

GUIDE TO CONCUSSIONS

Any athlete with a suspected concussion should be IMMEDIATELY REMOVED FROM PLAY, urgently assessed medically, should not be left alone and should not drive a motor vehicle.

What is a Concussion? (from [Sports Concussion Assessment Tool](#))

A concussion is a disturbance in brain function caused by a direct or indirect force to the head. It results in a variety of nonspecific symptoms (like those listed below) and often does not involve loss of consciousness. Concussion should be suspected in the presence of any one or more of the following:

- Symptoms (such as headache), or
- Physical signs (such as unsteadiness), or
- Impaired brain function (e.g. confusion) or
- Abnormal behavior.

On the Field Testing (see http://bjsm.bmj.com/cgi/reprint/43/Suppl_1/i89)

Concussion should be suspected in the presence of any one or more of the following symptoms (such as headache), or physical signs (such as unsteadiness), or impaired brain function (e.g. confusion) or abnormal behavior.

1. Presence of any of the following signs and symptoms may suggest a concussion:

Loss of consciousness	Seizure or convulsion	Amnesia	Ring in the ears
Pressure in head	Neck pain	Nausea	Sensitivity to light
Dizziness	Blurred vision	Balance problems	Don't feel right
Sensitivity to noise	Feeling slowed down	Feeling like in a fog	Confusion
Difficulty concentrating	Difficulty remembering	Fatigue or low energy	Vomiting
Drowsiness	More emotional	Sadness	Irritable
Nervousness	Anxious	Headache	

2. Memory Function

Failure to answer all questions correctly may suggest a concussion. Listen for slurring of the speech.

- “At what venue are we at today?”
- “Which half is it now?”
- “Who scored last in this game?”
- “What team did you play last week / game?”
- “Did your team win the last game?”

3. Balance Testing - Tandem Stance

“Stand heel-to-toe with your non-dominant foot in back. Your weight should be evenly distributed across both feet. You should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes.”

Observe the athlete for 20 seconds. If they make more than 5 errors (such as lifting their hands off their hips; open their eyes; lift their forefoot or heel; step, stumble, or fall; or remain out of the start position for more than 5 seconds) **then this may suggest a concussion.**

Signs to Watch For After Concussion (from [Sport Concussion Assessment Tool](#))

Problems could arise over the first 24-48 hours. Athlete should not be left alone and must go to a hospital at once if he/she:

- Has a headache that gets worse
- Are very drowsy or can't be awakened (woken up)
- Can't recognize people or places
- Has repeated vomiting
- Behave unusually or seem confused; are very irritable
- Has seizures (arms and legs jerk uncontrollably)
- Has weak or numb arms or legs
- Are unsteady on your feet; have slurred speech

Seeing a Doctor

Be safe and see a doctor after a concussion. The doctor should use the [Sport Concussion Assessment Tool](#) as an examination guideline.

Return To Play (from [Sport Concussion Assessment Tool](#))

1. No return to play in current game
2. Stepwise return to play
 - a. No activity - rest (physical and mental) until asymptomatic
 - b. Light aerobic exercise (e.g. stationary bike)
 - c. Sport-specific training
 - d. Non-contact drills (start light resistance training)
 - e. Full-contact drills after medical clearance
 - f. Return to competition - Game Play

There should be approximately 24 hours (or longer) for each stage and the athlete should return to stage 1 if symptoms recur. Resistance training should only be added in the later stages. Medical clearance should be given before return to play.

GUIDE TO HEAT AND DEHYDRATION INJURY PREVENTION

Too many high school, college, and professional athletes have died of heat exhaustion and dehydration. Do not allow this to happen to your child. Coaches must follow these guidelines and be properly trained in CPR/AED use.

- Weigh the athletes before and after practice and replace each pound lost with 16 - 24 oz of water. This water must be sipped throughout the remainder of the day after practice to get the best absorption. Dehydration can occur over several days to weeks of practice and incomplete rehydration (observe urine color - if dark yellow, hydrate). This is why athletes can die in weather in the 70's with little humidity.
- An electrolyte replacement drink may be needed in practices greater than one hour if the athlete is a salty sweater (white rim on cap or armpit of shirt – if in doubt, lick your sweaty skin – if it tastes salty use an electrolyte replacement).
- Acclimate to the heat over 7 - 14 days:
 - Days 1 – 5: One practice per day, three hour maximum time limit.
 - Days 1 – 2: No protective gear except a helmet allowed.
 - Days 3 – 5: Helmets and shoulder pads only.
 - Day 6: Full gear and full contact allowed.
 - Days 6 – 14: Two-a-day practices must be followed the next day by a single practice day or a rest day. On two-a-day practice days each practice session must not exceed three hours (maximum five hours total daily practice time) and the two practice sessions must be separated by at least three hours in a cool environment.
- Coaches must pay attention to the heat index - be very careful when in the red zone – walk through only, no vigorous practice!
- Have a kiddie pool (Toys-R-Us for \$15.00) filled with water and ice ready for athletes for break time and after practice. At minimum, the athletes should walk through it and if necessary perform full body immersion.
- If the field has no shaded areas, get an EZ Up tent. Break time must be in the shade.
- Have a buddy system to quickly recognize a problem. Football teams are large and it is difficult for the coaches to observe everyone.
- Parents, athletes and coaches must know these guidelines.

References

1. Preseason Heat-Acclimatization Guidelines for Secondary School Athletics, Journal of the National Athletic Trainers Association, June 2009, pp.332-333.
2. NOAA's National Weather Service Heat Index Table.
3. Prevention of Heat Illness, NCAA 2008-2009 Sports Medicine Handbook, pp.30-32.

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GUIDE TO ACL INJURY PREVENTION

"You can prevent ACL injury. If you have a daughter who is playing basketball, soccer, handball..., then it is crazy if her team isn't undertaking one of the evidence based warm-ups targeting lower limb injury prevention..."

British Journal of Sports Medicine October 2008 42(10):483-484.

- 200,000 injuries per year
- 60,000 – 75,000 surgeries per year
- Cost: \$1.7 billion/year spent
- Greatest risk in high school and college (ages 15 – 25)
- More #'s of boys, but.....
- More common (2 – 8 times) in female athletes
 - 1/100 in high school
 - 1/10 in college

Cost of ACL Injury to the Athlete

- Surgery: 6 – 36 months of rehab
- 77% have sports disability within 5 years
- 44% have activities of daily living disability within year
- Arthritis risk: > 90% within 20 years whether they have surgery or not!

Prevention

- 1) Proper Pre-Participation Assessment of Athlete
 - a) Feet – does the athlete pronate and does that cause an unleveling of the hips when running?
 - b) Ligamentous laxity – does the athlete have lax ligaments?
 - i) Check knees, elbows, fingers, and thumbs
 - c) Is the athlete knock-kneed?
 - d) Check one leg balance – is one leg balance equal side to side?
 - e) Check ability to squat
 - i) Do knees buckle inward?
 - ii) Does torso lean too far forward?
 - f) Check ability to jump and land
 - i) Do knees buckle inward?
 - ii) Does torso lean too far forward?
 - g) Check ability to squat
 - i) Do knees buckle inward?
 - ii) Does torso lean too far forward?
 - h) Check core strength
 - i) Prone Plank
 - ii) Side Plank
- 2) Develop strength and conditioning program BEFORE the start of the sport to correct assessment findings. This may take six weeks to six months or more!
 - a) This program must start between the ages of 6 and 10 years old!