

Study finds headaches after traumatic brain injury highest in adolescents and girls

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More than half a million children in the U.S. sustain a traumatic brain injury (TBI) every year. Adults who suffer TBI often report headaches afterward, but little is known about how often children suffer headaches after similar injuries. In a significant new study, "Headache After Pediatric Traumatic Brain Injury: A Cohort Study," researchers analyzed the prevalence of headaches three and 12 months after mild, moderate or severe TBI in children ages 5 to 17, and discovered the risk of headache was higher in adolescents (ages 13 to 17) and in girls.

The study was led by Heidi Blume, MD, MPH, from Seattle Children's Research Institute and principal investigator Fred Rivara, MD, MPH, of Harborview [Injury Prevention](#) and Research Center, University of Washington, and is published online today in *Pediatrics*.

The study indicates that headache can be a significant problem for some children (ages five to 12 years) after TBI. Three months after a mild TBI, 43 percent of children reported headaches, compared to 37 percent of children who had a moderate to severe TBI, and 26 percent of children in the [control group](#) (patients with arm fractures).

Study authors conclude that the response to and recovery from TBI is different for children, adolescents and adults, and that [males and females](#) are likely to have different symptoms and recovery. The risk of headache was higher in adolescents and in girls, mirroring a pattern seen in other headache disorders such as [migraine](#). Because of the high number of children suffering TBI every year, the study findings indicate many children and adolescents are suffering from TBI-associated headaches every year.

"Little research has focused on [chronic headache](#) post-TBI in children," said Dr. Blume, who is also a University of Washington assistant professor of neurology. "Our findings indicate that many

children and adolescents suffer from TBI-associated headaches yearly. In addition, the prevalence of headache following mild TBI appears to follow a pattern we see in primary headache disorders such as a migraine. With future research, we can begin to examine whether there are similarities in the cause of migraine and post-traumatic headache, and if migraine therapies will work for post-traumatic headaches."

Researchers were not able to detect significant differences in the percentage of children with headache after TBI one year after injury, compared to children with arm fractures. The study concluded that teenagers and girls appear to be at the highest risk for headache after mild TBI, and that the course of recovery from TBI is likely affected by age at injury, injury severity and gender.

"What parents need to know is that some children with TBI may have headaches for several weeks or months after TBI, but that most recover with time," said Dr. Blume. "And significantly, girls and teenagers appear to be at particular risk for headaches after mild TBI. Parents should be aware of what to expect after mild TBI, which may come from a sports-related injury."

If you suspect your child has had a concussion, see your medical care provider before allowing them to go back to vigorous physical activity or playing sports. Seek emergency care after a head injury if the child has repeated vomiting or severe new [headache](#), is confused, off balance, or has new weakness, numbness or trouble speaking.

To manage headaches in [children](#) and [adolescents](#), Dr. Blume recommends these SMART tips:

- Sleep - get regular and sufficient sleep (Eight to nine hours/night)
- Meals - eat regular and healthy meals, including breakfast and drink plenty of fluids to stay well hydrated

- Activity - get appropriate activity, rest immediately after TBI, but if symptoms persist for several weeks your care provider may recommend supervised regular low impact exercise such as walking that does not exacerbate symptoms
- Relaxation - manage stress and find ways to relax
- Trigger avoidance - avoid things that make headaches worse (loud noise, bright lights, stress, skipping meals, sleep deprivation)

There were nine participating institutions in King County, Wash. and one in Philadelphia, Pa.

More information: "Headache After Pediatric Traumatic Brain Injury: A Cohort Study":

[pediatrics.aappublications.org ...
s.2011-1742.abstract](https://pediatrics.aappublications.org/lookup/doi/10.1542/peds.2011-1742)

"Headache After Traumatic Brain Injury" slideshow:

[www.flickr.com/photos/38997016 ...
s/72157628293030965/](https://www.flickr.com/photos/38997016.../72157628293030965/)

Provided by Seattle Children's

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