

TITLE : Concussions Are Remarkably Common and Can Cause Long-Term Problems

Fifteen years ago I slipped on a wet patio deck and fell backward, slamming the back of my skull into a pillar. I saw stars and briefly felt nauseated. But I picked myself up, checked that I wasn't bleeding and went about my day. The back of my head was sore for a few days, but there weren't any lingering effects, and I didn't see a doctor.

The author uses a personal story to get readers interested in what the article is about.

Still, those symptoms I did have might have been signs of a concussion, the common term for a mild traumatic brain injury (TBI). Such injuries are a lot more common than you might think and may cause long-term problems. When more than 600 average middle-aged people in the U.K. and Ireland were asked careful questions about past incidents in which they might have hit their heads, a full third turned out to have suffered a TBI of some kind. And nearly three million people in the U.S. are officially diagnosed with a TBI every year in emergency departments and hospitals. About 75 to 80 percent of their injuries are described as mild.

Author introduces the topic of the whole article with supporting stats about the topic

But "mild," it turns out, can have consequences years later for many people. For example, in 2023 the multicenter TRACK-TBI study revealed that out of more than 1,200 people, 33 percent of those with mild TBI and 30 percent of those with moderate or severe TBI showed deterioration one to seven years after injury. Complaints can include problems sleeping, headaches, and memory and psychiatric issues. Long term, a TBI can lead to dementia, and it may also trigger several types of cardiovascular disease.

Usage of simple terms and logos to explain to the reader about the evidence. Depicts cause-effect relationship.

“What we need to do is pay more attention to what happens in the months and years after injury.” —David Sharp *Imperial College London*
Doctors have misunderstood or misdiagnosed these problems because of an old way of looking at and thinking about concussions. For 50 years physicians have relied on symptoms they observe, such as loss of consciousness and motor or verbal changes, and on patient reports to classify traumatic brain injury as mild, moderate or severe. But this system isn’t very accurate at predicting either short- or long-term outcomes.

Usage of quote gives a hint of pathos. It introduces a new idea relating to the topic. It’s structured in a way that doesn’t confuse the reader or stray them away from the original topic.

Experts have been pushing for change for several years. [A 2022 National Academies report](#) listed reclassification of these three grades, based on stronger evidence, as its first recommendation. “We know these terms are not accurate; they’re not precise. In fact, they can actually be problematic for patients,” says Nsini Umoh, who is the TBI program director at the National Institute of Neurological Disorders and Stroke (NINDS).

Usage of ethos to credit the argument this article is making

Now the field is doing something about the problem. After a January 2024 meeting hosted by NINDS, experts are proposing a new system of diagnosis and classification that provides neurobiological detail instead of a vague term such as “mild.” Called the CBI-M model, it includes clinical symptoms (C), blood-based biomarkers (B), imaging (I) and modifiers (M). The last item includes social determinants of health such as access to care.

Creates a shift from the whole argument. The shift is an upcoming solution to a problem. Structures in a way to help reader have a easy flow of reading from problem to solution.

If doctors use this model, they will have to approach concussions and their treatment differently. Breast cancer patients, for instance, are not told that their cancer is mild or severe but are informed of the exact size of the tumor,

whether it is estrogen-receptor-positive, and so on. People with a potential TBI could get that level of detail. Under the proposed guidelines, they will get a TBI score on a scale based on their responsiveness to a clinician's questions (as they do today), as well as blood biomarker results and possibly imaging results. The biomarkers are proteins released in the brain in response to injury; new technology can measure concentrations of these proteins in the bloodstream. The U.S. Food and Drug Administration has approved two tests, for the proteins GFAP and UCHL1, that can predict whether intracranial lesions are present in the brain and whether a CT scan is warranted to confirm them.

Uses an example to help explain and support their point, gives the reader something to compare to so they understand better.

Someone with no visible changes in imaging and low blood biomarkers would be told that their recovery prognosis was good. Someone with more worrisome indicators might be told to follow up with specialists over months or even years. Physicians would adjust these risk assessments based on modifiers—for example, a person with a history of mental health issues is at higher risk than someone without.

“What we need to do is pay more attention to what happens in the months and years after injury,” says neurologist David Sharp of Imperial College London. “The way to do that is to do blood tests for particular things we think are relevant.”

Quotes professionals as evidence to help support their point.

And nonprotein biomarkers are turning up too. Neuroscientist Audrey Low of the University of Cambridge and the Mayo Clinic used imaging to uncover signs of cerebral small-vessel disease, a risk factor for dementia. One such sign, tiny chronic brain hemorrhages called microbleeds, was associated with past TBIs. The more TBIs a person had, the more likely they were to have had these microbleeds. “Implementing more standardized tools to screen for traumatic brain injury could be a way to pick these up,” Low says. Such screening also will allow doctors to better assess the risk of dementia.

Explains a hard scientific process in terms where the general audience can understand what type of research is happening.

Fortunately, health-care providers now take mild TBI far more seriously than in the past, when you'd have been told "you've had your bell rung, and you're fine," says neuropsychiatrist Thomas W. McAllister of the Indiana University School of Medicine. Thanks in part to modern concussion protocols—which call for several days of cognitive and physical rest, followed by other supervised treatments—most patients do feel better in a few weeks or months if diagnosed properly. And the new methods should help even more.

Concludes the article by giving a positive outlook