

What are concussions?

Concussions are a form of a Mild Traumatic Brain Injury (MTBI) that is the result of a blunt force trauma to the head.

How do they occur?

There are two main ways that a concussion or MTBI can happen.

1. When the head is struck directly by an outside force and the energy of the impact is transferred to the brain tissue resulting in possible bruising intracranial bleeds.
2. When the head is stopped suddenly or thrashed back and forth such as in whiplash the brain, which is suspended in the skull by fluid, slides forward colliding against the skull and the back against the other side of the skull resulting in 2 impact injuries on the brain.

Are there different severities of concussions?

Yes. The severity of a concussion is generally measured from a 0 – 3 scale. Zero on the scale suggest that no injury has occurred, 1 suggesting mild trauma to the brain, 2 is more severe with a brief loss of consciousness, and 3 is a loss of consciousness for more than a minute. Though not all MTBI's maybe obvious, an on field examination should be done if you think there is something not right.

Are Concussions or MTBI's more of a danger if an athlete has a history of them?

Yes. In fact an athlete who has suffered from one initial MBTI are anywhere from 3 – 6 times more likely to sustain a second MBTI (AT). Because of this your doctor may require an extended halt to competition or even practice if a second concussion is suspected.

What are some of the symptoms of a concussion?

There is a wide range of concussion symptoms that should be noted. Also, if an athlete is symptomatic of any of these symptoms and you suspect a possible MBTI monitor the athlete closely and don't allow the athlete to return to play if any of the symptoms are still present.

- Blurred vision
- Dizziness
- Drowsiness
- Excess sleep
- Easily distracted
- Fatigue
- Fell "in a fog"
- Feel "slowed down"
- Headache
- Inappropriate emotions
- Irritability
- Loss of consciousness
- Loss of orientation
- Memory problems
- Nausea
- Nervousness
- Personality changes
- Poor balance/coordination
- Poor concentration
- Ringing in ears
- Sadness
- Seeing stars
- Sensitivity to light
- Sensitivity to noise
- Sleep disturbance
- Vacant stare/glossy eyes
- Vomiting (Art SH)

When should an athlete be referred to emergency services?

An athlete should be referred to emergency services if any of these symptoms are reported or observed.

1. Loss of conciseness
2. Amnesia lasting more than 15 minutes

3. Deterioration of neurologic function.
4. Decreased level of consciousness
5. Decreased or irregular respiration
6. Decreased or irregular pulse
7. Increased blood pressure
8. Unequal, dilated, or unreactive pupils
9. Cranial nerve deficits.
10. Any signs or symptoms associated with spine or skull injuries
11. Mental status changes: foggy, lethargic, difficulty maintaining arousal, confusion, or agitation.
12. Seizure activity
13. Vomiting
14. Motor deficits subsequent of on field assessment
15. Sensory deficits subsequent of on field assessment.
16. Balance deficits subsequent of on field assessment.
17. Cranial nerve deficits subsequent of on field assessment.
18. Post concussion symptoms worsen
19. Addition post concussion symptoms as compared with those on the field.
20. Athlete still symptomatic at end of game.

If the following symptoms are present after 24 hours refer athlete to Physician immediately.

1. any of the findings of the prior list
2. Post concussion symptoms worsen or stay the same.
3. Increase in the number of symptoms.
4. Post concussion symptoms interfere with any of the athlete's daily activities.

When is okay for the athlete to return to participation in their sport?

If the injury was not severe enough to have him or her referred to emergency

services or were referred but released, it recommended that if there are no signs of a concussion to take 24 hours off. The athlete should also return to play gradually by first completing the following without medication:

- Light aerobic activity without any reoccurrence of symptoms.
- Sport specific training and activities without any reoccurrence of symptoms.
- Noncontact training skills without any reoccurrence of symptoms.
- Full contact training after medical clearance and without any reoccurrence of symptoms.
- Play Ball! (ped)