
CT Scans for Children with Head Injuries: When they need them—and when they don't



An injury to the head can be scary. In most cases, children have no symptoms or only minor symptoms but no serious injuries like bleeding in the brain or cracks to the skull. After a serious head injury, a health care provider may order a test called a CT scan.

A CT scan takes many X-rays, to create a 3D picture of the brain. But your child generally does not need a CT scan for a minor head injury. Here's why:

CT scans aren't always necessary.

Before ordering a CT scan, a health care provider will examine your child and ask about the injury and symptoms. If your health care provider thinks your child has a concussion, a CT scan will probably not be helpful—CT scan results are usually normal with concussions. CT scans are better for finding other kinds of injuries, such as skull fractures or bleeding in the brain. A concussion is not caused by bleeding in the brain.

CT scans have risks.

CT scans use radiation, which can increase the risk of cancer. Children, and especially infants, have greater risks because their brains are still developing. And unnecessary CT scans can lead to more tests and treatments, with more risks.

When to see a health care provider.

Go see a health care provider right away if your child has a head injury and becomes unconscious, has a headache that won't stop,



is dizzy, seems confused, feels sick to their stomach or is vomiting. These symptoms may happen hours or up to a few days later.

When might a health care provider get a CT scan of the brain.

A health care provider will likely order a CT scan if they feel that the child has a skull fracture or bleeding in the brain. The health care provider will ask about the accident and symptoms listed below, and will examine the child for signs of skull fracture, such as black eyes and bleeding from the ears or nose.

The accidents listed below can cause serious head injuries:

- A motor vehicle accident
- Falling from three or more feet off the ground
- Falling down five or more stairs
- Falling off a bicycle without a helmet

The symptoms listed below may be signs of serious injury:

- A headache that gets worse
- Being very sleepy or irritable
- Becoming unconscious
- Tingling on one side of the body
- Being dizzy or losing balance
- Loss of vision or hearing
- Repeated Vomiting

About Choosing Wisely Canada

Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in health care. One of its important functions is to help clinicians and patients engage in conversations that lead to smart and effective care choices.

How this pamphlet was created:

This pamphlet was adapted with permission from a similar pamphlet used in the US Choosing Wisely campaign, organized by the ABIM Foundation. Modifications were made to ensure relevance for a Canadian audience. Canadian reviewers of this pamphlet include Dr. Olivia Ostrow and Dr. Laura Purcell.

What to expect if a CT scan is needed.

- The CT scan will happen as soon as possible. The child may need immediate treatment.
- The lowest dose of radiation possible will be used.
- The scan will include only the head (unless there may be a neck or spine injury).
- Every effort will be made to avoid repeated scans.