

## Head Trauma

Common reasons for head trauma (<https://www.radiologyinfo.org/en/info/headinjury>) include falls, car accidents, and acts of violence. Initial imaging tests are done to figure out how bad the injury is and guide treatment.

For individuals with acute (0-7 days) mild, moderate, severe, or penetrating head or brain injury, head CT (<https://www.radiologyinfo.org/en/info/headct>) without contrast is usually appropriate as the first imaging test. On the basis of clinical assessment decision tools, some mild injuries should not require any imaging tests.

For individuals with unchanged neurologic symptoms without significant findings on initial CT, further CT scans or MRI (<https://www.radiologyinfo.org/en/info/mri-brain>) without contrast may be appropriate. With significant findings from the first head CT scan, CT without contrast is usually appropriate. MRI without contrast may be appropriate.

For individuals with new or worse neurologic symptoms, CT without contrast is usually appropriate, and MRI without contrast may be appropriate.

For individuals with chronic (>3 months) or subacute (<3 months) head trauma experiencing cognitive problems, MRI of the brain or CT without contrast are usually appropriate.

For suspected injury to blood vessels in the brain, CT angiography (<https://www.radiologyinfo.org/en/info/angiocr>) of the head and neck with contrast is usually appropriate. Cervicocerebral arteriography (which looks at the blood vessels in the brain), MR angiography (<https://www.radiologyinfo.org/en/info/angiomr>) of the head and neck with or without contrast, MR angiography of the head and neck with and without contrast, and CT without contrast may be also appropriate.

For suspected cerebrospinal fluid leak, maxillofacial CT (<https://www.radiologyinfo.org/en/info/sinusct>) without contrast, CT without contrast, and temporal bone CT without contrast are usually appropriate. MRI of the head without contrast, CT cisternography, and DTPA cisternography may be appropriate.

For more information, see the *Head Injury* (<https://www.radiologyinfo.org/en/info/headinjury>) page.

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

### Disclaimer

This information is copied from the RadiologyInfo Web site (<http://www.radiologyinfo.org>) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at <http://www.radiologyinfo.org> to view or download the latest information.

**Note:** Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

## Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright © 2024 Radiological Society of North America, Inc.