

How to manage concussions (w/ Video)

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Concussions, the most common traumatic brain injury, can have serious long-term health effects; therefore, diagnosis and management of these injuries are important. A primer published in *CMAJ (Canadian Medical Association Journal)* provides physicians with current approaches to diagnosing and managing concussions in patients.

"The importance of accurate and timely recognition and management stems from the consequences of misdiagnosis or faulty management that can lead to major disability or death, in both the short and long term," writes Dr. Charles Tator, Division of Neurosurgery, University of Toronto and Krembil Neuroscience Centre, Toronto Western Hospital.

People in all age groups are susceptible to concussions because they can occur from [vehicle accidents](#), work activities, sports, recreation and, for seniors, falls. Concussions can be caused without direct blows to the head, such as impact to the chest that causes [whiplash](#) and a jiggling of the brain. The brains of young people are more susceptible to concussions than those of adults. Recent evidence shows that females may be more prone to concussions than males.

Athletes in particular are at risk and may minimize or hide symptoms of concussions which can have serious effects. Second-[impact syndrome](#), although rare, can happen when a concussed person, especially a younger person, has a second injury before the first has healed. This second injury can lead to brain swelling, resulting in major [neurological effects](#) or death.

Physicians play a key role in diagnosing and managing concussions. "The diagnosis can be made only clinically because there is no proven [biomarker](#) based on imaging, blood tests or computerized neuropsychological screening tool," writes the author.

The practice in most countries is to remove the concussed person from activity and begin an evaluation by a physician as soon as possible. Complete rest from physical and mental activity is recommended. The primer includes a 6-point protocol to managing concussions that includes a plan to help people resume activity:

- No activity: complete rest
- Light exercise: walking, swimming, stationary cycling
- Sport-specific exercise but no head-impact sports
- More vigorous but noncontact training drills
- Full-contact practice: normal activities after medical clearance
- Return to full game play including contact

"Educating the public about concussion is an important component of primary, secondary and tertiary prevention," concludes Dr. Tator.

"Everyone who is engaged in sports should be aware of the importance of recognizing concussion. However...the responsibility for diagnosing concussion rests with the physician, or a trained delegate in remote regions."

More information: [DOI: 10.1503/cmaj.120039](https://doi.org/10.1503/cmaj.120039)

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