

Community Brain Injury Program for Children & Youth in British Columbia

Headaches

Headaches are one of the most common problems following a brain injury, particularly a brain injury caused by a blow to the head, also known as a traumatic brain injury or TBI.

Do children get headaches after a brain injury?

People often assume that because children's brains have greater neuroplasticity – that is the capacity to change and adapt – they may not be as likely to have headaches following an injury. However, research shows that the developing brain has vulnerability not seen in adults. For example, following physical damage to the brain, children are more likely than adults to have post traumatic seizures, which are sudden abnormal electrical disturbances in the brain. New research has also shown that children and teens who experience a mild brain injury known as a concussion, frequently develop headaches. These may occur on and off for weeks or months after the injury.

What are various types of headaches?

Tension headaches, which are caused by muscle contractions in the area of the head and neck are commonly experienced by children and teens after a brain injury. These headaches can result in mild to severe pain in the head, neck or behind the eyes. There are usually no other symptoms, and these headaches tend to come and go and are often triggered by fatigue and stress.

Migraine headaches are headaches that when left untreated, can last from four to seventy-two hours. They usually affect only one side of the head and are marked by pulsing or throbbing pain. People experiencing a migraine often feel nauseous and may vomit. Just before the headache begins or during the course of the headache, people may also be sensitive to light, sound and in some cases, smells. People suffering from migraine headaches and their lead ups may also experience flashes of light or blind spots, pins and needles or weakness in one side of the face or body.

Post-traumatic headaches develop within seven days of a brain injury or after regaining consciousness. These headaches can resemble tension headaches or migraine headaches but they most commonly resemble migraines. They typically occur on and off over the course of three months but for some children and teens they can become chronic, lasting much longer. Post traumatic headaches can interfere with a child's school work and social life and can affect the overall quality of life of the family. In addition to the physical problems noted under migraines, children can have problems concentrating, remembering, solving problems or thinking clearly. Children with these headaches are often irritable, anxious or depressed.

A previous history of migraine headaches or a family history of migraine headaches may be a risk factor for post-traumatic headaches which often have migraine-like symptoms. Following a traumatic brain injury, teenage girls have higher rates of headaches compared to younger children. This supports the theory that these headaches have a hormonal link.

Cervicogenic headaches may occur when the brain injury is the result of a fall or a blow to the head. These headaches are caused by an injury to some part of the neck joints, disks in the spine or soft tissue around the neck and top of the spine.

Which headaches need immediate medical attention?

Go directly to the emergency department of your nearest hospital if your child experiences the following:

- A sudden severe headache like a thunderclap
- A headache accompanied by a stiff neck, mental confusion, seizures, double vision, weakness or difficulty speaking
- A persistent headache that is made worse by exertion or straining

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What treatments are used for headaches?

Anyone with a new headache whose onset is sudden or explosive should be immediately seen by a health care professional. Imaging may be required when a child experiences a new, sudden onset headache in order to rule out serious issues such as bleeding in the brain. It is important to determine the cause of chronic headaches so that effective treatment can begin before these headaches have a negative effect on the child's or teen's ability to function. Prescription medication can be a very effective treatment. If the headaches continue, preventative medications can be prescribed. Children and teens should avoid using over-the-counter pain killers more than three times per week without a doctor's approval as overuse can lead to rebound headaches. Rebound headaches often return as soon as the pain relieving medication has worn off.

Non-drug treatments also play an important role in preventing and addressing headaches. Encourage your child or teen to:

1. Get an adequate amount of good-quality sleep every day. This is the most important non-drug treatment.
2. Stay well hydrated. Encourage your child or teen to drink plenty of water - up to 6 cups per day.
3. Eat three meals per day and consume healthy, protein-based snacks such as hummous, nuts, unsweetened yogurt and hard boiled eggs.
4. Get exercise every day. Exercise can prevent headaches.
5. Pace the demands on body and brain and take frequent brain breaks. Too many demands, especially in busy environments, can lead to headaches.
6. Learn relaxation techniques. These can be very effective, especially for tension or migraine type headaches. It is best to teach and practice these strategies during calm periods so that children and teens have the tools they need when they become stressed or anxious.

Resources:

"Post-Traumatic Headache" American Migraine Foundation

<https://americanmigrainefoundation.org/understanding-migraine/post-traumatic-headache/>

BC Children's Hospital Comprehensive Migraine Headache Discharge Guideline

<http://cme.bccher.ca/wp-content/uploads/2015/10/Migraine-Discharge-Guideline-October-2015.pdf>

Pediatric Headache Clinical Presentation: Medscape

<https://emedicine.medscape.com/article/2110861-clinical>
<http://mindfulnessforteens.com/>

"Relaxation strategies", The Children's Trust, Brain Injury Hub

<https://www.braininjuryhub.co.uk/information-library/relaxation-strategies>

"How to Chill", Anxiety BC

<http://youth.anxietybc.com/relaxation>

"Calming Strategies to Use with Children" from ConnectAbility.ca

<https://connectability.ca/2010/09/23/calming-strategies-to-use-with-children/>

Counselling such as Cognitive Behavioural Therapy for older children and play therapy for younger children may be an effective way of gaining control over worries or fears that may lead to headaches

<https://www.anxietybc.com/cbt-home>

Sources

"Characteristics of post-traumatic headaches in children following mild traumatic brain injury and their response to treatment: a prospective cohort" A Kuczynski et al, Developmental Medicine & Child Neurology, 2013 Mac Keith Press