



**Nebraska School Activities Association**  
**Concussion Guidelines/ Recommendations**

Reviewed April 2012

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Concussion has been reported to account for approximately 4-5% of all injuries in high school sports. Football is the most common sport for concussion. Although most concussions are short lived, experience has shown that if a second injury occurs during the recovery phase of the initial injury, a phenomenon known as the “second-impact syndrome” can occur. This second injury can occur from a very minor blow which under normal circumstances might not cause injury at all. Although uncommon, the second-impact syndrome is often fatal and if an individual survives they are rarely neurologically normal. This abnormal mental state usually remains for life. The second-impact syndrome has only been described in athletes younger than 20 years old (except in boxers). These recommendations are offered with the goal of reducing the potential for serious neurologic/ brain injury in Nebraska high school athletes.

Concussion/ mild traumatic brain injury (mTBI) can be defined as a brief and usually short lived neurological impairment, which occurs after a direct or indirect blow to the head or body. The impairment is often immediate, and symptoms typically resolve spontaneously. Acute clinical symptoms represent a functional disturbance rather than a structural injury to the brain. The clinical symptoms that occur may or may not include loss of consciousness.

Typical signs and symptoms of concussion include confusion, headache, and amnesia. More subtle problems may include difficulties with concentration and attention, behavioral changes, and ataxia (inability to coordinate the muscles in voluntary movement).

When a player shows ANY sign or symptom of a concussion:

1. Perform an on-field mental status evaluation.
2. The player should not be allowed to return to play in the current game or practice.
3. The player should not be left alone; and regular monitoring for deterioration is essential over the initial few hours following injury.
4. The player should be medically evaluated (by an appropriate health care provider) following the injury.
5. Return to play should follow a medically supervised stepwise process.

A player should never return to play while symptomatic. “When in doubt, sit them out!”

Return to Play Protocol:

The majority of injuries will be simple concussions and such injuries recover spontaneously over several days. In these situations, it is expected that an athlete will proceed rapidly through the stepwise return to play strategy.

During this period of recovery in the first few days following an injury, it is important to emphasize to the athlete that physical AND cognitive rest is required. Activities that require concentration and attention may exacerbate the symptoms and result in a delayed recovery. This concept of “cognitive rest” appears to be of significant importance in student athletes.

The return to play following a concussion follows a stepwise process:

1. No activity, complete rest. Once asymptomatic, proceed to step 2.
2. Light aerobic exercise such as walking or stationary cycling, no resistance training.
3. Sport specific exercise (*e.g.*: running), progressive addition of resistance training at steps 3 or 4.
4. Non-contact training drills.
5. Full contact training after medical clearance.
6. Game play.

With this stepwise progression, the athlete should continue to proceed to the next level if asymptomatic at the current level. If any post-concussion symptoms occur, the patient should drop back to the previous asymptomatic level and try to progress again after 24 hours.

In cases of complex concussion, the rehabilitation will be more prolonged and return to play advice should be more circumspect. It is recommended that complex cases be managed by physicians with a specific expertise in the management of such injuries.

An additional consideration in return to play is that concussed athletes should not only be symptom free but also should not be taking any pharmacological agents/ medications that may affect or modify the symptoms of concussion.

Neuropsychological testing is being used more frequently as a clinical assessment tool and provides objective measurement of cognitive function. Cognitive function may be impaired despite resolution of symptoms. Ideally, neuropsychological testing would be compared with pre-injury baseline testing.

#### REFERENCES:

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