

Clinical and neurological examination

An examination of an injured patient may provide evidence of spinal cord, spinal nerve, or other related injuries before instrumental diagnostic procedures are done.

Treatment management in cases of suspected spinal column injury requires a cautious and differentiated approach since careless manipulations, improper positioning, or insufficiently secure transport of the injured person may result in additional damage.

The following items are important in the physical and neurological examination:

- Pain reported by patient
- External signs of injury (hematoma, bruising)?
- Change in posture to relieve symptoms?
- Any motor or sensory deficits?
- Reflex status?
- Medullary or radicular deficits?
- Complete or partial paraplegic symptoms?
- Accompanying injuries?

Radiological and other imaging examination methods

- Conventional x-rays in 2 planes and further special conventional images if needed may confirm a tentative diagnosis of a spinal column injury. An exact diagnosis requires properly made x-rays, which are sometimes difficult to obtain because of the strong pain experienced by a patient. Overly energetic manipulations of the injured patient may also exacerbate initial findings. Conventional x-rays of the spinal column therefore frequently only provide supporting evidence of visible coarse bony injuries.
- Computer tomography (CT) can provide images of the bony structures and the soft tissue, intervertebral discs, and ligaments.

Vertebral fractures can be clearly portrayed using reconstruction images.

- Nuclear magnetic resonance tomography (MRT) allows for the optimum presentation of the spinal cord, nerves, and soft tissues.

Bony structures are better shown by the CT method.

CT and MRT provide the diagnostic basis for the determination of the therapeutic strategy and surgical procedure.