

CANADIAN C-SPINE RULE FOR RADIOLOGY IN ALERT AND STABLE TRAUMA PATIENTS

Stiell, IG et al.

canadiem MVP infographic series

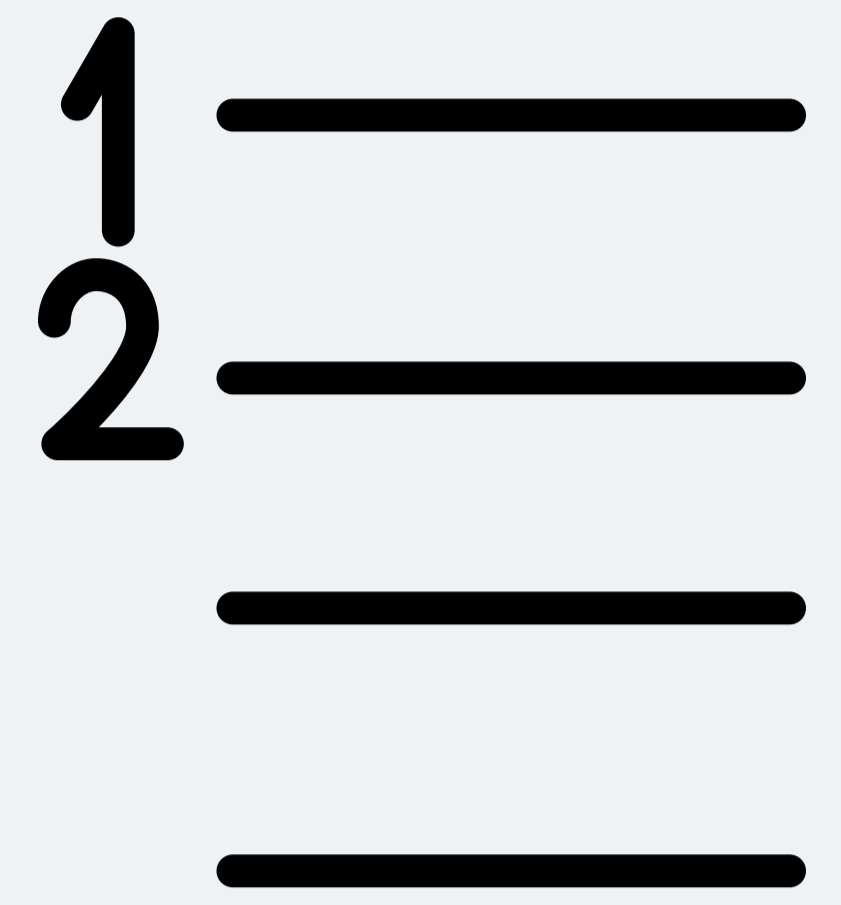
Background



Up to **6x** difference in physicians ordering C-spine X-rays

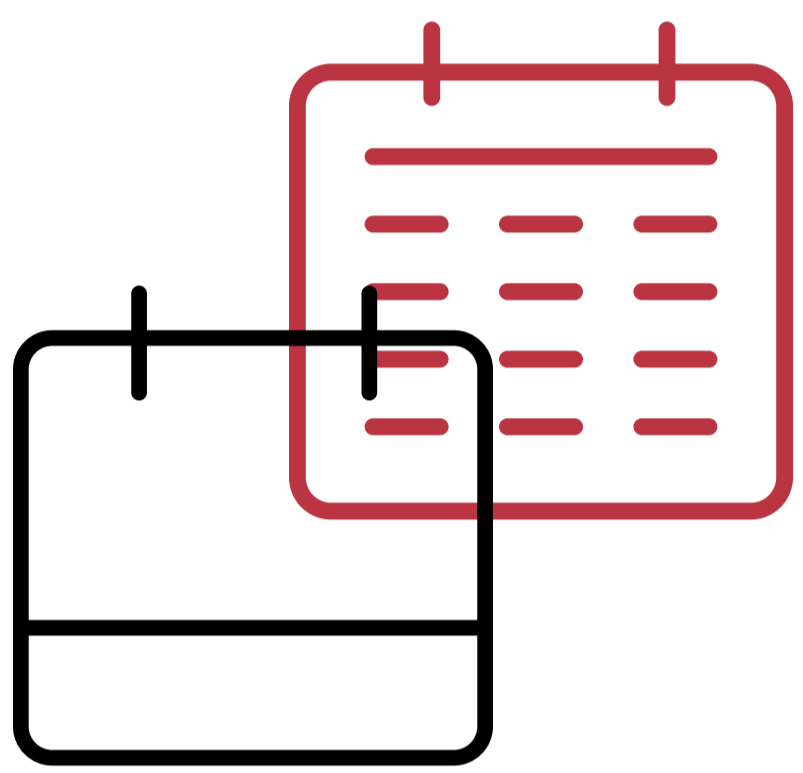


Individual X-rays cost little, but being ordered so often, there is a **high systems-level cost**

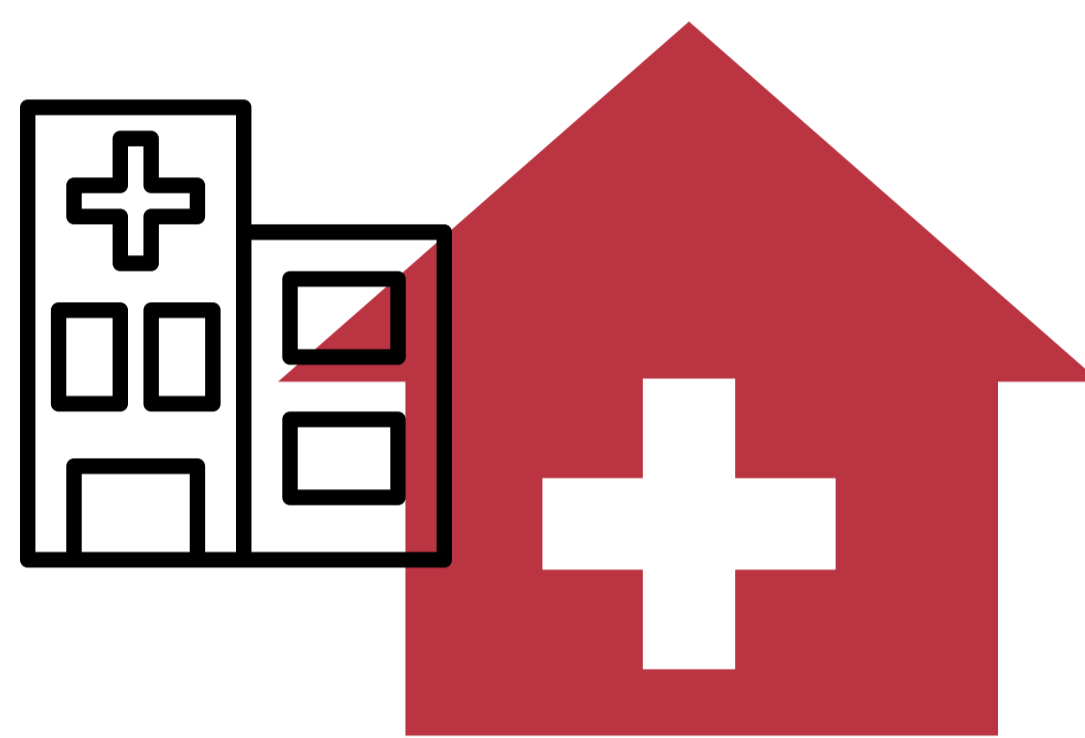


A **clinical decision rule** could reduce unnecessary imaging

Setting



Conducted from October 1996 to April 1999



Cohort of 10 emergency departments in **large community and university hospitals** in Canada

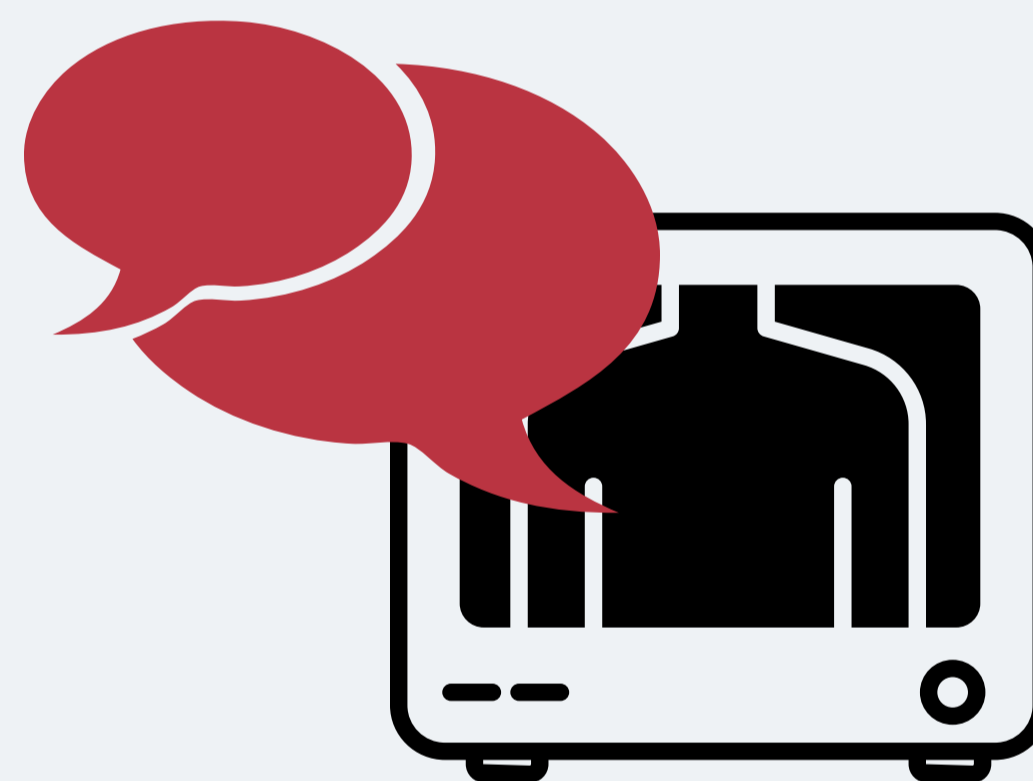


8924 patients with blunt trauma to head/neck, stable vitals and GCS 15 were chosen by **convenience sampling**

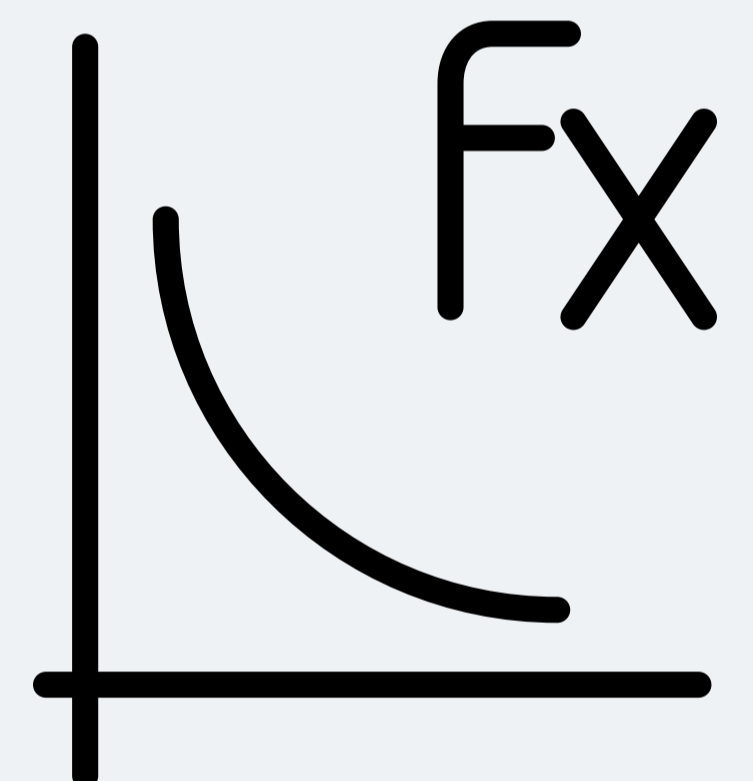
Methods



Physicians used a **20 item standardised tool** to evaluate patients prior to radiography



The primary outcome was **clinically important C-spine injury** evaluated by XR, CT, and structured telephone interview



The rule was derived using κ coefficient, logistic regression analysis, and χ^2 .

Results

Canadian C-Spine Rule

Sensitivity 100%
Specificity 42.5%

Only for stable and GCS 15

Please see original study for list of patient exclusion criteria

High risk factors

No

Age ≥ 65
Dangerous mechanism
Extremity paraesthesia

≥ 1 low risk factor

Yes

Simple rearend MVC
Sitting position in ED
Ambulatory
Delayed onset neck pain
No midline C-spine tenderness

Actively rotate neck 45 degrees left and right

Yes

No radiography, if above NOT all met, radiography needed

Bottom Line

Applying the **Canadian C-spine rules** to appropriate patients **significantly reduces** the use of **radiography**, while **not missing** clinically important **fractures**.

REFERENCES:

Stiell IG, Wells GA, Vandemheen KL, et al. The Canadian C-Spine Rule for Radiography in Alert and Stable Trauma Patients. JAMA. 2001;286(15):1841-1848.

This infographic was created by Kevin Lam and edited by Alvin Chin

