

# Concussion in a Nutshell



## The Facts

- Concussion is a mild traumatic brain injury (MTBI) that alters the way the brain functions without measurable change in brain structure.
- Concussion results in a constellation of physical, cognitive, emotional and /or sleep related symptoms.
- Concussion typically results in rapid onset of short live neurologic impairment that usually responds spontaneously (7-10 days). Duration of symptoms can range from several minutes to days, weeks or months.
- Less than 10% of athletes are knocked unconscious with a concussion.

## Statistics

- 250,000 sports related concussion ER visits are recorded each year. 40% are children aged 8-13 years of age (doubled in the last decade).
- 9% of all high school injuries are concussions, with 136,000 concussions occurring in high school athletes each year. Many go unrecorded or are unrecognized.

## What Causes an Athlete to have a Concussion?

A concussion is caused by a blow to the head or body, with an impulsive force transmitted to the head from contact with another player, hitting a hard surface or being hit by a piece of equipment, football helmet or hockey puck. 70% of concussions occur during competition as opposed to practice.

## Symptoms of Concussion

Physical	Emotional	Cognitive
Headache	Confusion	Difficulty concentrating
Dizziness	Drowsiness	"zoned out"
Blurred vision	Fatigue	Memory impairment
Nausea	Sleep disturbance	Feeling like you're "in a fog"
Sensitivity to noise/light	Irritability	"Don't feel right"
Pressure in head	Sadness	
Neck pain	Nervousness	
Poor muscle tone		

Symptoms can begin immediately, may worsen over minutes to several hours, or can be delayed over several days. Sometimes symptoms do not appear until the athlete starts to exercise hard.

## Diagnosing Concussion

- Conventional neurological imaging such as CT and MRI are typically normal in concussive injury, and contribute little to concussion evaluation and management.
- **Should we rely on the athlete reporting symptoms have resolved?**
- A new concept recognized as the cornerstone of concussion evaluation is **neurocognitive testing**. When it is combined with pre-season baseline testing it gives a reliable indication of cognitive impairment.
- A computerized questionnaire test which tests multiple areas of brain function: Memory, Problem Solving, Reaction Times, Brain Processing Speeds

## Return to Play

Rehabilitation Stage	Objective of Each Stage
1) No activity	Recovery
2) Light aerobic activity	Increase heart rate
3) Sport specific exercise	Add movement
4) Non contact training drills	Coordination and cognitive load
5) Full contact practice	Restore confidence & assess functional skills
6) Return to play	

## Concussion Action Plan

- Remove athlete from play
- Ensure athlete is evaluated by a Healthcare Professional
- Inform parent/guardian/teacher about known /possible concussion
- Gradual return to play only with permission from appropriate healthcare provider (6-step program)

## Conclusion

- Concussion is a more complex and common problem than is commonly thought.
- Coaches and Parents : Learn the Symptoms of Concussion.
- Don't return athlete to competition with Symptoms of Concussion
- Develop an "Action Plan" with medical staff.
- Consider neurocognitive testing pre-season and post injury.

## It's Now the Law

**Bill SB0150, effective July 1, 2011.** "Protecting Our Students Act." Requires guidelines on policies to inform and educate coaches and athletes and their parents or guardians of the nature and risk of concussions, criteria for removal from and return to play, and the risks of not reporting the injury and continuing to play. Requires each school and park district to develop and implement policies and procedures to ensure compliance with the guidelines, as well as the identification and handling of suspected concussions in athletes. Contains provisions concerning liability and records of compliance.

## Increasing Community Awareness



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1010 S. Ridge Road, Minooka, IL 60447

We are located 1½ miles north of Route 6 and 1½ miles south of I-80 on Ridge Road, and only 6 miles west of I-55.

