A concussion is a brain injury caused by a blow to the head or body that can affect a person’s cognitive and physical functioning (Faul, Xu, Wald, & Coronado, 2010). With the increasing prevalence of concussions diagnosed in youth sports has come a proliferation of public policy aimed to protect youth athletes from catastrophic injury (Faul et al., 2010). Just 10 years ago, there was no such public policy. Today, there is some form of legislation regarding sport-related concussions in all 50 states. Commonly referred to as “removal from play” laws, they typically include removal from play if a concussion is suspected, medical clearance to return to play, educational mandates, and parental consent regarding the danger of participation in youth sports. The majority of state laws are aimed at providing a secondary intervention if a concussion is suspected; few state laws focus on primary prevention of the injury (e.g., rule changes, contact restrictions). The purpose of this article is to inform physical educators, coaches and administrators of the common features and variation between concussion policies among states. It will explain secondary interventions, from removal to graded return to physical activity and academics. All school personnel should be aware of and understand their local policies and procedures related to concussion management so they can advocate for the health and safety of their students.
Concussion Policy in the United States

Long before states began instituting concussion statutes, there were public health interventions to prevent head trauma. These interventions included educational programming for various audiences (e.g., coaches, parents and athletes), awareness campaigns and injury care guidelines. Perhaps the most recognized concussion education program is the Centers for Disease Control and Prevention “Heads Up” program (see http://www.cdc.gov/headsup). The National Federation of High Schools and interscholastic athletic associations have also suggested guidelines and policies for concussion management intended to minimize catastrophic head injury (e.g., http://nfhslearn.com).

Individual states desired to strengthen the existing recommendations and consequently began to pass their own legislation to mandate the management of concussions among youth. In 2009, the state of Washington became the first to craft legislation with the goal of developing a consistent policy across schools to prevent student-athletes from participating in sports while suffering concussive symptoms. One month later, Oregon passed a similar bill, and other states soon followed suit. In July of 2014, Mississippi became the last state to enact such legislation to mandate the management of concussions among youth.

Recent legislation seeks to rectify the lack of attention on cognitive recovery by including an academic component in concussion policies. Commonly referred to as “return to learn,” these legislative amendments outline the process of integrating the student back into the classroom (see http://www.luriechildrens.org/rtl). This process uses a progressive approach and typically involves a collaborative effort on the part of the student, family, health care providers and the school team. The “return-to-learn” framework involves five phases and allows the student to participate in learning with modifications. A sample progression includes the following.

Five-day ‘return-to-play’ progression

Early versions of concussion legislation focused on removal from play (leading to the popular slogan, “When in doubt, sit them out”) and the process for returning an athlete to sports following a concussion. Most students appear well after a concussion, and thus, coaches, educators and peers may not fully appreciate the extent of their injury (McCrea, Hammek, Olsen, Leo, & Guskiewicz, 2004). Therefore, a licensed health care professional should evaluate the student prior to the student returning to physical competition. The standard protocol is a five-day “return-to-play” progression that involves a gradual increase in physical activity prior to returning to sports (see http://www.cdc.gov/headsup). Once the athlete has clearance to return to sports by a licensed health care professional, they can begin the progression, advancing a step every one to two days. If symptoms return during any part of the progression, the athlete stops all activity and returns to their health care provider. A typical five-day progression may include the following.

- Day 1: light aerobic exercise (e.g., jogging, stationary bike, swimming) for no more than 20 minutes. Activity should feel fairly easy and raise the heart rate slightly.
- Day 2: increased-intensity aerobic activity for no more than 30 minutes. Simple, sport-specific drills with no risk for contact (e.g., light resistance and strength training). Activity should feel moderately difficult and raise the heart rate significantly.
- Day 3: complex sport-specific drills with no risk for contact (e.g., moderate resistance training, noncontact drills). Begin activities that involve movement and direction changes.
- Day 4: advanced drills and scrimmaging.
- Day 5: return to play with no restrictions.

Five-phase ‘return-to-learn’ progression

The standard treatment for a concussion is rest, both physical and cognitive (Halstead et al., 2013). Students are often removed from the classroom and other academic responsibilities (e.g., homework, testing) to decrease concussion symptoms. Therefore, it is important to consider how to successfully ease the student back into the classroom prior to resuming physical activity. Not all students who suffer from a concussion are athletes, and it is just as important for these students to appropriately transition back into academic and physical activities, including physical education. However, these students often have limited resources for such reintegration. Providing appropriate support for all students — athletes and nonathletes — requires a collaborative approach. Each school district should create a “concussion management team” to advocate for the student’s needs and implement appropriate academic accommodations (see Figure 1).

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Not all students who suffer from a concussion are athletes, and it is just as important for these students to appropriately transition back into academic and physical activities, including physical education.
• Phase 1: no school with complete cognitive and physical rest. The student is unable to tolerate the school environment due to the severity of the symptoms. Physical symptoms tend to be the most prominent and can interfere with basic tasks.
• Phase 2: part-time school attendance with accommodations. The student’s symptoms are more manageable but exacerbated by complex or long-duration tasks. The goal of this phase is to reintroduce the student to the classroom and to determine if the school environment can be tolerated.
• Phase 3: full-day school attendance with accommodations. The student’s symptoms are decreased in severity and the school environment is tolerable. As the student improves, cognitive demands are gradually increased as
long as symptoms do not worsen. Students gradually increase the amount and frequency of school activities and homework.

- **Phase 4:** full school attendance without accommodations. The student is symptom-free, and accommodations are removed so the student can participate fully in academic work; however, extracurricular activities may still be limited. A plan to complete missed assignments is recommended at this time in the effort to minimize stress.

- **Phase 5:** full school attendance with extracurricular involvement. The student is consistently tolerating the typical academic load without the trigger of any concussion-related symptoms. All missed assignments are completed and the student is on the same academic schedule as peers. Prior to returning to physical education and extracurricular activities, the student must obtain written clearance from a health care professional to begin a “return to play” progression.

**Conclusion**

To date, few states have enacted or amended their laws to include “return-to-learn” provisions. In addition, the scope of these laws varies, as some states merely mention “return to learn” while others include specific guidelines for policy implementation. Nonetheless, this trend is encouraging. For proactive school districts looking to implement a return-to-learn policy, there are guides and protocols available. Many are produced by hospital systems and the schools themselves (e.g., http://www.luriechildrens.org/rtl). The key facets of these protocols are the gradual return of the child to the learning environment, as well as other academic accommodations helpful to achieving successful integration of a child recovering from a concussion in the classroom. School personnel should be cognizant of state and local concussion legislation and are encouraged to consider developing and reviewing their own institutional policies.

**References**


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