

Canadian C-spine rule more accurate in diagnosing important cervical spine injuries than other rules

October 9 2012

To screen for cervical spine injuries such as fractures in the emergency department, the Canadian C-spine rule appears to be more accurate compared with NEXUS, another commonly used rule, according to a study in *CMAJ (Canadian Medical Association Journal)*. NEXUS stands for the National Emergency X-Radiography Utilization Study.

"In the only direct comparison, the Canadian C-spine rule appeared to have better diagnostic accuracy, and it should be used over NEXUS to assess the need for [cervical spine](#) imaging," writes Dr. Chris Maher, Director, Musculoskeletal Division, The George Institute for Global Health, The University of Sydney, Sydney, Australia, with coauthors.

Both rules, which were developed independently using large patient samples, are recommended in many international guidelines to help exclude important cervical spine injuries. However, there is no consensus as to which rule is preferable. Screening tools such as these are useful because they can reduce the need for unnecessary diagnostic imaging, which can expose patients to radiation, [psychological distress](#) and is also costly.

Researchers from Australia and The Netherlands looked at 15 research studies evaluating the use of either or both rule in diagnosing cervical spine injuries. However, only one study directly compared the two rules; all 14 other studies included in the analysis assessed accuracy of each

rule separately. The Canadian C-spine rule appeared to have better [diagnostic accuracy](#) and a lower rate of false negatives compared with NEXUS. A negative test helps exclude an important spinal injury and thus the need for [diagnostic imaging](#).

However, both rules are effective in excluding cervical spine injuries while ensuring patient safety as this and previous studies show.

"Despite these findings, there is a more liberal use of imaging in current clinical practice, which may reflect patient preference, physicians' fear of litigation or missing a fracture, or uncertainty of the application or accuracy of the screening tools," write the authors. "Improved education of physicians may facilitate greater use of these rules."

It is also important to educate patients that these screening tools are effective and that imaging is not necessary if there are no signs of cervical injury. Follow-up strategies for patients discharged without imaging could be used to ease patient anxiety.

More information: www.cmaj.ca/lookup/doi/10.1503/cmaj.120675

Provided by Canadian Medical Association Journal

Citation: Canadian C-spine rule more accurate in diagnosing important cervical spine injuries than other rules (2012, October 9) retrieved 24 April 2024 from <https://medicalxpress.com/news/2012-10-canadian-c-spine-accurate-important-cervical.html>

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