

YOU AND THE LAW

Concussion Litigation and the Return-to-School Plan

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Concussions and traumatic brain injuries (TBIs) in sports are common themes of discussion among coaches, parents, and students. The spotlight on these injuries has broadened awareness levels within different populations. In 2017, an estimated 2.5 million high school students reported having at least one sports- or physical activity-related concussion and an estimated 1 million students reported having two or more (DePadilla, Miller, Jones, Peterson, & Breiding, 2018). While those numbers are concerning, many concussions are unfortunately not reported (Delaney, Lamfookan, Bloom, Al-Kashmiri, & Correa, 2014; Llewellyn, Burdette, Joyner, & Buckley, 2014; McCrea, Hammeke, Olsen, Leo, & Guskiewicz, 2004; Rivara et al., 2014). However, the effects of a concussion or TBI can have a negative effect on the student's learning potential. The complexity of concussion management strategies on and off the field is being challenged by society with concussion litigation. A brief Internet search on Google revealed multiple states, California, Illinois, Iowa, Michigan, Mississippi, Oregon, Pennsylvania, North Carolina, South Carolina, and Texas, have experienced high school concussion lawsuits. Football, ice hockey, lacrosse, field hockey, and cheerleading were common activities for litigation. While there are state laws and legalized medical standards of care specific to concussion management and return-to-play (RTP), there appears to be little to no regulated education or medical standards for returning a post-concussion student back into the classroom.

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The National Conference of State Legislatures reported within the United States in 2017, less than 10 states have laws requiring return-to-learn (RTL) protocols for students with TBIs. More important, only two states require RTL protocols to be evidence-based as well as provide education for school personnel. Therefore, the majority of states have no legislation to help guide high schools on RTL education programs or protocols. The Concussion in Sport Group (CISG) participating in the 5th International Conference on Concussion in Sport in 2016 recommended an education program be part of the school's RTL plan (McCrary et al., 2017). The CISG, which is comprised of some of the leading concussion experts in the world, stated in their new consensus statements, schools should have within their RTS plan, education that includes concussion "prevention and management for teachers, staff, students, and parents" (McCrary et al., 2017, p. 844). Additionally, the CISG noted that appropriate academic accommodations and support for students recovering from concussions should be part of the education and RTS plan. To further support this area, Zirkel and Brown in 2015 published a legal perspective on K-12 schools and concussions that identified that RTS plans should be designed to provide academic accommodations, support student recovery, and lessen symptom effect on learning. The importance for school personnel to participate in evidence-based concussion education or training programs is apparent. Concussion litigation has mainly centered on management protocols from athletic participation; however, with the mounting literature on RTL and RTS, it could be only a matter of time before litigation is pursued due to decreased academic performance relating to limited accommodations, inadequate RTS plans, and/or educators not understanding their role in academically supporting the post-concussion student.

Decreases in academic performance, problems with readjusting to the classroom, and reoccurring or worsening symptoms in school are some of the difficulties post-concussion students face when returning to the learning environment (Arbogast et al., 2013; Baker et al., 2015; Brown et al., 2015; Carson et al., 2014; Darling et al., 2014; Eisenberg, Meehan, & Mannix, 2014). Cognitive issues relating to difficulty concentrating, focusing, and memory can plague the recovery process. Students experiencing greater levels of cognitive activity in school have reported longer periods of symptom recovery

(Brown et al., 2014; Ransom et al., 2015). Students also encountering challenges with difficulty remembering are 1.8 times more likely to have school-related problems (Baker et al., 2015). Ransom et al. (2015) further identified post-concussion students in high school had more weaknesses in learning skills (e.g., note taking, studying, and completing homework). Different subjects can further complicate the recovery process such as mathematics, science (biology and chemistry), reading, language arts (English), and social studies appear to be the most challenging for post-concussion students (Ransom et al., 2015). In addition to cognitive difficulties, vision insufficiencies are becoming a concern when post-concussion students return to school. Students suffering from post-concussion vision problems are 2.5 times more likely to have academic problems (Baker et al., 2015). Double vision, blurred vision, and eye tracking have been reported to increase significantly after a concussion (Master et al., 2015). Concussion symptoms produced beyond 10 days and 30 days demonstrated significant relationships to vision issues and difficulty concentrating (Swanson et al., 2017). Literature surrounding post-concussion academic, cognitive, and vision difficulties provides a robust argument for schools to have an RTS plan with an education program for school personnel.

It would seem imperative for schools to educate their teachers, coaches, and staff on appropriate accommodations, RTS management strategies, and levels of communication. Exploring discrepancies in classroom management protocols, deficient accommodations, and a general lack of communication within the school could be a framework for potential litigation. The CISG's recommendation that schools have within their RTS plan a concussion education program for teachers, staff, students, and parents would provide a foundation to reduce litigation areas. Education programs or training for school personnel is critical for the RTS process, as the role of increasing concussion knowledge cannot be underestimated. In fact, education support for school personnel has been identified in various literature (Dettmer, Ettl, Glang, & McAvoy, 2014; Dreer, Crowley, Cash, O'Neill, & Cox, 2017; Halstead et al., 2013; Lyons et al., 2017; McAvoy, Eagan-Johnson, & Halstead, 2018; McCrory et al., 2017; Sady, Vaughan, & Gioia, 2011). Concussion prevention, classroom management strategies, academic accommodations, student supports, and areas to limit symptom production are all formal

topics in education programs (McCrorry et al., 2017; Zirkel & Brown, 2015).

Professional development activities would provide further opportunities to review the RTS plan, discuss successful academic interventions, and facilitate efficient lines of communication so that school personnel can foster a positive learning environment. However, teachers have limitations in concussion knowledge and training (Dreer et al., 2017; Heyer, Weber, Rose, Perkins, & Schmittauer, 2015). While coaches have annual concussion training, it is not always required for educators in the classroom. In fact, high school principals who have participated in concussion training are not all likely to support concussion training for non-coaching teachers (Heyer et al., 2015). Gaps within the school environment have exposed unmet needs for post-concussion students such as a lack of school policy, academic accommodation barriers, and inconsistencies in communication channels (Lyons et al., 2017). Deficiencies in communication have been reported, which provides concerns in effective RTS management (Dreer et al., 2017; Lyons et al., 2017; Romm et al., 2018). Also, a lack of continued professional development has been shown to contribute to poor outcomes for the post-concussion student (Dettmer et al., 2014).

Schools should be prepared to accommodate the post-concussion student upon RTS. The development of a Concussion Management Team (CMT) within the school has been recommended to facilitate the RTL plan (Centers for Disease Control and Prevention, 2017; Gioia, Glang, Hooper, & Brown, 2016; Halstead et al., 2013; Lumba-Brown et al., 2018; Nationwide Children's Hospital, 2012; Rocky Mountain Youth Sports Medicine Institute, 2011). The CMT involves a representative from the family/student (e.g., parent, guardian, and/or student), medical personnel (e.g., physician, school nurse), and school academic member (e.g., teacher, administrator), as well as school physical activity member (e.g., physical education teacher, athletic trainer), if necessary (Centers for Disease Control and Prevention, 2017; Gioia et al., 2016; Halstead et al., 2013; Nationwide Children's Hospital, 2012; Rocky Mountain Youth Sports Medicine Institute, 2011). The CMT plays an important part in establishing effective lines of communication, assigning a liaison person or case manager for communication between the parents, teachers, and stu-

dents. The liaison should be familiar with academic benchmarks or Common Core standards to enable teachers to make proper academic accommodation for the student. Lumba-Brown et al. (2018) recommended the CMT counsel the student and family on gradually increasing the academic duration and intensity as tolerated. Furthermore, the CMT helps develop a learning plan for the student in school to gradually increase workload upon RTS.

Litigation from concussions or TBIs sustained during participation in sports has become a focal point in various athletic levels ranging from youth to professional sports. Although no litigation thus far has stemmed from reduction of post-concussion academic performance due to inefficient school supports, the case could be made if schools do not have a structured and effective RTS plan. Recommendations by the CISG and in the literature on education for school personnel provide a basis for demonstrating concussion knowledge limitations in schools. Furthermore, literature showing post-concussion academic challenges in specific content areas, cognitive deficiencies, and vision problems points to important topics in which concussion education would greatly benefit school personnel and the concussed student. Direct lines of communication, effective RTS policies, and sufficient academic accommodations also strengthen those school supports enhancing the learning environment. Establishing a CMT to facilitate the RTS plan that monitors and tracks student progress, provides interventions, and outlines accommodations will bolster the school's RTS plan for reintegrating the student into the classroom. As new research continues to drive effective policies and strategies in RTS, it is even more critical that schools establish evidence-based RTS policies and education programs to guard against possible concussion litigation.

References

- Arbogast, K. B., McGinley, A. D., Master, C. L., Grady, M. F., Robinson, R. L., & Zonfrillo, M. R. (2013). Cognitive rest and school-based recommendations following pediatric concussion: The need for primary care support tools. *Clinical Pediatrics*, 52(5), 397–402.
- Baker, J. G., Leddy, J. J., Darling, S. R., Rieger, B. P., Mashtare, T. L., Sharma, T., & Willer, B. S. (2015). Factors associated with problems for adolescents returning to the classroom after sport-related concussion. *Clinical Pediatrics*, 54(10), 961–968.

- Brown, N. J., Mannix, R. C., O'Brien, M. J., Gostine, D., Collins, M. W., & Meehan, W. P. (2014). Effect of cognitive activity level on duration of post-concussion symptoms. *Pediatrics*, *133*(2), e299–e304.
- Carson, J. D., Lawrence, D. W., Kraft, S. A., Garel, A., Snow, C. L., Chatterjee, A., . . . Frémont, P. (2014). Premature return to play and return to learn after a sport-related concussion. *Canadian Family Physician*, *60*(6), e310–e315.
- Centers for Disease Control and Prevention. (2017). Returning to school after a concussion: A fact sheet for school professionals. Retrieved from https://www.cdc.gov/headsup/pdfs/schools/tbi_returning_to_school-a.pdf
- Darling, S. R., Leddy, J. J., Baker, J. G., Williams, A. J., Surace, A., Miecznikowski, J. C., & Willer, B. (2014). Evaluation of the Zurich guidelines and exercise testing for return to play in adolescents following concussion. *Clinical Journal of Sports Medicine*, *24*(2), 128–133.
- Delaney, J. S., Lamfookan, C., Bloom, G. A., Al-Kashmiri, A., & Correa, J. A. (2014). Why university athletes choose not to reveal their concussion symptoms during a practice or game. *Clinical Journal of Sports Medicine*, *25*(2), 113–125.
- DePadilla, L., Miller, G. F., Jones, S. E., Peterson, A. B., & Breiding, M. J. (2018). Self-reported concussions from playing a sport or being physically active among high school students – United States, 2017. *Morbidity and Mortality Weekly Report*, *67*(24), 682–685.
- Dettmer, J., Ettl, D., Glang, A., & McAvoy, K. (2014). Building statewide infrastructure for effective educational services for students with TBI: Promising practices and recommendations. *Journal of Head Trauma Rehabilitation*, *29*(1), 224–232.
- Dreer, L. E., Crowley, M. T., Cash, A., O'Neill, J. A., & Cox, M. K. (2017). Examination of teacher knowledge, dissemination preferences, and classroom management of student concussions: Implications for return-to-learn protocols. *Health Promotion Practice*, *18*(3), 428–436.
- Eisenberg, M. A., Meehan, W. P., & Mannix, R. (2014). Duration and course of post-concussive symptoms. *Pediatrics*, *133*(6), 999–1006.
- Gioia, G. A., Glang, A. E., Hooper, S. R., & Brown, B. E. (2016). Building statewide infrastructure for the academic support of students with mild traumatic brain injury. *Journal of Head Trauma Rehabilitation*, *31*(5), 397–406.

- Halstead, M. E., McAvoy, K., Devore, C. D., Carl, R., Lee, M., & Logan, K. (2013). Returning to learning following a concussion. *Pediatrics*, *132*(5), 948–957.
- Heyer, G. L., Weber, K. D., Rose, S. C., Perkins, S. Q., & Schmittauer, C. E. (2015). High school principals' resources, knowledge, and practices regarding the returning student with concussion. *Journal of Pediatrics*, *166*(3), 594–599.
- Llewellyn, T., Burdette, G. T., Joyner, A. B., & Buckley, T. A. (2014). Concussion reporting rates at the conclusion of an intercollegiate athletic career. *Clinical Journal of Sports Medicine*, *24*(1), 76–79.
- Lumba-Brown, A., Yeates, K. O., Sarmiento, K., Breiding, M. J., Heagerich, T. M., Gioia, G. A., . . . Turner, M. (2018). Centers for Disease Control and Prevention guideline on the diagnosis and management of mild traumatic brain injury among children. *JAMA Pediatrics*, *172*(11), e1–e13.
- Lyons, V. H., Moore, M., Guiney, R., Ayyagari, R. C., Thompson, L., Rivara, F., . . . Vavilala, M. S. (2017). Strategies to address unmet needs and facilitate return to learn guideline adoption following concussion. *Journal of School Health*, *87*(6), 416–426.
- McAvoy, K., Eagan-Johnson, B., & Halstead, M. (2018). Return to learn: Transitioning to school and through ascending levels of academic support for students following a concussion. *NeuroRehabilitation*, *42*(3), 325–330.
- McCrea, M., Hammeke, T., Olsen, G., Leo, P., & Guskiewicz, K. (2004). Unreported concussion in high school football players: Implications for prevention. *Clinical Journal of Sports Medicine*, *14*(1), 13–17.
- McCrory, P., Meeuwisse, W., Dvorak, J., Aubry, M., Bailes, J., Broglio, S., . . . Cantu, R. (2017). Consensus statement on concussion in sport—The 5th international conference on concussion in sport held in Berlin, October 2016. *British Journal of Sports Medicine*, *51*, 838–847.
- Master, C. L., Scheiman, M., Gallaway, M., Goodman, A., Robinson, R. L., Master, S. R., & Grady, M. F. (2015). Vision diagnosis are common after concussion in adolescents. *Clinical Pediatrics*, *55*(3), 260–267.
- National Conference of State Legislatures. (2017). “Return-to-learn” state laws for students with traumatic brain injuries. Retrieved from <http://www.ncsl.org/research/health/-return-to-learn-state-laws-for-students-with-traumatic-brain-injuries.aspx>

- Nationwide Children's Hospital. (2012). *An educator's guide to concussion in the classroom* (2nd ed.). Retrieved from <http://www.nationwidechildrens.org/Concussions-in-the-Classroom>
- Ransom, D. M., Vaughn, C. G., Pratson, L., Sady, M. D., McGill, C. A., & Gioia, G. A. (2015). Academic effects of concussion in children and adolescents. *Pediatrics*, *135*(6), 1043–1050.
- Rivara, F. P., Schiff, M. A., Chrisman, S. P., Chung, S. K., Ellenbogen, R. G., & Herring, S. A. (2014). The effect of coaching education on reporting of concussions among high school athletes after passage of a concussion law. *American Journal of Sports Medicine*, *42*(5), 1197–1203.
- Rocky Mountain Youth Sports Medicine Institute. (2011). REAP The benefit of good concussion management. Retrieved from http://www.concussiontreatment.com/images/REAP_Program.pdf
- Romm, K. E., Ambegaonkar, J. P., Caswell, A. M., Paraham, C., Cortes, N. E., Kerr, Z., . . . Caswell, S. V. (2018). Schoolteachers' and administrators' perceptions of concussion management and implementation of return-to-learn guideline. *Journal of School Health*, *88*(11), 813–820.
- Sady, M. D., Vaughan, C. G., & Gioia, G. A. (2011). School and the concussed youth: Recommendations for concussion education and management. *Physical Medicine and Rehabilitation Clinics of North America*, *22*(4), 701–719. <https://doi.org/10.1016/j.pmr.2011.08.008>
- Swanson, M. W., Weise, K. K., Dreer, L. E., Johnston, J., Davis, R. D., Ferguson, D., . . . Swanson, E. (2017). Academic difficulty and vision symptoms in children with concussion. *Optometry and Vision Science*, *94*(1), 60–67.
- Zirkel, P. A., & Brown, B. E. (2015). K–12 students with concussions: A legal perspective. *Journal of School Nursing*, *31*(2), 99–109.