Concussions: What Every Parent Should Know

Last weekend I attended a conference on Youth Sports Concussions at the University of Washington. I have long been concerned that concussions are not as benign as many people think. Parents sometimes joke about the number of concussions their child has had in the course of participation in sports. “He really got his bell rung with that one” might be what they say with a laugh, “and it’s not the first time”. These statements make me cringe. There is mounting evidence that concussions are no laughing matter. To help parents understand that fact and be better prepared to help their child recognize and recover from a concussion, I would like to share with you some of the information presented at the conference.

A concussion is a form of brain injury and should be taken **very** seriously. Without proper care it can worsen, persist or even become life threatening. A concussion occurs when there is a blow to the head causing the brain to rock back and forth within the skull. Many factors affect the severity of a concussion. While force is important it is not just how hard you get hit. A major blow may not cause a concussion while a relatively minor one can. Symptoms can range from mild annoyance to being incapacitated and may emerge even weeks after the event. While over 80% of concussions will resolve within a week, some can last for months and cause significant difficulty. Proper care during recovery is essential.

Rest is the single most important element to recovery. Concussions affect the regulation of blood flow within the brain. Continued physical or mental activity puts demands on the brain that require a very precise blood flow response. During recovery from a concussion the brain may not be able to properly coordinate this blood flow and further symptoms and possibly damage can occur with over exertion.

During recovery it is critically important to avoid another blow to the head. The Second Concussion Syndrome is a rapidly fatal swelling of the brain that can occur in this setting. Washington state law now mandates that a player be removed from competition should there be any suggestion of a head trauma or concussion and should not return to play until evaluated. These rules were put into place to prevent these tragedies.

I find that most young athletes do not understand concussions or why they are important. That needs to change. While dramatic blows draw the appropriate attention of coaches and others to evaluate a player, studies done on college football players wearing helmets with sensors repeatedly show concussions happening with relatively minor blows that don’t appear concerning. Along with a high degree of vigilance on the part of coaches and others, such as athletic trainers, involved on the side lines the players need to be able to report symptoms. However over 50% of football players polled in one study responded they felt the coach would be “upset” if they reported symptoms of a concussion. With the rules now stating that a player will be removed from play if a head injury is suspected, there is more reason for a young player to shrug off a mild headache or dizziness and insist they are fine in order to show others how tough they are, get more play time and save others the hassle or expense of being evaluated in order to return. Make sure this is not the case with your child.

The symptoms of a concussion vary. Signs and symptoms suggesting concussion immediately after an event can be grouped into three categories: mental, physical and emotional. Mental symptoms of a concussion include: confusion, memory loss (can be either memory of events before the blow or after), loss of consciousness (knocked out), poor focus, slurred speech, drowsiness, delayed or slowed verbal and motor response times, feeling “in a fog”. Headache, fatigue, dizziness, nausea, vomiting, sensitivity to light, double vision, blurred vision and sensitivity to sound are the main physical symptoms suggesting concussion. Few people realize emotional changes can be related to concussions. An otherwise outgoing player who is suddenly quiet or a reserved, quiet player who is screaming and unusually wild on the sideline both raise concern. Irritability arising from a concussion can make attempts at evaluation difficult, an intense “leave me alone!” is no reason to back off.

Loss of memory actually correlates with the severity of the concussion more than loss of consciousness. We tend to be more concerned about someone who is knocked out more than someone who got “dinged” and can’t remember what the last play was or what happened, yet insists they are “okay”. That needs to change. Let your child be the unsung hero who confidently walks a confused player off the field or pray to God that guardian angel exists should your child have such a moment of need.

Concussions happen more in some sports than in others. Football is the leading cause but girls soccer is second. There is no way to entirely prevent concussions in youth sports. I found this particularly frustrating with my focus on prevention. I talked to every expert at the conference about prevention and there was little to recommend. The emphasis was prompt recognition and care. Parents who buy the best football helmet on the market can rest assured it will reduce the chances of death due to skull fracture but it has little chance of preventing a concussion. The headbands worn in girls soccer are not proven to reduce concussions. The experts I spoke with raised concern the bands could make matters worse if a player had a false sense of invulnerability and played more aggressively.

A player who continues to play with symptoms of a concussion also risks a more complicated and prolonged recovery. The symptoms of a concussion can continue to appear over a prolonged period of weeks to even months. Sleep problems, school failure, and episodes of depression have been linked to the aftermath of a concussion. Along with physical rest, mental rest is necessary to speed recovery as well.

For a young active student athlete while the symptoms of a concussion are miserable the cure may be worse. These are not the kind of people who enjoy doing nothing and the demands of school are not easily put aside for a week or two. However any activity that gives rise to symptoms is a concern. Mental activity as well as physical activity puts demands on the brain affecting blood flow that can worsen the symptoms of a concussion. During recovery the child should not only avoid any physical activity that causes symptoms but also any mental activity. The child should avoid video games, watching TV, reading or listening to loud stimulating music

until all symptoms of the concussion have passed. Any activity that results in worsened symptoms should be stopped immediately. This may cause great difficulty with attending school, keeping up with homework and boredom. Parents should talk with the teacher or appropriate school administrator to get accommodation early. This will help prevent school pressures from adding to the stress of the recovery.

A realistic expectation for return to competition is **two to three weeks** if the recovery is uncomplicated and straightforward. Rushing recovery only risks prolonging the symptoms and could threaten the entire season. Some experts are recommending athletes in sports with more risk for concussions should have pre-participation neuropsychological baseline testing. This can be helpful after a concussion to better determine when the player is back to baseline or if there are ongoing deficits suggesting risks for lasting harm should they continue to play. Those interested or wanting a referral resource should contact:

Seattle Sports Concussion Program

Seattle Children's Hospital, 4800 Sandpoint Way NE, Seattle, WA 98105, 206-987-2109.

Here are the recommendations for return to play outlined at the conference:

Return to Play Program

1. Physical and mental rest until there are no symptoms for **24 hrs.**
2. Light aerobic exercise (walking, stationary cycle, etc.) for **24 hrs.**
3. Sport-specific exercise including pushups and situps for **24 hrs.**
4. Non-contact training drills and light resistance training for **24 hrs**
5. Medical re-evaluation in the office.
6. Full contact training for **24 hrs.**
7. Return to competition (game play).

IF SYMPTOMS RECUR AT ANY POINT IN THE PROGRESSION THE ATHLETE SHOULD RETURN TO THE FIRST STEP.

It is vital not to return to play until all symptoms have completely resolved at rest and at each step of the progression. Symptoms are an indication that the brain has not recovered and is vulnerable.

Be patient.