

CONCUSSIONS, VISION & YOUR EYE DOCTOR

FACT SHEET

What is a concussion?

A concussion is a type of traumatic brain injury (TBI) that affects your brain function, including your vision. Symptoms can include headaches and problems with vision, concentration, memory, balance and coordination.

Facts about concussions

- Nearly one third of child and adult athletes have sustained previously undiagnosed concussions¹
- Undiagnosed and untreated concussions can lead to an increased risk of brain damage and injuries
- Regular comprehensive eye exams can detect visual signs of undiagnosed concussions and lead to a referral to a concussion care team
- Doctors of optometry can diagnose and treat visual symptoms of concussion, which can be detrimental to academic, work, and sports performance

What are the causes of concussions?

Concussions can be caused by:

- Bumps, blows, or jolts to the head
- Hits to the body that causes the head shake rapidly back and forth
- Falls or accidents

Sudden movements can cause the brain to bounce around or twist in the skull, creating chemical changes in the brain and sometimes stretching and damaging brain cells.² Many times, concussion symptoms are not readily noticeable, but can result in vision impairments and long-term brain damage if untreated.

What are the visual symptoms of concussion?

90% of patients with traumatic brain injuries will suffer visual symptoms. Symptoms are not always noticeable but can impact everyday activities, especially if untreated. These symptoms can include:

- Double vision
- Poor eye tracking ability
- Difficulties with shifting gaze quickly from one point to another
- Focusing
- Loss of binocular vision (eye alignment)
- Eye strain
- Fatigue
- Glare, or light sensitivity
- Inability to maintain visual contact
- Headaches
- Blurred near vision

The extent of the injury can also impact a person's visual information processing ability. This can cause the following symptoms:

- Spatial disorientation
- Difficulties with balance and posture
- Poor depth perception
- Memory loss
- Poor handwriting

What are the dangers associated with concussions?

Individuals with concussion and related vision impairments may have increased difficulty in academic, athletic or work performance.

Undiagnosed and untreated concussions can increase the risk of further brain injuries and decrease ability to perform daily activities. Untreated vision problems can cause:

- Lack of focus
- Lack of attention
- Decrease in cognition



Children with undiagnosed concussions and vision impairments can have issues with their academic and social development, as well as decreased performance in sports and physical activities.

Am I at risk?

Participation in sports, car accidents, falls and physical activities can increase the likelihood of head injuries and concussions. Children and older adults are at an increased risk for concussions.

Because many people do not notice the signs of concussion, it is essential to regularly see your eye doctor. A comprehensive eye exam can detect the visual signs of undiagnosed concussions and help you understand your risks.



What do I do if I believe I have a concussion?

If you believe that you have experienced a concussion, you should see your primary care physician and follow-up with appropriate specialists on your concussion care team, including your eye doctor. For severe concussion and emergencies, you should contact emergency services right away.

I already have a concussion diagnoses, do I still need to see a doctor of optometry?

Yes, an eye doctor is an essential part of your concussion care team. Over 70% of your brain is involved with vision, and 80% of all sensory information goes through your eyes. Even mild concussions can have drastic impact on your vision, and only a trained eye care specialist, such as your doctor of optometry, can thoroughly diagnose and treat your vision impairments.

How can my doctor of optometry help?

Doctors of optometry are essential part of your concussion care team. They can:

- Help with the detection and management of concussions

- Diagnose and treat vision impairments related to concussions
- Help determine when it is safe to return to school, work, sports, or play.

Baseline testing:

As part of your regular comprehensive eye exam, doctors of optometry can provide baseline testing before you experience an injury. This testing provides comparison data, so that doctors can more easily determine whether you have a concussion after an injury or accident. It can also help determine when it is safe for you to return to school, work, or sports.

Diagnosis and treatment of vision impairments:

Doctors of optometry are trained and equipped to detect visual symptoms of concussion, which may be missed by other specialist on your concussion care team. Timely detection and treatment will minimize the impact these symptoms will have on your daily life, school, and work.

1 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3758800/>

2 https://www.cdc.gov/headsup/basics/concussion_what.html

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