



# Sports Shorts

## Guidelines for Pediatricians

This information is available on the Ohio Chapter, American Academy of Pediatrics' Web site at [www.ohioaap.org](http://www.ohioaap.org)

### Concussions

*A concussion is a disturbance in the function of the brain caused by a direct or indirect force to the head. It results in a variety of symptoms and may or may not include memory problems or loss of consciousness.*

#### CLASSIFICATIONS OF SPORTS CONCUSSIONS

##### Simple Concussions:

- "Recovery" (i.e. asymptomatic) occurs in <10 days
- Follow until recovery/no need for neurocognitive testing

##### Complex Concussion:

- At point of injury, athlete has convulsive convulsion; or
- At point of injury LOC > 1 minute; or
- Athlete has history of multiple prior concussions; or
- Retrospectively, athlete has not recovered within 10 days

#### SIGNS & SYMPTOMS OF A HEAD INJURY

##### Cognitive Features Physical Signs:

- Confusion
- Poor coordination or balance
- Amnesia
- Significantly decreased playing ability

##### Typical Symptoms:

Headache; Slow to answer questions; Dizziness; Poor concentration; Nausea; Feeling "dinged", "foggy", "stunned", "dazed"; Vomiting; Visual problems; Irritability or emotional changes; Personality changes

The assessment of concussion is challenging because it may involve several or only one of the signs and symptoms listed above. These signs and symptoms alone can be subtle. Much of the presentation depends on the location of the brain bruise.

#### MANAGING THE CONCUSSION

**First 8 Hours**, When concussion symptoms are present:

- **Player should not be allowed to return to play that day**
- Player should not be left alone and should be monitored.
- Player should be medically evaluated.
- Return to play must follow a medically supervised, stepwise process.

**24 to 72 Hour**, Physical and Mental Rest:

- Physical – from all sports and exertional activities
- Mental – from loud activities (headphones, parties) video games, sunlight, driving, school standardized tests

#### CONCUSSION ASSESSMENT

##### Sideline/On Site Assessment

- SCAT (Sports Concussion Assessment Tool) or
- SAC (Sideline Assessment of Concussion)

##### Office Assessment (24 to 72 Hours)

- 1) Subjective symptom scale
- 2) Neuro exam
- 3) Cervical exam
- 4) Balance test
- 5) Neuropsychological assessment (computerized testing)
- 6) Exertional trial

#### RETURN TO PLAY – CONCUSSION

Athletes should not return to play the same day of injury. Begin to progress the athlete through the following stages after they become asymptomatic:

**Stage 1.** No activity, complete physical and mental rest. Once asymptomatic, proceed to level 2.

**Stage 2.** Light aerobic exercise (walking or stationary cycling). If asymptomatic for 24 hours proceed to level 3.

**Stage 3.** Sport-specific training. If no symptoms arise within 24 hours, proceed to level 4.

**Stage 4.** Non-contact training drills (light resistance training). If no symptoms arise within 24 hours, proceed to level 5.

**Stage 5.** Full-contact training after medical clearance.

*There should be a minimum of 24 hours for each stage, and the athlete should return to Stage 1 if symptoms recur.*

#### COMPLICATIONS OF RECURRENT CONCUSSION

##### • An Athlete With First Concussion Is 5 X More Likely To Have Another

- Chronic headache
- Chronic depression
- Learning disability
- Second impact syndrome/brain damage/death

#### SUMMARY

1) **NEVER LET A SYMPTOMATIC ATHLETE RETURN TO PLAY**

2) Normal CT scan/MRI does not rule out concussion

3) Most concussions > 80% occur without loss of consciousness

4) Many concussions are not brief/transient – may last weeks, months, or years.

*Sports Shorts is provided by the Home and School Health Committee of the Ohio Chapter, American Academy of Pediatrics.*



# Sports Shorts

## Guidelines for Parents, Athletes

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# Concussions

## WHAT IS A CONCUSSION?

A concussion is a brain injury that affects the normal brain activities such as thinking, memory, problem solving, vision, balance and many others.

- Between 1.6 to 3.8 million sports related concussions occur each year in the United States (CDC tool kit March 2007).
- Studies show that as many as 8 out of 10 concussions aren't recognized at first.
- Loss of consciousness (passing out) only occurs in around two out of 10 (or less) concussions. With loss of consciousness, assume cervical spine trauma, call 911 and immobilize.
- Young people who have a first concussion have a five times greater risk of having a second concussion.
- A normal MRI or CT scan does not rule out a concussion. These tests are only used to rule out a brain bleed.

## CONCUSSION SIGNS OBSERVED BY COACHES

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets sports plays
- Is unsure of game, score or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness – even briefly
- Shows behavior or personality changes
- Can't recall events prior to or after the hit/fall
- More emotional or irritable

## CONCUSSION SYMPTOMS OBSERVED BY PARENTS

- **Headache**
- Feeling slowed down or **mentally foggy**
- **Sensitivity to light or noise**
- **Dizziness or balance problems**
- **Memory problems**
- Tired, **easily fatigued**, or **difficulty sleeping**.
- **More emotional** or irritable – argues or laughs excessively, cries easily
- **Double or blurry vision**
- **Nausea or vomiting**

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## LONG TERM MEDICAL PROBLEMS FROM RECURRENT CONCUSSIONS

- Learning problems
- Concentration issues/attention deficit and hyperactivity disorder
- Increased incidence of depression
- Problems with frequent headaches
- Rarely - permanent brain damage or death from Second Impact Syndrome

## EVALUATION

Any young athlete who suffers a concussion or possible concussion should be evaluated by their pediatrician, primary care doctor, or sports medicine clinic. The evaluation may include a computerized test which is currently the most useful objective tool in evaluating concussion. This test evaluates memory, problem solving, reaction time and other functions of the brain.

## TREATMENT

Initial treatment of concussion includes:

- 1) Physical rest includes rest from all sports and exertional activities, and
- 2) Mental rest includes rest from loud activities (headphones, parties, dances), video games, bright sunlight, driving, alcohol, drugs, and standardized test at school.

## PREVENTION

1. Coaches, parents, students and teachers should be aware of the signs and the symptoms of concussion, to help recognize this condition early.
2. **A player with any symptom should NEVER be permitted to return to play.**
3. Follow up with your pediatrician is necessary for any suspicion of head injury or concussion.
4. Good quality helmets are essential for biking, snow sports, many contact sports and inline skating.
5. When athletes have died or suffered serious complications from repeated concussions, almost all of the athletes did not report their continued concussion symptoms to their parents, athletic trainers or doctors. **It is imperative that athletes be honest about their symptoms at all times.**