

# Head Trauma (Minor)

Most head injuries in children are not serious. Confusion, unsteadiness, and headache usually mean a concussion is present, and your child should see the doctor. Medical attention is also needed if your child has lost consciousness, even for a short time. Imaging tests may be needed to make sure there is no bleeding inside the skull.

## What is head trauma?

Children and teens may suffer head injuries in many ways, especially bicycle and motor vehicle accidents. Sports, especially football, are another common cause of head trauma. Medical evaluation is needed for all but the most mild “closed” head injuries, that is, injuries in which nothing penetrated the head or skull.

The main concern is whether your child has suffered swelling or bleeding in or around the brain. Concussions are mild brain injuries producing no damage that can be detected by the usual imaging tests. If your child loses consciousness for even a short time or has any behavior change after a head injury, get medical care as soon as possible.

## What does it look like?

Symptoms of head injury depend on how severe the injury was but may include:

- Unconsciousness. If your child loses consciousness even for a minute or two, seek medical care immediately.
- Concussion. The following symptoms are temporary:
  - Behavior changes: drowsiness, confusion, grogginess.
  - Headache.
  - Nausea or vomiting.
  - Dizziness or loss of balance.
  - Memory loss, “temporary amnesia.”
- Certain symptoms may signal more severe head injury:
  - A long period of unconsciousness (more than a minute or two).
  - Severe headache.
  - Confusion lasting for a long time.
  - Vomiting lasting for a long time.
  - Changes in the size of the pupils (the black part of the eye), or pupils unequal in size.
  - Seizure (involuntary movements).

- In infants or younger children, irritability (fussiness) may be the only sign of significant brain injury.
- Even if there are no symptoms, it’s worthwhile to call the doctor after your child has a hard fall or a blow to the head.

## What are some common causes of head trauma?

- Car or motorcycle accidents.
- Bicycle accidents.
- Falls, such as an infant from a changing table.
- Sports, especially football.
- Child abuse.

## What are some possible complications of head trauma?

- Brain swelling, which can sometimes be severe enough to cause death.
- Bleeding and clots in the head. The most common type of bleeding is subdural hematoma, which is blood between the tissue lining the brain and the brain itself. If it is severe, subdural hematoma can be very dangerous. Surgery is needed to drain the bleeding.
- Concussions can cause difficulties concentrating, memory loss, or mood changes. It may take a while for your child to return to normal. These changes usually get better, but mild abnormalities may persist if the concussion was severe enough. Repeated concussions are more likely to cause permanent brain injury.

## What puts your child at risk of head trauma?

- Riding in a car without a seatbelt.
- Riding on a bicycle without a helmet.
- Playing football and other contact sports.
- Drinking alcohol or using drugs.

## How are minor head injuries diagnosed and treated?

- The doctor will ask some questions about the incident and examine your child, including a careful physical examination to evaluate the nervous system (neurologic examination).
- *Brain imaging.* The doctor may recommend special imaging studies to assess the effects of the injury on your child’s brain. This is likely to be done if:

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- Your child is not acting normally (is confused, groggy, nauseous, etc.) for more than just a short time.
- The physical examination was abnormal.
- Your child has persistent vomiting or severe headache.
- The usual test is an x-ray procedure called computed tomography, or CT scan. The scan will show whether there is any bleeding or blood clot that may pose a danger to the brain.
- *Skull x-rays.* X-rays of the skull may be performed if the doctor thinks there may be a skull fracture.
- *Observation in the hospital.* If treatable problems are found but the doctors are concerned about the injury or the way your child is acting, he or she will be hospitalized overnight for careful observation to see if further treatment is needed.
- *Home monitoring.* In some cases, the child may be sent home for monitoring. You will be asked to watch him or her closely for the first 24 hours.
- *Follow-up.* Children with significant head trauma may need special developmental tests to detect small effects on the brain. These tests are often performed by a specialist called a neuropsychologist.
- *Serious or severe head trauma* resulting in bleeding or swelling of the brain requires treatment by a neurosur-

geon (a surgeon who specializes in problems involving the brain) in an intensive care unit (ICU).



### When should I call your office?

While monitoring your child at home after being seen and evaluated, call our office if any of the following occurs:

- For any head injury that causes unconsciousness, grogginess or confusion, vomiting, or severe headache.
- Any time your child has a hard injury to the head, even if there are no symptoms.
- Worsening or severe headache.
- Weakness, dizziness.
- Vomiting.
- Difficulty waking.
- Different-sized pupils, or pupils that don't change much in response to light.
- Seizures (involuntary body movements).
- Confusion or irritability; won't stop crying.