

Ataxia

Ataxia is the loss of control of bodily movement due to impairment in the nervous system. The patient may have a wide-based, unsteady walk or poor coordination of the arms and legs. Ataxia may be caused by a problem in the cerebellum (the part of the brain that controls coordination), the spinal cord and nerves (which control body movement), or the inner ear vestibular system (which maintains balance). Ataxia can also be caused by a stroke (<https://www.radiologyinfo.org/en/info/stroke>) . The appropriate imaging of ataxia depends on the suspected cause.

When ataxia occurs after head injury (<https://www.radiologyinfo.org/en/info/headinjury>) , CT scan (<https://www.radiologyinfo.org/en/info/headct>) of the brain without intravenous (IV) contrast is usually an appropriate initial imaging test. If there is vertigo, CT of the inner ear (temporal bone) may be appropriate. If blood vessel damage is suspected, CT or MR of the arteries or veins may be appropriate. MRI of the brain (<https://www.radiologyinfo.org/en/info/mri-brain>) (<https://www.radiologyinfo.org/en/info/fmribrain>) may be appropriate if injury to the lower part of the brain is suspected.

When ataxia occurs after injury to the spine, CT scan (<https://www.radiologyinfo.org/en/info/spinect>) or MRI of the spine (<https://www.radiologyinfo.org/en/info/spinemr>) without IV contrast or CT of the arteries of the neck with IV contrast is usually appropriate.

When ataxia occurs without a history of injury and a stroke is not suspected, the cause may be a brain tumor. MRI of the brain is usually appropriate. IV contrast may be helpful.

When ataxia occurs without a history of injury and a problem in the spine or spinal blood vessels is suspected, MRI of the spine is usually appropriate.

For more information, see the *Movement Disorders* (<https://www.radiologyinfo.org/en/info/movement-disorders>) page.

— By Susan Anemone and Nina S. Vincoff, MD. This information originally appeared in the *Journal of the American College of Radiology*.

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