

Add-on assessments of cervical vertebrae after trauma

Dear Editor

Ackland and Cameron (*AFP* April 2012) raised important issues on clinical and radiological assessment of cervical vertebrae after trauma.¹ We read this article with interest and would like to suggest clinical and radiologic add-ons to the cervical assessment following trauma.

Clinical assessment: We perform history taking and palpation of the midline cervical area the same as Nexus² and the Canadian C-spine rules.³ However, we also ask the patient to move their spine in three directions (not only 45 degree lateral rotation): dynamic active flexion/extension (by the patient, not by the physician); right and left lateral rotation; and right and left bending. Passive cervical movement by the physician is prohibited. If the patient has no pain on history, no pain in midline cervical palpation and normal neck movement in the three directions, then there is a very low risk for cervical injury and questionable need for imaging, even if the patient has a high risk mechanism of injury.

Radiologic assessment: If the patient has an indication for imaging, recommendation of 5-view image is our first order. Among 5-views, three views are preferred: a true lateral view, which must include all seven cervical vertebrae as well as the C7-T1 junction, an anteroposterior view and an open-mouth odontoid view. Any film series that does not include these three views and does not visualise all seven cervical vertebrae and the junction of C7-T1 is inadequate. Additionally, if the patient with neck pain after trauma has normal images in all five views, we ask them to perform dynamic lateral flexion and extension as much as possible by him/herself to see whether there is any abnormality.

If there is no neurologic deficit, but pain persists without abnormality in all imaging, including flexion and extension dynamic X-ray,

we prescribe the wearing of a cervical collar for at least 48 hours. We ask the patient not to open the collar during sleep, because during sleep, neck tone is lost: defensive and abnormal uncontrolled movement is more possible during sleep than when awake.

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Reply

Dear Editor

We thank Drs Rahimi-Movaghar and Eslami for their comments in response to our article.

With regard to your practice of performing dynamic active flexion/extension and lateral flexion in addition to the lateral rotation assessment recommended by the Canadian C-spine study investigators,¹ the Canadian C-spine study defined injury as clinically important when any fracture, dislocation or ligamentous instability was evident on radiographic imaging. Clinically unimportant injuries were those not requiring stabilisation or specific follow-up, and occurred in the absence of neurologic deficit: isolated osteophytic avulsion fracture, isolated transverse process fracture without associated facet joint injury, isolated spinous process fracture not including the lamina and simple vertebral body

compression fracture with height loss of less than 25%.^{1,2} This study included active neck flexion as a univariate factor in the correlation of clinical assessment predictor variables and clinically important cervical spine injury, in addition to active rotation to 45 degrees to right and left.² During stepwise multivariate modelling, which included factors related to history, clinical assessment and injury mechanism, neck flexion was eliminated as a predictor of sensitivity to the detection of clinically important injury, while active rotation was included in the highly sensitive Canadian C-spine rule (sensitivity 100%, CI: 98–100%).

Active neck extension had not been assessed as a predictive criterion in this study at all, and range of movement was not included in the criteria of the National Emergency X-Radiography Utilization Study (NEXUS).³ As a result, the value of your additional range of movement assessment is unclear given the lack of evidence for its inclusion. Also, it is possible that the addition of flexion/extension and lateral flexion assessment may result in unnecessary cervical spine imaging in cases where paraspinal muscle oedema, and/or injury to the scapula or clavicle are responsible for perceived limitation in the range of motion.

The adequacy of the field of view, image quality and reporting expertise are important factors in the use of plain X-ray as first-line investigation of cervical spine integrity. Given the missed injury rate associated with plain X-ray,^{4,5} your suggestion of performing 'dynamic lateral flexion and extension X-ray' in patients with acute neck pain and 'normal' plain imaging findings, which may be falsely negative, can result in the exacerbation of undetected acute fracture, disc or ligamentous injury. The most recent recommendations of the American College of Radiology,⁶ updated in 2012, advise that cervical CT with sagittal and coronal reformats is the current best practice imaging modality for patients who are unable to be clinically cleared of injury. The recommendation for subsequent follow-up of patients with

negative CT findings, but who have been kept in a collar for neck pain, then includes 5-view plain films and flexion/extension views, tailored to patient-specific clinical findings. We feel that an evidence base must exist for clinical practice in these patients in order to detect primary cervical spine injury efficiently and to prevent the occurrence of secondary injury.

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Syphilis screening and treatment

Dear Editor

I wish to congratulate you on an excellent syphilis overview article featuring multiple penile lesions (*AFP* September 2012).¹ It is an important presentation of a resurgent condition.

However, I wish to clarify a couple of facts raised by the authors, which may be important to your local readership.

First, the authors state that the traditional serological screening for syphilis involves a nonspecific nontreponemal test (eg. rapid plasma reagin [RPR] or venereal disease research laboratory [VDRL]). While this is still the case in some countries, Australia generally

adopted more sensitive specific tests (eg. *Treponema pallidum* EIA/CMI) some years ago. It is not true to say that these specific tests are prohibitively expensive, in fact their automated and rapid throughput can yield significant laboratory savings. These tests are then confirmed by a second specific test (eg. *T. pallidum* particle agglutination test [TPPA]), and subsequently a titre using the RPR or VDRL tests is established to assess disease activity and treatment response. It is also acceptable to screen using a TPPA test.

Second, the 1.4 g IM dose of benzathine penicillin G quoted for both early and late syphilis is not consistent with Australian, British or United States guidelines; a dose of 1.8 g (2.4 mU) is recommended.^{2–4}

Finally, recent data has suggested that at least 84% of syphilis (in Sydney, New South Wales) is resistant to macrolide antibiotics such as azithromycin. Therefore we would caution against any use of azithromycin for the treatment of syphilis even if it does offer more convenient dosing.⁵

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