TOCA Tips: Sports Concussion

Concussions are defined as mild traumatic brain injuries that may occur with or without a loss of consciousness. Concussions result from a head trauma, either direct or indirect, that causes the brain to move rapidly and violently within the skull. Concussions are associated with immediate signs and symptoms, such as headaches, unconsciousness, and confusion, as well long-term sequelae such as depression, irritability, sleep disturbance and cognitive deficits.

Approximately 200,000 athletes suffer concussions annually, according to the U.S. Centers for Disease Control and Prevention. Research reporting the long-term effects of concussions, and more importantly repeat concussions, has caused much debate about when it is appropriate for athletes to return to play. These findings have increased the importance of parents, coaches, and medical staff to recognize the wide range of symptoms associated with concussions, as well as allowing adequate time for recovery.

The decision to allow an athlete to return to play is controversial. Generally, following a concussion, athletes can return to play when they are asymptomatic, have returned to normal neurocognitive function, and have progressed through exertional testing. Although most athletes return to sports within 1-2 weeks following a concussion, it is critical to prevent a second brain injury following a concussion due to the long-term effects of recurrent concussions. This "second impact syndrome" can have devastating permanent neurological deficits.

In order to assess if concussed patients have returned to their cognitive baseline, many neurocognitive tests have been developed. These tests are used in conjunction with a history and physical exam to determine when it is safe and appropriate for an athlete to return to play after a head injury. The ASU medical staff utilizes the ImPACT (immediate post-concussion assessment and cognitive testing) Program to aid in management of sports concussions.