INVESTIGATING “RETURN TO PLAY” AND “RETURN TO LEARN” PRACTICES FOR CONCUSSED STUDENTS: ONE JESUIT HIGH SCHOOL’S APPROACH

Prepared for the
2015 Education Law Association Annual Conference
Cleveland, Ohio

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Abstract

Student concussions are a concern at every school, from public to private, large to small, urban to rural. Recent legislation in many states has fostered a more structured school response system in determining when a student athlete is eligible to return to athletic competition after suffering a concussion. In addition, there is a strong movement and rationale to promote the “Return to Learn” consideration as well—that is, when is a student prepared and able to return to the academic environment after suffering a concussion? This paper will provide an in-depth look at one school’s attempt to overhaul student concussion management processes for all students, not only student athletes, but also to manage a system of returning to the classroom as well as the playing field. This paper will also discuss student concussion policy implications of “Return to Play” and the apparent lack of attention to its important counterpart of “Return to Learn” legislation and policies. While current “Return to Play” policies vary state by state and center around athletic governing bodies, the laws do not always encompass “Return to Learn” policies. This paper and accompanying conference session will focus on providing a background of the current state of concussion affairs within state laws, including policy and legal issues at play in today’s school landscape. Second, the session will focus on one private Jesuit high school’s attempt to balance “Return to Learn” and “Return to Play” policies through overcoming the financial considerations associated with baseline testing and uninsured students, building administrative leadership and organizational structure for functional oversight, and school wide implementation practices for the establishment of baseline testing of all students, the formation of a medical advisory panel, faculty training, and sideline / in-game testing procedures.
Background

Although concussions are common among students and student-athletes, there is little consistency in how schools respond to this type of injury and most have fallen short in their attempt to standardize a protocol. In collegiate athletics, however, it has been reported that a widely varying series of guidelines have attempted to standardize the treatment of sports-related concussions (Miller, Wendt, & Potter, 2011, p. 94). While these guidelines tend to be similar, Miller et al. (2011) noted major differences in the evaluation of the symptoms of concussions and the resultant return-to-play (RTP) protocols. As such, while college athletic programs struggle to understand and standardize concussion management processes, so too have high school athletic programs in every state.

The majority of resources available to high school administration and faculty are linked to sports-related-injury and return-to-play (RTP) and return-to-learn (RTL) protocols, creating inconsistencies in concussion protocols for non-athletes. Inconsistencies in concussion protocols become particularly alarming when one considers that each year U.S. emergency departments treat an estimated 173,285 sports and recreation-related traumatic brain injuries—including concussions—among children and adolescents from birth to 19 years of age. Even more significant than the volume of injuries are the negative trends for students. Of particular concern is the fact that the number of diagnosed concussions for high-school-age students (ages 14-19) has risen by 200% (Sports Concussion Statistics, 2015).

Concussions in high school athletes are most often linked to football (47% of all concussions occur while involved with this sport), as well as in other direct contact sports such as hockey and soccer (Sports Concussion Statistics, 2015). However, there are other causes of concussions besides sports-related injuries, including falls on campus, fights, car accidents, and other random incidents that cause brain injury. (Fact Sheet for School Nurses, 2014). Compounding the issue are the developmental stages of children and the fact that high school students are at a greater risk for concussion and have longer recovery periods simply due to their non-adult development (Heads Up, 2010). Unfortunately, there are limited resources that can provide guidance for school staff in determining RTL criteria and protocols for non-athletes. That is, once a student suffers from a concussion, there is no clear guidance as to what a student should be expected to do within the classroom, including reduced screen time, reduction of homework, removal from sound and light overstimulation, and increased need for rest.
Specifically, how are teachers to know how to teach a concussed student and what are teachers expected or required to accommodate as a result of a reported concussion?

This paper and its associated conference session do not attempt to weigh the good and the bad in concussion management legislation, but rather will present one private high school’s attempt to balance RTP and RTL – that is, attempting to address both the medical and academic needs of high school students who suffer from concussions in any setting. The plan in development is built on a structure that may or may not be replicated in dissimilar school settings and is an attempt to focus on all students rather than only student athletes. The school’s focus also includes a plan for communication regarding academic performance and provides a thoughtful approach on how teachers, administrators, and athletic personnel can work together in order to maximize brain recovery.

Review of the Literature

Concussions Within Educational Settings

The educational setting should provide a culture and climate that further develops the mind and body of a young person. Athletics and other co-curricular activities are designed to enhance the learning experience of a young person. Hotz, Quintero, Crittenden, Baker, Goldstein, and Nedd (2014) defined a concussion as a type of traumatic brain injury caused by a bump or blow to the head that alters cognitive brain functioning (p. 2). On impact, the brain bounces or is jostled in the skull, and causes damage to the affected brain cells. Further, McCrory et al. (2013) suggested that a concussion could be caused by “a direct blow to the head, face, neck, or elsewhere on the body with an “impulsive” force transmitted to the head” (p. 555). The Center for Disease Control and Prevention (CDC) reported the amount of reported concussions has doubled in the last 10 years. The American Academy of Pediatrics reported emergency room visits for concussions in children ages 8 to 13 years old has doubled, and concussions have risen 200% among teenagers ages 14 to 19 in the last decade. A list of concussion statistics illustrates a factual representation of the prevalence of concussions in high school athletics. Over 3,800,000 concussions were reported in 2012, double the number of instances that were reported in 2002 – these statistics indicated:

- 33% of all sports concussions happen during athletic practice sessions;
- 39% - the amount by which cumulative concussions are shown to increase catastrophic head injury leading to permanent neurologic disability;
- 47% of all reported sports concussions occur during high school football;
- 1 in 5 high school athletes will sustain a sports concussion during the season;
- 33% of high school athletes who have a sports-related concussion report having two or more concussions in the same year;
- 4 to 5 million concussions occur annually, with rising numbers among middle school athletes;
- 90% of diagnosed concussions do not involve a loss of consciousness; and

**Return to Play Processes**

There is general agreement that schools should have a RTP protocol for student-athletes (Davies, 2011, p. 14). Sports-related concussions fall second only to automobile accidents as the leading cause of traumatic brain damage among 15-24 year olds (Ballantyne, Clegg, Sankar, & Dean, 2012). Nationally, during the 2009 and 2010 football seasons, 14 deaths occurred as a direct result of brain injury sustained during play. Furthermore, at least 50 youth football players have died or suffered severe head injuries since 1997 (Concussions 101, 2015).

RTP is a process that begins after all symptoms are resolved and the student-athlete’s brain functions have returned to normal paradigms (Faure, 2010). While there is currently no “gold standard” for concussion care management, there have been many advancements in treating concussions in recent years (Doolan, 2011, p. 2). These improvements are critical given the recurrent risks of concussions and the threats posed by second impact syndrome (SIS) (Faure, 2010). It is thus crucial for medical-care providers, including athletic trainers, to have a thorough knowledge of concussion-management protocols, and to implement processes that safely return a student-athlete to competition (Doolan, 2011). Given that concussions are subjective in nature, it is also important to individualize RTP factors and consider all forms of treatment. Doolan et al. (2001) encouraged a team approach to concussion care-management in order to ensure that all relevant aspects of an individual student’s concussion are addressed.

To determine if a student-athlete has sustained a concussion, there is clear support from the medical community regarding the use of computerized testing to gauge the severity and intensity of a concussion. In order to make testing procedures more practical, computerized testing has been developed to establish quickly and accurately a baseline measure for a student’s
normal neurological function. Given technological advances such as computers and smart phones, “the computerized modality becomes more familiar and ecologically valid than classical paper-and-pencil methods” (Rahman-Filipiak & Woodward, 2013, p. 315). Thus, while baseline scores can be taken within a computer-lab setting, the use of an iPad or tablet on the sideline is now a possibility.

In particular, computerized programs such as ImPACT (Immediate Post-Concussion Assessment and Cognitive Testing), developed in the early 1990s by Drs. Joseph Maroon and Mark Lovell, allows athletic trainers and physicians to identify concussions symptoms. The 20-minute test is a competent concussion-management system that measures mental reaction time, coordination, and memory function (Ballantyne et al., 2012). The ImPACT test can also be utilized in post-concussive care in order to determine a student-athlete’s RTP.

**Return to Learn**

RTL refers to a student’s re-entry into the classroom after having sustained a concussion. Much consideration has been given to concussions sustained in athletics, however this consideration has not always extended to similar considerations for performance within the classroom. The primary focus within concussion management in the past few years has been on diagnosing a concussion quickly and identifying the swiftest manner in which to return a student-athlete safely to the field of play. However, little attention has been given to the academic progress of a concussed student (Halstead et al., 2013). Post-concussion symptoms typically interfere with a student’s ability to complete assignments, to function in a classroom setting, and to interact with teachers and fellow students (McGrath, 2010). Concussed students can suffer from severe headaches, impaired memory, and impaired attention spans. In addition, if a student is completely removed from the educational setting to promote brain recovery, related social and emotional difficulties can arise from falling behind with schoolwork to excessive social isolation. The school environment, the main place for student learning, also comes with expectations of prolonged concentration coupled with noise and distractions, which can exacerbate concussive symptoms and create an unmanageable learning and healing environment (Grady, 2010). Therefore, it is important for schools to focus not only on athletic performance, but also academic performance required of all students.
Students and Concussions

Limited research has been conducted in the area of RTL, creating a challenge for school leaders to identify the optimal way of proceeding (Grady, 2010). Generally, a student’s return to the classroom is an individualized process requiring both cognitive and physical rest (Miyashita et al., 2014). Some students are able to return to learning quickly, and may actually need the structure of a school environment in order to stimulate cognitive recovery (Master, Gioia, Leddy, & Grady, 2012). Conversely, other concussed students might need “a controlled ramp-up in cognitive activity,” so as not to exacerbate their symptoms. Given the subjective nature of concussions, McGrath et al. (2010) recommend that schools develop a comprehensive concussion protocol that is designed to deal with both athletic and educational concerns, and that ensures proper support for the concussed student-athlete.

In the secondary school setting, concussion care management has typically been administered by a certified athletic trainer (AT). These caregivers have been the “gatekeepers” in determining when a student is fit for RTP. However, AT’s typically have had very little input on a student’s return to the classroom or RTL. In a study conducted by Williams et al. (2014), the authors identified two key findings. First, the study demonstrated caregivers (AT’s) who are employed directly through the school had greater perceived familiarity with academic accommodations than those who were employed via an outside agency (p. 6). Second, the study identified AT’s felt as though they should be included in the RTL process. AT’s believe they are prepared to collaborate with school personnel, such as teachers and counselors, in order to insure proper academic accommodations (p. 6).

The study by Williams et al. (2014) is an important consideration for school leaders. This study demonstrates not only the desire of AT’s to be involved with RTL, but it also shows the growth of the AT position and the ability to provide a comprehensive approach to concussion care management. In essence, the merging of RTP and RTL under the supervision of a school employed AT allows for more frequent and effective communication with school administration and support staff (p. 6).

The number of teenagers diagnosed with concussions has increased by 200% in the past decade (Sports Concussion Statistics, 2015). Since many of these injuries have occurred during athletic participation, schools have developed “concussion management programs” to determine when an athlete is ready to resume athletic competition, commonly referred to in the industry as
Return to Play (RTP), particularly from the vantage point of the school leader. The prevalence of concussion injuries, coupled with recent legislation, has forced school leaders to consider the development of protocols or policies that will help protect their students as they reenter the classroom after a head injury (Tarm, 2014).

A compilation of statistics by the Southwest Athletic Trainers Association highlights the sheer magnitude of concussion-related injuries. It showed:

- About 8,000 children are treated in emergency rooms each day for sports-related injuries;
- Female high school soccer athletes suffer almost 40% more concussions than males. Women basketball players sustain 240% more concussions than their male counterparts;
- Emergency department visits for concussions sustained during organized team sports activities doubled among 8 to 13 year olds between 1997 and 2007 (Lindley, 2014).

It is because of the increasing awareness and incidence of concussions within school-aged children that the school represented in this paper and presentation embarked on a unique approach to both RTP and RTL.

**Legal Aspects of “Return to Learn” and “Return to Play”**

All 50 states and the District of Columbia have adopted laws protecting young athletes from returning to play prior to an appropriate brain-recovery period. Each law maintains a similar stance – prevention, education, and protection, yet there is no standard approach to compliance management and implementation of the law. In addition, as laws change, so too, do the priorities of the laws. As an example, as of the time of drafting this document, only two states, Nebraska and Virginia, have expanded concussion legislation to include “Return to Learn” or “Return to School” requirements. As such, while returning to play remains the main focus of most concussion protocols, it is quickly becoming partnered with its educational counterpart – the notion that a “student-athlete” is actually a student first and foremost, and an athlete secondarily. A 2015 *Clinical Pediatrics* article reiterated the unique needs of students as learners and found three main themes found in concussion management literature. These themes included the ideas that concussion protocols for adults are not appropriate for children, children require more conservative protocols, and protocols for children must include a return to both school and sport, not one or the other (p. 785). Thus, while legislation is written to broadly
sweep across sports and age groups, is must also be carefully balanced against medical expertise on the unique medical needs and conditions of children and adolescents.

Emerging litigation has sought to address the need for a more comprehensive review of concussions in students engaging in athletic activities (Tarm, 2014). A number of cases and new legislation in California (and throughout the United States) have sought to address this issue of concussions in students in school settings. Of particular note was a suit filed by Daniel Bukal, a star quarterback at Notre Dame College Prep in Niles, Illinois until 2003. Bukal currently suffers from migraine headaches and memory loss and attributes these ailments to his high school football experience. This litigation filed against the Illinois High School Association alleges that the Association did not have concussion protocols in place, putting Bukal and other high school players at risk, and those protocols remain deficient. The claim calls on the Bloomington-based IHSA to tighten its rules regarding head injuries at the 800 high schools it oversees. The claim seeks reform and does not pursue specific monetary damages (Tarm, 2014).

In 2009, the state of Washington passed the first concussion-in-sports legislation. The Zachary Lystedt Law requires medical clearance of youth athletes suspected of sustaining a concussion before sending them back to practice or play. This law was enacted as a reaction to negligent concussion care on the part of the Tacoma School District. Additionally, the lawsuit resulted in a settlement being awarded to the Lystedt family in the amount of $14.6 million. (Ballantyne et al., 2012). Between 2009 and 2013, all 50 states and the District of Columbia passed laws on monitoring concussions in sports for youth and high school athletes (Traumatic Brain Injury Legislation, 2014).

On July 21, 2014, California Governor Jerry Brown signed into law an amendment to the existing youth sports concussion safety law (AB 2127), adding Education Code section 35179.5, and amending section 49475, to limit full-contact football practices in middle and high schools. This amendment identified protocols and regulations to deal with concussed student athletes, specifically a return-to-play protocol for students who have sustained a concussion, and imposed limits on the number of full-contact football practices throughout a school year. Assemblyman Ken Cooley authored the bill, motivated by the concerns of parents worried about the dangers associated with concussions, including long-term brain damage, early onset dementia, and the increased propensity to sustain further concussions (Armijo & DeMarco, 2014). The law required a school to remove an athlete from athletic activity immediately until he or she could be
evaluated and cleared by a licensed health care provider. Athletes must also annually fill out a concussion and head-injury sheet that is signed by the athlete and his/her parents before athletic participation is allowed.

Lowrey and Morain (2014) noted the vast disparity of application of concussion laws when they completed an empirical study of state-level experiences in concussion legislation implementation throughout the United States. The authors conducted interviews within 42 states with youth concussion laws and found that many states struggled with implementation timelines, compliance, and overall understanding of who “owns” proper concussion management. Thus, while concussion laws may look quite similar on the books, implementation can vary widely from state to state, county to county, and district to district.

Within what is considered “standard” concussion legislation, states varied in times required for implementation, much of which depended on the state infrastructure of governing board and sports associations to help with implementation practices. One important realization was that when stakeholders, like school leaders and athletic trainers, were involved in the legislative process, the quicker it was to implement legislation once passed.

Drafting concussion legislation proved to be a troubling feat when it came to implementation, as language was often vague or difficult to apply without an existing athletic association-type organization to provide oversight and structure. Questions arise about who is a “qualified medical provider,” the timeline for concussion assessment, and who actually enforces the policies. The authors noted one state’s law referred to “youth” but failed to define the term, so application became problematic. The same can be said for legislation that may or may not pertain to only public school athletic events or that which expands the scope to cover community leagues, church leagues, or activities outside the typical school structure.

The authors also noted three obstacles to compliance to concussion legislation: provider access, parent cooperation, and awareness. In such, rural areas with less access to medical personnel could be problematic. Parents who seek lenient doctors or visit multiple doctors seeking medical release might also a problem. Last, with a law that deals with so many moving parts (coaches, parents, players, administrators, doctors), it is possible compliance with concussion laws is actually quite problematic in practice (p. 294).

Whether or not concussion laws actually work is a different question. McGowan Lowery (2015) answered this by stating “return-to-play legislation is not likely to change sports culture
on its own.” She noted that concussion laws may promote a culture shift away from a “culture of resistance” to one focused on player safety (pp. 64-65). A September 2015 New York Times article reported on several school districts in Missouri, New Jersey, and Maine that cut football programs because of the increasing cost and concerns over player safety as well as a declining number of athletes willing to participate in full-contact sports (Belson, 2015).

As recently as December 2, 2014, a class-action lawsuit was filed against the Illinois High School Association, alleging that the association was negligent in caring for concussed students (Toporek, 2014). This lawsuit is referred to as “a first of its kind,” and notes that the state association had not adopted any sort of concussion policy in the early 2000s, leading to inconsistent RTP decisions (Toporek, 2014). The lawsuit also alleges that the state’s current concussion protocol falls short of best practices and should be amended.

Twenty-two states have adapted initial concussion legislation from its original form, most revisions dealing with expanding coverage, clarifying existing requirements, or introducing efforts at primary prevention and early detection (Lowery, 2015, p. 66). Since 2014, Nebraska and Virginia have expanded concussion protocol legislation to include “Return to School” or “Return to Learn” components. Written in much the same style as the “Return to Play” protocols, this legislation calls for districts to ensure a student is evaluated and thoroughly assessed for an appropriate return to the classroom prior to returning to play on the field. It can be argued that RTL legislation may face the same obstacles noted by Lowrey and Moraine in the implementation of RTP protocols, most likely being vagueness of enforcement responsibility, issues with noncompliance, and a general lack of education of teachers and parents about the importance of RTL policies.

**Financial Considerations Associated with Baseline Testing and Uninsured Students**

School leadership should consider finances with regards to the treatment of concussions. Of fiscal significance is the consideration for the hiring of an athletic trainer. Additionally, the cost of baseline testing needs to be considered when developing a concussion care protocol. Further, insurance considerations are of primary concern when dealing with student injuries. Zolkos (2014) suggests that insurance underwriters are considering a mandate that would create exclusions for concussion injuries. Another financial consideration that is often under discussed is the cost that a parent of a concussed student may face, from insurance copays to costs for more
complex medical examinations to taking off time from work to address concussion recovery with a child.

Existing concussion-management protocols often require a financial investment by schools, some of which are underfunded in the first place. For example, in order to secure an insurance policy that covers each student-athlete for concussion care, a school can secure a “Play it Safe” policy from Wells Fargo Insurance Services. This policy costs a school approximately $7,600 annually, and acts as a supplement to most schools’ accident insurance policies for students. However, this policy only covers students sustaining concussions while involved in school-sponsored athletics; there is no coverage for students involved in other school activities, or in intramural or club sports. While the coverage and cost might seem manageable for some districts, it may not for larger, underfunded districts already facing financial distress.

**RTL Implementation Issues**

Currently, many concussed students are returning to the classroom with no protocol in place. Little attention has been given to the academic progress of a concussed student, as many educators remain unaware of the implications concussions may have on student learning (Halstead et al., 2013). Post-concussion symptoms typically interfere with a student’s ability to complete assignments, to function in a classroom setting, and to interact with teachers and fellow students (McGrath, 2010). Thus, given the subjective nature of concussions, McGrath et al. (2010) recommended that schools develop a comprehensive concussion protocol that is designed to deal with both athletic and educational concerns and that ensures proper support for the concussed student-athlete.

In many cases, school leaders have failed to provide professional development for faculty/staff to keep current with the issues that students are experiencing. Failure to provide these professional growth opportunities compromises an educational leader’s ability to be effective and work in the best interests of students (Frick, Faircloth, & Little, 2012, p. 211). Further, school leaders might face resistance from parents and/or teachers who will oppose a RTL protocol that includes a graduated level of schoolwork to be introduced to a concussed student. This concept may seem counterintuitive to parents and educators as the injured student will experience downtime and could be “catching up” on schoolwork. Again, the school leader must keep the best interests of the student in mind and be willing to engage in difficult conversations.
A study by Corden, Halstead, and Walter (2013) suggested that in addition to community education, remove from play, and RTP, schools should consider adding “return to cognitive activity,” or RTL as a fourth element to a concussion protocol. This added element acknowledges the metabolic mismatch causing concussion symptoms and encourages limited cognitive effort including no computer or video gaming or cell phone use, relaxation, and increased sleep until symptoms resolve. Further, “return to cognitive activity” intersects with Return to Learn (RTL) as both elements call for time off from school with reduced or no homework. These approaches call for increased communication between school leaders, the attending physician, the Athletic Trainer or school nurse, and parents, to optimize the return of the student to academic life.

The topic of RTL has largely been ignored in concussion protocol research, and as a result many concussions go unnoticed, with students returning to the classroom before they are ready to learn (Carson et al., 2014, p. 314). The authors stated that “even when appropriate guidelines are followed and management plans are given by physicians, many students return to learning or sport too soon” (p. 314). Further, Carson et al. suggested that there is a need for further research to determine the best management plan for the return of concussed students to the classroom (p. 314). An effective protocol must consider the implications for a student returning to the classroom as well as an effective communication system from school leadership to inform teachers of prognosis and expectations.

**Concussion Management Systems within Academic Programming**

Given the dramatic rise in the number of diagnosed concussions, there has been a recent effort on the part of schools to develop concussion care programs. While there is not a consensus with regards to structure, best practices suggest that the establishment of a care-management team would benefit a concussed student returning to the academic environment (McAvoy, 2012). Halstead et al. (2014) stated, “It remains essential that all schools recognize the importance of team management for a student after a concussion and ensure that all students recovering from concussion have assigned staff who will be responsible for smooth reentry to school” (p. 951). McGrath (2010) suggested that concussion-management teams comprise a school administrator, athletic trainer, teachers, parents, a guidance counselor, and the school nurse, if applicable.

Alternatively, Halstead et al. (2014) recommended a multidisciplinary team approach that includes a family team, a medical team, an academic team, and a school athletics team. In either
approach, these teams must determine the guidelines for a student-athlete’s return to the school environment. There are several accommodations that must be considered, including rest periods during the school day, extension of assignment deadlines, postponement or staggering of tests, extended test time, accommodations for oversensitivity to light and noise, and exemptions from team practices and gym activities.

However, Halstead et al. (2014) acknowledged the need for further research with regards to RTL, and suggested that, “studies comparing outcomes in school settings that have concussion management teams with case management versus those that do not would also be of value” (p. 956). While it is evident that there has been limited research regarding RTL, the topic of RTP has received greater attention given the high profile of school athletics.

While explicit RTP protocols are relatively established, there is then a clear need for an explicit RTL protocol that makes use of available research. McGrath (2010) proposed the establishment of a point person to act as a school concussion recovery coordinator. The most appropriate person to fill this position is typically the Athletic Trainer (AT), given his/her awareness of the seriousness of concussions and training in concussion care: “The AT is ideally positioned to be a primary source of information about concussion recovery, not only for the student-athlete but also for one’s school colleagues” (p. 492). AT’s must then be given the authority to dictate educational protocol for concussed students. This way of proceeding will require AT’s to communicate effectively with physicians and to translate the medical language into the educational environment. Master et al. (2012) stress that a written concussion care plan, including a prescription for cognitive rest, should be provided to the parents and educators of the concussed student (p. 2).

**One School’s Approach: Implementing a Comprehensive Concussion RTL and RTP Plan**

**Background**

Loyola High School, a private all-male Jesuit high school in Los Angeles, California began its implementation of a baseline test for all students (athletes and non-student athletes) in its 1300 students in 2014. This school-wide concussion management system is the first of its kind in the nation. The system has been recognized for its approach to student safety both on and off the field. While the system has gone through several iterations, a key revision has been
in the ways the protocol attempted to include a seamless transition of a concussed student to the classroom and clear and consistent RTL protocol within a robust RTP plan.

In 2014, school leadership reviewed best practices for how best to deal with students who sustained a concussion. Central to the discussion was the Athletic Trainer whose primary responsibility was to oversee the physical well being of all athletes in the school’s 13 Division 1 sports teams. Further investigation by the school’s administration found that there was a disparity in the numbers of students that had sustained a concussion finding that more students suffered concussions than just those playing school-sponsored sports.

The Athletic Trainer had 28 documented concussed students while the Assistant Principal for Curriculum had dealt with 16 separate “cases” from those of the Athletic Trainers. These cases only surfaced to the attention of the Assistant Principal when students brought a note from their physician as part of the school’s policy on absenteeism. Additionally, these same students who sustained concussions in “non-school” related activities lacked an academic support system and were not tracked as they recovered. In general, teachers were made aware of a student’s doctor’s recommendations via e-mail with a “general” description of how to support the student. Some of these recommendations included: “reduce work load; no tests or quizzes; keep desk clear of all materials; and allow student to put head down on desk if necessary.”

According to the Athletic Trainer, “the biggest problem discovered was that teachers really had NO direction when trying to handle a student with a concussion” (personal communication, 2014). “Reduce workload” was a major discussion point. What does it mean to reduce a student’s workload in American Literature? What about Chemistry? Who decides what “reduced” workload looks like and how long does a student need a reduced workload? When there was no concussion follow up between the AT and the teachers about tests or quizzes, some teachers only asked about after possible academic adjustment after the student had returned to play. Then, it became an issue of a student having to handle a heavier than average workload to make up for the time missed during the concussion recovery. The other issue was that students who were not injured through athletics where basically telling each of their teachers “I have a concussion and I can’t do these assignments” without a formal process followed by the school. Once again it became more and more evident that this was a bigger problem than anyone thought and needed to be addressed immediately by the school leadership as a whole and not individual teachers or students.
Results

In partnership with the school’s Athletic Trainer, the leadership at Loyola High School chose to expand the concussion care management protocol to cover all students (athletes and non-student athletes) whether a concussion occurred on or off campus. Therefore, the decision to baseline all students and develop a school-wide Concussion Policy was made in 2014. While California maintains a RTP law, implementation by this school could be more conservative and comprehensive in approach due to the financial means and community partnerships maintained by the school. Loyola High School requires all students to have current concussion baselines on file with the Head Athletic Trainer before each academic year. Additionally, Loyola has partnered with concussion care doctors to insure expert opinions when implementing this approach. Appendix A illustrates the school’s protocol and will serve as the main discussion focus during the presentation of this paper’s content. This plan includes partnerships with local medical providers, a rather new type of insurance coverage, computerized testing to gather baseline scores for all students, and an intensive communication plan for concussion management and academic modifications during the concussion-recovery period. While new, the plan is fostering discussion and understanding among constituents that student well-being and safety is a priority over playing time and school athletics.

Conclusion

RTL and RTP should not be mutually exclusive in today’s schools, yet most legislation does not force the partnership to occur. This paper reviewed the current state of affairs of concussion incident rates, legislative developments, and implementation practices within today’s schools. In addition, this presentation and paper highlighted one private school’s attempt to foster a comprehensive approach to concussion management of all students. While not tested by time or unexpected challenges that most school policies eventually face, this school’s attempt mirrors the demands of the newest concussion legislation that requires states to manage student learning as well as student athletic participation.
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Appendix A

Loyola High School’s Proposed Concussion Management System

*Key Terms*

**Baseline Tests** – ImPACT and SCAT3 completed before freshmen and junior year, KD Test completed every year

**MTBI** – mild traumatic brain injury, most concussions fall into this category

**RTP** – Return to Play protocols are protocols developed to ensure a safe return to play following a concussion. The minimum amount of days once RTP is initiated is 5 days without any symptoms returning.

Level 1 - No Activity – Physical and cognitive rest limited by symptoms.
Level 2 – Light Aerobic Exercise such as Walking, Swimming, Stationary bike, activity no more than 20 minutes. Must be asymptomatic
Level 3 – Sport Specific Exercise – No contact can practice in drills that are sport specific and conditioning.
Level 4 – Non Contact Drills- More complex drills with pads and helmet (if needed) no contact.
Level 5 – Full Contact Practice – After medical clearance return to normal activity.
Level 6 – Return to play – No Restrictions

An athlete must be at each level for 24 hours, and cannot advance a level if symptoms return.

**RTL** – Return to Learning protocols that Loyola has developed are guidelines for teachers to help with the student’s recovery. Most concussions will heal within a one to three week period. The RTP and RTL protocols will be used in conjunction with one another. This will ensure that one a student is cleared to RTP level 6 that all academic adjustments and/or accommodations will be stopped. Teachers will be asked, as needed, how the student is performing in class and his academic load. The RTL protocols are;

Level 1 – No academic activity, does not attend school, brain rest is needed to help speed the recovery of injury.

Level 2 – Return to school, with MD note, attends half day school preferable hours 2, 3, 4. Student is allowed to sit in class, but is still having some symptoms should have clear desk, be allowed to put head on desk and/or go to office and rest. Depending on symptoms student may begin academic work for periods of 10 minutes with at least 30 minutes rest in between.
Level 3 – Student is full day of class; academic load can increase to 20 minute periods as long as student is asymptomatic. Student should be allowed to allow putting head on desk and/or going to office and rest if symptoms develop.

Level 4 – Student full day of class, allowed taking notes, academic work load can increase to 30 minutes with a 15 minute break as needed. Should begin to make up assignments in small portions. Only assignments that are necessary for grade should be completed. Teachers need to understand that student has seven classes of academics to make up and must be work with student and concussion management team to aid with student’s recovery.

Level 5 – Student is back to normal academics no restrictions, should be making up assignments in a timely manner.

**Academic adjustments** – period of one to three weeks after injury where non-formalized adjustments are made to meet the students’ needs to aid with recovery. Every student will be different so adjustments have to be curtailed to meet the student’s needs.

**Academic accommodations**- period of time after three weeks from injury where more formal accommodations are instituted which would involve standardized testing, extra time for work and possible change in class schedule. Physician’s notes need to be turned in to Assistant Principal of Curriculum and Instruction to help verify student’s recovery from concussion is taking a longer time.

**Academic modification** – long-term education changes, need an IEP or 504 filled out.

In order for a student to recover from a concussion in a timely matter, most literature illustrates a team approach involving but not limited to physician, parents, administrators, athletic trainer, teachers, counselors. Due the nature of a concussion and the constant research being performed Loyola has implemented a program that is designed to take all the various parts of a concussion and streamline the recovery process so that communication and status updates are done quickly and effectively.

**Concussion Management Team** – Head Athletic Trainer, Physician, parents, Principal, Assistant Principal Student Affairs, Assistant Principal of Curriculum and Instruction, Dean of Men, Academic Counselor. Led and coordinated by the Head Athletic Trainer, to evaluate and access the extent of the injury. The coordinator will inform all members of the team appropriate rest from athletics and academic activities until the athlete has recovered fully from the injury. A note form the physician must be turned into the Head Athletic Trainer, after every visit when academic adjustments are made. In order to comply with State law any athlete must be seen by a Medical Doctor when there is a suspected head injury. All students with concussions must check in with Head Athletic Trainer, at least once a day until the student has recovered from injury. Once a student has been cleared to return to full activity without restrictions all academic adjustments/accommodations will be removed and the student will resume his normal academic load before the injury. At no time should an athlete be allowed to return to play and still have academic adjustments or accommodations.

The following are procedures that should be followed in the event a student suffers a concussion.
CONCUSSIONS INVOLVING STUDENTS PARTICIPATING IN SCHOOL “A” ATHLETICS

1. All head injuries are to be reported the Athletic Trainer – immediately. If the athlete is unconscious 911 should be activated.
2. The Athletic Trainer will perform a concussion evaluation either using the KD Test, and SCAT3.
   a. Once the evaluation is performed, in the absence of the Head Athletic Trainer, the Head Athletic Trainer will be notified about the injury.
3. Parents of the injured player will be notified by Athletic Trainer and instructed that they need to come a pick up their son. If Athletic Trainer and parents feel the faster way to send player home is by carpool, then the student may go home with another adult. At no time will a student be allowed to go home with another student when there is a suspected head injury.
4. The parents will be given a concussion packet (see attached) explaining the policies, and procedures in regards to a concussion. The packet includes the following
   a. Letter explaining concussions and the procedures that need to be followed
   b. SCAT 3, KD test evaluation
   c. Injury Referral letter for physician to fill out
   d. On Field sign and symptom check list
   e. Well Fargo Concussion policy, list of physicians that the athlete must see in order to return to play.
   f. Wells Fargo insurance information
   g. Academic adjustment form
5. In accordance with California State Law, all athletes suspected of having a head injury must be seen by a Medical Doctor before they are allowed to return to school or activity.
6. The Head Athletic Trainer will notify the concussion management team of the injury.
7. Under the advice the Principal, the student will be advised to stay home from school for one to two days to allow time for brain to rest and begin recovery. During this time the student will be instructed not to do any form of academics, video games, texting etc., once again to allow time for the brain to begin recovery.
8. During the first 24 – 48 hours the student must see an MD, who will provide a note for Athletic Trainer and Assistant Principal for Curriculum and Instruction confirming that the student has sustained a concussion and might need academic adjustments during their recovery.
9. The Assistant Principal for Curriculum and Instruction will notify the student’s teachers and counselor. The Head Athletic Trainer will be the lead coordinator, in matters relating to academics, for the student, parents, counselor and teachers during the recovery from the injury. Adjustments might be but not limited to allowing more time for assignments, postponement of tests and projects etc.
10. Once the student returns to school, the student must check in with the Assistant Principal of Curriculum and Instruction and Head Athletic Trainer daily for both academic updates and return to play protocols that are being followed.
11. Student will need to complete post injury tests involving ImPACT, KD Test and SAC to help establish progress in recovery. All tests will be performed under the supervision of the Athletic Trainer.
12. The Athletic Trainer will forward all test results to MD.
13. If multiple visits are required by the MD the student will need to provide updated notes from the MD as to status both academically and athletically.
14. Once a student has been cleared to return to play without restrictions, all academic accommodations will be removed.

STUDENTS SUSTAINING CONCUSSION OUTSIDE SCHOOL “A” ATHLETICS AND/OR NOT RELATED TO SCHOOL “A”

Students sustaining a MTBI away from school or involved with activities outside of School “A” Interscholastic Athletic program will follow the following policy
1. A student who has sustained a concussion outside Loyola’s Interscholastic Athletic program must notify the Head Athletic Trainer and Dean of Men before returning to school.
2. Under the advice the Principal, the student will be advised to stay home from school for one to two days to allow time for brain to rest and begin recovery. During this time the student will be instructed not to do any form of academics, video games, texting etc., once again to allow time for the brain to begin recovery.
3. The student upon returning school must provide a note from their physician to the Head Athletic Trainer, and Assistant Principal of Curriculum and Instruction, as to any adjustments that might need to take place. The student must see AP before being allowed to return to class.
4. The Assistant Principal for Curriculum and Instruction will be in charge of notifying the student’s teachers and counselor. The Head Athletic Trainer will be the lead coordinator, in matters relating to academics, for the student, parents, counselor and teachers during the recovery from the injury. Adjustments might be but not limited to allowing more time for assignments, postponement of tests and projects etc.
5. Once the student returns to school, the student must check in with the Assistant Principal of Curriculum and Instruction and Head Athletic Trainer daily for both academic updates and return to play protocols that are being followed.
6. Student will need to complete post injury tests involving ImPACT, KD Test and SAC to help establish progress in recovery. All tests will be performed under the supervision of the Athletic Trainer.
7. If multiple visits are required by the MD the student will need to provide updated notes from the MD as to status both academically and athletically.
8. A student will not be allowed to compete in any Loyola activities until all academically adjustments have been removed and the student is performing at the academic standard he was at before the concussion.