Canadian C-Spine Rule

For alert (GCS=15) and stable trauma patients where cervical spine injury is a concern.

1. Any High-Risk Factor Which Mandates Radiography?
   - Age ≥ 65 years
   - Dangerous mechanism*
   - Paresthesias in extremities

   Rule Not Applicable If:
   - Non-trauma cases
   - GCS < 15
   - Unstable vital signs
   - Age < 16 years
   - Acute paralysis
   - Known vertebral disease
   - Previous C-spine surgery

2. Any Low-Risk Factor Which Allows Safe Assessment of Range of Motion?
   - Simple rearend MVC**
   - Sitting position in ED
   - Ambulatory at any time
   - Delayed onset of neck pain***
   - Absence of midline c-spine tenderness

3. Able to Actively Rotate Neck?
   - 45° left and right

   Able
   No Radiography

   Unable
   Radiography

* Dangerous Mechanism:
  - fall from elevation ≥ 3 feet / 5 stairs
  - axial load to head, e.g. diving
  - MVC high speed (>100km/hr), rollover, ejection
  - motorized recreational vehicles
  - bicycle struck or collision

** Simple Rearend MVC Excludes:
  - pushed into oncoming traffic
  - hit by bus / large truck
  - rollover
  - hit by high speed vehicle

*** Delayed:
  - i.e. not immediate onset of neck pain

**Canadian CT Head Rule**

CT head is only required for minor head injury patients with any one of these findings:

### High Risk (for Neurological Intervention)

1. GCS score < 15 at 2 hrs after injury
2. Suspected open or depressed skull fracture
3. Any sign of basal skull fracture*
4. Vomiting $\geq$ 2 episodes
5. Age $\geq$ 65 years

### Medium Risk (for Brain Injury on CT)

6. Amnesia before impact $\geq$ 30 min
7. Dangerous mechanism ** (pedestrian, occupant ejected, fall from elevation)

*Signs of Basal Skull Fracture
- hemotympanum, ‘raccoon’ eyes, CSF otorrhea/rhinorrhea, Battle’s sign

**Dangerous Mechanism
- pedestrian struck by vehicle
- occupant ejected from motor vehicle
- fall from elevation $\geq$ 3 feet or 5 stairs

Rule Not Applicable If:
- Non-trauma cases
- GCS < 13
- Age < 16 years
- Coumadin or bleeding disorder
- Obvious open skull fracture