

Suspected Spine Trauma

Imaging of the cervical spine (neck) is usually not appropriate in individuals 16 to 65 years old who do not meet high-risk criteria for injury on clinical examination.

For individuals 16 years or older with suspected acute cervical spine blunt trauma who meet high-risk criteria on clinical examination, CT (<https://www.radiologyinfo.org/en/info/spinct>) without intravenous (IV) contrast is usually appropriate; x-rays may also be appropriate. CT without contrast is also appropriate if acute spinal injury is found on x-rays and in cases in which no unstable injury was found at first, but the individual had a neck collar for neck pain.

MRI (<https://www.radiologyinfo.org/en/info/spinemr>) without contrast may also be appropriate in these cases as well as when injury to the ligaments is seen on cervical CT or suspected from clinical examination or if there is reduced alertness even with a negative CT.

MRI without IV contrast is usually appropriate as the next imaging test if a cervical CT shows or suggests a spinal cord or nerve root injury with or without traumatic injury. A CT myelography (<https://www.radiologyinfo.org/en/info/myelography>) (CT with contrast material injected into the spine) may also be appropriate.

If injury to arteries is suspected from cervical CT, CT angiography (<https://www.radiologyinfo.org/en/info/angioct>) with contrast or MR angiography (<https://www.radiologyinfo.org/en/info/angiomr>) with and without contrast is usually appropriate.

In individuals meeting criteria for thoracic and lumbar spine imaging, a CT without IV contrast is usually appropriate. X-rays may be appropriate. If acute injury is detected, the next appropriate imaging test is MRI thoracic and lumbar spine without contrast. CT myelography thoracic and lumbar spine may be appropriate.

— By Susan Anemone and Bruno Policeni, MD, MBA. This information originally appeared in the *Journal of the American College of Radiology*.

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