

The Canadian CT Head Rule for Patients with Minor Head Injury

Stiell et al. 2001

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Background



CT scans are used to rule out intracranial hematoma in blunt minor head injuries



No reliable guideline were available, at the time, for assessing when CT scan's are indicated for minor head injuries



Without guidance, physicians may over-image, exposing patients to unnecessary radiation and wasting resources

Study Design



Prospective Cohort Study across 10 Canadian Hospitals



Inclusion

- Age ≥ 16 with blunt head trauma in last 24 hours
- 1+ of loss of consciousness, amnesia, or disorientation
- GCS 13-15

n=3121



Exclusion

- Other head injury mechanism (i.e. syncope, stroke)
- Depressed skull fracture or penetrating injury
- Seizure before assessment
- Acute focal neurological deficits
- Bleeding disorder or taking anticoagulants



Assessment

History, physical and neuro status +/- CT scan on clinical judgement

- High Risk** - Need for neurological intervention within one week
- Medium Risk** - Brain injury present on CT
- Low Risk** - Injury doesn't require admission or follow up

CT Head required for minor head injury with one of:



Vomiting \geq two episodes

High Risk
(Need for urgent neurological intervention)

Sensitivity 100%
(95% CI)



Age ≥ 65 years



Basal skull fracture signs (raccoon eyes, Battle's sign, haemotympanum, or CSF leak)



GCS < 15 at 2 hours post injury



Suspected open or depressed skull fracture



Amnesia before impact > 30 min

Medium Risk
(Brain Injury on CT)

Sensitivity 98.4%
(95% CI)



Dangerous injury mechanism (motor vehicle ejection, struck by car, fall > 3 feet or 5 stairs)

REFERENCES:
Stiell IG, Wells GA, Vandemheen K, Lesiuk H, Laupacis A et al. 2001. The Canadian CT Head Rule for patients with minor head injury. Lancet, 357, 1391-96.

This infographic was created by Andrew Tolmie and edited by Alvin Chin

