



SIGNATURE  
ORTHOPEDICS

# Treating Acute, Sports-Related Concussions



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## HELPFUL TIPS FOR TREATING CONCUSSIONS IN ADOLESCENTS

A concussion is a form of a mild traumatic brain injury that results from either a direct or indirect (rotational or angular) force to the head. It results in impairments in brain function, including loss of consciousness, amnesia, disorientation, or problems with balance and coordination. The disturbance in brain function is largely the result of tearing/shearing of the axons and subsequent neurometabolic dysfunction. To be classified as a concussion, loss of consciousness must be after 0-30 minutes and post-traumatic amnesia must occur in less than 24 hours.

## WHAT ARE THE SIGNS AND SYMPTOMS OF A CONCUSSION?

Typical signs to look for in the immediate post-injury time period are when a person:

- Appears dazed or stunned
- Is confused about assignment or current activity
- Moves clumsily
- Answers questions slowly
- Loses consciousness
- Shows behavior or personality change
- Forgets events or the time-frame immediately surrounding the head injury
- Difficulty focusing with eyes

## SYMPTOMS

Common symptoms may include:

### Physical

Headache  
Nausea or emesis  
Balance problems  
Dizziness  
Blurry vision  
Fatigue  
Sensitivity to noise or light

### Cognitive

Difficulty concentrating  
Memory deficits (new info)  
Difficulty thinking clearly  
Feeling slowed down  
"Fogginess"

### Mood

Irritability  
Feeling sad  
More emotional  
Anxiety

### Sleep

Difficulty falling asleep  
Sleeping more than usual  
Sleeping less than usual  
Fragmented sleep

## WHEN SHOULD YOU SEE A DOCTOR?

The majority of concussions improve rather quickly, with resolution of symptoms typically in the first few days to weeks. It is recommended to see your doctor for a check-up and further treatment advice within the first week. CT scans and MRIs of the brain are rarely necessary as they are unable to help diagnose a concussion.

More urgent attention is required, however, if:

- the individual's level of alertness changes
- he or she becomes disoriented
- he or she vomits frequently
- he or she has a terrible headache that won't go away
- he or she has severe neck pain

## GENERAL TREATMENT RECOMMENDATIONS

The most important treatment approach for concussions is rest. Individuals who have sustained a concussion should be immediately removed from sports and other activities. They should avoid activities which trigger or increase symptoms; however, this does not mean they must completely refrain from light reading, watching TV, or using cell phones or other electronic devices. In fact, light use gradually increasing as tolerated may help promote brain recovery.

Light activity after a few days such as walking, gentle stretching, easy swimming, etc., can also be helpful in improving recovery. Two to three days of both physical and cognitive rest is thought to be most beneficial. However, prolonged rest can lead to physical and cognitive deconditioning, metabolic disturbances, and "secondary symptoms" such as fatigue and reactive depression. There is no evidence to support refraining from returning to school or light to moderate exercise activity until all symptoms have completely resolved. In actuality, recent evidence supports that strict rest until symptom resolution likely prolongs symptoms when compared to a gradual return to school and moderate intensity exercise. If an individual is having prolonged symptoms (lasting more than two weeks) or symptoms aren't improving, speak with your doctor and consider inquiring about a referral to a physical therapist trained in treatment of concussions.

## RETURNING TO SCHOOL AND/OR SPORTS

Unless symptoms have fully resolved within a few days, it is recommended to follow a stepwise progression when returning to school or sports. This may consist of light and then moderate cognitive activity the first few days, advancing to returning with full accommodations such as reduced homework, rest breaks as needed, and no tests in the first couple of weeks. Involvement of your doctor, school nurse, and teachers/academic advisors to help coordinate a plan is recommended. Extracurricular and sports activities should only be restarted AFTER full academic participation is achieved. For sports activities, you must go through a stepwise "Return to Play" protocol without symptoms before being cleared for full participation. This progresses daily as follows:

No activity → Light aerobic activity → Moderate aerobic activity/Sport-specific exercise →  
Non-contact practice drills → Full contact practice → Return to competition

If symptoms worsen, it is recommended to go back to the previous step. It's important to report any symptoms along the way, as this could indicate that the brain hasn't fully healed. Evidence shows that athletes who continue to play without full recovery from a concussion are at much higher risk of sustaining significant musculoskeletal injuries such as ACL tears. It is also likely if you sustain another concussion before being fully healed from the first that your recovery will be much more prolonged.

## ABOUT DR. MALBROUGH

Dr. Joey Malbrough is a physiatrist with a practice focused on non-operative musculoskeletal injuries, conditions and diseases of the spine, sports medicine, electrodiagnosis and interventional procedures.

In addition, Dr. Malbrough treats acute, sports-related concussions. He also provides workers' compensation patients with injury diagnosis and treatment to help them return to work when appropriate.

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