



PROCEDURE CHECKLIST

Lateral cervical spine X-ray interpretation

A systematic reading sequence for the lateral cervical spine radiograph to detect fractures, malalignment and soft-tissue signs of injury.



Patient reference

Date

Time

Completed by

Equipment ready

- ☐ Lateral cervical spine radiograph on a diagnostic-quality display
- ☐ Previous imaging for comparison if available
- ☐ Measurement tool on the viewing software
- ☐ Anteroposterior and open-mouth (peg) views if obtained

Before · Check the image

- ☐ Confirm the patient's identity, date and time of the image, and side marker.
- ☐ Review the clinical context: mechanism, neurological findings and why the image was requested.
- ☐ **Keep spinal motion restriction in place while the image is being read.**
- ☐ Check adequacy: the image must show from the base of the skull to the top of T1, including the C7/T1 junction.
- ☐ **If C7/T1 is not seen, request a repeat view (e.g. swimmer's view) or CT; do not call the film normal.**
- ☐ Check the image is a true lateral (posterior margins of the vertebral bodies and the facets superimposed).

During · A — Alignment

- ☐ Trace the anterior vertebral line along the anterior margins of the vertebral bodies.
- ☐ Trace the posterior vertebral line along the posterior margins of the vertebral bodies.
- ☐ Trace the spinolaminar line joining the bases of the spinous processes.
- ☐ Trace the tips of the spinous processes.
- ☐ Note any step or break; anterior translation of one body on the next suggests facet dislocation.
- ☐ Check the atlanto-dental (predental) interval.

During · B — Bones

- ☐ Inspect each vertebral body from C1 to T1 for height, shape, cortical outline and density.
- ☐ Inspect the odontoid peg and the ring of C2 (look for a break in the ring or through the pars — hangman's fracture).

- ☐ Inspect the posterior elements: pedicles, articular masses and facets, laminae and spinous processes.
- ☐ Check the anterior arch of C1 and its relationship to the peg.

During · C — Cartilage and disc spaces

- ☐ Assess the intervertebral disc spaces for uniform height.
- ☐ Assess the facet joints for congruence and the interspinous distances for fanning.

During · S — Soft tissues

- ☐ Measure the prevertebral soft tissue thickness.
- ☐ Note that a normal soft-tissue shadow does not exclude injury, and crying or an endotracheal tube in a child can distort it.
- ☐ Look for air in the soft tissues or a retropharyngeal foreign body.

During · Complete the review

- ☐ Review the anteroposterior and open-mouth views if taken.
- ☐ Re-check the areas most often missed: the craniocervical junction, the peg and the C7/T1 junction.
- ☐ **Correlate the findings with the clinical examination; a normal radiograph does not exclude injury.**
If clinical suspicion remains (midline tenderness, neurology, high-risk mechanism), keep precautions and request CT.

After · Act and document

- ☐ **If an injury is seen or suspected, maintain full spinal motion restriction and request CT.**
- ☐ Refer confirmed injuries urgently to the spinal team.
- ☐ Document adequacy, a systematic description (alignment, bones, cartilage, soft tissues) and your conclusion.
- ☐ Compare your reading with the formal radiology report when it becomes available and act on any discrepancy.
- ☐ Communicate the result and plan to the patient and the team.



A drafted procedure checklist, awaiting senior review. Perform procedures only within your training, competence and local policy. It does not replace your clinical judgement.
EM Orbit · Emergency medicine, in one orbit · proc-cspine-xray · red rows are the steps that must not be missed