* Painful Distracting Injuries are defined as any of the following:

- long bone fracture
- significant visceral injury
- large laceration
- degloving or crush injury
- large burn
- any other injury causing significant functional impairment

** High-Risk Factors for cervical spine injury:

i) Dangerous mechanism:
- high impact MVC (combined impact >50kph / rollover / ejection / death at scene)
- MBA / accident involving motorised recreational vehicle
- pedestrian / cyclist versus car
- axial load to head (e.g. dive into surf, falling tree branch)
- significant fall (from height >1m / >5 stairs / off horse / off bicycle)

ii) Immediate onset severe neck pain **OR** presentation >48h after injury **OR** representation with same injury

iii) Age 65y and older

iv) Abnormal C spine (surgery/prior injury/congenital deformity/rheumatoid arthritis/ankylosing spondylitis

Low-Risk Factors favouring clinical clearance (senior clinician judgement required):
- low impact mechanism e.g simple rear end MVC shunt
  *(MVC not simple if: pushed into traffic, hit by bus/large truck, rollover, hit by high-speed vehicle)*
- Mobilised at scene or since injury
- Delayed onset mild neck pain
- Sitting position in ED

† Risk factors for blunt cerebrovascular injury (BCVI):

i) Patients sustaining blunt trauma who have the following clinical symptoms or signs:
- Arterial hemorrhage from the neck, mouth, nose, or ear.
- Expanding cervical hematoma.
- Cervical bruit in patients <50 years old.
- Focal or lateralizing neurologic deficits.

ii) Asymptomatic patients who have risk factors:
- Injury mechanism compatible with severe cervical hyperextension/rotation or hyperflexion.
- LeFort II or LeFort III midface fractures.
- Basilar skull fracture that involves the carotid canal.
- Closed head injury consistent with diffuse axonal injury with GCS <6.
- Cervical vertebral fracture, subluxation, or ligamentous injury at any level.
- Near-hanging resulting in cerebral anoxia.
- Clothesline injury or seat-belt abrasion associated with significant cervical pain, swelling or altered mental status.

△ Change hard collar to long-term cervical spine collar as soon as possible

†† CT Head required if:

**a) Major or potentially severe head injury:**
- Persistent GCS <13
- Loss of consciousness >5 mins
- Focal neurological deficit
- Post-traumatic seizure
- Palpable depressed skull fracture
- Any sign of basal skull fracture
- Warfarin use or coagulopathy

**OR**

**b) Minor head injury with medium to high risk**
(***for patients with GCS 13-15 after witnessed traumatic LOC and any of the following:)***
- GCS < 15 at 2 hours post injury
- Age > 65 y
- Amnesia before impact of > 30 mins
- Dangerous mechanism (pedestrian vs car, MVA with ejection, fall >1m or > 5 stairs)

# CERVICAL SPINE ASSESSMENT Adult (16+ years)

*2016 Version 1.4*