenderness or steps between the vertebrae.
- The cervical spine will generally be cleared after transfer to a major trauma service and specialist assessment.



