



SCORING SYSTEMS IN THE ED

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Ottawa SAH Rule

The Ottawa Subarachnoid Hemorrhage Rule is for alert patients > 15 years old with new severe non-traumatic headache reaching maximum intensity within 1 hour

Not for patients with new neurological deficits, previous aneurysms, SAH, brain tumours, or history of similar headaches (≥ 3 episodes over ≥ 6 months)

Patients require investigation if **one or more** findings present:

1

Symptoms of neck pain or stiffness

2

Age ≥ 40 years old

3

Witnessed loss of consciousness

4

Onset during exertion

5

Thunderclap headache (peak intensity immediately)

6

Limited neck flexion on exam

Infographic created by Dr. Shahabz Syed, FRCPC, Department of Emergency Medicine, University of Ottawa.

Perry JJ, Sivilotti MLA, Sutherland J, Hohl CM, Emond M, Calder LA, Vaillancourt C, Thiruganasambandamoorthy V, Lesiuk H, Wells GA, Stiell IG. Validation of the Ottawa Subarachnoid Hemorrhage Rule in Patients with Acute Headache. CMAJ. 2017;189(45):1379-1385.

Clinical Reasoning

- Pattern recognition
- Hypothetical/Deductive
- Event Driven
- Rule Based





MAKING CLINICAL DECISION RULES WORK FOR YOU

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CLINICAL DECISION RULES

- Simple
 - Clinical question
 - Derivation – Validation - Implementation
 - Health care system
 - Cost effective
-

“HIGH QUALITY CLINICAL DECISION RULES
MAKE GOOD EMERGENCY PHYSICIANS BETTER
BUT CAN MAKE BAD DOCS EVEN WORSE”

- Clinical impression
 - Integration into clinical reasoning
 - Behaviour Change
-

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 ≥ 2 episodes
5. Age ≥ 65 years

Medium Risk (for Brain Injury on CT)

6. Amnesia before impact ≥ 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

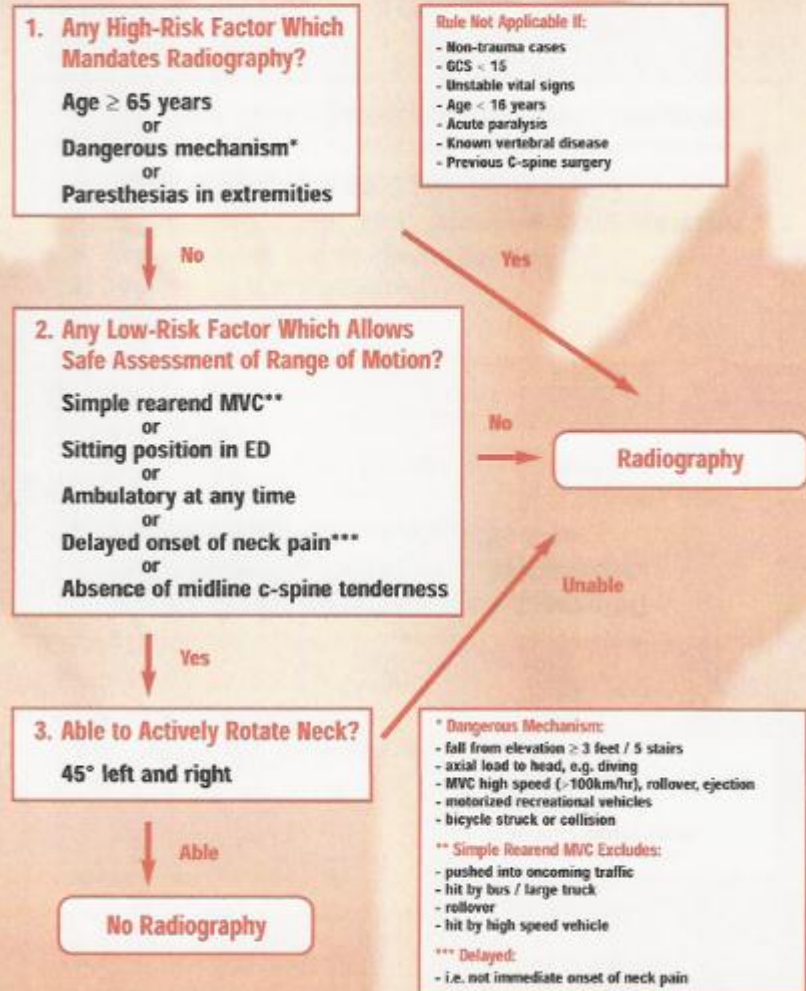
- pedestrian struck by vehicle
- occupant ejected from motor vehicle
- fall from elevation ≥ 3 feet or 5 stairs

Rule Not Applicable If:

- Non-trauma cases
- GCS < 13
- Age < 16 years
- Coumadin or bleeding disorder
- Obvious open skull fracture

Canadian C-Spine Rule

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



Stiell IG, Greenway CM, McKnight RD, Wells GA, Rivett R, Schell M, Brown S, Worthington J, Eisenhauer M, Carr S, Greenberg G, MacPhail G, Dwyer J, Lee J, Henderson G, Anderson W, Bellamy G, Leslie K. Comparative Validation of the Canadian C-Spine Rule and the NEXUS Low-Risk Criteria in Alert and Stable Trauma Patients. *Annals of Internal Medicine*. 2002;136:1016-1025.

DIGITAL TOOLS

Computerized Physician Order Entry



Apps



SUMMARY

- High quality CDRs time intensive to create
- Think carefully about how you incorporate CDRs into clinical reasoning
- Clinicians of the future should seamlessly integrate Digital technology
- Do not use Cdn CT Head rules for trivial head trauma

