

# What is Post-Concussion Syndrome (PCS)?

## What is PCS?

### Post-Concussion Syndrome (PCS):

Post-Concussion Syndrome (PCS), also known as persistent post-concussion symptoms (PPCS), is the persistence of [concussion symptoms](#) beyond the normal course of recovery.

The majority of concussion symptoms will resolve within one month, but in cases that last longer than a month, doctors may diagnose PCS

Patients with PCS can experience concussion-like symptoms at rest or in response to too much cognitive or physical activity, often forcing them to withdraw from their usual physical, social, and professional lives.

Watch: [What is PCS? Dr. Jonathan Atwood](#)

## SYMPTOMS

Physical	Sleep	Cognitive	Mood & behavioural
<ul style="list-style-type: none"> <li>• Headache</li> <li>• Dizziness</li> <li>• Nausea</li> <li>• Sensitivity to light and noise</li> <li>• Blurry or double vision</li> <li>• Fatigue</li> </ul>	<ul style="list-style-type: none"> <li>• Sleeping more than usual</li> <li>• Trouble falling asleep</li> <li>• Lethargy &amp; Fatigue</li> </ul>	<ul style="list-style-type: none"> <li>• Short-term memory loss</li> <li>• Trouble concentrating</li> <li>• Difficulty multi-tasking</li> <li>• Lack of focus</li> <li>• Slow processing</li> </ul>	<ul style="list-style-type: none"> <li>• Anxiety</li> <li>• Panic attacks</li> <li>• Depression</li> <li>• Irrational anger</li> <li>• Increased sadness</li> <li>• Irritability</li> </ul>

Learn more

Go to [ConcussionFoundation.ca/resource-centre/pcs-resources](https://ConcussionFoundation.ca/resource-centre/pcs-resources) or scan the QR code



## How Common Is PCS?

**PCS is a relatively common complication of concussion recovery.** It's estimated that PCS may be diagnosed in 20 percent of concussion patients. While most patients won't suffer from PCS, it's still a larger concern for certain groups of individuals, including:

### Military Personnel

**PCS is a significant concern with military personnel** due to the nature of their duties, which often put them at increased risk for traumatic brain injuries (TBIs). Studies have shown that [the rate of concussions among military personnel is substantial](#), leading to a higher incidence of PCS. The difficulties of combat environments, training exercises, and the general physicality of military operations contribute to these risks.

PCS remains a common occurrence affecting service members, potentially leading to long-term effects that extend beyond their military careers. The transition back to civilian life can be particularly challenging for Veterans dealing with PCS.

Head to our [Operation Brain Health](#) page for a library of brain health resources designed for members of the military community.

### Athletes

**In many sports, athletes** are exposed to regular physical contact and the possibility of injury, making concussions a more common occurrence, even at a very young age. Contact and collision sports such as football, soccer, ice hockey, and rugby tend to [report higher instances of concussions and PCS](#) due to the frequent, high-impact collisions that are part of those sports.

The awareness of concussion-related injuries has led to improved protocols and return-to-play guidelines, especially in professional and collegiate sports. Nevertheless, the repeated nature of sports-related brain trauma means that the likelihood of developing PCS

### Accident Victims

**Those who have been in an accident**, particularly vehicular collisions, falls, and work-related incidents, are also prone to experiencing concussions. As with other groups, there are several factors that contribute to the development of PCS, including injury severity, medical history, and management of the injury.

The recovery process after an accident is multifaceted, involving physical, emotional, and cognitive healing. PCS can complicate this process, with symptoms persisting for months or even years, affecting daily functioning and quality of life.



## Why do some people suffer from PCS & Others Don't?

Predicting who will experience PCS is challenging, but research offers insights into individuals who may face a higher risk.

When assessing a patient with persistent post-concussion symptoms, a doctor will ask about specific risk factors that may have made them more vulnerable following a concussion. Some factors are fairly intuitive, such as the severity of the initial blow. For example, a major impact that leaves someone completely incapacitated is generally associated with a longer recovery compared to a milder hit.

Additionally, some individuals experience a double impact—sustaining a blow, falling, and then receiving another impact when their head hits the ice, boards, or field—which can lead to a more severe concussion and increase the likelihood of developing post-concussion syndrome (PCS).



Canada



Download our printable resource on [PCS risk factors](#), and watch the video below to understand more about individuals who are at higher risk

Pre-existing conditions also play an important role in concussion outcomes. Previous concussions, ADD/ADHD, depression, anxiety, migraines, or seizure disorders may intensify symptoms and prolong recovery, highlighting the need for careful assessment and individualized management.

## Is PCS the Same thing as CTE?

**PCS differs from Chronic Traumatic Encephalopathy (CTE)**, a progressive and degenerative disease resulting from repetitive head trauma. While CTE develops over time, PCS refers to symptoms that begin minutes, hours, or days after a concussion and don't resolve within a month.

PCS improves over time and, with treatment, often leads to full recovery. On the other hand, CTE is a progressive degenerative brain disease. Symptoms usually appear many years after an individual was exposed to repeated head impacts.

**If you're experiencing persistent symptoms following a concussion, rest assured that you'll eventually feel better, especially if you work with an experienced medical professional.**

Questions?

Go to [CLFHelpLine.ca](https://CLFHelpLine.ca) or scan QR code



# References

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1. Permenter, C. M. (2023, August 28). Postconcussive syndrome. StatPearls [Internet]. <https://www.ncbi.nlm.nih.gov/books/NBK534786/>
2. Centers for Disease Control and Prevention. (2023b, May 3). Updated mild traumatic brain injury management guideline for adults. Centers for Disease Control and Prevention. [https://www.cdc.gov/traumaticbraininjury/mtbi\\_guideline.html](https://www.cdc.gov/traumaticbraininjury/mtbi_guideline.html)
3. Permenter, C. M. (2023a, August 28). Postconcussive syndrome. StatPearls [Internet]. <https://www.ncbi.nlm.nih.gov/books/NBK534786/>
4. McKee, A. C., & Robinson, M. E. (2014, June). Military-related traumatic brain injury and neurodegeneration. *Alzheimer's & dementia : the journal of the Alzheimer's Association*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4255273/>
5. Va.gov: Veterans Affairs. Management and Rehabilitation of Post-Acute Mild Traumatic Brain Injury (mTBI) (2021). (2009, May 22). <https://www.healthquality.va.gov/guidelines/Rehab/mtbi/>
6. Ianof, J. N., Freire, F. R., Calado, V. T. G., Lacerda, J. R., Coelho, F., Veitzman, S., Schmidt, M. T., Machado, S., Velasques, B., Ribeiro, P., Basile, L. F. H., Paiva, W. S., Amorim, R., & Anghinah, R. (2014). Sport-related concussions. *Dementia & neuropsychologia*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5619443/>
7. U.S. Department of Health and Human Services. (n.d.). Traumatic brain injury (TBI). National Institute of Neurological Disorders and Stroke. <https://www.ninds.nih.gov/health-information/disorders/traumatic-brain-injury-tbi>
8. Thompson, H. J., McCormick, W. C., & Kagan, S. H. (2006, October). Traumatic brain injury in older adults: Epidemiology, outcomes, and future implications. *Journal of the American Geriatrics Society*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2367127/>