

# Sports Concussion Quick Reference Guide



Your guide to signs, symptoms, evaluation and  
treatment of sports concussion injuries

# Evaluation

Concussion is a clinical syndrome of altered neurologic function and cognitive impairment resulting from either a direct or indirect blow to the head.

Evaluation begins with a history looking for signs and symptoms as noted on the following pages.

Physical examination should include a thorough neurologic exam with special attention to balance/coordination as well as assessment of the cervical spine and surrounding musculature.

## EVALUATION

# Signs

- Loss of consciousness
- Confusion or amnesia related to the event or the plays before or after the event
- Loss of orientation to day or date
- Confused to opponent
- Poor balance
- Impaired coordination
- Impaired attention
- Personality and behavioral change
- Emotional irritability

## EVALUATION

# Symptoms

- Headache
- Nausea or vomiting
- Balance problems
- Blurred or double vision
- Sensitivity to light or noise
- Feeling “dazed” or “foggy”
- Poor concentration
- Slowed reaction times
- Difficulty falling asleep, poor sleep quality or sleeping excessively
- Decreased energy, feeling drowsy
- Feeling sad, irritable, anxious or nervous

## EVALUATION

# Return to Activity

Return to both physical and cognitive activity should be graduated and monitored closely for worsening or return of symptoms.

See the physical and cognitive activity guidelines on the next two pages.

RETURN TO ACTIVITY

# Physical Activity

Withhold from activity until...

- Asymptomatic at rest and able to participate in a full school day.
- Neuropsychological tests have returned to baseline.

To gradually return to play, introduce these levels of activity in order:

1. Light aerobic activity
2. Sports specific exercise
3. Non-contact training drills
4. Full-contact practice
5. Full participation

Each level above should span a minimum of 24 hours. If symptoms return, withhold from activity until asymptomatic and then restart graduated return to play at the previous level.

## RETURN TO ACTIVITY

# Cognitive Activity

- Modify or discontinue any cognitive activity that makes symptoms worse.
- Limit “screen” time. Television, cell phone use, movies, computers and video games can cause recurrence of symptoms.
- Modify schoolwork load and allow more time to complete tasks.
- Shorten school day or temporarily excuse from school initially.
- Postpone standardized tests while in recovery.
- Excuse from physical education classes until fully recovered.

RETURN TO ACTIVITY

# Clinical Pearls

- While healing from a concussion, the brain is at increased risk for additional injury and development of prolonged post-concussion symptoms.
- Athletes with a history of multiple concussions are more likely to have a lower threshold for additional concussions, as well as more severe and/or prolonged symptoms.
- The long-term effects of a concussion are still unknown. There is some evidence of a higher incidence of dementia in those with a history of multiple concussions.
- Second Impact Syndrome occurs when concussed athletes return to play before completely healed. It has been associated with cerebral vascular congestion, herniation and death.

CLINICAL PEARLS



# Clinical Pearls

- No child or adolescent should return to play the same day of concussion as symptoms may not appear until several hours after the concussive event.
- “When in doubt, sit them out!”
- Many concussions occur with NO loss of consciousness. In fact, less than 10% of sports-related concussions have associated loss of consciousness.
- Concussion may exacerbate underlying depression, anxiety, and attention deficit disorders.
- Adolescents who sustain a concussion take longer to recover compared to adults.
- Athletes must be removed from any game if a concussion is suspected and should not return until they have been medically cleared by a licensed health care professional trained in the evaluation and management of concussion

CLINICAL PEARLS

# When to Refer

On field or initial evaluation:

- Athletes who have persistent vomiting, severe or progressively worsening headache, seizure activity, an unsteady gait, slurred speech, weakness or numbness/tingling of an extremity, unusual behavior, signs of basilar skull fracture or cervical spine injury, or altered mental status resulting in a Glasgow coma scale score of <15 should be referred immediately to an emergency room for further evaluation.

WHEN TO REFER

# When to Refer

In office:

Refer the patient to a sports concussion specialist when

- Post concussion symptoms last more than four days.
- Symptoms are getting worse each day.
- Post concussion symptoms are so severe that they interfere with normal daily activities.
- Athlete reports no symptoms but is unable to return to previous level of school or sports performance.
- Any report of associated numbness or weakness in an arm or leg.

WHEN TO REFER

Vanderbilt Sports Concussion Center

[VanderbiltSportsConcussion.com](http://VanderbiltSportsConcussion.com)

615-875-VSCC (8722)