

Sports Medicine Monthly

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MANAGEMENT OF CONCUSSION:

Academic Rehabilitation

When an athlete or individual sustains an injury, the most common treatment is rest and ice. Generally, this works well for most injuries. However, the athlete who sustains a concussion provides parents, teachers, school administrators, and sports medicine professionals alike with a unique rehabilitation challenge. Unlike a sprained ankle that can be placed on crutches and allowed to return to school, work, etc..., the concussed student-athlete is undergoing a much more challenging ordeal.



When an athlete sustains a concussion, the neurological tissue of the brain is jostled by the concussion force to a point where it commonly shifts position; is stretched, twisted, and/or compressed, and is sometimes even sheared by the resulting forces. In addition to the damage from impact, a cascade of



metabolic events begin to take place in the brain. For one, the delicate ionic balances present in the nerve cells are grossly disrupted. As all ability for a nerve cell to conduct an impulse directly

hinges on the presence of such a balance, affected nerve cells are basically left incapable of sending a neurological signal. Secondly, as a protection against further injury, the body begins to reduce blood flow to the area. As a result, the nerve cells involved in the injury are left structurally damaged, ineffective, and depleted of the resources necessary for recovery. Therefore, the involved tissue is grossly deficient and inadequate to meet the demands of daily life, let alone academics, work, athletics, etc... Premature entry into these activities will therefore almost always then lead to patient discomfort, parent and coach frustration, academic failures, and longer recovery times.

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Academic Demands and the Concussed Student-Athlete

Due to current educational efforts regarding concussions and several high-profile news stories regarding their long-term effects, awareness about the dangers of returning to athletics too early for an athlete who has sustained a concussion is greatly increasing. Such alertness and education are greatly needed now, and will be increasingly needed in the future.

Because a concussion is a Mild Traumatic Brain Injury (mTBI), the repercussions of such an injury affect every aspect of daily life. For the athlete who is a student first, a concussion can be a terribly frustrating injury. They don't feel right, they are confused and tired, and class work, noise, fluorescent lights, concentrating, etc... increase their headache. On top of all this, they are still required to maintain their grades. More often than naught, post-concussion symptoms greatly interfere with a student's ability to concentrate, think critically, respond in an appropriate time frame, and therefore perform at their academic best. In addition, even after self-reported symptoms have alleviated, measurable, objective cognitive deficits are still very likely to be present.



For administrators, parents, and coaches, it is extremely important not to return any concussed athlete to activity too quickly, and it is also just as important not to return that same student-athlete to schoolwork too quickly. While returning to activity too quickly can predispose an athlete to additional injury, returning an athlete to school too quickly can greatly delay a full recovery.

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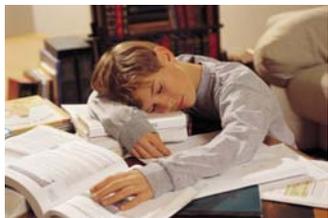
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Academic Demands and the Concussed Student-Athlete cont...

So, how do we determine if a concussed athlete should stay home from school, and when and how do we direct when they should return? Here are a few general guidelines:

Should a Concussed Student Stay Out of School?



The easiest answer of course is yes. More than 75% of concussed patients will not only see great improvements in their overall condition and symptoms with appropriate rest, but they will also see

improvements faster than those who don't see appropriate rest. The more time that is devoted to rest, the more the body can focus all its nourishment and energy on tissue repair. Most concussions can be just like the flu; appropriate rest does the patient a lot of good.

When Should a Concussed Student Return to School?

Every rehab should always be progressive and concussions are no different. As long as academic activity does not worsen symptoms, consider the following in progressing your student-athletes back into the classroom:



- No Academic Work Until Asymptomatic
- Upon Asymptomatic Status:
 1. Homework as Tolerated at Home
 2. 1/2 Day of School With Breaks as Needed
 3. Full Day of School with Accommodations Listed in the Right-Hand Column.
 4. Full Day of School Without Accommodations

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Common School Accommodations for the Concussed Student-Athlete

“Supporting the Student-Athlete’s Return to the Classroom After a Sport-Related Concussion”

McGrath PhD, Neal, Journal of Athletic Training, 2010; 45(5): 492-498.

Common School Accommodations:

- Excused absences
- Rest periods during the school day
- Extension of assignment deadlines
- Postponement or staggering of tests
- Extended testing time
- Excuse from specific tests or assignments
- Accommodation for light or noise sensitivity
- Excuse from gym or physical education requirements
- Reduced backpack weight
- Limited stair usage
- Limited playing time for those who play a wind instrument
- Use of a reader or recorded books for assignments and testing
- Use of a note taker or scribe
- Use of a smaller, quieter examination room
- Preferential classroom seating
- Temporary assistance of a tutor



For a list of return to school accommodations, please visit our website at:

<http://www.csosortho.com/concussions.html>

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