Improving Patient Care in the Secondary School Athletic Training Setting

A Dissertation
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Authorization to Submit Dissertation

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Abstract

The Dissertation of Clinical Practice Improvement highlights the major constructs of the Doctorate of Athletic Training (DAT) program, including the need for scholarship that leads to professional growth and a focus of action research that displays clinical outcomes of professional practice. My scholarship and professional growth began with the creation of a Plan of Advanced Practice (PoAP), outlined in Chapter 2 that captured my strengths, weaknesses, and goals (along with accomplishments) for advancing my clinical professional practice within the DAT and for the next 5–10 years of professional practice. Through the PoAP, I reflected on the desire to improve my patient care through the utilization of new interventions and paradigms while reflecting upon the need to improve my clinical setting (the secondary school setting) to provide quality patient care. In Chapter 3, I present clinical patient-oriented outcomes while within the DAT program that focused on learning and implementing new interventions into my own clinical practice. Chapter 4 is a literature review that synthesizes the current and previous research related to athletic trainers in the secondary school setting and research relating to the study and improvement of quality health care in other medical fields. Once the problems and needs for improvement in the secondary school setting were addressed, I focused the majority of my research project, Chapter 5, on performing a quantitative and qualitative assessment of the secondary school setting from a third-party stakeholder's perception of the athletic training services. The research study was through an action research process that deals with real problems and real-life situations by evaluating the local effectiveness of professional practice based on the interpreter's individual paradigm, and then the practitioner can create an outstanding solution to a local issue that can be used everywhere. After performing the research study, I was able to determine the focus of stakeholders in the secondary school setting in regards to the athletic trainer's time spent on duties related to patient care.

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Secondary, thanks goes out to all the stakeholders at Hahnville High School, including coaches, parents, and patients (student-athletes), who participated in my research study. I also owe recognition to the administration at Hahnville High School for allowing me to pursue my goal of a doctoral degree, including Frank Harding, who was my administration liaison for four years.

Dedication

I dedicate my dissertation first to all my family who helped me throughout this entire process: my mother (Rachel), father (Duane), brother (Jared), sister (Ashley), and grandparents (Sybil and Ray Montet), who cheered me on and pushed me to finish. Second, my girlfriend (Cortney Robert) and her family stood behind me throughout this entire process. Third, I contribute a lot of my success in this dissertation process to my colleagues, including fellow athletic trainers, specifically Dr. Josh Yellen, who believed in me from the beginning, and other faculty members at Hahnville High School (Marci Hunter, Pat Pitre, and all coaches). Lastly, a huge part of this dissertation is dedicated to all the previous and current patients (student-athletes) who I ever came in contact with and who cheered me own in my pursuit in completing this doctoral degree.

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CHAPTER 1: NARRATIVE

What is the Doctorate of Athletic Training Program?

The University of Idaho offers the Doctorate of Athletic Training (DAT) as an advanced professional practice doctorate program designed to prepare students as researchers, scholars, and advanced practice clinicians. The DAT is a post-professional doctorate program that utilizes a professional residency model and is designed for certified athletic trainers (ATs). The DAT also includes a yearlong professional residency designed to provide mentored and focused patient care experiences. A variety of residency sites can be used but each must provide a minimum amount of autonomous patient care focused on the treatment of musculoskeletal pathologies. Unlike other post-professional education programs in AT, the DAT has a more significant focus on the clinical preparation by adding this professional residency, which allows the student to grow and change as a clinical AT.

The DAT contains a primary component of a Culminating Clinical Project: a Professional Practice Doctorate's version of a dissertation, called the Dissertation of Clinical Practice Improvement (DoCPI). The DoCPI allows the DAT student to compile a portfolio of their research project, clinical practice outcomes, and coursework that outlines a process that may allow the student to become an advanced practitioner. Through the DAT program, the research and DoCPI relates directly to the AT's clinical practice, connecting the student's academia and clinical residency.

During the first summer session of the DAT, we discussed numerous aspects of the athletic training profession and ways to improve it. The struggle after the first four-week semester was to leave our normal world behind, then return and face the barriers that we discussed during the four-week period. The DAT faculty refers to the summer sessions as "bringing together a group of professionals who have a passion for improving their clinical

practice." I felt like I joined the DAT burnt out, run down, and discouraged because people in my job, without similar passion or knowledge regarding my profession, surrounded me and that first summer session rejuvenated my sense of pride and enjoyment in being an AT.

Prior to the DAT, I had forgotten why I went into this profession because of all the other issues I placed before my ultimate goal of treating patients. In the following five semesters, weekly classes were held to present new content, discuss clinical achievements and struggles, and to continue the shared growth process throughout the DAT program. The projects and presentations completed throughout the two-year DAT were AT focused, which allowed me to expand my current knowledge base regarding intervention strategies and advancements in patient care. A goal of the DAT is to expand the knowledge of the concepts I once learned in my accredited AT program and to expose myself to new paradigms and theories, which will help create my own paradigms and theories to progress into a level of advanced practice.

The Need for Scholarship

Advancing the practice of AT starts with establishing a higher level of scholarship amongst our profession through research and the use of evidence based practice. Becoming a scholar is a process that includes continuous personal growth in the search for truth across the entirety of a career (Knight & Ingersoll, 1998). Scholarship involves discovery of new knowledge to incorporate with existing knowledge and create or elucidate a theory. An accurate theory is a generalization that attempts to explain a set of truths and beliefs; as opposed to a confused theory that is not based on the correct set of truths and may lead to less than optimal knowledge advancement (Knight & Ingersoll, 1998).

Prior to the DAT, my knowledge and prior set of theories were learned from previous experiences, professors, and preceptors as a result of deductive reasoning instead of backed by empirical evidence to support the theory. Knight and Ingersoll (1998) advocated for the AT

profession to have its own base of knowledge. Advancing our profession with original research, backed by evidence-based practice, may allow ATs to create their own theories and paradigms. The process of scholarship includes the dissemination of new knowledge and theories to the rest of the profession through presentation and publication in scholarly journals and conferences (Knight & Ingersoll, 1998).

Clinical theories and knowledge should be supported by evidence-based practice, a process of assessing and applying the evidence within research to answer clinical problems and guide one's clinical decision making and professional practice (Hurley, Denegar, & Hertel, 2011). Information gained through research, however, cannot take the place of personal clinical experience but instead, a clinician needs the best evidence from the literature combined with an a priori clinical practice to provide best practice. The focus on research within professional practice is to have an "emergent" methods section, one that is developing and growing, primarily taking place in the context of the clinician's professional practice (Willis, Inman, & Valenti, 2010). Therefore, the concept of evidence-based practice puts the focus on the clinician's personal practice to guide clinical decisions (Nasypany, Seegmiller, & Baker, 2013). The clinician's individual practice should still be supported with scientific evidence, although this evidence may be created locally, and the process must include a reflective session to modify or moderate the changes to their practice (Nasypany et al., 2013).

Action Research

Outside of the traditional framework of research is a paradigm of action research that is more prominent for professional practice and focuses on the experience of the clinician's own practice. Action research is an approach used in health care to assist practitioners to improve their own practices (Koshy, Koshy, & Waterman, 2011). The term "action research" describes a research process that involved the social sciences and could bring about immediate change in the

real world. The purpose of action research is to foster informed change in a specific context through observations, evaluations, and judgments within a health care practitioner's daily routine. By utilizing action research, practitioners can seek out ways to enhance the quality of health care they provide. Utilization of action research enables health care practitioners to address a general problem or issue they desire to change, and that problem or desire is normally personal and identifiable to the researchers (Koshy et al., 2011; Willis et al., 2010).

Action research is a process involving repeated cycles of planning, observing, reflecting, and implementing an intervention throughout the course of the research. While there are several action research models, the constant is the reliance on reflective practice. Clinicians who engage in action research are reflective in their practice and must be scholars. Reflection is the crucial step that guides the entire action research process (Koshy et al., 2011). By reflecting on personal experiences and knowledge, health care practitioners are able to enhance their practice and create evidence to support their actions (Koshy et al., 2011; Nasypany et al., 2013; Willis et al., 2010).

Inside the paradigm of action research is a concept of translational research, which brings the basic science of research to the public (patient), making research a bidirectional component (Hurley et al., 2011). Utilization of translational research creates a practitioner-researcher, which requires not only collection of data, but also a reflection on the recorded outcomes. Reflection on the research process requires a constant attempt to focus the research goals and questions back toward personal clinical practice, and reflecting on our clinical data may lead to influencing the choosing of future interventions, a component of the action research process. Previous authors have placed a focus primarily on translational research and the need for more of it in the medical professions (Mattacola, 2010; Merrick, 2010). Basic scientists tend to work within a controlled setting to test a certain phenomenon and then attempt to translate

that information to clinicians for practice in the applied setting without direct knowledge of whether this knowledge is transferable (Mattacola, 2010; Merrick, 2010).

Often information gets lost in translation between the basic scientist and the clinicians who deal with application theory in a clinical setting (Mattacola, 2010; Merrick & Dolan, 2010). Medical professionals involved in rehabilitation services and long-term treatments of patients are in a position to use best evidence and return their outcomes back to the laboratory setting by completing the evidence loop and creating a two-way flow of information. Through the action research process, the proof of the knowledge and creation of theories can be reported through an objective method of outcomes.

There are two main types of outcomes: clinician-based and patient-based outcomes. Clinician-based outcomes are objectively assessed from the point of view of the clinician, and patient-based outcomes are obtained from the patient's point of view via a self-reporting method (Hurley, 2011). For example, McLeod et al. (2008) provided clinicians with examples and knowledge about using a disablement model to synthesize clinical outcomes in the AT practice. Disablement models allow clinicians to record clinical outcomes that are a result of their interventions/treatments and examine said outcomes for indicators of effectiveness.

There is a need for "real world application of research", which is necessary to prove to other medical professionals and ourselves that we are able to take the science and apply it to the patient. Completion of the loop requires documentation of the intervention working, which leads to the creation of clinical outcomes and can drive the medical profession forward. Sharing the results through dissemination of the research is the key to growing any profession and continuing along the path of scholarship (Nasypany et al., 2013). Koshy et al. (2010) wrote, "As action researchers, we have to create a coherent and credible story from all the data collected"

(pg. 125). However, our findings in the practical field are irrelevant unless they return to the scientist in the laboratory.

Action Research within the DAT

Although a majority of the action research takes place within our clinical residency, Willis et al. (2010) mentioned varieties in action research, which may suggest that it is not just about collecting the data through our residency, but in fact, the whole process of the DAT program is considered action research. Our clinical residency provides the opportunity to use participatory action research when we identify a certain issue, collect outcomes data on our interventions, and develop a group of stakeholders (i.e., the rest of the ATC profession, coaches, patients, etc.). We participate in instructional design as research by creating learning or training materials to share with our classmates. Professional discourse is having professionals and scholars "talk shop" about their day-to-day practice, which is what we accomplish in our weekly Wordpress.com blogs. Our version of emancipatory research comes from discussing current issues in athletic training, continuing our education, and showing the public our results from outcome data with the goal of lobbying for ourselves as professionals and health care providers. The easiest path to truth is to let good data speak.

My DoCPI is a display of clinical practice improvement that highlights the major constructs of the DAT, combining the need for scholarship leading to professional growth and a focus of action research that displays clinical outcomes of professional practice. Scholarship and professional growth began with the creation of a Plan of Advanced Practice (PoAP) that captured my strengths, weaknesses, and goals (along with accomplishments) for advancing my clinical professional practice within the DAT and that will guide the next 5–10 years of professional practice.

In Chapter 2, I highlight my PoAP and I reflect on the desire to improve my patient care through the utilization of new interventions and paradigms and upon the need to improve my clinical setting (the secondary school setting) to provide quality patient care. Chapter 3 is a presentation of clinical outcomes from three semesters in the DAT program that focus on the interventions highlighted in my PoAP, including Mulligan Concept techniques, Positional Release Therapy (PRT), Selective Functional Movement Assessment (SFMA), and Total Motion Release (TMR). Through my PoAP, I focused on one of the major issues in my current patient care: the barriers related within the secondary school setting.

A literature review, found in Chapter 4, synthesizes the current and previous research related to ATs in the secondary school setting and research relating to the study and improvement of quality health care in other medical fields. After summarizing the literature that surrounds the problems and needs for improvement in the secondary school setting, I focused the majority of my action research project, found in Chapter 5, on performing a quantitative and qualitative assessment of the secondary school setting from a third-party stakeholder's perception of the athletic training services.

The goal to creating this DoCPI supported with the content of action research is to improve my clinical practice and the practice of colleagues and future ATs, and to bring about change within the culture of my profession. Action research is a process for improving practice by allowing practitioners to search for methods that help them provide an enhanced quality of health care (Koshy et al., 2010). The goal of my DoCPI was to produce a practical level of knowledge useful to clinicians throughout their everyday conduct of healthcare, what Koshy (2010) called "living knowledge" (pg. 3). The primary focus was to evaluate and improve my context, which if done clearly, may allow other practitioners to see an example of how individual

barriers to effective practice can be understood and transformed into an ideal situation for all stakeholders. I hope this project will influence others as much as it has influenced my practice.

CHAPTER 2: PLAN OF ADVANCED PRACTICE

Background (Personal/Education)

Ten years ago, I started my journey to becoming an AT. I attended what I considered to be the best undergraduate Athletic Training Education Program (ATEP) at Southeastern Louisiana University. I was top of all my classes academically, and I constantly craved more knowledge each day. Early on in my professional training, I enjoyed learning about a career that I was going to be a part of for the rest of my life. At the end of my junior year, I won the Dr. Betty Baker Award for Academic Excellence by exceeding everyone else in the ATEP and having the highest grade point average (GPA). I wanted to prove that I could out work and out study everyone, believing it would make me a better AT. Even though in my senior year I was being "super student" and clocking in multiple clinical hours, I still managed to keep my high GPA. My classmates used to tell me that I was "missing something" and that "you can't find athletic training in a textbook." They said that they would become a better AT in the long run just by simply "doing" instead of "studying."

In April of 2009, I sat for the Board of Certification exam to become a Certified Athletic Trainer and failed by 6 points. I still wonder if I would have passed the test had I not been gaining clinical experience hours the night before. One month later at the end of my senior year, I lost the chance to repeat and win the Dr. Betty Baker Academic Award again when my GPA was 0.001 points lower than another student. So I grinned and bared a fake smile when they gave me the Most Improved Athletic Training Student award because "they wanted to at least give me something."

I was devastated about my fairytale undergraduate experience was ending after all the hard work I had put in academically. Upon graduation from undergraduate school, I received a huge personal compliment from my clinical coordinator when he told me: "You will go further

in the profession than anyone of your classmates in the next 5 years, and I want to be around to see it happen." That one statement has been my professional motivation.

In January of my senior year, I decided to apply to graduate school. As a senior in college, I began to realize I wanted to continue my formal education and perfect my skills as an AT. In graduate school, I could practice as an AT clinically and have a network of other ATs around me in case I needed assistance. I applied to 8–10 graduate programs, had interviews for four of them, and finally accepted a position at Ohio University (OU) in their Post-Professional National Athletic Trainers Association (NATA) Accredited Graduate Program.

At the time, the NATA had only accredited 15 Post-Professional Graduate programs. The purpose of these select programs is to instruct certified ATs in mastery skills, refine critical thinking and theoretical understanding of academic subject matter, and increase proficiency in research (NATA, 2002). As part of the graduate program at OU, I had the opportunity to continue my clinical skills as a graduate assistant providing an athletic training service to Vinton County High School (VCHS).

While in graduate school, my grades slipped a bit lower, because I was convinced that this time around, I wanted to focus on the experience of athletic training, not the experience of taking classes; the opposite of undergraduate school. Even though I made my first A- in any athletic training class, I still managed to have higher grades than anyone else in my graduate ATEP. I enjoyed graduate school because of the experience of both advanced level classes and fine tuning my clinical skills from undergraduate school, which, at the time, I considered made me a better "functioning" AT.

Choosing the Secondary School Athletic Training Setting

I felt that providing athletic training services at VCHS for my clinical/professional experience in graduate school allowed me to fine tune my clinical skills and grow as a future AT.

The atmosphere of year-round patient care, multiple athletic-related injuries, and a feeling of being in charge made me consider continue working within the secondary school setting as an AT. This time around, I was the soul AT at the secondary school and for the second year in a row, I drove 30 minutes each way to play "super athletic trainer." I sometimes stayed at the school until 9:30 pm watching basketball practice, as I convinced myself this was necessary "coverage." I later realized later that it was just me, sitting around waiting for someone to get hurt.

The experience I received at OU was similar to the familiarity I had in my undergraduate program. My senior year in undergraduate school, I spent a full-year rotation at a small private secondary school in Baton Rouge. I drove 30 minutes there and back every day to experience the clinical setting. I began doing more clinical hours than in previous years, finally experiencing the "hands on component" that my classmates said I was lacking, while still maintaining high academic standards. Since I was the only athletic training student and a senior in the ATEP, the high school patient-athletes treated me as being equal to my clinical preceptor, like an assistant AT.

I loved both experiences and I was ready to enter the real world of secondary school athletic training. I accepted my first job offer after graduate school to return to my alma mater secondary school, Hahnville High School (HHS) in Louisiana to be the AT and teach the Sports Medicine class. I was semi-excited to teach the class because I had student teaching assistant experience in both undergraduate and graduate school, but I was nervous that I had to teach high school students; little did I know that the teaching aspect was going to be the least of my worries.

A Desire for More

I always considered that my academic excellence in undergraduate school and graduate school experience made me a better certified AT because it allowed me to study athletic training and practice my clinical skills simultaneously. The Post-Professional Graduate program built upon my undergraduate academic education with advanced athletic training classes and a clinical experience component that allowed me to practice athletic training as a certified AT. OU was different from other graduate schools that often required their students to put in 60+ hours a week and major in something unrelated to athletic training, such as sports management or education. The experience of receiving higher education in athletic training with an opportunity to develop my clinical skills gave me a sense of self-fulfillment and had me convinced that I was ready to be an AT outside of any educational program.

Following graduate school when I started my first employed position at HHS, I tried to continue being the same AT I was in Ohio, but something was different this time. First, there was a sense of isolation because there was no one else with me and I could not blame my lack of knowledge on "being a student." Second, this new setting proved to be different from the secondary school in Ohio, unmasking new barriers of time management and discovering that my formal education left holes in my clinical education and clinical skills. I began to change my methods of clinical practice and patient care to overcome the barriers.

In graduate school, my therapeutic modalities consisted of an ice machine and my hands for manual therapy, but once I got to my new job, I had every therapeutic modality machine imaginable. Because of the change in setting and new responsibilities of being an athletic trainer/teacher, I began using equipment that plugged into a wall, not to have to deal with a patient for 25 minutes, making my clinical skills and me lazy. I felt my skills getting slower and my knowledge slipping. I considered two reasons for this feeling. One, the formal education I

experienced provided me with foundational knowledge to be an AT, but the curriculum did not truly prepare me with the skills and knowledge for the real world; it was lacking in the skills of leadership and professionalism. Second, even though the two athletic training education programs had a clinical experience component, my skills were still fundamental.

After spending three years as a certified AT, I was unhappy and unsatisfied with my professional practice. I reflected upon the feeling I had when I began graduate school in Ohio. I loved and missed the feeling I got from learning new dimensions related to my profession. I began to look for the next level of education, a terminal degree, a doctoral degree. When trying to make the decision about which one I wanted to pursue, I looked at numerous doctoral programs. I decided on the Doctoral of Athletic Training (DAT) program through the University of Idaho. I felt that this program and degree would help with my professional practice by promoting scholarship with the search for truth and increasing my knowledge of interventions to utilize in my patient care.

The decision to pursue the DAT had three personal and professional components. First, I am not going to lie… I respect and crave the "doctor" title. I have found that in athletic training, especially in Louisiana and in the secondary school setting, the title and even the nickname of "doc" is given to people who were foundational members who spent numerous years in the profession. I want to earn the title based on academic level and clinical skill, not solely on longevity. Second, since I finished graduate school, I have craved a level of higher learning for my profession of athletic training than the DAT satisfies. The DAT has started me on a path to seek higher knowledge and restored my will to strive once again for self-improvement within my profession. I only hope that I can continue this feeling once I finish. Third, I want to remove the ideas of complacency and change the culture of athletic training, especially in my state and current position.

Personal and Professional Reflection

After undergraduate school I realized that a viable reason to go to graduate school (and to strive for my doctoral degree) was because my undergraduate degree taught me what I needed to know to be educated, but my graduate degree was going to teach me how to be a professional. Beginning my terminal degree would help me advance my profession clinically and academically and allow me to pursue a higher level of knowledge, putting me on a route to becoming a scholar. However, the process of becoming a scholar begins with examining current knowledge and search for truth behind current theories (Knight & Ingersoll, 1998). To know where I am going, I first had to acknowledge and not forget where I came from (outlined in prior sections of this chapter). My personal examination of the current knowledge and truth, along with recognizing my past, has helped shape who I am currently, including my strengths and weaknesses that can be categorized as either personal or professional. My strengths and weaknesses come from self-reflection, third-party ratification, and past knowledge derived from my years in formal education and clinical experience.

Strengths

I believe my personal and professionals strengths are:

1. I am a generous and moral person.
2. I work constantly toward self-improvement.
3. I have high standards and am very ambitious.
4. I work hard with the intent to improve my profession and myself.
5. I have a general love and compassion for people.
6. I am not afraid to admit when I make a mistake.
7. My knowledge of therapeutic modalities

8. My knowledge of joint mobilizations
9. My knowledge of orthopedic evaluation and clinical assessment
10. My knowledge of human anatomy and physiology

Experiences and relationships from my past have influenced my personal strengths. A traditional childhood and family life, backed with religious beliefs and morals shaped who I am as a person. My personal beliefs have guided the relationships I have fostered through the years and have caused me to develop into my current character. Through the years in formal education, certain friends, teachers, college professors, and colleagues helped shape my personality and guide future decisions. I have been lucky and blessed to have people around me help guide and root themselves in me as a person to become part of my story as a professional. My preceptors and professors helped me to succeed in creating the best possible scenario for me to achieve instead of fail.

Outside of personal strengths, I feel I have certain professional skills and a higher level of knowledge about specific aspects in the athletic training field. First, I consider my knowledge about certain therapeutic modalities to be different and widely versed compared with most. Within my professional practice, I try hard to be a clinician, not a technician ("knobologist"), but sometimes characteristics of my setting (i.e., time management) and my patient population (i.e., low pain tolerance) presents reasons and barriers that cause me to abuse certain modalities (i.e., rely on "devices that plug into the wall"). Second, in undergraduate school, I learned joint mobilizations for the cervical, thoracic, and lumbar spine, which often is not taught in that level of athletic training education. I have constantly looked into the Maitland scale of joint mobilizations and other sources, and I think that ATs can and should utilize joint mobilizations when indicated.

Third, I would say my evaluation and assessment skills are one of my strengths based upon third-party confirmation; I come up with a certain diagnosis, which my team orthopedic physician agrees upon and sometimes even confirms with a magnetic resonance image or radiograph. Lastly, since my first Anatomy and Physiology class in undergraduate school, I have enjoyed anatomy and physiology. A professor once told me "if you do not know your anatomy, then you do not know anything." One of my biggest excitements and growths in this concept came during a cadaver laboratory in graduate school because I could physically see structures I had only previously seen in pictures.

Weaknesses

I believe my personal and professional weaknesses are:

1. I struggle with time management
2. I have a problem with saying 'no' to new commitments
3. I focus on the long term problem or solution instead of the daily progression and successes
4. My knowledge of therapeutic rehabilitation and exercise
5. My knowledge and ability to perform organization and administration
6. I become frustrated with patients who cannot articulate their source of pain
7. My ability to communicate with others that possess a lack of understanding about the athletic training profession

My weaknesses come from hard times and struggles embedded in my education, clinical setting, and personality. I feel my personal weaknesses have developed from the bad situations and experiences I was placed in through my formal education and at my clinical setting. Although the people I surrounded myself with during undergraduate and graduate school may have had my best interest in mind, being out in the professional world alone has not been good

to me. Having to fight and support myself with no circle of colleagues or professors has left me vulnerable to changes in my personality characteristics.

In addition, in the places where I lack in formal education, I also show a shortage of knowledge in some aspects of my professional characteristics. First, I feel like therapeutic exercises and rehabilitation is a weakness due to a lack of experience in this aspect during my professional practice. Pre-college, when I was discovering the sports medicine field, I learned what rehabilitation was from a physical therapist. My knowledge base regarding types of therapeutic exercises is at a bare minimum. I want to work on this aspect of my profession because I feel like this particular conceptual knowledge and skill will improve my practice and patient outcomes; however, the goal would be to learn a variety of better techniques to improve my rehabilitation skills (i.e., corrective exercise specialist by National Academy of Sports Medicine).

Second, my documentation skills are sub-par at best. I only document basic injury related information to record that the patient had an injury and that they showed up for treatments and what we did that day. I think utilizing an additional system (i.e., the Disablement in the Physically Active Scale & Numerical Rating Scale) would allow my documenting to be more reflective and improve my professional practice. Documentation should not just be a process to avoid litigation, but it should be used to track and reflect your patient's status and outcomes better.

Barriers to My Practice

In the first summer session of the DAT we talked about barriers that can keep us from progression into advanced practice. There are numerous personal and professional barriers to my practice found within my secondary school clinical setting. I am aware that time management is my biggest barrier being. Some of the tasks necessary through the DAT and the process of scholarship will be tough as my job has a wide variety of responsibilities as an educator, AT,

preceptor, and faculty member. My contract at the secondary school is an AT/teacher, so between 7:00 and 14:30, the administration has rules as to when the students can see the nurse versus see me. This does not fully utilize my expertise and training as seen in other secondary settings. The exception to the rule is if someone needs to see me for medical attention during my prep period and he or she is in PE or weightlifting.

My second barrier is having minors as patients, meaning I have to receive consent to treat from their parents, slowing down data collection. In my socio-demographic area, many of my patients only have one parent and struggle with returning any papers needing to be signed and returned. As far as tracking de-identified data, the administration supports me. Third, I come from an area with many "backwoods thinkers" and just like many other places, people whom have and are willing and able to voice their own opinion. I expect to struggle with some of the "clinical pearls" and other new techniques we have looked at through the DAT. Lastly, sometimes, my patients (before or after seeing me) will go seek other medical professionals (Physical Therapist, Orthopedic, etc.) and get a "free evaluation/free treatment session." The majority of the time, they come back and tell me that they were diagnosed with the same injury that I already told them they had – so they are really just going to get external (parents, coaches, etc.) or internal (sympathy, empathy, etc.) validity.

I feel that if I can relate to the patient better (show empathy) and cure pain quicker and more effectively, then I could improve my patient outcomes and increase speed of return to play and discharge. In my setting, my patients can show up with pain that does not make sense to me. After checking muscles, ligaments, and function, I do not find anything physically wrong but the patient still complains of pain, even after the use of basic modalities to decrease any inflammatory or "soreness" issue. This may involve me learning new intervention strategies geared specifically toward pain management.

Overcoming Barriers

The first summer of the DAT made me both happy and upset to get back into my own clinical practice. It was comforting that many of the second-year students offered advice to only focus on one big change and outcome in our profession at a time. The first step was to find the focus of my research by pinpointing a problem and build my research questions. As I focused on that, I began to realize that I would need to overcome some of the previously mentioned barriers and then I could focus on a change within my daily routine and practice. I previously mentioned time management as an issue.

At the end of the first DAT summer session, I received a job offer that would have potentially fixed this barrier, but by comparison, all was not equal between the options to stay or leave my current job, so I decided to stay at my current job. I could not imagine trying to start my residency experience at a new location with new staff and new patients. I was optimistic to be able to grind through the tough times and still be able to do well in the DAT (at least I hope so).

It was rough during football season when normally I was putting in many hours during the weeks, but I utilized all my downtime in completing assignments and if I had to, I called in additional coverage support from the local physical therapy clinic, which has a Physical Therapy Assistant/AT and always willing to lend a helping hand. Even though I taught in the mornings, I utilized the two-hour break in the middle of the day for lunch and other necessities. I also met with my coaching staff and athletic directors to discuss past coverage requirements and the potential remodeling of my duties. I do not find the best use of my time was to sit around and wait for someone to get hurt.

Another barrier I mentioned previously was dealing with "backwoods thinkers." I feel this barrier is fixable, little by little; it is all about how you sell the new method of

treatment/intervention. I feel some intervention methods will fit in right away because my patients are so used to having someone lay their hands on them; however, potentially, I could use other new treatments (Mulligan & PRT). It will only take one person to benefit from a new technique and then the "flood gates" will open to all new possibilities. I hope that I am not caught up in "seeing everything as a nail" when I find a "new hammer" that works. This is because at my high school, when you do an intervention for one person, by the end of the week, everybody "miraculously" has the same pathology and wants the same intervention done for them; word about the "new technique" tends to spread like wildfire.

In dealing with minors, I do not think I will have to change much in my practice. I am currently and will remain cautious when dealing with minors (i.e., watching hand placement, having someone else in the room with me, etc.). I still am curious on how the Internal Review Board (IRB) and consent process will work when collecting data on these patients. Also, I plan to work better with the physical therapist during my residency and utilize the moments when my patients see him to my advantage by using his facility to collect my own outcomes.

Current Philosophies in Patient Care

Throughout the DAT, we created philosophies that are ever changing and growing as I progress into advanced practice. My current health care philosophies originate from the similar internal feelings and external experiences that shaped my strengths and weaknesses.

Professional Philosophy

Step one to advancing my professional practice is to create my own philosophy of patient care. In patient care, first, I believe in the paradigm of the athletic training profession but I am not satisfied with it personally or professionally to keep it the way it is. Second, I desire to question and develop new advanced practice ways of thinking in regards to intervention strategies related to recognition and treatment of physical impairment, dysfunction, injury, and

illness. Third, I find value in wanting every patient to know and believe he/she can come to me with any problem, regardless of anyone else's perception of the condition. Fourth, I want to promote anticipatory socialization in hopes my patients learn what ATs are and respect me/my facility/my equipment/my profession. Fifth, I try to focus on true patient care by treating everyone fairly and be character based instead of reputation based. Sixth, I utilize practice-based evidence intervention strategies for improving dysfunction and pain, with the intent of improving quality of living and returning the patient back to their desired activity as soon as possible. Seventh, I focus directly on patient-centered care and strive to change the perception of ATs being health-care professionals instead of focused on referral and coverage. And eighth, I want to treat the patient as a person (mind and body), not just a statistic or an injury.

Rehabilitation Philosophy

In patient care, my rehabilitation philosophy is to be involved in my patient's improvement of their short-term and long-term pain and dysfunction with manual therapy and therapeutic modalities. Second, I want to provide them a system of continuing their improvement outside of the clinic. Lastly, I want to return them quickly and efficiently to their level of activity, as soon as possible.

Future Plan and Direction for Advancing my Practice

The secondary school setting is hiring ATs under contract to be the AT and teach classes, potentially putting strain on their daily schedules and causing burn out (Pitney, Stuart, & Parker, 2008). It could be possible to improve the athletic training profession by showing the need for better time management commitments within the secondary school setting. For example, keeping track of a secondary school AT's daily routine and logging hours of their time spent performing tasks can potentially prove the need for extra time spent to improve health care.

On a final personal note, I feel like my ultimate search and progress toward advanced practice in athletic training may have to come with changing jobs – finding something more athletic training centered. However, I do think an attempt to make short-term changes could affect my current position and allow me to concentrate on athletic training that will lead to the first steps of advanced practice.

Area of Advanced Practice

I have a confidence in my strengths but a vision for growing and changing my weaknesses, to progress professionally and personally in the future. I have a newly created and respected purpose and understanding of my profession since being a part of the DAT, and the passion to take this growth and deeper meaning of an AT with me into my plans for the future. I feel like I have discovered the root of the problem within my professional career and my goal to advancing my profession and practice is to work toward changing it.

The improvement in the athletic training work setting could start with a clearer definition of what ATs are being employed to do. This could be guided by the creation of a model for best practice within the athletic training profession. Emphasis is placed on ATs, especially in the secondary school setting, in providing coverage of sporting events, when an emphasis on patient care should be the focus if ATs are to be considered as health care professionals. Stakeholders surrounding ATs possibly embed this argument in a job description misunderstanding and in most settings, the governing party is an athletic model instead of a medical one.

Because of the multiple settings ATs work in, a broad definition of the tasks and duties required by the AT is present in many people's perspectives and expectations, which could lead to the creation of barriers and misinterpreted perceptions of ATs. My goal and desire for my area of advanced practice is the improvement of the athletic training work setting (with emphasis on the secondary school setting). The focus is to prove to the stakeholders surrounding ATs that

the worth of the professional is to be a health care provider responsible for providing quality health care for any level of sports-related condition.

Outside of my primary area of advancing my practice and profession exist other focus areas that could guide my practice and profession including: learning new interventions to improve patient care and additional interest areas for future research. These interests and areas of study are very sporadic, derived from past educational and current professional interests:

- Implementation of Clinical Decision Rules in Athletic Training
- Emergency Procedures and Cardiopulmonary Resuscitation
- Therapeutic Modalities (Electrical Stimulation, HIVAMAT, Manual Therapy)
- Joint Mobilizations (MWMs, SNAGS, NAGs)
- Alternatives to Dynamic/Passive Stretching (TMR, PRRT)
- Holistic Healing
- Exercise Associated Muscle Cramps

Timeline of Advancing Clinical Practice

To improve myself professionally and clinically, I developed a plan and timeline for advancing my clinical practice. This timeline included stepwise events and tasks for completion during the DAT and prior to finishing.

During the DAT

First, I wanted to improve my organization, administration, and documentation procedures. This started with utilizing patient-centered outcome measures within my professional practice and transition from a paper system to an electronic system. Second, I wanted to improve assessment and evaluation skills of the orthopedic nature and applying sensitive and specific special tests into professional practice. I also wanted to improve assessment and evaluation skills of a dysfunctional movement component by utilizing the

Selective Functional Movement Assessment (SFMA) screen within my clinical practice; viewing the course on NES; hopefully attend a live SFMA course; and read the Gray *Movement* (Cook, Burton, Kiesel Rose, & Bryant, 2010) textbook.

Third, I wanted to improve return to play/discharge of patients by utilizing new and better intervention strategies by becoming competent in new intervention strategies focusing on stability and mobility, including the following: Mulligan technique, TMR, PRT, SCS, and Neurodynamics. I also wanted to reflect on daily practice to make changes with my intervention strategies. Fourth, I wanted to improve therapeutic rehabilitation and exercise techniques by reviewing therapeutic basic knowledge textbooks, as well as review motor learning concepts. Fifth, I wanted to improve skills in pain management by learning and implementing a new pain management intervention strategy, including TREs or Reflexercise, which could help progress my future plans to improve and utilize holistic healing methods.

Plans After the DAT

First, I plan to continue my education and scholarship by participating in conferences and webinars for the prior mentioned techniques related to areas of AT advanced practices. I would like to advance in the profession by presenting at an athletic training conference (national/regional/state), increase personal time spent reviewing current literature, and publish an article in a scholarly journal. Third, I would like to improve quality patient care through action research by reviewing past and current literature on socialization, leadership, work-family conflict, and burn out in AT and attempt to define "quality patient care" for ATs.

I also plan to collect data on the coaches perceptions/expectations of AT, administrator perceptions/expectations of AT, and patient perceptions/expectations of AT. This could help me develop strategies for decreasing barriers and changing any wrong perceptions/expectations of ATs and improve wrong perceptions and expectations related to AT roles and

responsibilities. All this data could potentially improve the settings in which ATs work in and create models of best practice. Last, I would like to try to maintain a balance within my profession and personal life in the hopes to decrease burnout in my job setting; decrease unnecessary tasks in my job setting; improve my clinical practice of patient referral versus in-house treatment; and ultimately look for a non-teacher/AT job.

CHAPTER 3: CLINICAL DATA AND GLOBAL OUTCOMES

Collecting clinical data and global outcomes was a foundational and fundamental part of the DAT program. Within athletic training, there is a need for quantifiable data, compared pre and post intervention, which allows us as a profession to show our worth and ability to treat patients.

Structure

To begin the collection of data within my clinical setting, a systematic method needed to be determined consisting of a framework for collecting the patient data. The framework allowed for collection of the same data from patient to patient and showed a progression throughout the treatment process. Assignment of a patient code number helped with anonymity and following Health Insurance Portability and Accountability Act (1996) standards.

To standardize patient specific outcomes, the same measures were collected for every patient, including generic, universal information collected in other medical professions, such as history, observation/assessment, stress tests, and a plan for treatment. Subsections of the observation/assessment included range of motion (ROM), manual muscle testing (MMT) and if necessary, a SFMA. The plan section included a goals section to consider the patient's desires and personal short-term goals for improving their situation. Each day the patient was treated, I recorded the intervention and specific outcome measures and reflected on each patient following the end of his or her intervention session and at the end of the semester.

Selective Functional Movement Assessment

In continuing the need for a more detailed structure to classify conditions and injuries, as students of the DAT we utilized the SFMA (Cook, Burton, Kiesel Rose, & Bryant, 2010). The SFMA is a set of seven movements – cervical spine patterns; upper extremity patterns; multi-segmental flexion; multi-segmental extension; multi-segmental rotation; single-leg stance; and an

overhead deep squat – that assess patterns of motion in patients with musculoskeletal pain. The SFMA places emphasis on identifying the patient's dysfunctional and non-painful movements. The clinician is then able to categorize the dysfunction and assist the rehabilitation process by allowing the design of therapeutic exercises to benefit the patient (Cook et al., 2010).

Each of the seven movements in the SFMA is organized and categorized based on a given set of criteria into one of four categories: functional and non-painful; functional painful; dysfunctional and non-painful; and dysfunctional painful (Cook et al., 2010). Functional is an unlimited or unrestricted movement, whereas dysfunctional is used to describe movement with limitations or restrictions causing a lack of mobility or stability. A painful movement is any motion in the SFMA that causing a reoccurrence or increase in the original symptoms or producing different, secondary symptoms. The origin and severity of the pain should be noted (Cook et al., 2010). When observing the patient perform the SFMA, the focus should not be on the measurement or identification of pain, but an attempt to locate the cause of the pain by observing the functionality of the movements (Cook et al., 2010).

Throughout the DAT, the data collection process includes the SFMA for each patient. However, in many of my particular situations, this was not always the case due to time constraints when treating and evaluating certain patients. When the data collection process started, the SFMA was a new technique I was uncomfortable with using. As I began to get more comfortable with utilizing the SFMA, it became a part of my screening process for chronic, long-term conditions. Within my setting, my patients presented more frequently with acute injuries, which led me to correcting the acute inflammatory process instead of the long-term chronic dysfunction that may have caused the pain and onset of injury. Nevertheless, for the acute conditions, I was able to use the SFMA as a return-to-play assessment, checking for any outstanding dysfunctional movement patterns that emerged from the patient's initial injury.

Patient Centered Intervention Strategies

As part of the DAT program, advancing my professional practice and improving my clinical outcomes came with learning a new set of robust interventions. Prior to the DAT, my interventions were very traditional, by the textbook, and focused primarily on decreasing pain and inflammation. The first summer session of the DAT program introduced us to a set of interventions found throughout different health care treatment settings and followed different paradigms of patient care that we were perhaps not familiar with from our prior formal education. My goal for choosing new strategies was to improve my clinical outcomes by decreasing pain at a minimal clinically important difference (MCID); and decreasing the patient's pain quicker so they could return to play. Throughout my DAT experience, I utilized three new intervention strategies regularly within my clinical practice, while learning other strategies and paradigms where I did not collect patient outcomes. The three intervention strategies are discussed in the following three subsections.

Mulligan Technique

Mulligan pioneered his technique from the classic manual therapists of Kaltenbourn and Maitland by creating multiple different techniques for the cervical, thoracic, and lumbar spine. Natural Apophyseal Glides (NAGs) is an oscillatory movement in the cervical spine, where the clinician glides the facet joint of the cervical spine (Baker, Nasypany, Seegmiller, & Baker, 2013; Mulligan, 2010; Mulligan & Gargano, 2013). Reverse NAGs are similar to NAGs, except they are done on the lower cervical spine and upper thoracic spine, and SNAGs (Sustained Natural Apophyseal Glides) are performed on the cervical, thoracic, or lumbar spine, when a mobilization is performed and held while the patient performs the effected movement). The same SNAG mobilization technique can be performed in the extremities and is what Mulligan called "mobilizations with movement" or MWMs (Mulligan, 2010) (pg. 71). The techniques are

utilized with the goal of the patient performing the movement free of pain (Baker et al., 2013; Mulligan, 2010; Mulligan & Gargano, 2013).

One theory behind the SNAG and MWMs is that the mobilization is correcting a "positional fault", a minor fault of the joint due to injury or muscle spasm: the joint is out of alignment by only millimeters (Baker et al., 2013; Mulligan, 2010; Mulligan & Gargano, 2013). The positional fault in the joint creates a misalignment in the joint's alignment, or arthrokinematics, leading to an altered movement pattern and can cause pain. The MWM or SNAG realigns the positional fault and the patient performs the movement to end range (and over pressure is applied), which corrects the neurological signal of dysfunction and pain within the patient. These techniques should always be performed pain free and should produce an immediate effect and long lasting result (Baker et al., 2013; Mulligan, 2010; Mulligan & Gargano, 2013).

As with any Mulligan technique, certain rules help indicate and guide the administration of the techniques. These guidelines are presented in two acronyms: "PILL" and "CROCKS" (Table 1) (Baker et al., 2013; Mulligan, 2010; Mulligan & Gargano, 2013). The PILL acronym stands for Pain-free mobilizations that produce an Immediate effect and lead to Long-Lasting results. If there is no PILL response, the technique is contraindicated (Baker et al., 2013; Mulligan, 2010; Mulligan & Gargano, 2013;).

The "CROCKS" acronym breaks down certain guidelines the clinician should follow when performing the Mulligan technique (Baker et al., 2013; Mulligan, 2010; Mulligan & Gargano, 2013). After the Mulligan technique, the patient should perform the same movement that was painful or restricted as a comparable sign to confirm if the technique was successful, and this incorporates practice-based evidence into clinical practice. The lumbar SNAG technique should follow the Mulligan "Rule of Three", meaning that on the first treatment session only

three straight leg raises with traction should be performed, while more can be done on future visits (Baker et al., 2013; Exelby, 2002; Mulligan, 2010; Mulligan & Gargano, 2013; Wilson, 2001).

Total Motion Release (TMR)

Dalonzo-Baker founded a technique called Total Motion Release (TMR), which accentuates the idea of the body working as a whole unit to create proper functional movement and eliminate painful movements (Mosely, 2007). Tightness or weakness in one part of the body can lead to improper pressure and restrictions in other parts of the body, causing strain in joints and tissues (Mosely, 2007). Commonly, health care focuses on treating the part of the body that is painful and symptomatic, whereas TMR focuses on the route or cause of the pain and movement restriction. A theory TMR uses to correct the restrictions and painful movements is to create balance within the body by having the patient perform movements using the good (non-painful) side of the body to improve the bad (painful) side. Instead of working toward the area of restriction, TMR has the patient work away from the painful area, potentially to stretch, correct, or realign the tissue back to normal (Mosely, 2007).

Janda added to this paradigm by discussing the balance between a structural approach and a functional approach (as cited in Page, Frank, & Lardner, 2010). In the structural approach, the focus is placed upon the specific pathology of the structure, whereas, the functional approach recognizes the body as a whole. Furthermore, since the body consists of multiple bones and muscles and the central nervous system, these anatomical systems cannot perform independent of each other, so control of the body is performed through the "sensorimotor" system. Changes within one part of the body can cause the nervous system to become crossed up and faulty, leading to facilitation of antagonist (flexors) and inhibition of agonist (extensors) in response to pain, as well as faulty movement patterns and lower irritability threshold (muscles

become prone to tightness), known as the pain adaptation model. Correcting this dysfunctional starts with identifying the cross-neuromuscular patterns and treating the fascia restrictions in the body to promote symmetry and fix movement dysfunction (Page et al., 2010).

TMR begins with the patient performing five basic movements: an arm raise; a trunk twist; a leg raise; a sit-to-stand; and a bent knee toe reach, with each movement being performed on each side of the body (Moseley, 2007). The patient grades each movement to determine the test that showed the greatest difference between the left and right side. The patient then performs and sustains the movement with the worst grade on the unaffected, or "good side", and the original movement assists in determining any improvement in the patient's range of motion (ROM) or pain. The original five motions are not the only ones utilized in TMR, as this process can be repeated and modified (i.e., adding rotation to the original five motions) to improve the patient's movements further and to decrease their pain (Mosely, 2007).

Positional Release Therapy (PRT)

Positional release therapy (PRT) is a therapeutic approach to relieving muscle tissue resistance by employing an indirect technique through proper body positioning to identify and monitor lesions, known as tender points, within the muscle (D'Amrogio & Roth, 1997). Calling PRT an indirect technique means it involves force away from resistance, towards the direction of greatest ease, as opposed to direct techniques, such as stretching, joint mobilization, and muscle energy, when the force is toward the resistance of the tissue. PRT places the body into a position of comfort (POC) for the patient, by putting certain parts of the body on a stretch while others are relaxed, in an attempt to reduce the irritation of the tender point (D'Amrogio & Roth, 1997).

Tender points are discrete points, found in muscle, fascia, ligaments, tendons, capsule, cranial sutures, and bone; patients often do not know tender points are present and can cause radiating pain to other places in the body (D'Amrogio & Roth, 1997; Speicher, 2010). Tender

points cause changes within the tissue and length of the muscle spindle, leading to an increase in the gamma motor neuron gain and sympathetic awareness, facilitating pain, compensation of the body throughout the kinetic chain, inhibition of other muscles, and dysfunction (Speicher 2010). Releasing the tender points causes resetting of the muscle spindle length and decreases gamma motor neuron activity, which restores function and reduces pain. Further effects of PRT include normalization of muscle hypertonicity and fascial tension; reducing joint hypomobility; increasing circulation/reduce swelling; decreasing pain; and increasing strength (D'Amrogio & Roth, 1997).

When attempting to locate and treat tender points, D'Amrogio and Roth (1997) instructed clinicians to begin closer to the spine and then move toward the extremities, applying comparable pressure to checking circulation underneath a nail bed. Once a tender point is found, the clinician attempts to place the muscle in a POC to release the tender point. D'Amrogio and Roth (1997) provided images showing the POC for each muscle and tender point; however, Speicher (2010) found good results from moving the affected body part in a systematic pattern: movement along the sagittal plane, then frontal plane, then transverse plane, and lastly, applying distraction or compression to the joint until a POC of the muscle is established.

In Speicher's (2010) technique, the clinician is feeling for a fasciculation, twitch of the muscle fibers, or a difference in the muscle tone, whereas, with D'Ambrogio and Roth's (997) technique (1997), the desired POC is held for 90 seconds to release the tender point. Once the clinician feels a release of the tender point and underlying tissue, the body part is slowly moved back to the normal position.

Global Patient-Centered Outcomes

Acute vs. Chronic

Figure 1 shows a comparison between acute versus chronic injuries. Anderson, Parr, and Hall (2004) defined an acute injury as resulting from a specific event that leads to the sudden onset of pain and symptoms and a chronic injury being a slow onset of the symptoms. I classified these two injury conditions the same way, and using their personal timeline of when the pain or dysfunction began and when the patient reported to me for the initial evaluation. A patient that reported prior to an initial onset of pain or dysfunction was classified as acute and a patient who came to me after a long-term history of pain or dysfunction was classified as chronic.

In the fall of 2012, the amount of acute injuries (n = 9) was greater than the number of chronic injuries (n = 2), which was similar compared with the number of acute injuries (n = 10) versus chronic injuries (n = 2) in the fall of 2013 (Figure 1). This comparison was completely different in the spring of 2013, having more chronic injuries (n = 9) than acute (n = 4) (Figure 1). The reason for the change between number of acute and chronic injuries was potentially due to the sports in season at the time of classification, for example, football season in the fall and track and field season in the spring.

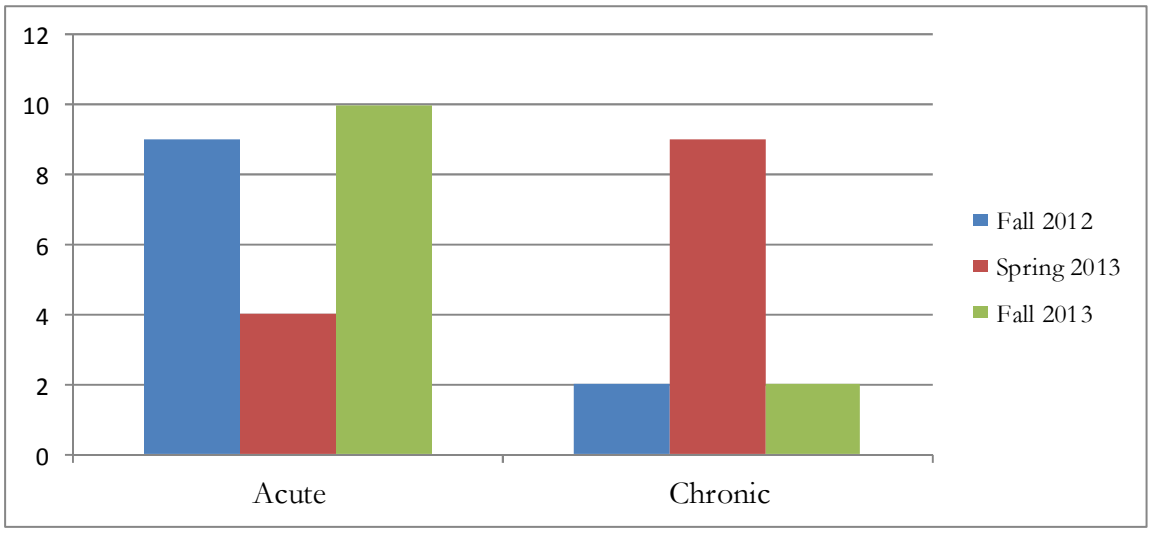

Figure 1. Acute vs. Chronic Injuries

Injuries by Location

Figure 2 shows the comparison between injuries and location (foot/ankle; knee/thigh; hip; low back/upper back; head/neck; shoulder; elbow; and hand/wrist). In the fall of 2012, the top three injuries by location were knee/thigh (n = 4), followed by foot/ankle (n = 3), and shoulder (n = 2) (Figure 2). In the spring of 2013, the top three injuries by location were hip (n = 5), shoulder (n = 2) and third, was every other classification (n = 1), except elbow (n = 0) (Figure 2).

Lastly, in the fall of 2013, the top three injuries by location were similar to the fall of 2012 being foot/ankle (n = 4), knee/thigh tied with upper/low back (n = 2), and every other classification tied for third (n = 1), except for elbow (Figure 2). The explanation for the difference in injury classification by location is potentially similar to the same reason mentioned prior, regarding the classification of acute verse chronic, in that the dominant sports in season at the time of data collection caused the skew in body part location.

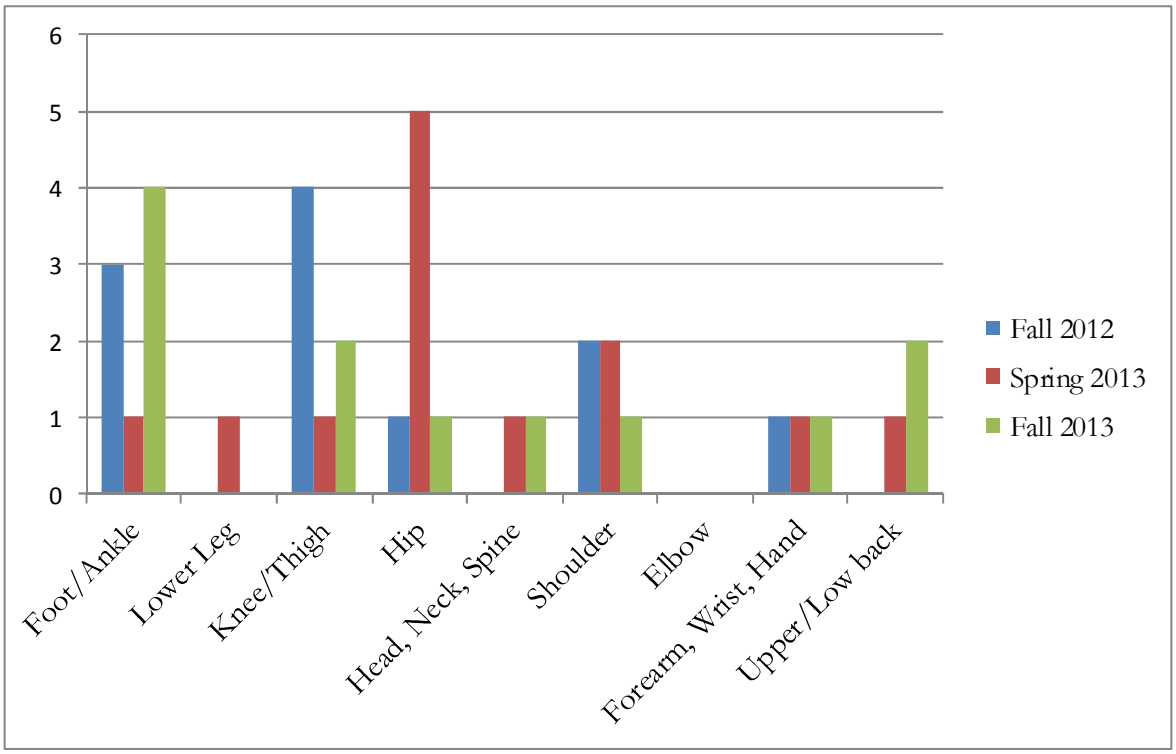

Figure 2. Injuries Classified by Location

Treatments & Interventions

In the three semesters of data collection, my treatments and interventions seemed to shift and follow different paradigms. In the fall of 2012, the majority of my interventions were of the traditional sense: trying to treat pain and inflammation with the use of therapeutic modalities and performing rehabilitation with therapeutic exercises. The interventions in the fall of 2013 included therapeutic exercise (n = 9); ice, (n = 7); tape/brace (n = 7); ice combined with electrical stimulation (n = 4); joint mobilizations/oscillations (n = 3); Mulligan MWM (n = 2); moist heat pack combined with electrical stimulation (n = 1); physical therapy referral (n = 1); PRT (n = 1), and stretch (n = 1) (Table 1).

Table 1. Fall 2012 Patient Classification of Body Part/Injury & Treatment

Patient Number	Body Part/Injury	Treatment/Intervention
3001	A/C Joint	Ice/Electrical Stimulation, Therapeutic Exercise, Joint Mobs, Spider Pads
3002	Ankle	Ice, Therapeutic Exercise, Joint Mobs, Tape
3003	A/C Joint	Ice/Electrical Stimulation, Therapeutic Exercise, Joint Mobs, Spider Pads
3004	Forearm	Ice/Electrical Stimulation, Therapeutic Exercise, Pad
3006	Hamstring	Ice, Stretch
3007	Ankle	Ice, Therapeutic Exercise, Tape
3009	Hip	Therapeutic Exercise
3011	IT Band	Moist Heat Pack/Electrical Stimulation, Therapeutic Exercise, Sent to Physical Therapy
3012	Knee	Ice/Electrical Stimulation, Mulligan MWMs (Tibia IR)
3016	Ankle	Ice, PRT, Mulligan MWMs (Fibula), Tape/Brace
3024	Knee	Ice, Therapeutic Exercise, Brace

In the spring of 2013, I saw a shift into a new paradigm of choosing interventions, primarily caused by taking courses within the DAT and externally that taught new treatment options. Interventions in the spring of 2014 included PRT (n = 9); Mulligan MWM (n = 7); ice combined with electrical stimulation (n = 5); therapeutic exercise (n = 5); neurodynamics (n = 4); moist heat pack combined with electrical stimulation (n = 3); TMR (n = 2); 4 × 4 matrix (rolling breakout) (n = 1); ice (n = 1); ice massage (n = 1); joint mobilizations/oscillations (n = 1); Kinesiotape (n = 1); Mulligan tape job (n = 1); and tape/brace (n = 1). The semester showed a combination of new interventions and common, traditional interventions utilized prior to the DAT (Table 2).

Table 2. Spring 2013 Patient Classification of Body Part/Injury & Treatment

Patient Number	Body Part/Injury	Treatment/Intervention
3029	Neck	PRT, Mulligan MWM, Neurodynamics
3030	Hip	PRT, Ice, Neurodynamics
3031	Low Back Pain	Mulligan MWM (SI), Ice/Electrical Stimulation
3032	Hip	TMR, PRT, Moist Heat Pack/Electrical Stimulation, Ice/Electrical Stimulation
3033	Shoulder	PRT, Therapeutic Exercise, Mulligan MWM (Internal Rotation), Ice/Electrical Stimulation, Heat/Electrical Stimulation
3009	Hip	4x4 Matrix (Rolling), Therapeutic Exercise
3035	Knee	Mulligan MWM (Tibia IR), Therapeutic Exercise, Moist Heat Pack/Electrical Stimulation
3037	Shin	PRT, Ice Massage, Tape, Joint Mobs, Ice/Electrical Stimulation
3027	Foot	PRT, Neurodynamics, Ice/Electrical Stimulation, Mulligan MWMs (MT glides), Therapeutic Exercise, Heat/Electrical Stimulation
3038	Wrist	Mulligan MWM (Wrist Extension), Mulligan Tape Job
3039	Shoulder	PRT, Mulligan MWM, Ice/Electrical Stimulation
3040	Hip	PRT, TMR, Neurodynamics
3041	Groin	PRT, Therapeutic Exercise, Kinesiotape

Lastly, in the fall of 2013, my interventions tended to shift back to the trends shown in the fall of 2013, primarily caused by time management issues, the dominant sports in season, and my current beliefs regarding patient care at the time of treatment (i.e., continuing education courses, etc.). However, it seemed to contain a combination of new and old paradigms and intervention choices. Interventions in the fall of 2014 included ice (n = 6); Mulligan MWMs (n = 6); tape/brace (n = 6); crutches/walking boot (n = 3); massage (n = 3); therapeutic exercises (n = 3); joint mobilizations/oscillations (n = 2); PRT (n = 2); Mulligan SNAGs (n = 2); Mulligan Traction Straight Leg Raise (n = 2); Proprioceptive Neuromuscular Facilitation (n = 2); ice combined with electrical stimulation (n = 1); Mulligan Cervical Traction technique (n = 1); physical therapy referral (n = 1); and TMR (n = 1) (Table 3).

Table 3. Fall 2013 Patient Classification of Body Part/Injury & Treatment

Patient Number	Body Part/Injury	Treatment/Intervention
3042	Ankle	Crutches/Walking Boot, Massage, Therapeutic Exercises, Ice, Tape/Brace, Massage, Mulligan MWM (Fibula)
3043	Ankle	Joint Mobs, Ice, Therapeutic Exercise, Tape/Brace, Walking Boot
3044	Ankle	MWM, Ice, Tape/Brace, Mulligan MWM (Fibula)
3045	Ankle	Massage, Therapeutic Exercise, Ice, Walking Boot, Tape/Brace, Joint Mobs
3046	Neck	Mulligan Cervical Traction, PRT, Sent to Physical Therapy
3047	Low Back	PRT, SNAGs
3048	Knee	Ice, MWM, Tape/Brace
3049	Finger	MWM, Tape
3050	Hamstring	Massage, MTSLR, PNFs
3051	Shoulder	MWMs, Ice
3052	Hip	TMR
3040	Low Back	SNAGs (Lumbar & Thoracic), MHP w/ Electrical Stimulation, PNFs, MTSLR

Specific Patient Outcome Measures

Outcome Measures

To standardize data collection, I utilized outcome measures previously validated in the literature, including the Disablement of the Physically Active (DPA) Scale (Vela & Denegar, 2010) and the Numerical Rating Scale (NRS) (Bolton & Wilkinson, 1998; Pool, Ostelo, Hoving, Bouter, de Vet, 2007; Turk, Rudy, & Sorkin, 1993). These measures help the clinician quantify the change in the patient's status by having a validated minimal clinically important difference (MCID). The MCID is a predetermined amount of change needed in the disability or pain scale to have a statistical relevance.

Vela and Denegar (2010) created, validated, and tested the reliability of the DPA Scale. It is a 16-item questionnaire to analyze the patient's perception of their health-related quality of life (HRQOL). This particular instrument gives clinicians the ability to take qualitative measures from a questionnaire format and turn them into a quantitative measurement used to collect data

and show outcomes of treatments/interventions. Normally, physically active people want to participate in a certain activity, and any disability that prevents them from participating causes a change in their quality of life and perception of their disability. When using the DPA Scale, the MCID that shows the greatest statistical significance is a change in 6 for persistent conditions and a change in 9 for acute conditions (Vela & Denegar, 2010).

Within the DAT, the suggested plan was to administer the DPA Scale at four different times throughout patient care: initial evaluation, once a week during treatment of the patient, return to play, and discharge. For my own data collection, I started following this method, but eventually decided to have the patient take the DPA scale every three visits, since majority of my injuries were in the acute stages and the timeframe for treatment was short. I wanted to show the greatest change in my patient's perception of disability and HRQOL.

The NRS is a verbal pain scale for the patient to rank their pain on a 0–10 numerical scale (Bolton & Wilkinson, 1998; Pool, Ostelo, Hoving, Bouter, de Vet, 2007; Turk, Rudy, & Sorkin, 1993). Bolton and Wilkinson (1998) found the NRS to be the most responsive pain scale compared with the Verbal Rating Scale and the Visual Analog Scale. On the NRS, an MCID is a recorded 30% decrease or reduction of two points on the scale (Bolton & Wilkinson, 1998; Farrar, Young, LaMoreaux, Werth, & Poole, 2001; Pool et al., 2007; Turk et al., 1993).

Throughout the three semesters of data collection, outcome measures were administered to 34 patients (fall 2012: $n = 11$; spring 2013: $n = 12$; fall 2013: $n = 11$); two patients repeated for subsequent semesters: patient #3009 in fall 2012 and spring 2013, and patient #3040 in spring 2013 and fall 2013. For my data collection, the patient received a verbal cue to help them judge their pain on the NRS, with zero being no pain and ten being the worst pain imaginable. In the fall of 2012, the NRS was collected each time the patient recorded a DPA scale. For the spring 2013 and fall 2013 semesters, the NRS was recorded before and after the intervention.

Fall 2012

Seven of nine patients reporting acute injuries resulted with a MCID on the DPA scale (Figure 3; Table 4). Patient #3001 had an initial change of 33, but then had an increase of 8, resulting in an overall change of 25. Patient #3002 had an initial change of 11 with an overall change of 19. Patient #3003 had an increase of 8, but then a decrease of 17, resulting in an overall change of 11. Patients #3007, #3012, #3016, and #3024 all resulted in an MCID, with changes of 13, 12, 18, and 28, respectively. Both patient #3004 and patient #3006 did not result in an MCID, with an overall change of 5 and 3, respectively. Two patients with chronic injuries both resulted with an MCID on the DPA scale. Patient #3011 had an initial change of 17, with an overall change of 18, and patient #3007 had a change of 7.

In the same semester, 9 of 11 patients resulted in an MCID on the NRS (Figure 4; Table 5). Patient #3001 had an initial change of 8.5, with an overall change of 8.75. Patient #3002 had an initial change of 3 with an overall change of 4. Patient # 3011 had a change initially of 2, with an overall change of 3. Patients #3003, #3004, #3006, #3012, #3016, and #3024 all showed significant changes with a decrease of 3, 3, and 4, 3, 3, and 3.75, respectively. Patients #3007 and #3009 did not have an MCID, with only a change of 1 and 1.5, respectively.

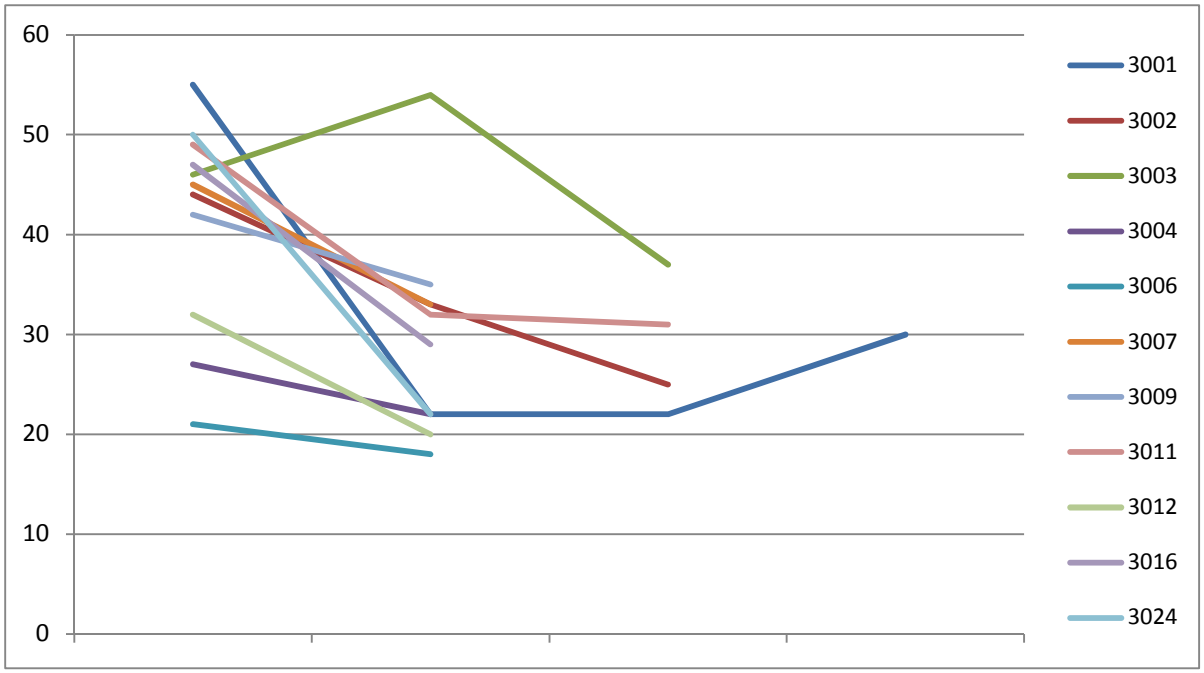

Figure 3. Fall 2012 DPA Scale Patient-Centered Outcomes

Table 4. Fall 2012 DPA Scale Patient-Centered Outcomes

3001	3002	3003	3004	3006	3007	3009	3011	3012	3016	3024
55	44	46	27	21	45	42	49	32	47	50
22	33	54	22	18	33	35	32	20	29	22
22	25	37					31			
30										

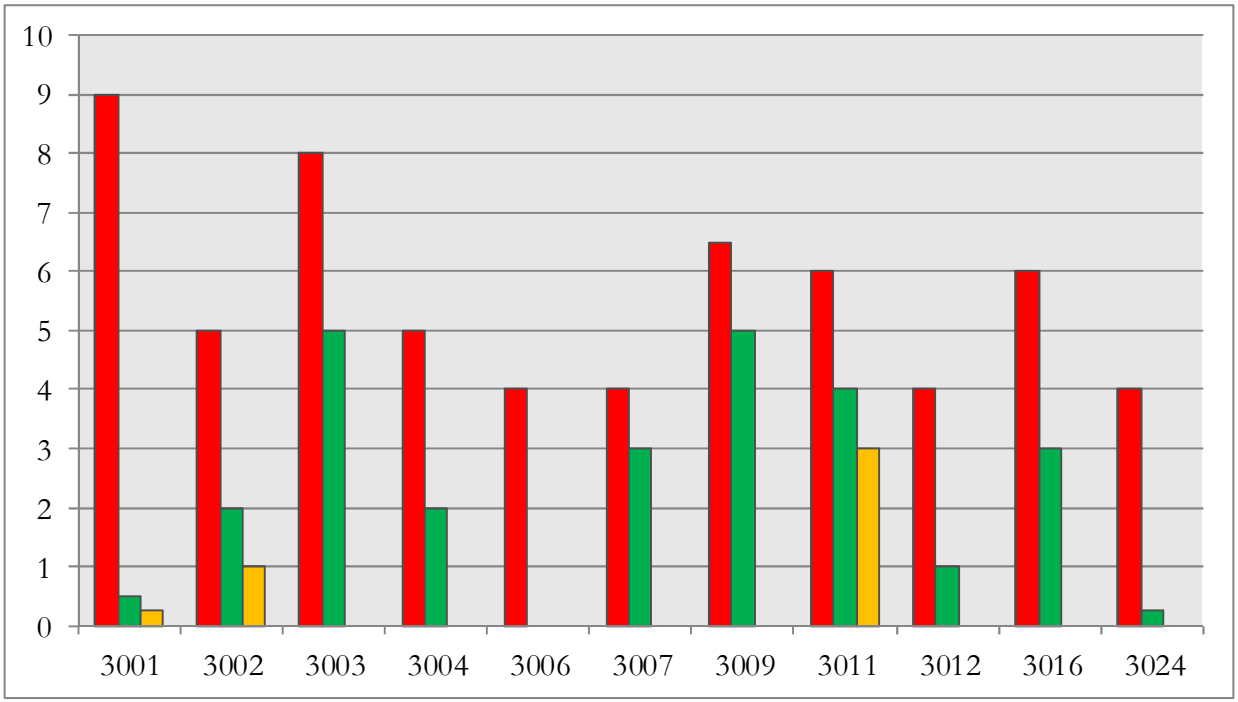

Figure 4. Fall 2012 NRS Patient Centered Outcomes

Table 5. Fall 2012 NRS Patient Centered Outcomes

3001	3002	3003	3004	3006	3007	3009	3011	3012	3016	3024
9	5	8	5	4	4	6.5	6	4	6	4
0.5	2	5	2	0	3	5	4	1	3	0.25
0.25	1						3			

Spring 2013

Two of the four patients reporting acute injuries resulted in an MCID on the DPA scale (Figure 5; Table 6). Patient #3027 had an initial decrease of 10, with an overall decrease of 35 and patient #3035 had an initial decrease of 5, but an overall decrease of 12. However, patient #3031 had an increase of 1, and patient #3035 only had a decrease of 8. All nine patients reporting with chronic injuries had a significant enough decrease to be an MCID. Patients #3029, #3032, #3033, and #3040 all had similar experiences with the DPA scale results. Patient #3029 decreased by 8 points, increased by 5, but then finally decreased by 6, giving an overall change of 9. Patient #3032 increased by 13, decreased by 9, increased a second time by 6, but then finally decreased by 27, with an overall change of 17. Patient #3033 increased by 11, but then decreased by 10, unfortunately showing a total change of plus 1. Patient #3040 increased by 20, but then decreased by 11 having an overall change of plus 9. The last five patients, #3030, #3009, #3037, #3039, and #3041, experienced regular decreases on the DPA scale, having overall changes of 18, 20, 9, 26, and 17, respectively.

In the same semester, 12 of the 13 patients reported significant changes in the overall NRS score, from baseline to discharge/return to play (Figure 6; Table 7). Only patient #3040 did not have an MCID on the overall NRS scores, reporting no change from baseline to discharge. However, not every patient had significant changes for all of their pre and post NRS scores to be an MCID. Patient #3029 had a change of 3.5, 5, and 7, for the first, third, and fourth interventions, respectively. Patient #3031 had a change of three for the first intervention and a change of 2 for the second intervention. Patient #3033 had a change of three for the first intervention. Patient #3037 had a change of two for both the first and third interventions. Patient #3027 had a change of two for the fourth intervention, and patients #3039 and #3041 had a change of 2 for the first intervention.

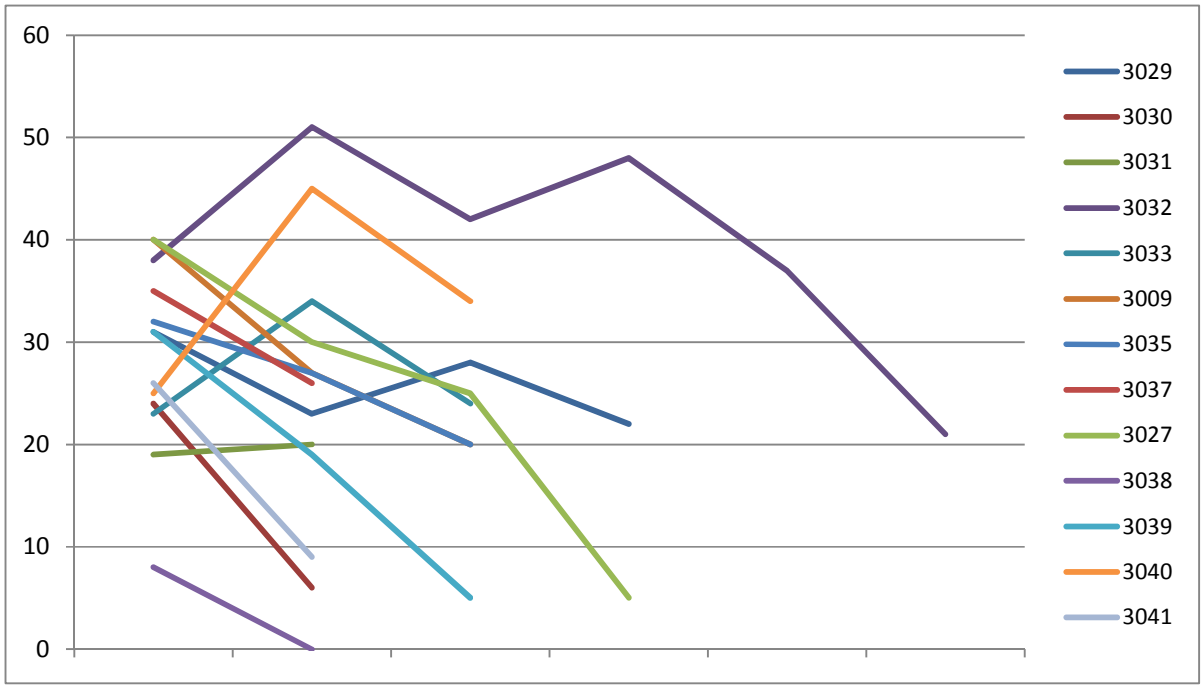

Figure 5. Spring 2013 DPA Scale Patient-Centered Outcomes

Table 6. Spring 2013 DPA Scale Patient-Centered Outcomes

3029	3030	3031	3032	3033	3009	3035	3037	3027	3038	3039	3040	3041
31	24	19	38	23	40	32	35	40	8	31	25	26
23	6	20	51	34	27	27	26	30	0	19	45	9
28			42	24	20	20		25		5	34	
22			48					5				
			37									
			21									

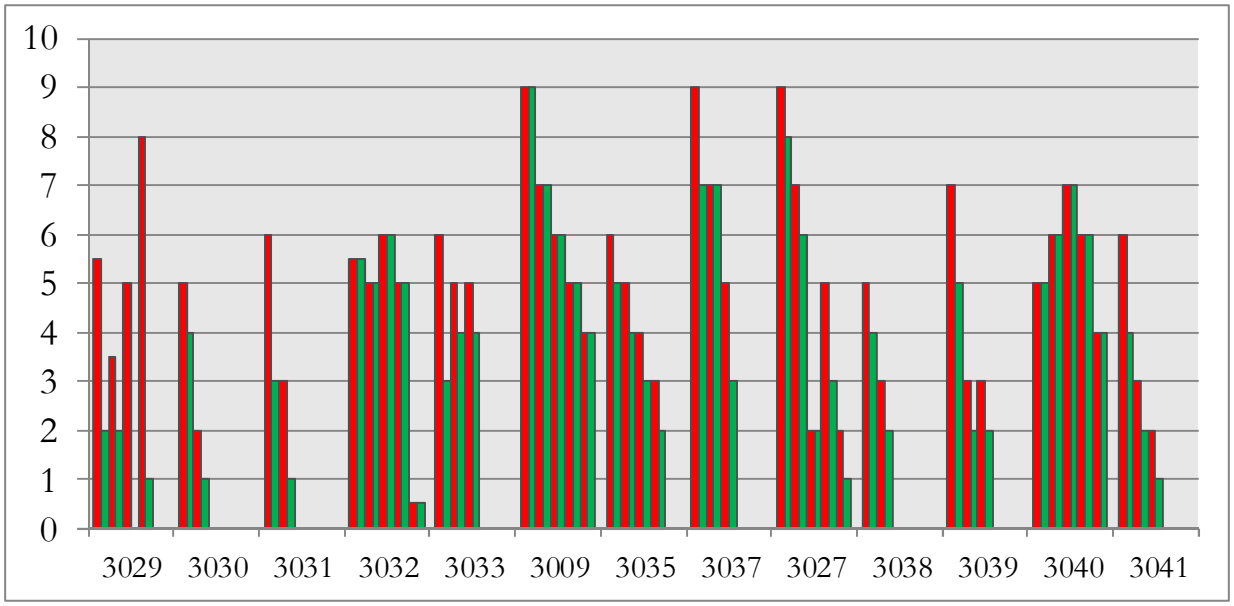

Figure 6. Spring 2013 NRS Patient Centered Outcomes

Table 7. Spring 2013 NRS Patient Centered Outcomes

	3029	3030	3031	3032	3033	3009	3035	3037	3027	3038	3039	3040	3041
Pre NRS 1	5.5	5	6	5.5	6	9	6	9	9	5	7	5	6
Post NRS 1	2	4	3	5.5	3	9	5	7	8	4	5	5	4
Pre NRS 2	3.5	2	3	5	5	7	5	7	7	3	3	6	3
Post NRS 2	2	1	1	5	4	7	4	7	6	2	2	6	2
Pre NRS 3	5			6	5	6	4	5	2		3	7	2
Post NRS 3	0			6	4	6	3	3	2		2	7	1
Pre NRS 4	8			5		5	3		5			6	
Post NRS 4	1			5		5	2		3			6	
Pre NRS 5				0.5		4			2			4	
Post NRS 5				0.5		4			1			4	

Fall 2013

Six of 10 patients reporting acute injuries resulted with a MCID on the DPA scale (Figure 7; Table 8). Patient #3042 had an initial change of 17, with an overall change of 27. Patient #3046 had an initial change of 1 with an overall change of 18. Patient #3049 had an initial change of 5, with an overall change of 8. Patients #3048, #3051, and #3052 all had significant changes, with decreases of 40, 24, and 25, respectively. Four patients, #3042, #3044, #3045, and #3050 did not have a significant change, having an increase of 16, decrease of 7, decrease of 3, and decrease of 4, respectively. One of the two chronic patients reported a significant change: Patient #3047 reported a change of 30, but Patient #3040 reported an increase of 9.

In the same semester, 11 of the 12 patients reported overall statistical changes in their NRS scores from baseline to discharge/return to play (Figure 8; Table 9). Only Patient #3049 did not have an MCID, however, his baseline and discharge scores were both 0. Similar to the spring 2013 semester, not every patient had significant changes for all of their pre and post NRS scores to be an MCID. Patient #3043 had a significant change of 2 for the first intervention and a change of 3 for the fourth intervention. Patients #3044, #3045, and #3048 all had significant changes of 2.5, 2, and 2 for just the first intervention, respectively; Patient #3052 had similar results, with just one significant change of 2 but during the second intervention.

Patient #3046 had three significant changes of 2 during the first, second, and third interventions. Patient #3047 had significant changes of 2 for all interventions from baseline to discharge. Patient #3050 reported a significant change of 4, 3, 3, 3, and 7 during the third, fifth, sixth, seventh, and eighth interventions, respectively. Patient #3051 reported a significant change of three during the first intervention and 2 during the second intervention. Patients #3042 and #3040 had no pre and post intervention significant changes. For patients #3042,

#3043, and #3046, only a pre intervention NRS was recorded, and patients #3046, #3048, #3049, #3051, #3052, and #3040, each had one or more intervention strategy with no recorded pre and post NRS score.

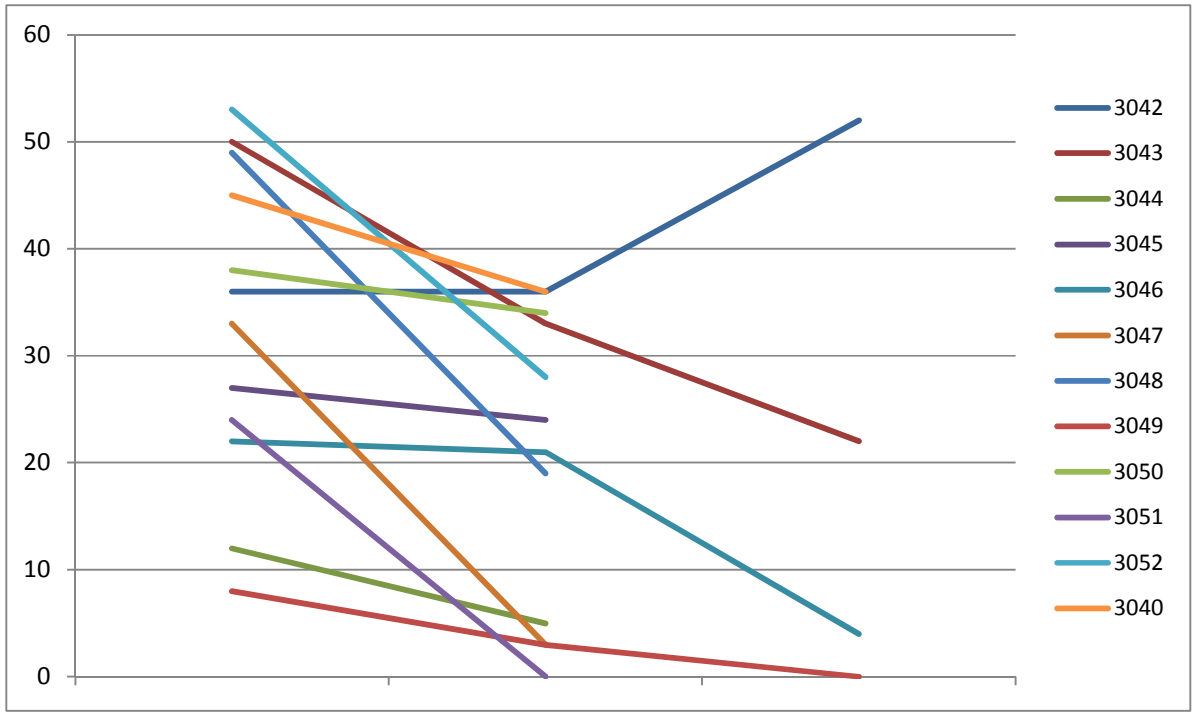

Figure 7. Fall 2013 DPA Scale Patient-Specific Outcomes

Table 8. Fall 2013 DPA Scale Patient-Specific Outcomes

3042	3043	3044	3045	3046	3047	3048	3049	3050	3051	3052	3040
36	50	12	27	22	33	49	8	38	24	53	45
36	33	5	24	21	3	19	3	34	0	28	36
52	22			4			0				

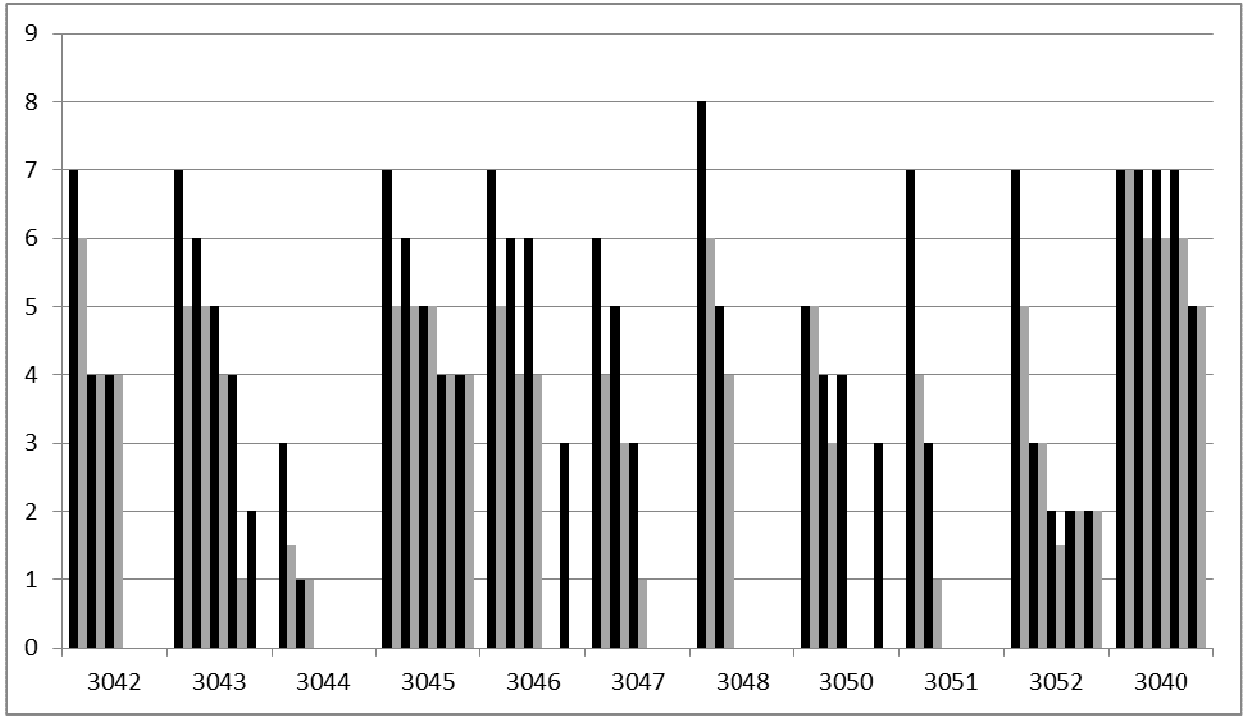

Figure 8. Fall 2013 NRS Patient-Specific Outcomes

Table 9. Fall 2013 NRS Patient-Specific Outcomes

	3042	3043	3044	3045	3046	3047	3048	3049	3050	3051	3052	3040
Pre NRS 1	7	7	3	7	7	6	8	0	5	7	-	7
Post NRS 1	6	5	1.5	5	5	4	6	0	5	4	-	7
Pre NRS 2	4	6	1	6	6	5	5	-	4	3	7	7
Post NRS 2	-	5	1	5	4	3	4	-	3	1	5	6
Pre NRS 3	4	5	0	5	6	3	-	0	4	-	3	7
Post NRS 3	4	4	0	5	4	1	-	0	0	-	3	6
Pre NRS 4		4		4	-				0	0	2	7
Post NRS 4		1		4	-				0	0	1.5	6
Pre NRS 5		2		4	3				3		2	-
Post NRS 5		-		4	-				0		2	-
Pre NRS 6									4		2	-
Post NRS 6									1		2	-
Pre NRS 7									4			5
Post NRS 7									1			5
Pre NRS 8									7			
Post NRS 8									0			

Traditional Techniques

Thirteen of the thirty-four patients were treated using a traditional techniques, including the use of therapeutic modalities, therapeutic exercise, and taping/bracing the injured body part. Ten of the thirteen patients (#3001, #3002, #3003, #3004, #3006, #3007, #3009, #3011, #3024, #3037, #3042, #3043, #3045) reported with an acute injury complaint and the other two (#3009 & #3011) had chronic injuries. The injury breakdown by body part included ankle (*n* = 4); A/C joint (*n* = 2); hip (*n* = 2); thigh (*n* = 2); knee (*n* = 1); forearm (*n* = 1); and leg (*n* = 1). The average decrease in DPA scale was 12.85 and the average decrease in the NRS score was a 2.78. I often utilized these techniques the most during the fall of 2012, and sporadically through the other two semesters when I was pressed for one on one time with the patient or when the patient requested the particular intervention.

Mulligan Technique

Seventeen of the thirty-four patients were treated with the Mulligan technique, including: cervical SNAGs (*n* = 1); lumbar SNAGs (*n* = 3); Knee MWMs (*n* = 3); Shoulder MWMs (*n* = 3); Ankle Fibula MWM (*n* = 3); Metatarsal MWM (*n* = 1); Finger MWM (*n* = 1); wrist MWM (*n* = 1); and the Mulligan Traction SLR (*n* = 1). Twelve of the seventeen patients reported with acute injuries (#3012, #3016, #3027, #3031, #3035, #3038, #3042, #3044, #3048, #3049, #3050, #3051) and 5 of the 17 (#3029, #3033, #3039, #3040, #3047) reported with chronic injuries. The average decrease in DPA scale was 13.18 and the average decrease in the NRS score was 3.85.

Total Motion Release

Three of the thirty-four patients were treated with TMR, all three having a complaint of hip pain. One of the three patients (#3052) had an acute complaint of hip pain, while the other two patients (#3032 & #3040) reported with a complaint of chronic onset. The average decrease

in DPA scale was 11 and the average decrease in the NRS score was 3.33. For the two chronic onset patients, TMR was chosen to help fix an imbalance in the surrounding musculature. For the patient who reported with an acute onset of injury, I utilized TMR as it benefited the patient by improving ROM without causing pain, since TMR has the patient perform movements on the contralateral side.

Positional Release Therapy

Nine of the thirty-four patients were treated with PRT, including performing the technique on the hip (*n* = 3); low back (*n* = 2); neck (*n* = 2); groin (*n* = 1); and shoulder (*n* = 1). Two of the nine patients (#3016 & #3046) reported with acute injuries and seven of the patients (#3029, #3030, #3032, #3033, #3040, #3041, #3047) reported with chronic conditions. The average decrease in DPA scale was 13 and the average decrease in the NRS score was 3.5.

Reflection of the Data Collection Process

Fall 2013

In the first semester of the DAT, when attempting to collect data, I handed out the DPA scale and NRS to every patient that walked through the door. I had no basic structure or method; I was simply collecting data. I also struggled with collecting outcome measures within appropriate periods, such as collecting the DPA scale once a week, as well as return to play and discharge; similarly with the NRS, I often just recorded pain scales at the same time as recording the DPA scale, instead of pre and post intervention. After that, a follow-up DPA scale or any further NRS scores were never collected due to the patient not returning for any further treatments because majority of my patients never formally were discharged, they just stopped coming in for treatment or the end of the season was considered their discharge. I also found my patients complaining about taking the DPAS multiple times and the questions on the DPAS being confusing. I tried to help them understand the reason why I was having them take the

questionnaire and explain what the question was asking them without trying to give too much information that could have caused me leading them toward a certain answer or decision.

The majority of my interventions centered on electrical stimulation and ice (GameReady compression unit if possible) until the pain subsided, then for the remainder of the season, I was taping, wrapping, and/or bracing them. I struggled with having multiple patients at only 75–80% better who were still practicing (or going through the motions of practicing). This was because coaches and patients did not want practice time missed – so the only thing I could do was try to "put tape on the broken parts" and continue to modify their pain (electrical stimulation, ice, and telling them to take anti-inflammatories).

A focus of my research to fix this problem became questioning the coaches and patients on their perception and expectations of my patient care, and by gaining that knowledge, providing feedback in creating a different structure to overcome this barrier. I also noticed that I normally only provided one or two major interventions before returning the patient back to play. Unfortunately, the strategies were just fixing the big picture items (decreasing swelling, increasing range of motion, etc.) but I never got deeper to fix any dysfunction or impairments caused by the injury, which is why I felt like I have multiple patients at only 75–80% healed, leading to them to coming back wanting and needing treatment.

In addition, many times patients did not follow home instructions I gave in an attempt to continue the healing process (decrease or control swelling, increase strength or ROM, etc.) Lastly, within my documentation during the first semester in the DAT, I used the descriptor "With-in Normal Limits" the majority of the time to classify the patient's ROM and strength.

Spring 2013

When collecting data during this semester, I decided to obtain better data on my patients by attempting to record a DPA scale every other treatment session and collecting an NRS every

treatment session pre and post intervention. I collected a DPA scale and NRS scores more consistently but I did find there were times when patients just wanted a "quick treatment" and I neglected to get a DPA scale or NRS. I still had no consistent themes and no basic structure in the type (acute, chronic, dysfunction, anatomical specific, etc.) of injuries/pathologies. When dealing with minors, the inclusion criteria for collecting data became those patients who I felt would follow up with a formal plan for treatment and whose parents would consent to their child's injury data being analyzed. I also still had a few patients who still complained about the DPA Scale, taking it multiple times with the questions being confusing.

Majority of my interventions this semester compared with last semester were different. I still occasionally used traditional therapeutic modalities until the pain subsided, then for the other treatment sessions; I used several other intervention strategies (PRT, Mulligan, TMR, Neurodynamics, therapeutic exercises, etc.). I still struggled with multiple patients not back to full fitness who were still practicing or going through the motions of practicing. The coaches and patients did not want practice time missed – so the only thing I could do was try to sustain further dysfunction/pain (ice, take anti-inflammatories) and see them multiple times through the season, more than I feel like I would have to if they would have been allowed to rest.

Unfortunately again, I felt as if I was fixing the minor issues (decreasing swelling, increasing range of motion, etc.) but never going deeper to try to fix any dysfunction or impairments caused by the injury. Multiple times, I was only able to see patients sporadically throughout the season, and some patients discontinued their own treatments/sessions due to the season ending or just wanting to "tolerate" the pain because they were tired of coming for treatment, maybe because they were not getting better fast enough.

Many times when I did gave patients certain at-home instructions not to lose everything we spent time working on (decreasing swelling, increasing strength, etc.), they neglected to

follow them. This semester, home instructions included therapeutic exercises, but unfortunately, I saw those select few patients struggle to perform them at home or as instructed while in gym class due to being singled out by their peers/teacher. I wanted to give handouts to my patients, outlining what the injury was, how we (as the medical staff) planned to fix it and continue with any exercises or home instructions to follow.

My cheat sheet seemed to help organize and gather better data this time around. I tried to cut down on the descriptor "with-in normal limits" more this semester, but still used it occasionally when I did not have time to utilize the goniometer. However, I felt I did better at collecting a more variety of observation, MMT, and ROM data.

Fall 2014

This semester, I sustained my data collection process, making sure I collected more consistent DPA scales and NRS scores, continuing my change from last semester to try to gather DPA Scale data every other treatment and NRS scores pre and post interventions. However, consistent to every other semester, I still collected outcomes on every body part and never narrowed down a specific classification to gather data on. This was due to the reasons previously mentioned with my patient sample. Even though I tried to keep up my efforts from prior semesters, I had more gaps this semester than I would have liked. Sometimes I neglected to ask the patients their NRS, either post intervention or for the entire intervention session, and missed a couple of DPA scales at discharge/return to play.

My patients still struggled with only having "a quick second" for treatment, due to the cause or problem. I did notice that I was able to treat these patients and make a quick change in one or two days using certain interventions (SNAGs, TMR, RI/PNFs), but neglected to collect outcomes on those patients because they no longer complained of symptoms after one or two interventions. I would have liked to have collected data on this "short/quick" treatment session

by utilizing at least the NRS. Some patients still felt they had to come for "routine maintenance" (ice, tape, ride the bike), which I was okay with because it played into the psychosomatic aspect.

Even though I still used "classic/traditional" interventions, such as GameReady (compression machine) and Electrical Stimulation, I also used PRT, Mulligan, TMR, and therapeutic exercises. I still struggled with having multiple patients not back to full fitness who were still practicing or going through the motions of practicing. Unfortunately again, the strategies I chose were just fixing the main issues (decreasing swelling, increasing range of motion, etc.) but I never got deeper to fix any dysfunction or impairments caused by the injury, leading them to come back wanting and needing treatment. For the four ankle sprain injuries, I was able to utilize a modified star excursion test to check if the patient was back to functionally normal. I was happy to utilize this functional test to show the patient if they were either ready to RTP or needed more time to re-cooperate.

Case Study Outcomes

Within the DAT, we produced manuscripts based on the material we were covering each semester and our own clinical experiences. In one semester, the topic was rehabilitation and intervention strategies, and the professors assigned me the Mulligan technique (see Patient Centered Intervention Strategies). We carried these paradigms into the following semester on low back pain, and I had a second opportunity to focus on mobilizations and the Mulligan technique. For both semesters, I wrote case study manuscripts that concentrated on the utilization of the Mulligan technique. The procedures for the technique and results of the clinical case report are below; furthermore, the entire manuscripts are within the supplemental appendix sections.

Mulligan Traction Straight Leg Raise (Appendix A)

A 17-year-old female patient (66 in. and 125 lbs.) reported to the athletic training clinic with a chief complaint of decreased ROM in her left hamstring. She was a four-year participant on the high school dance team and had a history of chronic hamstring strains. She had been previously treated for a right hamstring strain 19 months earlier, which she reported to her AT as being resolved at the time, but now stated that it had never resolved completely.

This most recent injury occurred 8 months earlier to the left hamstring and because of this injury, the patient only participated in functional activity as tolerated and performed self-treatments of passive-static stretching, compression wraps, and alternating between ice and heat. While she had recently started exercising more frequently at the gym, the patient had not participated in dance activities for the past five months.

At initial exam, the patient reported being generally healthy and physically active outside of her dance limitations. She denied any "red flag" symptoms, pain at the Sacro-iliac, hip, or knee joints; she also did not report low-back pain or radicular symptoms. The patient did not report an acute trauma mechanism, and obvious signs (e.g., swelling ecchymosis, deformity, etc.) of injury were not observed. During physical examination, the patient did not report pain with palpation, and manual muscle testing of knee flexion indicated normal and equal strength of the hamstring muscle group when compared bilaterally.

Lumbar spine, knee, and ankle ROM were with in normal limits; however, decreased hip flexion ROM was identified during goniometric measurement of the active straight leg raise. Goniometric measurements were recorded pre and post intervention on the affected leg, while only being recorded pre-intervention on the uninvolved leg. For the goniometer measurements, the axis of motion was the greater trochanter of the femur, while the movement arm was aligned parallel to the femur and the stationary arm was parallel to the plinth. Neurological signs and

symptoms were not present during the exam. Advanced diagnostic imagining and additional orthopedic special tests (e.g., Active Knee Extension Test) were not performed. The patient also completed a DPA Scale questionnaire on day 1, 3, 7, 22, and 25; she also reported her pain daily on the NRS before and after intervention. After the evaluation and assessment, the working diagnosis was pelvic girdle dysfunction with secondary lower extremity mobility deficit.

Past efforts of utilizing static hamstring stretches had not increased ROM or resolved the patient's complaints, so the AT considered the Mulligan Traction Straight Leg Raise (MTSLR) technique. To begin, the patient performs an active SLR, while the clinician measures the ROM and notes where the patient reports initial discomfort during the motion (Mulligan, 2010; 2013). The clinician then raises the patient's leg to a position just short of the painful range or the onset of a reported stretch (Hall, Cacho, McNee Riches, & Walsh, 2001; Hall et al., 2003; 2006; Mulligan, 2010). At that position, the clinician provides traction to the patient's leg and moves the patient further into the passive straight leg raise; the passive motion is performed as long as the patient does not report a sensation of pain (Hall et al. 2001; 2003; 2006; Mulligan, 2010). An effective way to accomplish this is for the clinician to rest the patient's ankle in the crease of their elbow, while grasping the anterior aspect of the leg with the opposite hand (Figure 9) (Mulligan, 2010; 2013).

Figure 9. Mulligan Traction Straight Leg Raise Technique

If pain does occur during this procedure, the clinician should adjust the amount of force or the line of drive (i.e., the patient's leg can be slightly rotated or abducted) (Hall et al., 2003; Mulligan, 2010). If alternate positioning does not facilitate pain-free motion, the clinician must reexamine the appropriateness of this procedure at this time. After the MTSLR is performed, the active SLR and any other movement that was painful or restricted prior to the application of the MTSLR should be reassessed as a comparable sign to confirm if the technique was successful (Mulligan, 2010; 2013).

The AT performed three MTSLR treatments following the previously mentioned process: hip flexion until a complaint of tightness by the patient; followed by abduction and further flexion of the hip until a complaint of tightness; and lastly external rotation and further flexion of the hip followed by overpressure applied by the AT. Future treatment sessions included 10 MTSLR treatments.

Clinician and Patient-Oriented Clinical Outcomes. After day one, a set of three MTSLR improved range of motion by 10° and continued to improve ROM each treatment session (Table 10). The average daily change in hip flexion ROM was 7.14°, comparable with previously recorded ranges of immediate improvement in previous examinations of the technique (Hall et al., 2001; 2003; 2006). Unlike the previous studies on the MTSRL, the technique was applied for more than one day of treatment, as it was applied in daily clinical practice versus the single bout found in the previous research designs. Upon returning each day for additional treatment, the patient's ROM maintained the increase from the previous day's measurement (Table 10), with an average daily long-term increase of 3° of motion across the entire course of treatment. Additionally, the ROM of the uninvolved hip improved despite not receiving any treatment, which may indicate that the MTSLR treats dysfunction that may affect the contralateral limb.

The changes in the patient's NRS scores indicated the treatment produced a clinically significant result. The NRS scores reached a MCID on the NRS following the second day of treatment and at discharge (Table 11) (Farrar et al., 2001; Pool et al., 2007). The patient's DPA Scale also produced an MCID, with a six-point change reported by the third treatment session and maintained through discharge and follow-up (Table 11) (Vela & Denegar, 2010).

Researchers have indicated the use of a self-reported, patient-specific functional task to assess functional change throughout the intervention process and measure positive results in the form of a patient-reported outcome (Horn et al., 2012). For this particular patient and case, the personal comparable sign was the difference of her split. When compared bilaterally, with her right split closer to the plinth than her left split was considered her specific functional task that helped us assess functional improvement throughout the intervention (Figures 10 & 11). Pictures were taken to help illuminate any difference with the patient's ability to get closer to the plinth during a left split after the six treatment sessions (Day 10) using the MTSLR (Figures 12 & 13). At the beginning of the intervention sessions, the patient defined improving her split as important to her functional improvement; therefore, recording changes of this measure in a visual manner assisted the patient in the form of a pseudo measureable outcome, even though there was no measurement established previously to determine clinical significance of this change.

Table 10. MTSLR Goniometry Range of Motion Measurements

	Day 1	Day 2	Day 3	Day 4	Day 7	Day 10	Day 23*	Day 35*
Left Leg (Before MTSLR)	99°	104°	107°	115°	119°	117°	127°	126°
Left Leg (After MTSLR)	109°	115°	120°	122°	125°	120°	-	-
Right Leg	114°	118°	120°	115°	121°	120°	127°	134°

* **No MTSLR intervention performed on these days.**

Table 11. MTSLR DPA Scale & NRS Patient Centered Outcomes

	Day 1	Day 2	Day 3	Day 4	Day 7	Day 10	Day 23*	Day 35*
DPAS	14	-	8	-	9	-	5	4
NRS Before	5	4	3	2	2	2	1	1
NRS After	4	3	2	1	1	1	-	-

* **No MTSLR intervention performed on these days.**

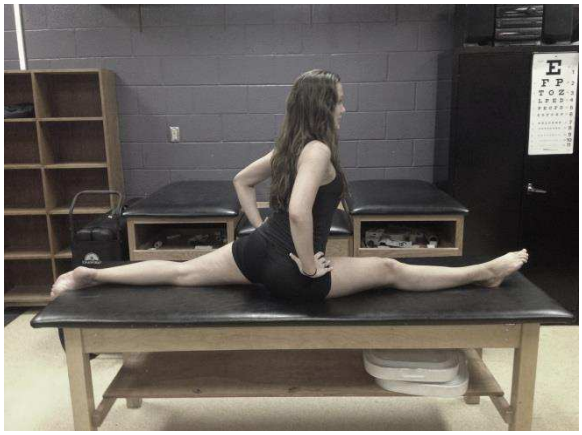

Figure 10. Right Split

Figure 11. Left Split Prior to MTSLR Interventions

Figure 12. Left Split Prior to MTSLR Interventions (with Measuring Device)

Figure 13. Left Split After MTSLR Interventions (with Measuring Device) after Day 10

Mulligan Lumbar Mobilization with Movements (Appendix B)

An 18-year-old male patient (75 in. and 207 lbs.) reported to the athletic training clinic with a chief complaint of low back pain. The patient had been in a motor-vehicle accident (MVA) two days before reporting to the AT and released by an orthopedic physician to resume physical activity (except contact football drills) and be treated by the AT. The patient was experiencing pulsating in his back, but was not experiencing any weakness into his legs or numbness into his thigh, buttocks, or genital area. The patient did not report any family or personal previous medical history concerns. The emergency room doctors instructed the patient to take a muscle relaxer and analgesic, but he still reported a 10 on the NRS. His pain was described as a deep ache in the lumbar and thoracic area, as well as a stabbing pain in the buttocks and thoracolumbar region. Further complaints of symptoms included bilateral, constant, pain and stiffness in the lumbar spine and intermittent, bilateral pain in the buttock.

During observation of the patient, the AT utilized measures of clinical outcomes, including demographics NRS, a Modified Oswestry Disability Questionnaire (ODI), a Fear-Avoidance Beliefs Questionnaire Work subscale (FABQW), and other examination procedures (i.e., history & palpation, stress tests, mobility, ROM, etc.) as similar compared with similar studies. The FABQ was used to assess their belief about certain activities that influenced their LBP (Waddell, Newton, & Henderson, 1993). The FABQ has two subscales, general physical activity, and work. The ODI is used to assess the patient's level of disability due to LBP (Fritz & Irrgang, 2001).

Upon observation, the patient did not report any motor or sensory deficits, and there were no diminished deep tendon reflexes. Standing observation of the patient showed an acute kyphosis curve in the lumbar spine, a high right posterior superior iliac spine (PSIS), iliac crest, and anterior superior iliac spine (ASIS). The standing flexion test produced a positive finding on

the right side, but Gillet's test produced a negative finding. Seated observation of the patient showed a high right PSIS and iliac crest, and a negative seated flexion test was produced.

Supine examination showed a right straight leg raise (SLR) of 85°; left SLR of 90°; no pain upon a bilateral SLR; and pain with an active sit-up. During the supine long-sitting test, the patient had a short left leg in supine position, but was level upon performing the test. Prone examination showed hypo-mobile segments at L2, L3, and L4 during a spring test with localized pain and spinal tenderness. Measurements of hip ROM were also taken in a prone position on the right leg (IR – 45°, ER – 45°) and left leg (IR – 43°, ER – 50°). During the baseline assessment, the patient was evaluated using the same examination forms and outcome measurement forms/questionnaires as previous studies using the clinical prediction rule.

The AT performed central SNAGs (L3–L4) and right side unilateral SNAGs (L3–L4) while the patient performed flexion and extension during the intervention based on the patient's painful spinal level and motion complaint (Figure 14 & 15). The procedures for performing the lumbar SNAG are as follows. With the patient standing, the adjustable belt is placed around the patient's ASIS and around the clinician's hips (Baker et al., 2013; Exelby, 2002; Mulligan, 2010; 2013; Wilson, 2001). The ulnar border of one hand is placed on the patient above the suspected level of the spine, and the other hand is placed either on the plinth (patient seated) or on the patient for additional support (patient standing). The clinician then applies a gliding force through the facet joint as the patient performs the complaint action. If done correctly, the patient should be able to perform the action pain-free. If there is pain with the motion, a SNAG at a different spinal level can be attempted, and if this still does not produce a pain-free motion, the technique should be discontinued. On day one, the AT followed the Mulligan "Rule of Three", whereas only performing three SNAGs (Baker et al., 2013; Exelby, 2002; Mulligan, 2010;

2013; Wilson, 2001). On subsequent days, the AT performed one set of 10 SNAGs in both directions at the same spinal level.

Figure 14. Mulligan SNAG Lumbar Flexion

Figure 15. Mulligan SNAG Lumbar Extension

Clinician and Patient-Oriented Clinical Outcomes. After each day of treatment, the patient's NRS scores improved and were minimal clinically significant (Pool et al., 2007). On day one, the NRS score improved from a 10 to a 7, then from an 8 to a 4, and finally from a 4 to a 0, on days

two and three, respectively (Table 12), resulting in an average change of 3.6. These results were similar to a study by Learman, Showalter, O'Halloran and Cook (2013) who showed a change in NRS scores in three different spinal manipulation groups averaging 3.6, 3.3, and 2.5.

The patient reported a day one score of 48%, followed by a day two score of 28% and a day three score of 18%, which was a success rate between 36–42%. The range of success rate was comparable with two different studies: one by Childs et al. (2004), who reported ODI success rates between 44–54% for a one week trial of spinal manipulation; and a second by Learman et al. (2013) who reported a success rate of 36.8% and 43.3% for thrust manipulation and non-thrust manipulation, respectively. Similar decreases in both NRS and ODI were shown in other studies (Chen, Phillips, Ramsey, & Schenk, 2009; Cook, Learman, Showalter, Kabbaz, & O'Halloran, 2013; Sutlive et al., 2009). The patient reported a 12 on the FABQ general disability subscale on day one and two, and a 0 on day three and reported a zero all three days on the FABQ work subscale. These are comparable to similar studies that have used this scale (Chen et al., 2009; Cleland et al., 2009; Cook et al., 2013; Flynn et al., 2002; Sutlive et al., 2009).

Studies have indicated the use of a self-reported, patient-specific functional task to assess functional change throughout the intervention process to measure positive results in the form of a patient-reported outcome (Stratford, Gill, Westaway, & Binkley, 1995; Yeo & Temple, 2012). The patient's personal comparable sign was the inability to touch his toes, which he considered his specific functional task to help us assess functional improvement throughout the intervention. Pictures were taken to help show a notable difference with the patient's ability to get closer to the ground during the three treatment sessions using the Mulligan SNAG technique (Figure 16-18). The patient's distance from the floor was measured before and after each SNAG treatment. On day one, the patient was measured eight-inches from the floor prior to the treatment and was measured at two inches post treatment (Table 12). Upon returning on day

two, there was no improvement in the distance from the floor from the prior day, however, after the treatment on day two, the patient was able to touch the floor and this result lasted until he was seen on day three (Table 12).

Table 12. SNAGs Clinical-Measureable Outcomes

	Day One	Day Two	Day Three
NRS (Pre)	10	8	4
NRS (Post)	7	4	0
OSW	48%	28%	18%
FABQW			
General Physical	12	12	0
Activity	0	0	0
Work			
Toe Touch (inches from the floor)	8 inches	2 inches	Able to touch floor

Figure 16. Spinal Flexion, Day One

Figure 17. Spinal Flexion, Day Two

Figure 18. Spinal Flexion, Day Three

Time Spent Performing Job Duties

Outside of the multiple outcomes collected to show the relevance of my health care, I had the desire to show the need for more time to devote on patient-centered care. From August 1, 2013 to March 1, 2014, I tracked how I spent my time by collecting data on my daily routine. By contract and job description, my secondary school employs me as a teacher who receives an 18% stipend for my duties as an AT, outlined by my job descriptions and contracts. The hours I

spend teaching are dependent upon the daily schedule at my secondary school, which are broken down into four categories: regular schedule, late-take-in schedule, advisory schedule, and early dismissal schedule (Table 13). Within each of these schedules, I also have preparatory hours; time during the day for lesson planning and faculty meetings, and the length of the preparatory hours is dependent upon the daily schedule.

Overall, for the seven tracked months, I spent 718 hours and 40 minutes teaching and 203 hours and 56 minutes in preparatory hours (Table 14). Outside of the hours spent teaching, I tracked the number of total hours I spent performing treatments and rehabilitation, and the number of hours I spent performing coverage of sporting events (practices and games) (Table 15). By my athletic training contract, I am responsible for being present at football practices, both home and away varsity football events, and any home sporting event. Overall, I spent 158 hours performing treatments and rehabilitation, and 258 hours and 30 minutes performing coverage of sporting events.

Table 13. Teacher Daily Schedules

	Take-In	Release	Preparatory Hour Length	Hours Spent Teaching
Regular Schedule	7:00 AM	2:20 PM	1 hour, 30 minutes	5 hours, 50 minutes
Late Take In Schedule	9:20 AM	2:20 PM	2 hours, 30 minutes	4 hours
Advisory Schedule	7:00 AM	2:20 PM	1 hour, 25 minutes	5 hours, 55 minutes
Early Dismissal	7:00 AM	11:50 AM	1 hour	3 hours, 50 minutes

Table 14. Schedule Break Down of Hours

	# of Days	Teaching Hours	Preparatory Hours
Regular Schedule	107	624 hours, 53 minutes	160 hours, 30 minutes
Late Take In Schedule	10	40 hours	22 hours, 30 minutes
Advisory Schedule	7	41 hours, 26 minutes	9 hours, 56 minutes
Early Dismissal	2	11 hours, 31 minutes	3 hours
Other (Parent Teacher Conferences)	-	-	8 hours
Total		718 hours, 40 minutes	203 hours, 56 minutes

Table 15. Break Down of Monthly Coverage vs. Treatment

	# of Hours Spent Providing Coverage of Sporting Events	# of Hours Spent Providing Treatment & Rehabilitation
August	31 hours	17 hours
September	39 hours, 15 minutes	42 hours
October	48 hours	36 hours, 15 minutes
November	36 hours, 15 minutes	31 hours, 15 minutes
December	39 hours	10 hours
January	29 hours	10 hours
February	36 hours	11 hours, 30 minutes
Total	**258 hours, 30 minutes**	**158 hours**

I know that my hours each day are majority toward teaching because of my contract through the school system, so to make the claim that I am spending my time unjustly toward patient care by number of hours teaching alone is not an argument. Second, I organized my athletic training tasks into two basic categories: treatment versus coverage, which is also an unjust definition of how AT spends their time. Some tasks performed by an AT, including management of the sports medicine personnel, talking to coaches (and parents), and documentation paperwork, can create a separate category called managerial tasks. I wanted to maintain the two major categories that seemed to be the major perception and expectation of

the stakeholders involved in a secondary school athletic training program. I often performed the tasks that fit in the third, managerial category during the preparatory hours.

Third, I defined performing treatments and rehabilitation as any time I was in the athletic training clinic, spending time on patient care, and covering sporting events, as any time my primary task was monitoring the safety of the athletic population at games or practices. I am aware that when I was inside the clinic performing treatment and rehabilitation, I was also available in case someone was injured at practice, potentially performing coverage and treatment/rehabilitation simultaneously.

CHAPTER 4: LITERATURE REVIEW

ATs in the Secondary School Setting

Sports-related injuries occur frequently in secondary school settings, requiring the utilization of a certified AT to prevent, recognize, treat, and rehabilitate those injuries and multiple professional organizations encourage and support this (Freddie, Fotios, & Anthony, 2007; Lyznicki, Riggs, & Champion, 1999; NATA, 2004). A summary statement by Almquist et al. (2008) stated that appropriate medical care of athletes encompasses the provision of multiple health care services instead of just basic emergency care during sporting events. The secondary school setting for AT is different in comparison to other settings, having challenges that include a high volume of care without additional health care providers, which can be addressed by focusing on the need for a full-time secondary school secondary school athletic trainer (SSAT) (McGuine, 2010).

Previous studies on employment characteristics and marketability in the secondary school setting found that teacher certification was of high importance in employing an AT (Arnold et al., 1998; Sexton, Schmoldt, & Miles, 1994). High school principals (82%) preferred a teacher-AT, with 35% of 108 surveyed secondary schools not considering sports health care as a critical need (Sexton et al., 1994). Only a small percentage of secondary schools reported employment of a nationally certified AT, suggesting filling the job vacancy may be of more interest than if the AT is certified (Arnold et al., 1998; Sexton et al., 1994).

ATs are often hired at secondary schools to take on the dual role of teacher/AT, but expecting one person to fulfill two major roles can be difficult (Pitney et al., 2008; McGuine, 2010). A "teacher-AT" model leads to long hours and burnout, and it can undervalue the role of the secondary school SSAT (McGuine, 2010). ATs in a dual role position can experience role strain due to an inability to define role relationships, and the process of having to manage the

demands of a controlled teaching role with athletic training coverage duties can affect both job tasks (Pitney et al., 2008).

An alternative to the teacher/AT model is the secondary school hiring a clinic-outreach AT, employed directly through a local hospital to provide athletic training services and coverage. Employment of this type was originally setup to satisfy the secondary school with medical coverage, and provides communication between team physician and coaching staff and a means for educating the coaching staff about sports related injuries (Nass, 1992). However, ATs in this position can find themselves covering multiple schools, multiple community events, and even outpatient rehabilitation services at a hospital. Whether the care provided by ATs in an outreach setting is optimal or adequate is questionable. ATs employed through an outreach setting in Wisconsin averaged 2.5 visits per week, at two hours per visit, to the schools they covered, but this varied based upon the size of the school (Nass, 1992).

Previous researchers focused on individual perceptions that attracted ATs to the secondary school setting (Gardiner-Shires & Mensch, 2009). Gardiner-Shires and Mensch (2009) identified three themes: interpersonal, service, and continuation concerns similar to other findings by Mensch, Crews, and Mitchell (2005). ATs are attracted to the profession and the high school setting for the enjoyment of helping athletes and children, providing health care and being a part of a team, as well as continuing to be associated with sports (Gardiner-Shires et al., 2009; Mensch et al., 2005).

Schrader (2005), however, believes that ATs are in an identity crisis, between who we are/should be as a professional, including the AT health care provider and the AT team member. However, Gardner-Shires et al. (2009) stated that attractors to the profession and high school setting suggested the participants still felt they were part of a health care model. The researchers found one attractor in the survey (desire to teach young people) interesting.

Teaching and athletic training are different professions; however, athletic training education programs are often housed in the same department with physical education, and when surveying SSATs, 40 of 52 (77%) reported that they teach at their respected high school settings (Gardiner-Shires et al., 2009).

Socialization in the Profession of Athletic Training

Researchers in multiple professions, including athletic training, have discussed the theory of socialization in the profession as a theory framework for studying professionals and their work (Pitney, 2002). Three phases often categorize athletic training socialization (Gardiner-Shires et al., 2009; Pitney, 2002). The first phase, anticipatory socialization, is the process of exploring aspiring professions. In this phase, SSATs play a key role in development and future of the athletic training profession. ATs have the ability to influence high school student's perceptions of the profession/career decisions. The individuals learn about and may become attracted to the AT profession if they are able to interact with an AT in the high school setting (Gardiner-Shires et al., 2009). The second phase is the professional socialization phase, accomplished through entering formal programs in undergraduate or graduate school (Gardiner-Shires et al., 2009; Pitney, 2002). The last phase, organizational socialization, is when the professional moves into the workforce (Pitney, 2002). During this phase of socialization, individuals adapt and learn about their new roles within their work, and professional effectiveness comes under the influence of a complex blend of factors.

One factor of socialization is the ability of ATs to put their learned skills into their professional practice, which can be influenced by the expectations or attitudes of a variety of people: athletes, parents, coaches, athletic directors, physicians, and physical therapists (Mensch et al., 2005). Coaches often hold a perception of ATs that coincide with certain expectations of an AT's own duties, and these AT expectations can change dependent upon season (pre-

season/post-season) and event (game/practice). Secondary school basketball coaches' expectations for their AT were reliant on availability in their time of need (both pre and post season), but their perception and understanding of the AT's duties, roles, and responsibilities were very limited (Mensch et al., 2005).

In the same survey, ATs were able to give a detailed account of their perceived duties and roles and responsibilities during the season, which not only included predictable tasks (e.g., taping, stretching, and treatment of injuries) but also dealing with parents regarding injured athletes and being an ambassador for visiting teams (Mensch et al., 2005). The duties perceived by the ATs were consistent with those learned in the formal education process during the second phase of socialization; therefore, coaches should be aware of the contributions ATs can make to health care, which could potentially increase job satisfaction.

SSATs utilize two categories as part of the informal learning process done in professional socialization: informal induction and creating networks for learning (Pitney, 2002). Informal induction was broken into four categories: relying on coaches and athletic directors for advice; trial and error; being thrown into position with little direction; and informal observation of others. Pitney (2002) theorized professionals are not simply a product of their work environments, but rather active participants. The process of informal learning is a lifelong process by which people gain knowledge and skill through their own daily experiences and processes, rather than a structured educational system.

ATs who initially enter into the secondary school setting from undergraduate/graduate programs or a previous job often need a period of adjustment to get used to the setting (Pitney, 2002). ATs entering into the secondary school system reported informal induction was a major process when learning their responsibilities, often utilizing coaches to gain feedback and develop an understanding of their roles and responsibilities. The second category, creating networks for

learning, was broken into four categories including: peer relationships with other ATs; creating a network for help; communicating/interacting with other ATs; and connecting with colleagues for social support (Pitney, 2002).

AT Relationships with Stakeholders

ATs are often an athlete's primary and most frequent source of health care (Barefield & McCallister, 1997). A good rapport between AT and athlete can enhance the care provided, especially the psychological recovery from injury. Barefield and McCallister (1997) surveyed 85 intercollegiate athletes about their perception of support received from the athletic training staff. Athletes reported receiving greater levels of listening support and task appreciation and reported receiving tangible and personal assistance not as often. When ATs have a crowded athletic training clinic and multiple athletes to care for, with little time to do so, it is easy for ATs to give out exercises or use a modality on one athlete and move on to treat another. The athletes' needs are greater than just physical, and the AT should provide support to ease the athlete's frustration, physical pain, and emotions that may be present from their injury (Barefield & McCallister, 1997).

Developing and maintaining a good rapport between the AT and the athlete is important to providing medical services (Unruh, 1998). The athlete's perception of the injury evaluation process, treatments performed by the AT, and overall medical delivery process has shown to affect compliance of the athlete and the rapport between the AT and athlete. Unruh (1998) suggested that not all student-athletes have the same perception of the health care provided by their AT. Female athletes and athletes in low-profile sports (i.e., sports not including football, men/women's basketball, and baseball) perceived their ATs less favorably.

Previous researchers suggested that the higher satisfaction the patient had with their health care lead to a greater perception of the health care provider and improved the treatment

experience (Unruh, 1998). Compared with a previous study, men and woman in low profile sports report lower levels of satisfaction with their AT, and athletes in high profile sports reported higher levels of satisfaction. Unruh, Unruh, Moorman, and Seshadri (2005) suggested that athletes perceive the AT offers more attention to athletes in high profile sports, hindering the responsibility of the AT to provide professional and equal treatment, as described by the NATA Code of Ethics (NATA, 2005).

Suggestions from the investigators for improving satisfaction include treating all athletes with dignity and respect, providing emotional support, and considering each athlete's individual perspective, regardless of the sport (Unruh et al., 2005). These strategies are comparable to efforts by other health care professionals when attempting to increase satisfaction. Increasing student-athlete satisfaction has the potential to reflect upon the quality of care provided by the AT (Unruh, 1998; Unruh et al., 2005).

Barriers to ATs in the Secondary School Setting

Researchers have addressed one theory, Work-Family Conflict (WFC), for reasons professionals leave the athletic training profession. These include control and flexibility with work schedules and long work hours (Mazerolle, Bruening, & Casa, 2008; Mazerolle, Bruening, Casa, & Burton, 2008; Mazerolle, Pitney, Case, & Pagnotta, 2011; Pitney, 2006; Pitney, Mazerolle, & Pagnotta 2011). Strategies to manage WFC include personal dimensions (personal time and social support) and organizational dimensions (interpersonal support, scheduling flexibility and staffing) (Pitney et al., 2011).

The investigators also included feedback and personal examples from participating ATs discussing these particular strategies in their setting and secondary school system, but it is unclear if every AT had similar responses to every strategy (Pitney et al., 2011). ATs who stated they had more control over their schedules did report less WFC, which in compared research, is

seen at the collegiate Division I level (Mazerolle et al., 2008, 2008, 2011; Pitney, 2006). Pitney et al. (2011) stated, that the secondary school setting does appear to provide more flexibility of schedule compared with the collegiate setting and that SSATs can utilize support networks to create a well-balanced lifestyle.

Participants stated that perceived support from their administration and coaches was important for balancing their work responsibilities and personal lives (Pitney et al., 2011). The investigators suggested ATs develop sound interpersonal skills to communicate and compromise with their coaches to develop more flexibility in their work schedule and personal lives. ATs who experience conflict between their professional education expectations and their organizational experience often experience role ambiguity and conflict (Mensch et al., 2005; Dixon, & Bruening, 2005). ATs who are unable to define their role and responsibility during socialization may feel underappreciated and experience burnout within the profession (Mensch et al., 2005).

Four categories have emerged as a reason for role strain in a dual position: time-related issues; role relationships; support and appreciation; and role clarification/negotiation versus role accommodation (Pitney et al., 2008). Time related issues including high work hours and the demands of a controlled teaching role with athletic training coverage duties could affect both job tasks. Both the teaching and AT role interfered with each other, causing role relationship problems. Examples of this include interference with the academic role by coaches wanting an injury status update or students wanting treatment. Further problems included designated down time (i.e., planning periods or lunch breaks) to accomplish athletic training needs (Pitney et al., 2008).

ATs who had higher level of role strain admitted not experiencing administrative support, but those ATs who indicated experiencing social support (i.e., colleges, family) did

report a lower level of role strain (Pitney et al., 2008). ATs with higher level of strain tended to accommodate to their role, whereas those ATs who negotiated and clarified their role and duties tended to report less role strain. The concept of role clarification is an aspect that many participants suggested as advice to someone about to assume a dual role position.

The majority of the participants reported low levels of role strain, but a little more than 40% experienced either high or moderate levels, with role incongruity, role overload, and role conflict being the most noticeable (Pitney et al., 2008). Participants made it apparent that they were struggling with the challenge of adequately performing in both the teacher and AT role. Evidence suggested that one role can interfere with the other; however, it also provides evidence of one role enhancing the other (students gaining trust in the AT by seeing them in the classroom setting) (Pitney et al., 2008).

Quality Healthcare

Quality health care is a human right, but due to its subjectivity and intangible characteristics, it is often hard to define (Donabedian, 1980; 1988). Donabedian (1980; 1988) defined health care quality as an application of medical science and technology in order to maximize its benefits and determined three components of quality health care: technical quality, interpersonal quality, and amenities. The technical aspect of care is the application of the science and technology of medicine to manage a personal health problem. The interpersonal aspect of care involves the social-psychological aspects found in the physician-patient interaction. The quality at which interpersonal aspects of care delivered can affect the technical care provided, meaning that patients' satisfaction with the care provided plays a role in the value of health care outcomes (Donabedian, 1980; 1988).

Increasing concerns about health care quality has led to numerous medical providers performing quality programs and applying specific quality standards (Hassan, 2005). Donabedian

(1980; 1988) described three approaches to assessing quality: observation of structure, process, and outcome. Structure is the characteristics of the health care provider, including their resources and the setting they work in (Donabedian, 1980). Process is the primary object of assessment, meaning the norms of medicine and the ethics and values of society. Outcome is the change in the patient's health status that directly attributed to the health care.

Most quality studies performed at the hospital level have factors (billing, funding, etc.) and a different view quality and satisfaction along the terms of morbidity and mortality (Cleary, 1988) that ATs do not have to deal with. Measurable attributes of quality can assist in developing and improving health care services (Mosadeghrad, 2012). Quality assessment and patient satisfaction in health care within the clinical setting have been studied (Donabedian, 1980; 1988) and Foster, Yesalis, Ferguson, and Albright (1989) observed quality assessment of ATs. Raab, Wolfe, Gould, and Piland (2011) focused on identifying affective and effective constructs found in a quality AT, including care, communication, commitment, integrity, and knowledge. Patients who seek medical care want a professional who meets their definition of "quality" (Raab et al., 2011). The NATA and Board of Certification (BOC) identify competencies needed for effectiveness as an AT (BOC, 2006) but effectiveness does not necessarily equal quality. By providing a definition of a "quality AT", characteristics can be identified that would cause patients to seek them out as medical professionals (Raab et al., 2011).

Improving quality of health care is important to every involved stakeholder (So & Wright, 2012). Each stakeholder, from health care provider to patient, brings a different perspective that should be considered when determining the overall quality of care provided (McGuine, 2010; So & Wright, 2012). The success of the clinic depends on the balance of three stakeholders: the patient, physician, and staff; if one of the three stakeholders should overstep the other one, balance is lost (McGinnis, 2010). To improve health care in the United States, a

focus needs to be on providing the patient with quality care (Yeo & Temple, 2012). The National Institutes of Health has utilized patient-reported outcomes (PRO) to improve the patient's experience (Yeo & Temple, 2005). PROs can be presented in a wide variety, including patient preference, symptoms, function, satisfaction, and quality of life. Health care models are evolving to put the focus on PROs to better implement individualized patient care.

The clinician's perspective of medical outcomes can potentially differ from the patient's perspective. To define quality indicators of health care better, we must attempt to understand what quality care means to our patients (Yeo & Temple, 2012). Past discussions have existed about health care professionals measuring outcomes to demonstrate quality of care, even though the term "outcome" is defined inaccurately and the procedures involved lacks standardization (Albohm & Wilkerson, 1999). If a patient takes responsibility to be involved in their own health care treatments, it can preserve the effects produced by the health care provider. For years, the certified AT has served as the primary health care provider for athletes in multiple sports athletic programs at the high school, collegiate, and professional levels (Albohm et al., 1999). Assessing clinical outcomes gives ATs the ability to communicate through a new set of tools with multiple stakeholders (Parsons, McLeod, Snyder, & Sauers, 2008).

Victoor, Delnoij, Friele, and Rademakers (2012) attempted to define what determines patient choice of health care providers. Patients actively choose their provider by investing effort in acquiring information to make an informed and conscious decision (Victoor et al., 2012). To make an informed decision about the best health care provider, the patient needs to be informed about the quality of the provider. The research points to certain quality indicators, which include structure, process, and outcomes, that are measureable aspects of care to indicate the quality (Donabedian, 1988).

Robertson (2011) determined that patients rely on their previous health care experiences when making the decision about where to receive health care. Nixon (1992) described a group of stakeholders in the sporting community that he calls a "sportsnet" that can include athletes, coaches, athletic administrators, and sports medicine personnel (e.g., ATs, physicians, physical therapists). Nixon (1992) claimed that athletes do not look for solutions about their pain and injury outside of their "sportsnet".

The best approach to providing quality health care services should focus on patient-centered care, which is especially important in athletic training, since ATs are often in constant engagement with the patients (athletes) they treat (Laursen, 2010). In certain athletic training settings, however, the ability to provide appropriate, patient-centered care may be limited and may not reach the level of quality. Recently, some colleges and universities have begun to make a change in their patient care system, by taking control of athletic training services away from the athletic department and allowing the university infirmary to manage athletic training services (Laursen, 2010). Changing the model allows for better focus of the overall services toward patient care and is suggested to improve AT quality of life. Outside of the collegiate, university realm of athletic training, secondary school models, such as the teacher/AT and the clinic-outreach models, both have limitations for providing quality patient-centered care (McGuine, 2010).

Safe Sports School Award.

To have quality care, assessment should begin with the structure of the setting and provider. The NATA, along with the Youth Sports Safety Alliance (2013), created the Safe Sports School (SSS) award to reward secondary schools who meet certain guidelines and criteria at their respected settings. Before reaching a level of quality care, the health care given must have a level of standard and basic care. The SSS award signifies the secondary school has a level of

standard care, meeting basic procedures, and measures. The SSS award recognizes secondary schools that take steps to keep their athletes free from injuries and meet guidelines regarding their structure and athletic training services. The award has a list of criteria/actions recommended and required by secondary schools to gain approval and receive the award. Meeting all 50 of the criteria gains the school a team 1 rating, consequently only meeting only the required criteria (29 out of 50) gains the school a team 2 rating. To gain SSS status, athletic programs must achieve the following:

1. Create a comprehensive athletic health care administrative system
2. Provide or coordinate pre-participation physical examinations
3. Promote safe and appropriate practice and competition facilities
4. Plan for selection, fit, function and proper maintenance of athletic equipment
5. Provide a permanent, appropriately equipped area to evaluate and treat injured athletes
6. Develop injury and illness prevention strategies, including protocols for environmental conditions
7. Provide or facilitate injury intervention
8. Create and rehearse venue-specific Emergency Action Plans
9. Provide or facilitate psychosocial consultation and nutritional counseling/education
10. Educate athletes and parents about the potential benefits and risks in sports as well as their responsibilities

Conclusion

One of the strategies, practice guidelines, has a long history of improving quality in patient care, but the challenge is to derive a measureable format that can be used to change the clinician's behavior and improve on health care (So & Temple, 2012). The NATA released

multiple statements, including 11 strategies and recommendations to provide prevention, care, and appropriate management of injury and illness to secondary school-aged athletes (Almquist et al., 2008; NATA, 2004). The strategies are activities of ongoing daily athletic health care that that will assist the SSAT in providing appropriate medical care. In addition to the NATA statements, the Youth Sports Safety Alliance (YSSA) developed a National Action Plan for Sports Safety and a Secondary School Athletes' Bill of Rights (YSSA, 2013; Wham, Saunders, & Mensch, 2010). These two documents further help structure safety and practice guidelines for the secondary schools, including guidelines to help protect youth athletes from certain pathologies and general medical conditions. Besides the separate guidelines and practice strategies offered specifically for secondary school-aged athletes, all ATs who have successfully passed the national certifying examination are held to the Board of Certification's *Standards of Professional Practice*, including responsibility toward the profession, patients, and society (BOC, 2006). Further research is needed to find how implementation of these multiple guidelines will affect the secondary school setting in the way of health care. A focus should be placed not only on appropriate health care, but also on quality, patient-centered care within the secondary school setting.

CHAPTER 5: ACTION RESEARCH

Introduction

Action research deals with real problems and real-life situations (Koshy et al., 2011). It is about evaluating the local effectiveness of professional practice based on the interpreter's individual paradigm, and then the practitioner can create an outstanding solution to a local issue that can be used everywhere (Willis et al., 2010). I am part of the paradigm of secondary school athletic training setting.

Estimated nationally, 55% of high schools have ATs; however, it is not always clear as to how the school or surrounding community views the AT (Waxenberg & Satlof, 2014). The focus seems to be placed upon "how do we get more ATs in the secondary school setting" to provide coverage for athletic competition and reduce liability secondary to injury. From my own perspective, focus needs to be placed on "how can an AT provide quality care in the secondary school setting", which leads to a dispute between coverage versus patient care. Priorities of the AT should change from the idea of providing coverage to focus more on providing care (Cooper Let al., 2013).

Within the secondary school setting, the AT is often responsible for high volumes of care without additional direct health care providers, smaller resources compared with other settings, and a diverse set of daily tasks (McGuine, 2010). However, Almquist et al. (2008) suggested that appropriate medical care of secondary school athletes involves more than just basic emergency care during sporting events; it should encompass the provision of a variety of other health care services. The Appropriate Medical Care for the Secondary School-Aged Athlete Task Force Consensus Statement describes the AT within a secondary school program to be knowledgeable and qualified to accomplish a wide varied of tasks (Almquist et al., 1998), such as

1. determining an individual's readiness to participate in physical activity
2. promoting safe and appropriate practice, competition, and treatment facilities
3. advising on the selection, fit, function, and maintenance of athletic equipment
4. developing and implementing a comprehensive emergency action plan
5. establishing protocols regarding environmental conditions
6. developing injury and illness prevention strategies
7. providing for on-site recognition, evaluation, and immediate treatment of injury and illness, with appropriate referrals
8. facilitating rehabilitation and reconditioning
9. providing for psychosocial consultation and referral
10. providing scientifically sound nutritional counseling and education
11. participating in the development and implementation of a comprehensive athletic health care administrative system (e.g., personal health information, policies and procedures, insurance, referrals, and record keeping).

In response to the consensus guidelines, Wham et al. (2010) reported that presence of an AT, number of ATs, source of employment, and budget as factors affecting medical care. However, does appropriate care necessarily equal "quality" and patient-centered care? Cameron and Whetten (1996) said that the definition of quality is constructed in the minds of those who define it and that no one definition is correct, but instead, it is specific to each organization. The purposes of this research were to research quality health care in the athletic training profession and to answer the following questions:

1. What characteristics define quality health care?
    a. How is quality health care defined for ATs?

2. What are the perceptions and expectations of ATs as health care providers regarding their roles and responsibilities in my clinical setting?
    a. How do the perceptions and expectations affect quality care provided to the patient?
3. What barriers prevent the AT from providing quality health care?
    a. How can the barriers be changed to improve patient satisfaction and quality care in my setting?
4. Based upon the gathered research and data, how can quality patient care be improved at my clinical setting?

Pilot Data

Louisiana Athletic Trainers Association (LATA) database

Before conducting a setting-specific and individualized study within my own clinical setting, data helped build current knowledge about the local secondary school athletic training setting in the state of Louisiana, including employment status and statistics. In the spring of 2013, the Louisiana Athletic Trainers Association (LATA) Secondary School Committee conducted a statewide search to update their database containing statistics regarding the settings SSATs work in. The secondary schools in the state of Louisiana are split into seven classes (5A-1A, B & C), with three identifiable categories of athletic training services (full-time, part-time, and none). The category definitions include full-time athletic training services working at least five days per week, 30 hours per week, and at least 10 months per year; part-time athletic training services is anything less than full time.

Other than, the AT services provided (full-time, part-time, none), the database contained information regarding the source of SSAT services, listing each ones contract category, including medical facility, teacher/AT, or contract AT. Medical facility included ATs working in hospitals, physician offices, private clinics, or universities. Teacher/AT included anyone who taught 50%

or more of their school's regular class periods. Contract included ATs not employed by a medical facility and not a full-time teacher employed by the school system.

The LATA Secondary School Committee developed the SSAT database in 2010, so in the spring of 2012, the database was updated by contacting previously listed ATs in the database to confirm or deny their employment and contacting principals of any school previously listed to have "no AT services" to have them update their status. For any AT listed in the database that could not be contacted, other ATs were asked to provide a third party verification regarding employment at certain secondary schools. The database update process occurred during a 6 month period (January 2013–June 2013) performed by three LATA Secondary School Committee members, who were able to get accurate, up-to-date information from a large portion (n = 221) of the SSATs in the state of Louisiana.

In the state of Louisiana, the majority of the schools have no AT services (43%), while the schools that do have AT services are more through part-time (38%) than full-time SSAT services (19%) (Figure 9). The employment category breakdown shows majority of the SSATs work in a medical facility (77%), followed by teacher/ATs (17%), and lastly, contract ATs (6%) (Figure 10). Updating the LATA Secondary School AT database was an integral beginning to viewing the type of services rendered in the state of Louisiana at the secondary school setting. The updated database allows for future quantitative statistics and qualitative analysis of the Louisiana SSAT setting. Two web-based questionnaires served as pilot data studies to gather perspective on the secondary school athletic training services in Louisiana.

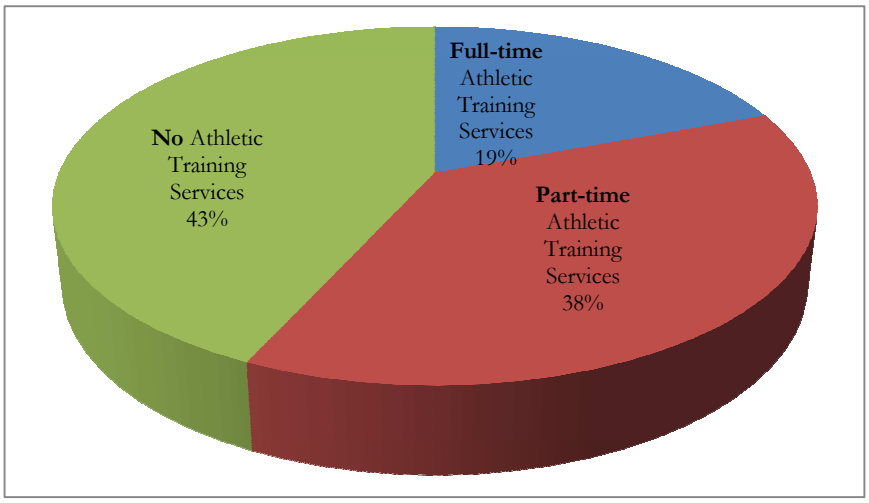

Figure 19. SSAT Services by Class (5A-C); LATA SSAT Database 2013 (n = 221)

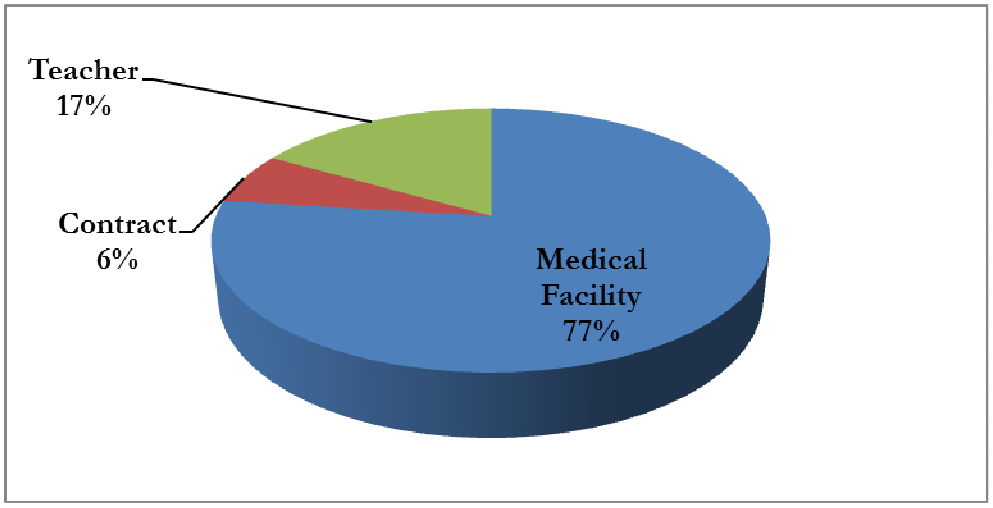

Figure 20. Source of AT Services (Class 5A-C); LATA SSAT Database 2013 (n=221)

Pilot Survey

Each stakeholder, from health care provider to patient, brings a different perspective to consider when determining the overall quality of care provided (So & Wright, 2012). Nixon (1992) described a concept of a "sportsnet", a group of stakeholders in the sporting community, including athletes, coaches, athletic administrators, and sports medicine personnel. Athletes do not look for solutions about their pain and injury outside of their own "sportsnet" (Nixon, 1992). Therefore, a need exists to understand what each stakeholder believes is the desired roles

and responsibilities, as well as what the barriers/restrictions are of the health care provided to improve quality patient-centered care in the high school setting.

A pilot data questionnaire helped gather information regarding perception, expectation, and knowledge of multiple stakeholders' views about ATs. Previous studies helped derive the idea and format for this questionnaire (Foster, 1989; Mensch & Mitchell, 2005). First, collection of demographic information for each stakeholder took place, but was kept to a minimum to allow the participants' answers to stay as anonymous as possible. Each demographic section was stakeholder specific, only asking information relevant to the participant taking the survey (Table 16). A greater number of coaches (n = 26) responded to the survey compared with ATs (n = 10), parents (n = 8), patients (n = 18), other medical professionals (n = 8), and administrators (n = 5) (Table 17).

Table 16. Demographics Questions (Pilot Data

Stakeholder	Question(s)
Athletic Trainer	What is your job status at the high school? • Full-time athletic trainer • Full-time athletic trainer/teacher • Part-time athletic trainer
Coach	What sport is the major sport that you coach? (open ended response)
Medical Professional	What is your medical position associated with the high school? • Nurse • Physician • Physical Therapist • EMT/Paramedic • Physical Therapist Assistant • Other
Administrators	What is your administrative position associated with the high school? • Principal • Vice Principal • Athletic Coordinator • Athletic Director
Parent	What grade is your child in at the high school? • Freshmen • Sophomore • Junior • Senior

Table 17. Stakeholders Demographics (Pilot Data)

Athletic Trainers	**Total n=10**
Full-time	5
Full-time Teacher/AT	4
Part-time	1
Coaches	**Total n=24**
Baseball	2
Basketball	1
Boys Basketball	2
Cross Country	1
Football	4
Girls Basketball	2
Soccer	1
Softball	3
Swimming	2
Tennis	1
Track & Field	2
Volleyball	2
Wrestling	1
Medical Professionals	**Total n=8**
Nurse	2
Physician	4
EMT/Paramedic	2
Administrator	**Total n=5**
Principal	1
Vice Principal	3
Athletic Director	1
Parent (child classification)	**Total n=8**
Freshmen	1
Sophomore	3
Junior	1
Senior	3

Perceived expectation. A large section of the questionnaire was devoted to gaining insight on the stakeholder's expectation of the AT's duties. This section asked the participant to rank 11 tasks of the AT by level of importance, one being the most important all the way down to eleven being the least important. The NATA compiled the Secondary School Consensus Statements regarding appropriate care by an AT in a secondary school setting that helped derive the 11 tasks used in this questionnaire (NATA, 2004). To make the survey of tasks more meaningful to the

researcher and specific clinical setting, some modifications in phrasing were made, as well as the addition and subtracting of certain tasks. The 11 tasks were:

1. rehabilitate injuries
2. tape, brace, and wrap
3. prevent injuries
4. provide injury education to parents
5. make return to play decisions
6. provide emergency care
7. hydration
8. recognize, evaluate, and treat injuries
9. selection, fit, function and maintenance of athletic equipment
10. develop and maintain an emergency action plan, and
11. maintain and implement a sports medicine team.

For all stakeholders, the questionnaire asked them to rank the importance of each of the eleven tasks on a scale of 1 (most important) to 11 (least important) (Table 18–21).

Table 18. Expectations of ATs by Coaches (Pilot Data)

	1	2	3	4	5	6	7	8	9	10	11
Rehabilitate injuries	7 (29%)	1 (4%)	1 (4%)	3 (12%)	4 (17%)	1 (4%)	1 (4%)	1 (4%)	1 (4%)	2 (8%)	2 (8%)
Tape, Brace, and Wrap	4 (17%)	3 (12%)	3 (12%)	3 (12%)	1 (4%)	4 (17%)	0 (0%)	1 (4%)	1 (4%)	1 (4%)	3 (12%)
Prevent Injuries	4 (17%)	4 (17%)	0 (0%)	0 (0%)	1 (4%)	3 (12%)	3 (12%)	3 (12%)	3 (12%)	2 (8%)	1 (4%)
Provide Injury Education to Parents	3 (12%)	1 (4%)	3 (12%)	3 (12%)	2 (8%)	2 (8%)	2 (8%)	3 (12%)	1 (4%)	0 (0%)	4 (17%)
Make Return to Play Decisions	4 (17%)	4 (17%)	1 (4%)	2 (8%)	2 (8%)	2 (8%)	1 (4%)	2 (8%)	1 (4%)	3 (12%)	2 (8%)
Provide Emergency Care	8 (33%)	2 (8%)	3 (12%)	3 (12%)	1 (4%)	1 (4%)	2 (8%)	0 (0%)	1 (4%)	1 (4%)	2 (8%)
Hydration	3 (12%)	0 (0%)	1 (4%)	3 (12%)	2 (8%)	2 (8%)	4 (17%)	1 (4%)	4 (17%)	3 (12%)	1 (4%)
Selection, Fit, Function and Maintenance of Athletic Equipment	2 (8%)	1 (4%)	0 (0%)	2 (8%)	0 (0%)	1 (4%)	1 (4%)	0 (0%)	3 (12%)	3 (12%)	11 (46%)
Develop and Maintain an Emergency Action Plan	6 (25%)	1 (4%)	3 (12%)	1 (4%)	1 (4%)	4 (17%)	2 (8%)	2 (8%)	1 (4%)	2 (8%)	1 (4%)
Recognize, Evaluate, and Treat Injuries	9 (38%)	3 (12%)	2 (8%)	0 (0%)	0 (0%)	1 (4%)	2 (8%)	2 (8%)	1 (4%)	2 (8%)	2 (8%)
Maintain and Implement a Sports Medicine Team	5 (21%)	3 (12%)	0 (0%)	1 (4%)	2 (8%)	1 (4%)	1 (4%)	2 (8%)	2 (8%)	3 (12%)	4 (17%)

Table 19. Expectations of ATs by Athletic Trainers (Pilot Data)

	1	2	3	4	5	6	7	8	9	10	11
Rehabilitate injuries	0 (0%)	1 (10%)	0 (0%)	2 (20%)	1 (10%)	0 (0%)	1 (10%)	1 (10%)	2 (20%)	2 (20%)	0 (0%)
Tape, Brace, and Wrap	0 (0%)	0 (0%)	0 (0%)	1 (10%)	0 (0%)	1 (10%)	0 (0%)	3 (30%)	2 (20%)	2 (20%)	1 (10%)
Prevent Injuries	1 (10%)	1 (10%)	2 (20%)	0 (0%)	1 (10%)	1 (10%)	1 (10%)	1 (10%)	2 (20%)	0 (0%)	0 (0%)
Provide Injury Education to Parents	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (10%)	4 (40%)	1 (10%)	1 (10%)	1 (10%)	2 (20%)
Make Return to Play Decisions	0 (0%)	1 (10%)	2 (20%)	1 (10%)	2 (20%)	1 (10%)	2 (20%)	0 (0%)	1 (10%)	0 (0%)	0 (0%)
Provide Emergency Care	2 (20%)	1 (10%)	2 (20%)	2 (20%)	2 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (10%)
Hydration	0 (0%)	0 (0%)	1 (10%)	2 (20%)	1 (10%)	1 (10%)	0 (0%)	3 (30%)	2 (20%)	0 (0%)	0 (0%)
Selection, Fit, Function, and Maintenance of Athletic Equipment	0 (0%)	1 (10%)	0 (0%)	0 (0%)	1 (10%)	0 (0%)	0 (0%)	1 (10%)	0 (0%)	2 (20%)	5 (50%)
Develop and Maintain an Emergency Action Plan	0 (0%)	2 (20%)	0 (0%)	2 (20%)	0 (0%)	2 (20%)	1 (10%)	0 (0%)	0 (0%)	1 (10%)	2 (20%)
Recognize, Evaluate, and Treat Injuries	2 (20%)	2 (20%)	2 (20%)	0 (0%)	0 (0%)	1 (10%)	1 (10%)	0 (0%)	1 (10%)	0 (0%)	1 (10%)
Maintain and Implement a Sports Medicine Team	2 (20%)	0 (0%)	0 (0%)	0 (0%)	1 (10%)	1 (10%)	0 (0%)	0 (0%)	2 (20%)	2 (20%)	2 (20%)

Table 20. Expectations of ATs by Administrators (Pilot Data)

	1	2	3	4	5	6	7	8	9	10	11
Rehabilitate injuries	0 (0%)	0 (0%)	1 (20%)	0 (0%)	2 (40%)	1 (20%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Tape, Brace, and Wrap	0 (0%)	1 (20%)	0 (0%)	0 (0%)	2 (40%)	1 (20%)	0 (0%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)
Prevent Injuries	2 (40%)	1 (20%)	0 (0%)	2 (40%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Provide Injury Education to Parents	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (40%)	1 (20%)	0 (0%)	1 (20%)	1 (20%)
Make Return to Play Decisions	0 (0%)	0 (0%)	0 (0%)	1 (20%)	0 (0%)	1 (20%)	1 (20%)	0 (0%)	0 (0%)	1 (20%)	1 (20%)
Provide Emergency Care	2 (40%)	1 (20%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)
Hydration	0 (0%)	0 (0%)	1 (20%)	1 (20%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	1 (20%)	1 (20%)	0 (0%)
Selection, Fit, Function and Maintenance of Athletic Equipment	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)	2 (40%)	2 (40%)
Develop and Maintain an Emergency Action Plan	0 (0%)	1 (20%)	0 (0%)	1 (20%)	0 (0%)	1 (20%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)	1 (20%)
Recognize, Evaluate, and Treat Injuries	1 (20%)	1 (20%)	2 (40%)	0 (0%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Maintain and Implement a Sports Medicine Team	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (40%)	3 (60%)	0 (0%)	0 (0%)

Table 21. Expectations of ATs by Other Medical Professionals (Pilot Data)

	1	2	3	4	5	6	7	8	9	10	11
Rehabilitate injuries	1 (12%)	0 (0%)	3 (38%)	1 (12%)	0 (0%)	2 (25%)	1 (12%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Tape, Brace, and Wrap	0 (0%)	2 (25%)	0 (0%)	1 (12%)	1 (12%)	1 (12%)	1 (12%)	1 (12%)	0 (0%)	0 (0%)	1 (12%)
Prevent Injuries	2 (25%)	0 (0%)	2 (25%)	0 (0%)	1 (12%)	0 (0%)	1 (12%)	0 (0%)	1 (12%)	0 (0%)	1 (12%)
Provide Injury Education to Parents	0 (0%)	1 (12%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (12%)	1 (12%)	1 (12%)	2 (25%)	2 (25%)
Make Return to Play Decisions	1 (12%)	0 (0%)	0 (0%)	1 (12%)	0 (0%)	2 (25%)	0 (0%)	0 (0%)	1 (12%)	1 (12%)	2 (25%)
Provide Emergency Care	2 (25%)	0 (0%)	1 (12%)	1 (12%)	2 (25%)	0 (0%)	1 (12%)	0 (0%)	0 (0%)	1 (12%)	0 (0%)
Hydration	0 (0%)	0 (0%)	0 (0%)	2 (25%)	0 (0%)	1 (12%)	0 (0%)	3 (38%)	1 (12%)	1 (12%)	0 (0%)
Selection, Fit, Function and Maintenance of Athletic Equipment	0 (0%)	0 (0%)	1 (12%)	0 (0%)	1 (12%)	0 (0%)	0 (0%)	3 (38%)	2 (25%)	0 (0%)	1 (12%)
Develop and Maintain an Emergency Action Plan	0 (0%)	1 (12%)	0 (0%)	0 (0%)	1 (12%)	1 (12%)	1 (12%)	1 (12%)	1 (12%)	1 (12%)	1 (12%)
Recognize, Evaluate, and Treat Injuries	1 (12%)	3 (38%)	1 (12%)	0 (0%)	0 (0%)	1 (12%)	0 (0%)	0 (0%)	1 (12%)	1 (12%)	0 (0%)
Maintain and Implement a Sports Medicine Team	1 (12%)	0 (0%)	0 (0%)	1 (12%)	1 (12%)	0 (0%)	2 (25%)	0 (0%)	2 (25%)	1 (12%)	0 (0%)

Coaches ranked 'recognize, evaluate, and treat injuries' (*n* = 9; 38%) as the most important task, followed by 'providing emergency care' (*n* = 8; 33%) and 'rehabilitate injuries' (*n* = 7; 29%); the least important task was 'selection, fit, function and maintenance of athletic equipment' (*n* = 11; 46%). ATs ranked 'providing emergency care', 'recognize, evaluate and treat injuries', and 'maintain and implementation of a sports medicine team' tied for their most important task (*n* = 2; 20%); the least important task was 'selection, fit, function and maintenance of athletic equipment' (*n* = 5; 50%). Administrators ranked 'prevention of injuries' and 'providing emergency care' (*n* = 2; 40%) as their most important task; least important task was 'selection, fit, function and maintenance of athletic equipment' (*n* = 2; 40%). Other medical professionals ranked 'prevention of injuries and providing emergency care' as their top ranked tasks (*n* = 2; 25%); least important tasks were 'providing injury education to parents' and 'make return to play decisions' (*n* = 2; 25%).

Perceived Satisfaction & Importance. To gain a response on the level of perceived importance of the AT, the stakeholder's were asked how satisfied they have been with the health care services provided by the AT and how important they feel it is to employ ATs in secondary schools. The question item was a four-choice Likert scale ranging from 'very unimportant or unsatisfied' to 'very important or very satisfied', dependent on the question stem. Overall, the satisfaction and importance of the AT in the secondary school setting was rated to be 'very important or very satisfied' (Tables 22-23).

Table 22. Athletic Trainer Satisfaction (Pilot Data)

Coaches	**Total n=26**
Very unsatisfied	1
Unsatisfied	0
Satisfied	11
Very Satisfied	14
Administration	**Total n=5**
Very unsatisfied	1
Unsatisfied	0
Satisfied	1
Very Satisfied	3
Other Medical Professionals	**Total n=8**
Very unsatisfied	1
Unsatisfied	0
Satisfied	2
Very Satisfied	5
Parents	**Total n=8**
Very unsatisfied	2
Unsatisfied	0
Satisfied	1
Very Satisfied	5

Table 23. Athletic Trainer Importance (Pilot Data)

Athletic Trainer	**Total=10**
Very unimportant	0
Unimportant	0
Important	1
Very Important	9
Coaches	**Total n=26**
Very unimportant	5
Unimportant	0
Important	0
Very Important	21
Administration	**Total n=5**
Very unimportant	1
Unimportant	0
Important	0
Very Important	4
Other Medical Professionals	**Total n=8**
Very unimportant	2
Unimportant	0
Important	0
Very Important	6
Parents	**Total n=8**
Very unimportant	4
Unimportant	0
Important	0
Very Important	4

The parent and patient surveys also had a separate 10-item section, modified from a previous study by Foster et al. (1989), asking them to respond to questions about their satisfaction of the AT in regards to a particular injury incident.

1. The athletic trainer told me just what my trouble was.
2. The athletic trainer told me all that I wanted to know about my injury.
3. The athletic trainer seemed interested in me as a person.
4. The athletic trainer seemed warm and friendly to me.
5. The athletic trainer seemed to take my problems seriously.
6. The athletic trainer allowed me to say everything I wanted about my injury.
7. The athletic trainer seemed to know what he was doing.

8. The athletic trainer came up with a good plan for helping me.

9. The athletic trainer seemed to know just what to do for my injury.

10. It was difficult for me to do exactly what the athletic trainer told me to do.

The modification of the survey was adding the word "athletic" in front of the word "trainer" for each of the 10 items to correct terminology ataxia. The additional word should not have caused any changes in the validity of the questions from the original survey. Overall, the parent and patient satisfaction on the 10-item section was high (Table 24).

Table 24. Patient/Parent Satisfaction of Athletic Trainer Results (Pilot Data)

Parent (total n=8)	**Yes**	**No**	**Unsure**
The athletic trainer told me just what my trouble was.	8	0	0
The athletic trainer told me all that I wanted to know about my injury.	7	1	0
The athletic trainer seemed interested in me as a person.	8	0	0
The athletic trainer seemed warm and friendly to me.	8	0	0
The athletic trainer seemed to take my problems seriously.	8	0	0
The athletic trainer allowed me to say everything I wanted about my injury.	6	0	2
The athletic trainer seemed to know what he was doing.	8	0	0
The athletic trainer came up with a good plan for helping me.	7	0	1
The athletic trainer seemed to know just what to do for my injury.	8	0	0
It was difficult for me to do exactly what the athletic trainer told me to do.	0	7	1
Patient (total n=18)	**Yes**	**No**	**Unsure**
The athletic trainer told me just what my trouble was.	15	3	0
The athletic trainer told me all that I wanted to know about my injury.	16	1	1
The athletic trainer seemed interested in me as a person.	17	1	0
The athletic trainer seemed warm and friendly to me.	16	1	1
The athletic trainer seemed to take my problems seriously.*	16	1	0
The athletic trainer allowed me to say everything I wanted about my injury.	18	0	0
The athletic trainer seemed to know what he was doing.	18	0	0
The athletic trainer came up with a good plan for helping me.	17	1	0
The athletic trainer seemed to know just what to do for my injury.	18	0	0
It was difficult for me to do exactly what the athletic trainer told me to do.	4	14	0

*n=17 for this question

The survey sent to ATs and coaches inquired about the importance of the duties in a different format in an attempt to gain further information; this was a modified version of the questionnaire used in a previous study by Mensch and Mitchell (2005). From a list, the coaches chose they tasks they expected their AT to perform during preseason, in-season (games), in-season (practices), and postseason; they could choose any number of tasks they felt necessary. The largest majority of the coaches' seasonal expectations during the preseason was for the AT to 'maintain and implement a sports medicine team' (n = 19; 79%); during in-season (practice) was 'recognize, evaluate, and treat injuries' (n = 23; 96%); during in-season (games) was tied between 'tape, brace, and wrap' and 'recognize, evaluate, and treat injuries' (n = 22; 92%); and during postseason was 'rehabilitation of injuries' (n = 18; 75%) (Table 25-26).

ATs had a similar task, but they were not limited to a list of tasks to choose from during all four seasonal categories, however had the ability to respond in an open-ended format. They were asked about their tasks for four "sporting categories" (football, basketball/soccer, baseball/softball, and other sports) during the same seasonal categories as given to the coaches. Only the ATs had this option to allow for elaboration and gain further information. The ATs tended to list their duties specific to their seasonal setting, regardless of the sport category.

During pre-season, ATs focused upon the preparation of getting ready for the upcoming season, including prevention and education of athletes and parents. While in season, both during practice and games, ATs listed tasks focused upon the moment at hand, including treatment of injuries, emergency care, and coverage of athletic events. In the post-season, ATs listed tasks that could be considered a follow-up to the tasks performed during the season, such as rehabilitation of injuries (Tables 27–30).

Table 25. Coaches Expectations of ATs Per Seasonal Categories (Pilot Data)

Preseason (Total n=24)	**Percentage**	**Count**
Rehabilitate Injuries	75%	18
Tape, Brace, and Wrap	71%	17
Prevent Injuries	50%	12
Provide Injury Education to Parents	67%	16
Make Return to Play Decisions	50%	12
Provide Emergency Care	75%	18
Hydration	46%	11
Selection, Fit, Function and Maintenance of Athletic Equipment	25%	6
Develop and Maintain an Emergency Action Plan	62%	15
Recognize, Evaluate, and Treat Injuries	75%	18
Maintain and Implement a Sports Medicine Team	79%	19
In Season (Practices) (Total n=24)		
Rehabilitate Injuries	92%	22
Tape, Brace, and Wrap	92%	22
Prevent Injuries	54%	13
Provide Injury Education to Parents	62%	15
Make Return to Play Decisions	71%	17
Provide Emergency Care	88%	21
Hydration	71%	17
Selection, Fit, Function and Maintenance of Athletic Equipment	25%	6
Develop and Maintain an Emergency Action Plan	71%	17
Recognize, Evaluate, and Treat Injuries	96%	23
Maintain and Implement a Sports Medicine Team	71%	17

Table 26. Coaches Expectations of ATs Per Seasonal Categories (Pilot Data) (cont.)

In Season (Games) (Total n=24)		
Rehabilitate Injuries	54%	13
Tape, Brace, and Wrap	92%	22
Prevent Injuries	50%	12
Provide Injury Education to Parents	42%	10
Make Return to Play Decisions	75%	18
Provide Emergency Care	88%	21
Hydration	79%	19
Selection, Fit, Function and Maintenance of Athletic Equipment	21%	5
Develop and Maintain an Emergency Action Plan	67%	16
Recognize, Evaluate, and Treat Injuries	92%	22
Maintain and Implement a Sports Medicine Team	71%	17
Postseason (Total n=24)		
Rehabilitate Injuries	75%	18
Tape, Brace, and Wrap	29%	7
Prevent Injuries	21%	5
Provide Injury Education to Parents	38%	9
Make Return to Play Decisions	33%	8
Provide Emergency Care	38%	9
Hydration	17%	4
Selection, Fit, Function and Maintenance of Athletic Equipment	25%	6
Develop and Maintain an Emergency Action Plan	38%	9
Recognize, Evaluate, and Treat Injuries	67%	16
Maintain and Implement a Sports Medicine Team	50%	12

Table 27. Athletic Trainer's Expectations during Seasonal Categories (Pilot Data)

Preseason
Football
Once a week visit
Ordering Supplies, parents meeting, hydration equipment check
Prevention, education, treatment
Injury management
Evaluation, prevention, and treatment of injuries
Hydration, conditioning, rehab, wound care
Prepare paperwork and supplies, and educate athletes regarding injury prevention.
Rehab, and Prevention
Basketball/Soccer
Call if needed
Parents meeting,
Prevention, education, treatment
Injury management
Oversee Strength and Conditioning Workouts
Injury care
Rehab / conditioning
Educate athletes regarding injury prevention.
Rehab and prevention
Baseball/Softball
Call if needed
Parents meeting
Prevention, education, treatment
Injury management
Rehab, injury care
Rehab / conditioning
Educate athletes regarding injury prevention.
Rehab and Prevention
Other Sports
Call if needed
Prevention, education, treatment
Injury management
Oversee Strength and Conditioning Workouts
Rehab / conditioning
Educate athletes regarding injury prevention.

Table 28. Athletic Trainer's Expectations during Seasonal Categories (Pilot Data) (cont.)

In Season (Practices)
Football
Once a week visit
Rehab, hydration, field supervision
Prevention, treatment
Injury management
Taping, treatment, evaluation, field set up, and monitoring student trainers
Hydration, prevention, emergency/wound care, rehab
Hydration and injury management.
Care and Coverage
Basketball/Soccer
Call if needed
On call
Prevention, treatment
Injury management
Practice coverage/taping/ treatment and rehab/game coverage
Prevention, emergency/wound care, first aid, rehab
Coverage / Rehab
Injury management.
Care (treatment and rehab)
Baseball/Softball
Call if needed
On call
Prevention, treatment
Injury management
Taping/ treatments and rehab/practice and game coverage
Coverage / Rehab
Injury management.
Care (treatment and rehab)
Other Sports
Call if needed
On call
Prevention, treatment
Injury management
Practice and game coverage/ treatments and rehab/taping
Coverage / Rehab
Injury management.

Table 29. Athletic Trainer's Expectations during Seasonal Categories (Pilot Data) (cont.)

In Season (Games)
Football
Once a week visit / some games
Emergency care, hydration, injury evaluation
Prevention, treatment
Injury management
Taping, field set up, and monitoring student trainers
Injury care, rehab, hydration, some equipment issues, updated LHSAA physical/forms, prevention, hydration
Injury assessment and return to play decisions.
Coverage
Basketball/Soccer
Call if needed
Emergency care, hydration, injury evaluation
Prevention, treatment
Injury management
Normal athletic training duties
Coverage / Rehab
Injury assessment.
Coverage home varsity only
Baseball/Softball
Call if needed
Emergency care, hydration, injury evaluation
Prevention, treatment
Injury management
Normal athletic training duties
Coverage / Rehab
Injury assessment.
Coverage Home varsity only
Other Sports
Call if needed
Emergency care, hydration, injury evaluation
Prevention, treatment
Injury management
Normal athletic training duties
Coverage / Rehab
Injury assessment.

Table 30. Athletic Trainer's Expectations during Seasonal Categories (Pilot Data) (cont.)

Post Season
Football
Call if needed
Prot. Eq. Collection, rehab,
Treatment, rehab
Same as during the season
Injury evaluations, treatments, rehab
Wound care during strength/ conditioning
Follow-up rehabilitation.
Rehab , Prevention
Basketball/Soccer
Call if needed
Prot. Eq. Collection, rehab,
Treatment, rehab
Same as during the season
Post season physicals/ treatments and rehab
Rehab
Rehab / conditioning
Follow-up rehabilitation.
Rehab and prevention
Baseball/Softball
Call if needed
Prot. Eq. Collection, rehab,
Treatment, rehab
Same as during the season
Post season physicals/ treatments and rehab
Rehab
Rehab / conditioning
Follow-up rehabilitation.
Rehab and prevention
Other Sports
Call if needed
Prot. Eq. Collection, rehab,
Treatment, rehab
Same as during the season
Post season physicals/ treatments and rehab
Rehab
Rehab / conditioning
Follow-up rehabilitation.

Perceived knowledge. Lastly, in order to gain insight on the stakeholder's knowledge about an AT, coaches, parents, and patients took a fifteen-item, true or false section regarding the AT's capability of performing certain tasks:

1. Rehabilitate Non-Surgical Injuries
2. Rehabilitate Surgical Injuries
3. Tape, Brace, and Wrap
4. Provide Psychological Counseling
5. Prevent Injuries
6. Provide Injury Education to Parents
7. Make Return to Play Decisions
8. Provide Emergency Care
9. Suture
10. Administer Injection
11. Create Strength and Conditioning Programs
12. Provide Nutritional Advice
13. Recognize, Evaluate, and Treat Injuries
14. Selection, Fit, Function and Maintenance of Athletic Equipment
15. Develop and Maintain an Emergency Action Plan

Lastly, to gain insight on the stakeholder's knowledge about an AT, coaches, parents, and patients took a 15-item, true or false section regarding the AT's capability of performing certain tasks:

1. Rehabilitate Non-Surgical Injuries
2. Rehabilitate Surgical Injuries
3. Tape, Brace, and Wrap

4. Provide Psychological Counseling
5. Prevent Injuries
6. Provide Injury Education to Parents
7. Make Return to Play Decisions
8. Provide Emergency Care
9. Suture
10. Administer Injection
11. Create Strength and Conditioning Programs
12. Provide Nutritional Advice
13. Recognize, Evaluate, and Treat Injuries
14. Selection, Fit, Function and Maintenance of Athletic Equipment
15. Develop and Maintain an Emergency Action Plan

The participant marked 'true' if they felt an AT was able to perform a certain task under their scope of practice, and 'false' if they thought the AT was not able to perform the task. The majority of the stakeholders responding to the survey showed a basic knowledge of about the tasks an AT could perform, but a few responses stood out as being the incorrect answer (Tables 31–32). First, coaches (n = 18) and parents (n = 8) displayed incorrect knowledge in the AT's capability to provide psychological counseling. Second, coaches (n = 15) displayed incorrect knowledge in the AT's capability to create strength and conditioning programs. Third, parents (n = 6) displayed incorrect knowledge in the AT's capability in providing return to play decisions.

Table 31. Knowledge about Athletic Trainers (Pilot Data)

Coaches (Total n=24)	**True**	**False**
Rehabilitate Non-Surgical Injuries	23	1
Rehabilitate Surgical Injuries	15	9
Tape, Brace, and Wrap	24	0
Provide Psychological Counseling	6	18
Prevent Injuries	19	5
Provide Injury Education to Parents	23	1
Make Return to Play Decisions	22	2
Provide Emergency Care	23	1
Suture	4	20
Administer Injection	3	21
Create Strength and Conditioning Programs	9	15
Provide Nutritional Advice	19	5
Recognize, Evaluate, and Treat Injuries	24	0
Selection, Fit, Function and Maintenance of Athletic Equipment	13	11
Develop and Maintain an Emergency Action Plan	23	1
Administrators (Total n=5)		
Rehabilitate Non-Surgical Injuries	5	0
Rehabilitate Surgical Injuries	5	0
Tape, Brace, and Wrap	5	0
Provide Psychological Counseling	3	2
Prevent Injuries	5	0
Provide Injury Education to Parents	5	0
Make Return to Play Decisions	4	1
Provide Emergency Care	4	1
Suture	1	4
Administer Injection	1	4
Create Strength and Conditioning Programs	4	1
Provide Nutritional Advice	5	0
Recognize, Evaluate, and Treat Injuries	5	0
Selection, Fit, Function and Maintenance of Athletic Equipment	3	2
Develop and Maintain an Emergency Action Plan	4	1

Table 32. Knowledge about Athletic Trainers (Pilot Data) (cont.)

Other Medical Professionals (Total n=8)		
Rehabilitate Non-Surgical Injuries	8	0
Rehabilitate Surgical Injuries	5	3
Tape, Brace, and Wrap	8	0
Provide Psychological Counseling	5	3
Prevent Injuries	8	0
Provide Injury Education to Parents	8	0
Make Return to Play Decisions	5	3
Provide Emergency Care	7	1
Suture	0	8
Administer Injection	2	6
Create Strength and Conditioning Programs	7	1
Provide Nutritional Advice	8	0
Recognize, Evaluate, and Treat Injuries	8	0
Selection, Fit, Function and Maintenance of Athletic Equipment	8	0
Develop and Maintain an Emergency Action Plan	8	0
Parents (Total n=8)		
Rehabilitate Non-Surgical Injuries	8	0
Rehabilitate Surgical Injuries	5	3
Tape, Brace, and Wrap	8	0
Provide Psychological Counseling	0	8
Prevent Injuries	7	1
Provide Injury Education to Parents	8	0
Make Return to Play Decisions	2	6
Provide Emergency Care	7	1
Suture	1	7
Administer Injection	0	8
Create Strength and Conditioning Programs	8	0
Provide Nutritional Advice	7	1
Recognize, Evaluate, and Treat Injuries	8	0
Selection, Fit, Function and Maintenance of Athletic Equipment	6	2
Develop and Maintain an Emergency Action Plan	7	1
Maintain and Implement a Sports Medicine Team	7	1

Limitations to the pilot data collection. As the pilot survey was used primarily to gain response in an attempt to shape the final research study, no rigorous statistics, validation, or reliability processes were done; this lead to multiple limitations. First, keeping the demographics vague caused an inability to follow up with specific stakeholders in the future. Second, in the section regarding ATs' knowledge, it was unknown if the participant did not have the knowledge of the tasks or if they simply could not define them. Third, some questions asked the participant

if the AT was "capable" instead of asking if the AT was "able", which could have caused the participant to focus on the AT being sufficient at performing the tasks instead of whether the AT had the knowledge, skills, and training to perform the task. Fourth, by asking open-ended questions just to the AT regarding their expectations does not allow for comparison of responses across the different stakeholders. Fifth, the parents and patients were the only participants asked the satisfaction 10-item section, again, not allowing comparisons across the different stakeholders. Finally, it was the primary investigator's assumption that the participants were answering the survey questions based upon a general AT and not upon the primary investigator as the AT.

Methods

After analysis of the pilot data, the research study was created as an in-depth assessment of the stakeholders involved in a high school sports medicine program, including coaches, patients (student-athletes), and parents/guardians; only involving members of my clinical setting. By focusing on a local problem, the hope was to develop and build a global solution through an action research process.

Participants

Anyone who had previous interaction with the athletic training services at HHS in Boutte, Louisiana was eligible to participate in the study. Participants included current coaching staff for all sports at the high school and any patient (student-athlete), including their parents, who had a previous interaction (injury or treatment) with the AT. The school's administration granted the primary investigator permission to contact potential participants as part of his job as an AT/educator for the secondary school system. The participants in the study were previous patients, who were also student-athletes at the secondary school, so previous injury and treatment logs are on file at the secondary school and school district office and are accessible by

the primary investigator as part of his athletic training job. Participants excluded from the study were anyone who had no prior interaction with the Hahnville athletic training services because these participants had no information to provide to the research study.

Research Design

First, based upon the pilot data results, 9 of the original 11 tasks from the pilot data were reused in the final research study. Two tasks used in the pilot data were removed from further use in the study: 'selection, fit, function, and maintenance of athletic equipment' and 'tape, brace, and wrap.' 'Selection, fit, function and maintenance' was often the least important task ranked by stakeholders in the pilot data and the primary investigator thought that 'tape, brace, and wrap' was considered to be a part of "recognize, evaluate, and treat injuries." Two tasks (coverage of athletic events and paperwork/documentation of injuries) were added to the 9 other tasks to equal 11 tasks used in the final research study:

1. Coverage of Athletic Events (Practices/Games)
2. Develop and Maintain an Emergency Action Plan
3. Hydration
4. Maintain and Implement a Sports Medicine Team
5. Make Return to Play Decisions
6. Prevention of Injuries
7. Provide Emergency Care
8. Provide Injury Education to Parents
9. Recognize, Evaluate, and Treat Injuries
10. Rehabilitation of Injuries
11. Paperwork/Documentation of Injuries

Second, questioning the importance of AT in the pilot data was geared toward general level of significance and showed no major variations in the participant responses. Two questions were included in the final research study to gauge perception of specific importance of the AT as a health care provider and to show importance of the athletic trainer specifically in the secondary school setting:

(a) Do you view an athletic trainer as an important health care professional?

(b) How important overall, to you, is it to have an athletic trainer at the secondary school?

Third, the questions regarding satisfaction about the AT showed no major variations in the participant responses. Fourth, the majority of the participants did have a working knowledge of the capabilities of an AT, so those questions were also left out of the final research study. Lastly, the pilot data surveyed the importance of tasks performed by the AT, but in the final research study, there was emphasis placed on the stakeholder's perception and expectations of the time spent by the AT.

The final research study was a two-part design for a specific audience involved in a local Louisiana secondary school. Part one was an online survey, quantitative assessment created to gain further knowledge compared with the results of the pilot data. Part two was a semi-structured focus group, qualitative assessment. Focus groups gather rich, detailed, and descriptive data from shared individual attitudes, experiences, and perceptions (Morgan, 1997) and allow participants to interact and share feelings, experiences, opinions, and new ideas (Finch & Lewis, 2003), gathering information from a variety of participants at the same time (O'Donnell, Lutfey, Marceau, & McKinlay, 2007). Part two contained two separate sections: follow-up questions used for debriefing of the questions asked in part one and open-ended vignettes to assess the quality of athletic training care given at the secondary school better.

The two scenarios (vignettes) were observed within the secondary school setting that restricted the AT from performing the tasks in part one and providing appropriate and quality health care. The vignettes ensured generalization and did not pinpoint any particular person or event involved at the secondary school. Vignettes are a valuable technique for exploring people's perceptions, beliefs, and meanings about specific situations (Barter & Renold, 1999; Hughes & Huby, 2002) and can provide a "snapshot" of an observation by the researcher (Ely, Vinz, Downing, & Anzul, 1997).

Data Collection and Analysis

The university's IRB approved the study. Eligible participants were sent the research items (introduction letter, survey, consent form, etc.) via email and invited to participate in the research study. All participants over the age of 18 gave their consent to participate and any participant not competent to give consent (i.e., minors) received one parent's consent, as well as giving their own assent to participate.

In part one, the participants answered questions about their opinions and beliefs regarding the medical services provided at the secondary school. First the researcher collected demographic information, including age, gender, and role/position in the sports medicine team. Second, participants responded to questions regarding their views of the importance of an AT, both general and specific to the secondary school setting. Third, the participants ranked 11 tasks, similar to the pilot data, based upon how important they felt it was for the athletic trainer to perform. Participants were able to assign the same level of importance (0–10) for multiple tasks. Last, the participants provided a percentage (out of 100%) of an average week they perceived and expected an AT spends on the same eleven duties.

These two questions appeared at the same time in the survey, allowing the participant to see how they answered both questions, a suggestion made by the panel of experts who assisted

in the validation and reliability of the survey instrument. To aid the participants, the online survey instrument also calculated and displayed the percentage automatically and assured the participant if the percentage was not equal to 100%. Two follow-up, reminder emails encouraged participation in the study.

Once data collection began online, all participants received emails about participation in part two of the study to provide elaboration in the overall data collection process. Any participant who completed the electronic survey qualified for the focus group. All questionnaires and interview/focus groups took place during non-working hours for all participants in the study. The two follow-up questions included:

(a) Was there any general difficulty with any of the questions on the survey?

(b) Would you like to elaborate on how you answered any of the questions?

The majority of the time spent in the focus group directed responses toward the two vignettes (clinical scenarios).

The two scenarios were

(a) An athlete comes in for treatment, but the athletic trainer is too busy to spend quality time with them.

(b) An athlete claims a coach will not let them go the athletic trainer because they feel the coach does not believe they are hurt.

Three questions followed each scenario to gain a response from the participants:

(a) What is your perception of the main problem or issue in this scenario?

(b) What is a way that you see to improve that situation or that scenario?

(c) How do you feel this scenario or situation affects the quality of care given to the athlete?

Several techniques helped establish reliability and validity for the instruments in the study. First, before sending out the questionnaire, a peer review of a small sample of ATs (N = 5) checked the survey format and questions for face validity, comprehension, and understanding. Second, a Q-sort methodology strategy ensured validation of the survey instrument. The Q-sort method involves interpretations of sampling, scaling, and data analysis (Stephenson, 1953). In the Q-sort method, sample participants placed the items (survey questions) into the category that best represented the type of question asked. Eleven sample participants – athletes (n = 4), parents (n = 2), coaches (n = 2), and ATs (n = 3) – contributed to the Q-sort procedure. Similarity existed between the participants ranking the survey questions into categories showing validity and reliability of the Q-sort method (Table 33).

Table 33. Q-sort Classification Results

Survey Item	Similarity between participants (%)
Question 1	100
Question 2	100
Question 3	55
Question 4	64
Question 5	36
Question 6	82
Question 7	73
Question 8	82
Vignette 1	82
Vignette 2	73

Question #5 – "How important overall, to you, is it to have an athletic trainer at the secondary school?" – was included to the instrument after the Q-sort methodology took place, since two particular questions in the Q-sort ("How important overall to you is it for the athletic trainer at the secondary school to perform treatments/provide patient care?" and "How important overall to you is it for the athletic trainer at the secondary school to provide coverage of athletic events (games/practices)?") only had 36% classification similarity. Adding the new question #5 was an attempt to generalize an overall response to the two questions that received

low classification percentages in the Q-sort. Third, a test, retest procedure furthered reliability evaluation of the survey instrument.

Once the focus group data was gathered, Vanan Group, Inc., a professional transcription company, transcribed the recorded audio into text format. Different forms of data triangulation ensured trustworthiness and established credibility. Data-source triangulation allowed the results of the study to be viewed from multiple perspectives and place the responses to the open-ended questions into categories to develop themes that explained the findings more thoroughly (Pitney & Parker, 2009). Lastly, peer debriefing took place by having a researcher with qualitative research experience examine the results of the study and perform an external audit of the research process and final product for consistent data to ensure dependability of the qualitative analysis. The independent variable is the questionnaire regarding importance of the AT in certain tasks and expectation of roles and duties of an AT. Dependent variable was the creation of a best practice model for quality patient care in the secondary school setting, in an attempt to fix the barriers that restrict effective and quality patient care.

Ethical Considerations

Ethical considerations included, but were not limited to, (a) the duty of care; (b) respect for the individual, irrespective of race, gender, age, disability, etc.; (c) respect for cultural diversity; (d) respect for individual dignity; and (e) protection from harm. There was no payment or compensation for any of the participants in the study, and there was no deception used during the study. Expected benefits to individual subjects include improving patient-centered care at the participating secondary school setting. The participants were asked their opinions and beliefs regarding the medical services provided at the secondary school. The format of the questions and scenarios were generic and did not pinpoint any particular person or event

involved or working at the secondary school, therefore, there was no known potential risk involved.

Limitations

The stakeholders participating in the study may be hesitant in honestly expressing their true opinions when answering the questionnaires. Second, time allotted for the study and response rate to the survey/questionnaire had the potential to limit the research study. Lastly, this study only included information from one secondary school in Louisiana.

Due to the variety in the focus groups (i.e., number of participants and participant classification), every focus group did not have the same active participation, meaning that some groups responded more than others did to the questions. Even though differences existed within the focus groups, similar responses and results were expected to have been produced, because every participant during every group was given adequate amounts of time to answer and voice their own opinions. However, some participants may have not responded to the proposed question due to another participant in the room, for example, a patient not wanting to respond due to their parent being present. Some of the participants struggled and/or did not respond to the first three questions of the focus group due to a huge time lapse between taking the electronic portion and partaking in the focus group.

Delimitations

This study is restricted to only stakeholders involved in a sports medicine network at one particular secondary school setting, but it is important to note that some of the issues being addressed and researched could occur in other settings (collegiate, professional, etc.)

Results

Electronic survey

Participants responded to three demographic questions: age, gender, and role at the secondary school. Sixty-four participants responded to the online questionnaire: coaches (*n* = 23), parents (*n* = 22), and patients/student athletes (*n* = 19) (Table 34). The age range spanned from 15 years to 67 years of age (mean = 35.95 years, median = 41, mode = 16) (Table 35) and there was a relatively even involvement of male (*n* = 29) to female (*n* = 35) participants (Table 36).

Table 34. Current Role/Position

	Frequency	Percent	Valid Percent	Cumulative Percent
Coach	23	35.9	35.9	35.9
Parent	22	34.4	34.4	70.3
Patient/Student Athlete	19	29.7	29.7	100.0

Table 35. Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	29	45.3	45.3	45.3
Female	35	54.7	54.7	100.0

Table 36. Age

	Frequency	Percent	Cumulative Percent
15	3	4.7	4.7
16	6	9.4	14.1
17	5	7.8	21.9
18	5	7.8	29.7
26	1	1.6	31.3
28	2	3.1	34.4
30	2	3.1	37.5
35	2	3.1	40.6
39	3	4.7	45.3
40	2	3.1	48.4
41	2	3.1	51.6
42	2	3.1	54.7
43	3	4.7	59.4
44	3	4.7	64.1
45	4	6.3	70.3
46	3	4.7	75.0
47	3	4.7	79.7
48	3	4.7	84.4
49	1	1.6	85.9
50	1	1.6	87.5
52	3	4.7	92.2
53	1	1.6	93.8
56	2	3.1	96.9
59	1	1.6	98.4
67	1	1.6	100.0

All participants ($N = 64$) viewed an AT as an important health care professional (Table 37). An outstanding majority (89%; $n = 57$) of the participants responded that overall felt it was "very important" to have an AT in the secondary school; however, this question was not part of the Q-sort, so the reliability of the survey item is questionable (Table 38).

Table 37. AT as an Important Health Care Professional

	Frequency	Percent	Cumulative Percent
Yes	64	100	100
No	0	0	100
Unsure	0	0	100

Table 38. Important to have an AT in the Secondary School

	Frequency	Percent	Cumulative Percent
Very Important	57	89.0	89.0
Important	6	9.4	98.4
Neutral	0	0.0	98.4
Important	0	0.0	98.4
Very Unimportant	0	0.0	98.4
N/A	1	1.6	100.0

Participants scaled the importance of each task from 0 (least important) to 10 (most important), and they were allowed to choose the same rank, or level of importance, for multiple tasks (Table 39–49). The three tasks that majority of the participants ranked as a "10" were 'coverage of athletic events' (n = 53), followed by 'provide emergency care' (n = 52), and last 'recognize, evaluate, and treat injuries' (n = 51). Three tasks had participants providing a ranking as low as a "3", were 'hydration', 'provide injury education to parents and maintain', and 'implement a sports medicine team'. Three anomalies in the results exist due to participants giving multiple ranks for the same tasks: 'coverage of athletic events (practice/games)'; (2) 'develop and maintain an emergency action plan' and (3) 'making return to play decisions'.

Table 39. Importance of Coverage of Athletic Events (Practices/Games)

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	0	0.00	0.00
4	0	0.00	0.00
5	0	0.00	0.00
6	0	0.00	0.00
7	1	1.54	1.54
8	4	6.15	7.69
9	7	10.77	18.46
10	53	81.54	100.00
Total*	65	100.00	
*** One participant chose multiple answers**			

Table 40. Importance of Develop and Maintain an Emergency Action Plan

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	0	0.00	0.00
4	0	0.00	0.00
5	1	1.54	1.54
6	1	1.54	3.08
7	1	1.54	4.62
8	3	4.62	9.23
9	12	18.46	27.69
10	47	72.31	100.00
Total*	65	100.00	
*** One participant chose multiple answers**			

Table 41. Importance of Hydration

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	1	1.56	1.56
4	1	1.56	3.13
5	1	1.56	4.69
6	2	3.13	7.81
7	3	4.69	12.50
8	4	6.25	18.75
9	4	6.25	25.00
10	48	75.00	100.00
Total	64	100.00	

Table 42. Importance of Maintain and Implement a Sports Medicine Team

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	1	1.56	1.56
4	1	1.56	3.13
5	1	1.56	4.69
6	2	3.13	7.81
7	4	6.25	14.06
8	7	10.94	25.00
9	12	18.75	43.75
10	36	56.25	100.00
Total	64	100.00	

Table 43. Importance of Make Return to Play Decisions

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	0	0.00	0.00
4	0	0.00	0.00
5	3	4.62	4.62
6	0	0.00	4.62
7	3	4.62	9.23
8	9	13.85	23.08
9	8	12.31	35.38
10	42	64.62	100.00
Total*	65	100.00	
*** One participant chose multiple answers**			

Table 44. Importance of Prevention of Injuries

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	0	0.00	0.00
4	0	0.00	0.00
5	2	3.13	3.13
6	0	0.00	3.13
7	2	3.13	6.25
8	9	14.06	20.31
9	9	14.06	34.38
10	42	65.63	100.00
Total	64	100.00	

Table 45. Importance of Provide Emergency Care

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	0	0.00	0.00
4	0	0.00	0.00
5	0	0.00	0.00
6	0	0.00	0.00
7	0	0.00	0.00
8	2	3.13	3.13
9	10	15.63	18.75
10	52	81.25	100.00
Total	64	100.00	

Table 46. Importance of Provide Injury Education to Parents

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	1	1.56	1.56
4	2	3.13	4.69
5	1	1.56	6.25
6	1	1.56	7.81
7	5	7.81	15.63
8	7	10.94	26.56
9	13	20.31	46.88
10	34	53.13	100.00
Total	64	100.00	

Table 47. Importance of Recognize, Evaluate, and Treat Injuries

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	0	0.00	0.00
4	0	0.00	0.00
5	0	0.00	0.00
6	0	0.00	0.00
7	0	0.00	0.00
8	5	7.81	7.81
9	8	12.50	20.31
10	51	79.69	100.00
Total	64	100.00	

Table 48. Importance of Rehabilitation of Injuries

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	0	0.00	0.00
4	0	0.00	0.00
5	0	0.00	0.00
6	0	0.00	0.00
7	1	1.56	1.56
8	4	6.25	7.81
9	16	25.00	32.81
10	43	67.19	100.00
Total	64	100.00	

Table 49. Importance of Paperwork/Documentation of Injuries

	Frequency	Percent	Cumulative Percent
0	0	0.00	0.00
1	0	0.00	0.00
2	0	0.00	0.00
3	0	0.00	0.00
4	1	1.56	1.56
5	3	4.69	6.25
6	0	0.00	6.25
7	2	3.13	9.38
8	4	6.25	15.63
9	9	14.06	29.69
10	45	70.31	100.00
Total	64	100.00	

Lastly, participants responded to two questions that gauged their perception and expectation of how much time an AT in the secondary school setting spends on the 11 tasks. Each question required the participant to input a percentage of time for each tasks based on their own definition of an average week; the final percentages for each question had to equal 100 percent. Out of the eleven tasks, the top three tasks perceived by the participants that an AT spends performing was 'coverage of athletic events' (23.81 $\pm$ 15.715), 'rehabilitation of injuries' (13.00 $\pm$ 9.465), and 'recognize, evaluate and treat injuries (10.69 $\pm$ 5.324) (Tables 50–51). The participants expected the AT to spend the most time performing the same three tasks, with a slight variation in the percentages: 'coverage of athletic events' (25.89 $\pm$ 18.552), 'rehabilitation of injuries' (12.64 $\pm$ 8.709), and 'recognize, evaluate, and treat injuries' (11.45 $\pm$ 6.031) (Tables 52–53). For both questions, 'provide injury education to parents' was the lowest perceived (4.31 $\pm$ 3.473) and 'expected time spent by the AT' (4.89 $\pm$ 3.768). Looking at the breakdown per each stakeholder, the same three tasks were the top averages in the same order, except for the

patient group, who perceived and expected a greater percentage of time spent on 'recognize, evaluate, and treat injuries' over 'rehabilitation of injuries'.

Table 50. Perception of an Athletic Trainer Spending Time on Duties

	Minimum	Maximum	Mean	Std. Deviation
Coverage of Athletic Events (Practices/Games)	5	65	23.81	14.715
Develop and Maintain an Emergency Action Plan	0	10	5.39	3.312
Hydration	0	30	7.56	5.497
Maintain and Implement a Sports Medicine Team	0	20	7.03	4.429
Make Return to Play Decisions	0	15	6.06	3.459
Prevention of Injuries	0	15	6.97	3.800
Provide Emergency Care	0	30	8.56	5.246
Provide Injury Education to Parents	0	17	4.31	3.473
Recognize, Evaluate, and Treat Injuries	0	25	10.69	5.324
Rehabilitation of Injuries	5	50	13.00	9.465
Paperwork/Documentation of Injuries	0	25	6.61	4.234

Table 51. Expectation of an Athletic Trainer Spending Time on Duties

	Minimum	Maximum	Mean	Std. Deviation
Coverage of Athletic Events (Practices/Games)	5	100	25.89	18.552
Develop and Maintain an Emergency Action Plan	0	15	5.19	3.545
Hydration	0	30	7.80	5.875
Maintain and Implement a Sports Medicine Team	0	20	6.09	3.943
Make Return to Play Decisions	0	15	5.88	3.658
Prevention of Injuries	0	15	7.05	3.934
Provide Emergency Care	0	20	7.47	4.811
Provide Injury Education to Parents	0	18	4.89	3.768
Recognize, Evaluate, and Treat Injuries	0	30	11.45	6.031
Rehabilitation of Injuries	0	50	12.64	8.709
Paperwork/Documentation of Injuries	0	10	5.66	3.233

Table 52. Expectation of an Athletic Trainer Spending Time on Duties (Mean)

	Coaches	Parents	Patients
Coverage of Athletic Events (Practices/Games)	28.91	21.82	19.95
Develop and Maintain an Emergency Action Plan	4.35	5.73	6.26
Hydration	8.13	6.36	8.26
Maintain and Implement a Sports Medicine Team	7.65	7.32	5.95
Make Return to Play Decisions	5.78	6.18	6.26
Prevention of Injuries	5.26	7.36	8.58
Provide Emergency Care	6.78	8.14	11.21
Provide Injury Education to Parents	3.65	4.73	4.63
Recognize, Evaluate, and Treat Injuries	10.43	9.86	11.95
Rehabilitation of Injuries	11.65	15.45	11.79
Paperwork/Documentation of Injuries	7.39	7.05	5.16

Table 53. Expectation of an Athletic Trainer Spending Time on Duties (Mean)

	Coaches	Parents	Patients
Coverage of Athletic Events (Practices/Games)	29.48	28.23	18.84
Develop and Maintain an Emergency Action Plan	4.17	5.41	6.16
Hydration	7.83	6.77	8.95
Maintain and Implement a Sports Medicine Team	6.74	5.77	5.68
Make Return to Play Decisions	5.17	5.77	6.84
Prevention of Injuries	5.09	7.68	8.68
Provide Emergency Care	6.43	6.73	9.58
Provide Injury Education to Parents	4.30	4.95	5.53
Recognize, Evaluate, and Treat Injuries	11.74	10.05	12.74
Rehabilitation of Injuries	12.74	13.09	12.00
Paperwork/Documentation of Injuries	6.30	5.55	5.00

Focus group

Eleven focus groups were conducted with a variation in the type of participant depending on their time schedule and availability (Table 54). Members of the focus group included coaches (n = 14), parents (n = 8), and athletes (n = 15). The average age of the participants was 31.19 $\pm$ 13.65 years and included both male (n = 20) and female (n = 17) (Table 55). During the focus group setting, not every participant was required to respond to each individual question, even though in some groups, every participant felt the need to respond.

Table 54. Focus Group Participant Breakdown

Focus Group Tally	Coach	Parent	Patient	Total Participants
Group #1	2	0	0	2
Group #2	2	0	0	2
Group #3	3	0	0	3
Group #4	1	0	0	1
Group #5	1	0	0	1
Group #6	3	0	0	3
Group #7	2	0	0	0
Group #8	0	0	6	6
Group #9	0	4	4	8
Group #10	0	2	3	5
Group #11	0	2	2	4
Total	14	8	15	37

Table 55. Focus Group Participants Demographics

Type of Participant	Gender	Age
Coach	Male	28
Coach	Male	40
Coach	Male	49
Coach	Male	44
Coach	Male	52
Coach	Male	35
Coach	Male	29
Coach	Male	30
Coach	Male	44
Coach	Male	48
Coach	Male	41
Coach	Male	39
Coach	Male	28
Coach	Female	26
Parent	Female	48
Parent	Male	47
Parent	Female	46
Parent	Female	52
Parent	Female	42
Parent	Female	47
Parent	Male	41
Parent	Male	47
Athlete	Female	18
Athlete	Female	18
Athlete	Female	17
Athlete	Female	16
Athlete	Female	17
Athlete	Female	15
Athlete	Male	17
Athlete	Male	18
Athlete	Female	16
Athlete	Female	16
Athlete	Female	16
Athlete	Female	17
Athlete	Male	16
Athlete	Male	16
Athlete	Female	17

Question 1: Was there any general difficulty with any of the questions on the survey?

There eight responses recorded for this question. The major categories of responses by the participants were "trouble with the percentage ranking questions" and "difficulty

differentiation the tasks." The participants struggled with designating percentages out of 100% to certain athletic training tasks, which was either a problem with the wording of the question or a struggle of the participants to quantify their opinions into a number (percentage).

Coach, Male, 52:

> There was some difficulty and the fact that it's hard to differentiate between the levels of needs like when you're talking about… It seemed like it was an all-or-nothing type deal which I understand that you can spread yourself thin a lot of times but there was some confusion there.

Coach, Female, 26:

> The question where you had to do the percentages, because I know that there is no way you can do all of that in the expected time. So, I know that it's more than a 100% like what you're able to do or whatever.

Question 2: Would you like to elaborate on how you answered any of the questions?

Forty responses were recorded for this question. Sixteen of the forty (40%) were responses categorized as the participant "mentioning or elaborating on a specific task." Participants used this question in the focus group to elaborate on which task listed in the electronic survey they gave higher ranking too and why. Responses to this question showed emphasis on the need for the AT to interact with the athletes as much as possible during treatment, rehabilitation, and coverage. Secondary emphasis was on the AT completing paperwork and documentation.

Coach, Female, 26:

> Well, I know that I knew I gave you a lot of time to work with the athletes because

> obviously that is the big part of what you do, rehabilitation and all of that kind of thing. But you also may have to do the paperwork. And I know that that is the part that sucks and is time consuming.

Parent, Female, 42:

> I think I've put a lot of your time is spent at the event, covering events, monitoring athletes, and treating them for injuries especially with everything they've been through with her. And I know there's a lot of other, like you said the documentation, the paperwork that's a lot that you have to keep up with.

Eight of the forty (20%) are responses categorized as the participant "wanting the ability for more percentage allotment." Some participants expressed the desire to allot more time to certain tasks, but due to the nature of the question and electronic survey, they were restricted to keeping the total to 100%, which required some to give less of a percentage to certain tasks to make up the numerical difference for other tasks. A few responses to this question conveyed similar concepts to the previous question, with participants claiming to have a tough time with the wording of the percentage allotment question.

Parent, Female, 48:

> It was hard for me to put a percentage of importance because to me, they were all important, so it's hard to distinguish. Gosh, what percentage of importance really is this? And, I don't know how you decipher it all. That part was hard because I think they were all such a value to each part of it.

Parent, Female, 52:

> I found it was hard to divide up the percentages also because you don't work just like an eight-hour day like any other teacher would, because you also have after-school practices and games and conditionings and training. So, you know, our eight-hour day might be your 16 or 18-hour day. If there's a game at night, you might be there until 10:30 or 11 o'clock. So, when I thought about all of that, what you do in those amount of hours, thinking, okay, sometimes there's a lot of paperwork involved, you have to give some time for that. But, to give 2% of your time, that seemed like enough. So, it was rather hard to try to divide it because you do have so much outside of your regular workday.

Athlete, Female, 17:

> For the percentage questions I had to go back and I would have to like double-check myself and make some percentages higher and lower base on my -- base on what I had already filled out. Like I would put like 30% but then like I wanted another one higher. So that I had to like go back and change another one…It wasn't difficult but some of them I wanted higher and then some of them I didn't really want at all so…

Eight of the forty (20%) are responses categorized as the participant "enlightened by the AT duties & expressing the need for another AT." Some participants recognized how many tasks are expected of the AT's list of services and provided appreciation, as well as justification of how much an AT is needed at the secondary school setting.

Parent, Female, 52:

> It actually enlightened me as to all what you do because I didn't realize that it encompassed so many things the athletic trainer did. You know, being that you have to

> take care of the students' injuries, but it's more than just that. It's teaching, paperwork, you know, you have to do the paperwork. You have to allot time for that. But, I just didn't realize that your job responsibilities encompass so many other things other than just what I thought they were.

Parent, Female, 42:

> And after I looked at all the tasks, I realized that with the number of athletes that they have here, they need two of you. Really, when you just look at everything you have to do and I found the hardest part was trying to divide up the percentages of time of our expectations because looking at everything you have to do and it's only one of you. And I know how many athlete, there's different sports going at the same time of the year, too. So, for me that was the hardest was you know putting my expectations in a number for the percentages knowing how much you do. I feel like there needs to be more of you.

Vignettes

First scenario: "An athlete comes in for treatment but the athletic trainer is too busy to spend time with them."

What is your perception of the main problem or issue in this scenario?

There were forty responses to this question. Twenty-one of the forty (52.5%) were responses categorized as the problem existing with "time management and the athletic trainer's priorities." Participants felt that a problem did exist with the ratio between AT and number of athletes needing health care. However, responses by the participants circled around an internal question of "what was causing the athletic trainer to be too busy" and maybe the scenario would not exist if the AT would or could prioritize their tasks and have better time management.

Coach, Male, 30:

> I think that if an athlete comes in and you're too busy, I mean, it all depends on the situation, I guess… Like, to me, the problem in the situation is that you're too busy. What are you busy doing that you can't provide adequate treatment to somebody who actually needs it? First of all, I'm assuming that the kid needs it… You say treatment, I'm assuming he's not some kid that walks in, doesn't really need treatment and is just coming in to hang out and flirt with the girls in there… It's a problem, and that's a problem because there's some sort of mismanagement of your time or services somewhere. I mean, obviously, as I've told you before, the medical treatment and medical diagnosis and rehab, that's your main function. If you ask me, that's what athletic training is about. You know what I'm saying? You're supposed to be working with your patients.

Athlete, Female, 16:

> There are too many people. [There are] too many athletes that need help. [It's a bad] ratio of athletic trainer to athlete.

Parent, Male, 47:

> It depends on what your priorities are. Are there more injured athletes? Do you have administrative responsibilities? I don't know. Obviously, if it was my kid that I would want treated, I would have an issue with that. But again you are only one [athletic] trainer, right? You have some student trainers, but instead you are spread pretty thin because you got a lot of athletes here, right? So, probably dealing with multiple injuries at any given time. Yes. I know it's difficult, and something you should balance.

How can you improve that situation or that scenario?

There were thirty-two responses to this question. Thirteen of the thirty-two (40.6%) were responses categorized as a "need for additional resources" to improve the prior situation or scenario. Multiple responses are geared around an assistant or second AT and others focus on training or teaching other people at the secondary school (coach or student) to perform those tasks not necessary for the AT to perform, such as first aid and giving out ice bags.

Parent, Female, 46:

> If there's only one of you, maybe they need another one.

Parent, Female, 47:

> Train some of the coaches to do some of the stuff. You know, like if it's an ankle sprain or something, make sure there's ice at all every practice in bags or something and then if a player is injured then they can at least put ice in and immediately treat the situation and then can come see the [athletic] trainer afterwards.

Parent, Female, 52:

> My thoughts on that are you can train students to do things like wraps and things like that, but the students can't do assessments and they can't rate injuries. That's something that you, with your degree, can only do. They can do tasks but they can't do assessment of problems.

How do you feel this scenario or situation affects the quality of care given to the athlete?

There were twenty-seven responses to this question. Nine of the twenty-seven responses (33%) suggested "care to the athlete is not affected if the AT is able to prioritize." Participants

believe if the problem exists in the athlete solely having to wait to be treated or seen by the AT, then so be it, as long as the injury is not life-threatening or an emergency; it was repeated from prior responses that in-season sports should gain preference over others.

Coach, Male, 39:

> You just have to wait your turn. Well, look, you're going into a hospital is the same situation. You have to wait your turn. You can't say, "Well, look, you got to see me." You're going to look at the person that has the most significant injury and if you're walking in there, obviously, your injury is not significant enough to be taken care by that time. So, you just have to wait your time and be patient with it. It happens in that situation.

Coach, Male, 49:

> It's just prioritizing what injuries are important or as [another] coach said before, what sports and season do I need this kid to practice the second if I need to get some sort of football and soccer just doing condition. The soccer kid can wait after the football kids are done or if it's soccer and let's say baseball kid – the baseball kid can wait until the soccer kid is done. So, it's got to be prioritized. During the fall, probably volleyball, cross country and football. During the winter, it's basketball and soccer. When you get to the spring, it's softball, track and baseball.

Second scenario: "An athlete claims that a coach will not let them go to their athletic trainer because the athlete feels the coach does not believe they are hurt."

What is your perception of the main problem or issue in this scenario?

There were thirty-six responses to this question. Fifteen of the thirty-six responses (41.7%) suggested that the problem in the scenario was a "coach over stepping their boundary"

and potentially becoming a liability or legal issue. Participants agreed that the AT (or licensed medical provider) should see the injuries should, not just to prevent negligence, but also to decrease further injury. Participants also suggested that the problem is situational specific. An athlete is allowed to seek medical attention based on the individual, for example, whether the athlete is thought to be a hypochondriac or if the coach believes the injury is as severe as the athlete states. However, parents and athletes feel that the athlete should not have to prove they are injured or ask for permission to seek the AT; overall it should be a trust issue between all parties.

Coach, Male, 40:

> For me, and I mean I grew up in old school football, if it wasn't broken, rub some dirt on it and get ready to play. I always hated that mentality because there are number of times that I thought I was really hurt. To me it's that perception of the coach trying to build a certain level of toughness. Well, to me it's not up to the coach to determine if a player is hurt. That is athletic trainer's job to determine that. So, I'm sure there are some kids who probably just wanted to get out of practice. But, again, to me, that is up to the athletic trainer to determine. It's not up to the coach to determine. So, that is a mentality of a number of football coaches that I've been around. I don't think it's right simply because of my own personal experiences. But I don't think it's up to the coach to determine who is injured and who is not.

Coach, Male, 44:

> You got to tell the legality issues now and administrative issues that if the kid is really hurt and you keep playing them, you're in real trouble as a coach. But I believe there is a difference between hurt and injury. And I like to make sure my kids are injured before.

Sometimes I can't tell if they're injured especially in my sport of wrestling. I don't think it's that bad and some kids do.

Parent, Female, 47:

I think there's some school liability issue as far as that goes. If a coach isn't taking responsibility for their players which they are the teacher at hand at that time and they're responsible for those kids and if they're not addressing an injury seriously so that it can be seen and taken cared of then there could be a liability issue for the school. And the school didn't like liability issues. Most schools anyway.

How could you improve that situation or that scenario?

There were thirty-four responses to this question. Ten of the thirty-four responses (29.5%) suggested that "improved communication" is a way to correct the prior scenario. Participants suggested communication between all parties and a question exists about who makes the final decision for the health care and well-being of the athlete.

Parent, Female, 48:

I think too that mutual respect, that, you know, if a child comes to you, tells the coach, "Look, my shoulder hurts" "Go see the [athletic] trainer". You, the [athletic] trainer, look at the kid and you say, "That child is hurt", assess the situation, send them to the doctor, do a treatment, whatever, then for you to be able to go back and tell the coach, "Look, this kid is really hurt. They need a follow up or whatever." And, I don't know, there is that respect, do the coaches think whatever they want to think? Do they communicate with you? We don't know, sitting here, if they even talk to you. I'm saying you, but any person who assesses the situation. So, I think there definitely needs…the communication between

the coach and the athletic department system or whatever with a mutual respect.

Parent, Female, 47:

Develop some -- maybe developing some protocols. If A happens then B, and then if B, C, you know what I mean. You have a flowchart of things to do in the event of an injury but again that goes back to training. And if A but not B, too then there's something that they can take care of themselves. So, like put an ice on a sprained ankle until they could go and see you or something."

Parent, Female, 42:

And also have administration enforce that if a coach recognizes an injury, they are responsible they have to take the next step. I think if it comes from administration, then hopefully they'll follow that.

How do you feel this scenario or situation affects the quality of care given to the athlete?

There were twenty-four responses to this question. Thirteen of the twenty-four responses (54.7%) suggested "the coach needs to send athlete to AT in order to prevent further problems and not seeing the AT decreases care of the athlete." Over half the participants responded that a decrease of care for the athlete is present simply by not allowing the athlete to seek medical attention. They feel that not seeing the AT can potentially decrease increase the amount of time the athlete misses practice and/or games, increasing the risk of further injury.

Parent, Female, 42:

They're not getting the care. They keep playing and the injury gets worst.

Coach, Female, 26:

> Well, obviously if the athlete is really hurt, they're not getting treatment and are being forced to do something they shouldn't be doing anymore, that is a problem.

Parent, Female, 52:

> Well, I think it goes back to what I said. [The coaches are] not trained to do what you do. So, it affects the care of the athlete because they may be getting substandard treatment or no treatment at all when that can inhibit their rehab process or make their healing process either prolonged or worse than what it has to be.

Discussion

Characteristics of quality health care

Donabedian (1980; 1988) defined three characteristics of quality health care: technical quality, interpersonal quality, and amenities. Technical quality is the ability for the health care provider to apply the science and technology of medicine to manage another individual's health problem. Interpersonal quality is the social-psychological aspects that are found in the patient-physician interaction. Amenities focus on comfort, convenience, and privacy involved with providing health care. In the athletic training profession, two studies reported characteristics found in quality and successful ATs. Henry, Schneider, and Stier (2009) reported characteristics, qualities, and attributes of a successful AT, with four characteristics (dependable, adaptable, communicator, and decisiveness) found throughout the focus groups conducted in this research project. Raab et al. (2011) reported characteristics of a quality certified AT, with two characteristics (care and communication) found in comments throughout the focus groups conducted in this research project.

The assessment of quality includes the observation of three components: structure, process, and outcomes (Donabedian, 1980; 1988). Structure is the characteristics of the provider, their resources, and physical and organizational setting. Process is the primary observed object, including the actually procedure when giving and receiving care. Outcomes are the change in the patient's health that contributed to the health care provided (Donabedian, 1980; 1988).

Safe Sports School Award Survey

A questionnaire was conducted in Louisiana asking the SSATs to reflect on their own clinical setting and compare it with the SSS award from the NATA. This questionnaire helped gain knowledge about if the secondary school met the criteria found within the SSS award by gathering information about the structure of secondary schools in Louisiana and helped classify what aspects of the SSS award are lacking in the schools whose ATs responded to the survey.

The web-based questionnaire was sent out to ATs (n = 143) and principals (n = 76) in Louisiana secondary schools. Eleven emails were sent back to the surveyors for 208 delivered surveys. After the three-week response period, there were 55 completed questionnaires, 7 incomplete due to the participant not finishing the entire survey, leaving 48 completed surveys, a response rate of 23%. ATs responded to 46 of the questionnaires and the school principals to 1 (Table 56).

Table 56. Demographics of SSSA Survey (n=48)

	Percentage	Count
Full-Time AT (Teacher)	38%	18
Full-Time AT (Medical Facility)	27%	13
Full-Time AT (Contract)	15%	7
Part-Time (Teacher)	6%	3
Part-Time (Medical Facility)	10%	5
Part-Time (Contract)	0%	0
Other Medical Professional	2%	1
Principal	2%	1

Out of the 48 completed surveys, only 2 schools met enough required criteria to be classified as a SSS award team one school, none would have received a team two rating, and 46 would have not received the SSS award. The overall results of the survey shows some guidelines being at majority of the secondary school settings, but others not found in the majority of the settings (Tables 57–60).

Four guidelines received more "no" than "yes" responses: guideline 5.1 "licenses/certifications of all members of the Athletic Health Care Team are clearly displayed" ('Yes' n = 13 (23%); 'No' n = 35 (73%)); guideline 5.4 "the size of the athletic health care facility is proportional to the number of athletes it treats" ('Yes' n = 16 (33%); 'No' n = 34 (71%)); guideline 5.6 "an office space is available for medical personnel" ('Yes' n = 24 (50%); 'No' n = 25 (52%)); and guideline 6.3 "the EAP for athletics is reviewed each year by the Athletic Health Care Team and other school officials, in conjunction with the local emergency personnel, and the plan is rehearsed regularly" ('Yes' n = 17 (35%); n = 31 (65%)).

Table 57. Louisiana AT Secondary Schools Safe Sports School Award Survey Results

	Yes	No
1. CREATE A COMPREHENSIVE ATHLETIC HEALTH CARE ADMINISTRATIVE SYSTEM		
1.1 The school has created an Athletic Health Care Team ("AHCT").*	30 (62%)	18 (38%)
1.2 The AHCT has developed a detailed protocol, describing and identifying each team member's role.	27 (56%)	22 (46%)
1.3 Clear policies have been developed or adopted by the administration, AHCT and other relevant experts pertaining to protocols for on-site athletics staff.	31 (65%)	18 (38%)
1.4 A medical professional is available during sporting competitions and in-season practices.	43 (90%)	5 (10%)
2. PROVIDE OR COORDINATE PRE-PARTICIPATION PHYSICAL EXAMINATIONS		
2.1 The school has notified the parents/guardians of the need for a pre-participation physical examination (PPE).	46 (96%)	2 (4%)
2.2 A PPE has been conducted for every athlete before his/her first physical activity, in which the athletes are required to share pertinent medical history.	48 (100%)	0 (0%)
2.3 Athletes are educated about their individual risks due to underlying medical conditions.	45 (94%)	3 (6%)
2.4 The school has a standardized PPE form for the doctor to complete for each child.	48 (100%)	0 (0%)
3. PROMOTE SAFE AND APPROPRIATE PRACTICE AND COMPETITION FACILITIES		
3.1 Playing surfaces are safe for all competitions, practices and other sporting activities.	43 (90%)	5 (10%)
3.2 Coaches and school officials are educated in CPR, first aid and AED use and maintenance.	39 (81%)	9 (19%)
3.3 Hygiene and infection control protocols and policies are in place and followed.	34 (71%)	14 (29%)
3.4 An AED is available and accessible for use at sporting events and practices.	37 (77%)	11 (23%)
3.5 A school employee has been designated to be present and trained in use and maintenance of the AED, and a plan coordinated with emergency personnel is in place.	34 (71%)	14 (29%)
3.6 On-site medical personnel are trained in CPR, AED use and first aid.	44 (92%)	4 (8%)
3.7 Students have been educated about hygiene and cautioned about sharing personal items.	41 (85%)	7 (15%)
3.8 School personnel assure that all skin lesions are covered before any sporting activities and are treated immediately.	42 (88%)	6 (12%)
4. PLAN FOR SELECTION, FIT, FUNCTION AND PROPER MAINTENANCE OF ATHLETIC EQUIPMENT		
4.1 Qualified personnel have assured that equipment properly fits athletes.	41 (85%)	7 (15%)
4.2 Manufacturers' directions on maintenance and use of equipment are followed.	46 (96%)	2 (4%)
4.3 Equipment is examined and reconditioned as needed.	47 (98%)	1 (2%)
4.4 All participants in physical education, sports and events are supervised by competent teachers and coaches and provided with competent health care.	45 (94%)	3 (6%)

Table 58. Louisiana AT Secondary Schools Safe Sports School Award Survey Results (cont.)

5. PROVIDE A PERMANENT, APPROPRIATELY EQUIPPED AREA TO EVALUATE AND TREAT INJURED ATHLETES		
5.1 Licenses/certifications of all members of the AHCT are clearly displayed.	13 (27%)	35 (73%)
5.2 The facility has a locked file cabinet for medical records.	31 (65%)	17 (35%)
5.3 There is a place to have private conversations.	41 (85%)	8 (17%)
5.4 The size of the athletic health care facility is proportional to the number of athletes it treats.	16 (33%)	34 (71%)
5.5 The facility is stocked with necessary medical equipment.	37 (77%)	12 (25%)
5.6 An office space is available for medical personnel.	24 (50%)	25 (52%)
6. DEVELOP INJURY AND ILLNESS PREVENTION STRATEGIES, INCLUDING PROTOCOLS FOR ENVIRONMENTAL CONDITIONS		
6.1 The school has established and incorporated protocols for heat, cold, and other environmental factors.	32 (67%)	16 (33%)
6.2 Coaches and others who work with athletes are trained and review the EAP each school year.	33 (69%)	16 (33%)
6.3 The EAP for athletics is reviewed each year by the AHCT and other school officials, in conjunction with local emergency personnel, and the plan is rehearsed regularly.	17 (35%)	31 (65%)
6.4 Appropriate/necessary equipment is accessible to follow the school's environmental conditions guidelines.	36 (75%)	12 (25%)
6.5 Education on the use of the equipment in accordance to the environmental guidelines is reviewed by school personnel annually.	31 (65%)	17 (35%)
7. PROVIDE OR FACILITATE INJURY INTERVENTION		
7.1 The school has a medical professional, such as an athletic trainer or a team physician, available during sporting events and practices.	44 (92%)	4 (8%)
7.2 Protocols on return-to-play decisions are established and in practice. Authority to make decisions has been incorporated into the school's policies and procedures.	38 (79%)	10 (21%)
7.3 The parents/guardians and student athletes are informed about the risks of sports-related illnesses and injuries and about the school's policies relating to management of those injuries and conditions.	43 (90%)	5 (10%)
7.4 A coach or other competent adult who is with the team on a regular basis has been trained in CPR, AED use and first aid.	38 (79%)	10 (21%)
7.5 The EAP is reviewed each year by the AHCT and other school officials in conjunction with local emergency personnel, and the plan is rehearsed annually.	20 (42%)	28 (58%)

Table 59. Louisiana AT Secondary Schools Safe Sports School Award Survey Results (cont.)

8. CREATE AND REHEARSE VENUE-SPECIFIC EMERGENCY ACTION PLANS FOR ATHLETICS		
8.1 The school has written a venue-specific EAP.	25 (52%)	23 (48%)
8.2 The EAP is approved by a physician or an athletic trainer.	32 (67%)	16 (33%)
8.3 School officials are familiar with standards of care and have incorporated those standards into planning of the EAP for athletics	29 (60%)	19 (40%)
8.4 The EAP has clear policies on decision-making authority, accessibility to equipment and training for personnel.	31 (65%)	17 (35%)
8.5 The EAP is rehearsed annually with school personnel, local public safety services and the hospital emergency department.	5 (10%)	43 (90%)
8.6 The "Time Out" policy is used when appropriate.	25 (52%)	24 (50%)
9. PROVIDE OR FACILITATE PSYCHOSOCIAL CONSULTATION AND NUTRITIONAL COUNSELING/EDUCATION		
9.1 Coaches and AHCT members are aware of typical psychosocial problems of student athletes.	38 (79%)	11 (23%)
9.2 Coaches and AHCT members are aware of the community resources for athletes with emotional or mental health problems.	28 (58%)	20 (42%)
9.3 A detailed PPE is conducted prior to the athlete's participation.	42 (88%)	6 (12%)
9.4 The AHCT has identified local professionals to whom student athletes may be referred.	36 (75%)	12 (25%)
9.5 At least one of the AHCT members is aware of the specialized developmental needs and stages of growing adolescents.	37 (77%)	11 (23%)
10. EDUCATE ATHLETES AND PARENTS ABOUT THE POTENTIAL BENEFITS AND RISKS IN SPORTS AS WELL AS THEIR RESPONSIBILITIES		
10.1 Athletes and parents are informed about school policies and procedures that assure safety.	44 (92%)	4 (8%)
10.2 Parents or guardians of athletes have signed a form that attests they have read informational material about sudden cardiac arrest, brain injury/concussion, environmental risk factors, and weight and nutrition.	34 (71%)	15 (31%)
10.3 Pre-season meetings are held to educate parents about the benefits and risks of participating in sports.	38 (79%)	10 (21%)

Within my own secondary school setting, I was able to observe and reflect on the follow missing SSS award guidelines. A proposal within school board administration plans to correct guideline 5.4 ("The size of the athletic health care facility is proportional to the number of athletes it treats"). Two guidelines (Guideline 6.2: "Coaches and others who work with athletes are trained and review the EAP each school year" & Guideline 6.3: "The AHCT and other school officials, in conjunction with local emergency personnel, review the EAP for athletics each year and the plan is rehearsed regularly") are the fault of lack of time devoted to proper training of all athletic health care team members. Lastly, three guidelines (Guideline 6.5: "School personnel review education on the use of the equipment in accordance to the environmental guidelines annually"; Guideline 9.1: "Coaches and AHCT members are aware of typical psychosocial problems of student athletes"; & Guideline 9.2: "Coaches and AHCT members are aware of the community resources for athletes with emotional or mental health problems") are the fault of lack of time devoted to educating members of the athletic health care team. However, since educating the members of the athletic health care team is not part of my job description, this responsibility lies on the secondary school's administration.

Once a quality structure is in place, then assessment of the process and outcomes takes place. The NATA, in conjunction with their Secondary School Athletic Trainer's Committee, has published numerous documents to assist in improving the employment situation and process for providing athletic training services at the secondary school (Cooper et al., 2013).. First, they provide a Position Improvement Guide (PIG) to assist ATs in improving their current setting and situation within the secondary school position. Second, the Position Proposal Guide (PPG) can be used to aid schools in the employment of an AT in the secondary school setting (Almquist et al., 2008). Third, the Appropriate Medical Care for the Secondary School-Aged

Athlete Task Force Consensus Statement describes the AT within a secondary school program to be knowledgeable and qualified to accomplish a wide varied of tasks (Almquist et al., 2008).

Within my own clinical setting, focus on fixing the process, such as setting up a better network of communication between all stakeholders, as well as an improved process for seeing patients, including a semi-structured appointment system, would help in focusing time toward the primary goals of treating patients. After implementing the process, outcomes need to be gathered on the process to prove its worth and sustainability. Additional outcomes on patient-care will also help the cause for a better process, because by showing measureable outcomes during my own patient care, a greater focus will be upon treating patients instead of other tasks.

Perceptions and Expectations of ATs in my Clinical Setting

SSATs in a dual role position (teacher/AT) can experience role strain due to the inability to define role relationships (Pitney, 2008). Also, managing the demands of a controlled teaching role with athletic training coverage duties can affect both job tasks (Pitney et al., 2008). Coaches often can hold a certain perception of ATs that coincide with certain expectations of an AT's duties; the duties perceived by the coaching staff can also change dependent upon the season (Mensch et al., 2005).

The electronic survey results from this research showed an emphasis for the ATs time to focus upon three major constructs within the secondary school setting: coverage of athletic events, rehabilitation of injuries, and recognition, evaluation, and treatment of injuries. The elaborated open-ended responses collaborate with the results from the electronic survey; however, coverage of athletic events ranked highest on the electronic survey, and focus group responses tended to accentuate rehabilitation and treatment of the athletes more than solely being present at a game or practice.

The priorities of the AT should move away from the idea of providing coverage and focus more on providing care (Cooper et al., 2013). Coverage is the AT being available to react to the needs of all sports, teams, and participants if immediate needs should arise (Cooper et al., 2013). Care is the act of being an AT by providing the skills of evaluation, rehabilitation, treatment, assessment, counseling, and education. Two participants also mentioned they felt prevention of injuries was highest on their tasks list, which in theory, if athletic training services spent more time on prevention of injuries, it would cut down on the time spent performing treatments and rehabilitation of current injuries.

Barriers to quality care

Participants felt that the problem to the first scenario existed with the ratio between the AT and the number of athletes needing health care. However, responses by the participants circled around an internal question of "what was causing the athletic trainer to be too busy" and maybe the situation would not exist if the AT would or could prioritize their tasks and have better time management. Pitney et al. (2008) defined four reasons for role-strain in the secondary school athletic training setting: time-related issues, role relationships, support and appreciation, and role clarification/negotiation versus role accommodation. Role relationship problems occur because the teaching and AT role interfere with each other. Interference with the teaching role occurs due to coaches wanting an injury status update or students wanting treatment during teaching hours and having to use designated down time (i.e., planning periods or lunch breaks) to accomplish athletic training needs (Pitney et al., 2008).

Dependent upon the type of secondary school setting, the AT may feel like they should have more time to complete tasks, other than patient-centered care, to provide a greater window of opportunity to treat more patients during prime hours at the school. However, Cooper et al. (2013) suggested that if an AT is going to make the proposal for more time to perform daily

tasks, that the AT know exactly how much time they spend on everything done in the course of his/her daily routine.

In Chapter 3, from August 1, 2013 to March 1, 2014, I related how I tracked how I was spending my time by collecting data on my daily routine, both teaching and athletic training. The hours I spent teaching were dependent upon the daily schedule at my secondary school, including preparatory hours. Overall, for the seven months, I spent 718 hours and 40 minutes teaching and 203 hours and 56 minutes in preparatory hours. Outside of the hours spent teaching, I tracked the number of total hours I spent performing treatments and rehabilitation, and the number of hours I spent performing coverage of sporting events (practices and games). Overall, I spent 158 hours performing treatments and rehabilitation; 258 hours and 30 minutes performing coverage of sporting events.

After recording the number of hours, I calculated the percentage of time for coverage versus treatment/rehabilitation for each month, based upon an average month with a 40-hour week and compared it with the average number of hours the participants recorded as part of the online survey (Table 60). In the seven months I recorded hours, on average, I spent a lesser percentage of time performing coverage (22.23%) compared with the participant's average perceptions (23.56%) and expectations (25.64%). However, I spent a greater percentage performing both treatments and rehabilitation (13.46%) compared with the participant's average perceptions of rehabilitation of injuries (12.96%) and recognize, evaluate, and treat injuries (10.75%), as well as the participant's average expectations of rehabilitation of injuries (12.61%) and recognize, evaluate, and treat injuries (12.51%).

Table 60. Percentage of Time Spent in an Average Week

	Percent of an Average Month (Coverage of Sporting Events)	Percent of an Average Month (Providing Treatment & Rehabilitation)
August	19.38%	10.62%
September	24.53%	26.25%
October	24%	18.13%
November	22.66%	19.53%
December	24.38%	6.25%
January	18.13%	6.25%
February	22.5%	7.19%
Average	**22.23%**	**13.46%**

Participants in the focus group believed if the problem in scenario 1 exists with the athlete solely having to wait to be treated or seen by the AT, then so be it, as long as the injury is not life-threatening or an emergency. This was repeated from prior responses that in-season sports should gain preference over others. Barefield (1997) suggested that a good rapport between the AT and athlete can enhance the care provided, but a crowded athletic training clinic and multiple patients to care for often causes the AT to limit their individualized care to each patient (e.g., give out exercises or use a modality for one athlete so they are able to treat another).

With the second scenario, participants agreed that the AT (or a licensed medical provider) should see injuries, not just to prevent negligence, but also in order to decrease further injury. At the secondary school level, in the absence of a medical professional, coaches are sometimes responsible for caring and dealing with injured athletes (Ransone & Dunn-Bennett, 1999). However, when coaches are forced to treat athletic injuries, the decisions being made often go beyond any other coaches' educational training (Ransone et al., 1999). Even though most states require all coaching staff to have a valid cardiopulmonary resuscitation (CPR) and first-aid certification, this does not mean they have sufficient knowledge or if they will provide

adequate first-aid due to the excessive roles they have to fill as part of their job description (Ransone et al., 1999).

Ransone et al. (1999) tested 104 coaches using a first-aid assessment based on the American Red Cross proficiency test, and only 38 coaches (36%) achieved a passing score. Ransone et al. (1999) also surveyed the same 104 coaches using a game situation data sheet, requiring the coach to indicate whether or not they would return a player to the game in a certain scenario. Most coaches chose to return an injured athlete to competition, and the majority of these were coaches who passed the first-aid assessment, compared with the coaches who did not pass the first aid assessment, often did not return a player back to the game. In discussing their results, Ransone et al. (1999) stated that coaches need basic first-aid knowledge to establish a basis for making decisions regarding their athletes and that they must understand the ramifications of returning an injured athlete to competition.

Over half of the participants in scenario 2 in this study responded that a decrease of care for the athlete is present simply by not allowing the athlete to seek medical attention. They felt that not seeing the AT could potentially decrease increase the amount of time the athlete misses practice and/or games and the risk of further injury would also increase. Participants also suggested that the problem is situational specific. Seeking medical attention should not be based on the individual, for example, whether the athlete is thought to be a hypochondriac or if the coach believes the injury is as severe as the athlete states. However, parents and athletes feel that the athlete should not have to prove they are injured or ask for permission to seek the AT; overall, it should be a trust issue between all parties.

Improving quality care

Multiple focus group responses suggested solutions surrounding the idea of an assistant or second AT, and others focused on training or teaching other people at the secondary school

(coach or student) to perform those tasks not necessary for the AT to perform, such as first aid and giving out ice bags. In fact, Wham et al. (2010) discovered that a factor affecting appropriate medical care in the secondary school setting was the number of ATs at the school. Additional staff would obviously alleviate the workload required by a single-staffed AT; furthermore, it would improve upon the care provided to all of the athletes (Cooper et al., 2013). Second, additional AT staffing would improve the secondary school student aid program by increasing the number of staff members to monitor them and provide a second point of view to increase the student's base of knowledge (Cooper at al., 2013). Third, additional AT staffing would provide further benefit toward conditioning programs and sub-varsity sports, meaning improved care and coverage of contests, as well as more quality time spent with athletes (Cooper et al., 2013). Lastly, additional staff would better maintain the standard level of care often risked when a single-staffed AT is at one venue and a major injury occurs at a second venue.

Participants suggested a way to improve scenario number two is communication between all parties, and a question exists about who makes the final decision for the health care and well-being of the athlete. Communication to all stakeholders (athletes, parents, coaches, teachers, administration, other medical staff, etc.) involved at the secondary school setting would provide the best route of success for the AT (Cooper et al., 2013). The AT is often placed into multiple management roles, one particular being the liaison role (Ray & Konin, 2011). ATs must work successfully with a variety of people, from superiors (administration and team physicians), to peers (coaches, parents, and other health professionals), and to subordinates (support staff). Successful communication should not be restricted to conversations regarding patient care, but can also include a wide variety of public relations type concepts, such as meetings with school administration, consultation with medical staff, and presentations to booster clubs or parent meetings to educate the surrounding members of the community and secondary school system

about the athletic training profession (Cooper et al., 2013). Certain aspects of communication should involve documents, such as a job description, and a policies and procedures manual helps establish background knowledge regarding the direction and course of actions set forth by the AT (Cooper et al., 2013).

Further improvement upon both scenarios is the education of all stakeholders involved. To date, two survey studies conducted through Safe Kids Worldwide and founding sponsor of Johnson & Johnson attempted to gain information on child safety in sports and the perception of parental and coach knowledge regarding sports related injuries (Mickalide & Hansen, 2011). In 2011, a phone survey of 751 parents collected information from parents who had a child participating in sports between the ages of 5–14 years old. In 2012, a second poll collected information among 752 coaches, 750 parents, and 516 children, aged 8–18 (Mickalide & Hansen 2012).

Parents felt that coaches should be knowledgeable (and trained) in injury prevention and sports safety, but that it was important for parents to be educated too (Mickalide & Hansen 2011). A high percent (96%) of parents said it would be valuable for coaches to attend sports injury safety clinics, with the majority (87%) feeling parents should attend, and some (79%) claiming it would even be valuable for kids to attend. Coaches (81%) also felt it is very important they should be both trained and knowledgeable in sports injuries. In fact, six out of ten coaches reported having gone through a sports safety training, with CPR being the most common (21%) and first-aid (13%) second (Mickalide & Hansen, 2012).

The knowledge base for parents could manifest in the sources the parent uses to seek out information regarding preventing their child's injury, with the majority of the parents turning to the child's physician (39%), the child's coach (35%), websites (28%), other publications (24%), and to a certified AT (17%) (Mickalide & Hansen, 2011). Most the parents' concerns

about injuries are for concussions (20%) and heat-related illness, such as dehydration and heat stroke (19%). Parents (94%) expressed their abundant concern that coaches be trained to detect signs and symptoms of these conditions, as well as sprain and strains (75%) and overuse injuries (74%). The unanimous desire for knowledge about these conditions can be attributed to the parent's lack of confidence in the coaches' ability to recognize the signs and symptoms of a concussion (29%); dehydration (43%); heat stroke (39%); sprain/strain (39%); and overuse injuries (28%) (Mickalide & Hansen, 2011).

Conclusion

Ultimately, the goal to improve athletic training health care in the secondary school setting should focus upon providing a higher level of quality care for the patient, beyond the basic standards of emergency medicine and coverage of athletic events. Reaching this goal is only possible when structure of the athletic training services, process of providing care, and measureable outcomes are synced together. To provide affective structure for the secondary school setting, maybe the model of care should follow a medical model instead of an athletic model. A patient-centered model of care takes the athletic training staff out of the guidance and administration of the athletics department and places them in conjunction with other medical staff (Wilkerson, 2012). The medical model can be seen at select universities, who have placed their athletic training staff in adjunct with on campus infirmaries (Wilkerson, 2012).

A transition to this type of model is crucial to elevating the quality of care provided by ATs and leading to advancement in our profession (Wilkerson, 2012). Albohm (2012) stated that the whole premise of providing health care inside an athletic model is flawed. Outside of changing the setting in which the secondary school athletic trainer works in, an improvement in the structure, process, and outcomes can improve the secondary school setting. Once structure is implemented at the secondary school to provide the basic level of health care for the patient

then a new process of patient-centered care can be developed, followed by outcomes to prove the worth of the new process. In time, the care provided by the AT becomes less of a standardized need and more focused on quality.

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APPENDIX A

To Be Submitted to the *International Journal of Athletic Therapy & Training*

The Mulligan Traction Straight Leg Raise: A Case Report.

Key Points:

1. Hamstring injuries are common in sports activities and can present with pain and decreased range of motion.
2. The Mulligan Traction Straight Leg Raise (MTSLR) is a single, painless intervention that produces immediate results.
3. The overall effectiveness of the MTSLR makes it potentially beneficial for patient-athletes as an intervention after injury or prior to competition.

Introduction

Dancers often perform movements requiring considerable flexibility and resulting in significant stress to their joints and possible muscular or ligamentous strain (Steinburg N, Siev-Ner I, Peleg S, Dar G, Masharawi Y, Zeev A, Hershkovitz I, 2012, 2013). For example, dancers complete the "turnout" position through external rotation of the lower extremities (i.e., hip, knee, and ankle/foot), which may result in hypermobility of the hip (i.e., greater external rotation) as a dancer attempts to increase the "turnout" posture (Champion L, Chatfield S, 2008; Steinburg et al. 2012). Dancers who achieve excessive "turnout" will often tilt their pelvis, which is a predisposition for lower limb injuries (Steinburg et al. 2012). Repetition of the "turnout" position may lead to the adaptive shortening of soft tissues and muscle imbalance that further increases the risk for lower extremity injury (Steinburg et al. 2012, 2013). Continued performance of dancing movements or positions may also lead to pathology of the strained tissue (Steinburg et al. 2012, 2013).

The straight leg raise (SLR) test is often used in the clinical setting to assess hamstring length and flexibility by measuring the patient's unilateral hip flexion with a straight knee (Hall T, Anuar K, Darlow B, Gurumoorthy P, Ryder M, Smith T, 2003; Mulligan, 2010). Previous researchers have correlated future hamstring injury with a passive straight-leg raise (SLR) less than a 90° (Opar DA, Williams MD, Shield AJ, 2012). One particular technique to address the SLR deficiency, the Mulligan Traction Straight Leg Raise (MTSLR), is a single, painless intervention that produces immediate results (Mulligan B, 2010, 2013). The MTSLR is indicated when patients present with an active straight leg raise of at least 40 degrees, pain at the available end range that is referred to the posterior thigh, and all symptoms above the knee (Mulligan, 2010). The MTSLR technique should also follow the Mulligan "Rule of Three," meaning the

first treatment session should only involve three MTSLRs , with more (e.g., 1 set of 10 repetitions) being performed on future visits based on patient response (Mulligan, 2010, 2013).

Pain during a straight leg raise (with or without limitation) could be due to neural tissue being stretched; however, this may not be valid source of discomfort when using the MTSLR since traction to the patient's leg should further tension the nerve and increase neural symptoms, preventing a pain free straight leg raise (Mulligan, 2010). Traction of the lower limb during the SLR procedure can potentially initiate reflex responses both peripherally in the GTOs and muscle spindles, as well as in the central nervous system (Mulligan, 2010). A reflexive response could trigger the alpha motor neurons and lead to a relaxation of the hamstring and low-back extensors, with an excitation of the iliacus, psoas major and abdominal musculature (Mulligan, 2010). The purpose of this study was: (1) to examine the patient outcomes of applying the MTSLR to a dancer with chronic hamstring dysfunction who met the inclusion criteria recommended by the Mulligan Concept, and (2) demonstrate the effective use of practice-based evidence in clinical practice while utilizing patient and clinician centered evidence to assess treatment effectiveness.

Case Report

A 17-year-old female patient (66 in. and 125 lbs.) reported to the athletic training clinic with a chief complaint of decreased range of motion in her left hamstring. She was a four-year participant on the high school dance team and had a history of chronic hamstring strains, who was previously treated for a right hamstring strain 19 months earlier, which she reported to her athletic trainer as being resolved at the time, but now stated that it had never completely resolved. This most recent injury occurred 8 months earlier, to the left hamstring and because of this injury, the patient only participated in functional activity as tolerated and performed self-treatments of passive-static stretching, compression wraps, and alternating between ice and heat.

While she had recently started exercising more frequently at the gym, the patient had not participated in dance activities for the past five months.

At initial exam, the patient reported being generally healthy and physically active outside of her dance limitations. She denied any "red flag" symptoms, pain at the Sacro-Iliac, hip, or knee joints; she also did not report low-back pain or radicular symptoms. The patient did not report an acute trauma mechanism and obvious signs (e.g., swelling ecchymosis, deformity, etc.) of injury were not observed. During physical examination, the patient did not report pain with palpation, and manual muscle testing, of knee flexion, indicated normal and equal strength of the hamstring muscle group when compared bilaterally. Lumbar spine, knee, and ankle range of motion were with in normal limits; however, decreased hip flexion range of motion was identified during goniometric measurement of the active straight leg raise (Table 1). Goniometric measurements were recorded pre and post intervention on the affected leg, while only being recorded pre-intervention on the uninvolved leg. For the goniometer measurements, the axis of motion was the greater trochanter of the femur, while the movement arm was aligned parallel to the femur and the stationary arm was parallel to the plinth. Neurological signs and symptoms were not present during the exam. Advanced diagnostic imagining and additional orthopedic special tests (e.g., Active Knee Extension Test) were not performed. The patient also completed a Disablement in the Physically Active (DPA) Scale questionnaire on day 1, 3, 7, 22, and 25; she also reported her pain daily on the Numeric Rating Scale (NRS) before and after intervention (Table 3). After the evaluation and assessment, the working diagnosis was pelvic girdle dysfunction with secondary lower extremity mobility deficit.

Past efforts of utilizing static hamstring stretches had not increased range of motion or resolved the patient's complaints, so the athletic trainer considered the MTSLR technique. To begin, the patient performed an active SLR, while the clinician measures the range of motion

and notes where the patient reports initial discomfort during the motion (Mulligan, 2010, 2013). The clinician then raises the patient's leg to a position just short of the painful range or the onset of a reported stretch. (Hall T, Cacho A, McNee C, Riches J, Walsh J, 2001; Hall et al., 2003; Hall T, Beyerlein C, Hansson U, Lim HT, Odermark M, Sainsbury D, 2006; Mulligan, 2010). At that position, the clinician provided traction to the patient's leg and moved the patient further into the passive straight leg raise; the passive motion is performed as long as the patient does not report a sensation of pain (Hall T et al. 2001, 2003, 2006; Mulligan, 2010). An effective way to accomplish this is for the clinician to rest the patient's ankle in the crease of their elbow, while grasping the anterior aspect of the leg with the opposite hand (Figure 1) (Mulligan, 2010, 2013). If pain does occur during this procedure, the clinician should adjust the amount of force or the line of drive (i.e., the patient's leg can be slightly rotated or abducted) (Hall et al., 2003; Mulligan, 2010). If alternate positioning does not facilitate pain-free motion, the clinician must reexamine the appropriateness of this procedure at this time. After the MTSLR is performed, the active SLR and any other movement that was painful or restricted prior to the application of the MTSLR should be reassessed as a comparable sign to confirm if the technique was successful (Mulligan, 2010, 2013). The athletic trainer performed three MTSLR treatments following the previously mentioned process: hip flexion until a complaint of tightness by the patient, followed by abduction and further flexion of the hip until a complaint of tightness, and lastly external rotation and further flexion of the hip followed by overpressure applied by the athletic trainer; future treatment sessions included ten MTSLR treatments.

Clinician and Patient-Oriented Clinical Outcomes

After day one, a set of three MTSLR improved range of motion by 10° and continued to improve ROM each treatment session (Table 1). The average daily change in hip flexion range of motion was 7.14°, which is comparable to previous recorded ranges of immediate improvement

in previous examinations of the technique (Hall et al., 2001, 2003, 2006). Unlike the previous studies on the MTSRL (Hall et al. 2001, 2003, 2006), the technique was applied for more than one day of treatment as it was applied in daily clinical practice versus the single bout found in the previous research designs. Upon returning each day for additional treatment, the patient's range of motion maintained the increase from the previous day's measurement (Table 1), with an average daily long-term increase of 3° of motion across the entire course of treatment. Additionally, range of motion of the uninvolved hip improved despite not receiving any treatment, which may indicate that the MTSLR treats dysfunction that may affect the contralateral limb.

The changes in the patient's NRS scores indicate the treatment produced a clinically significant result. NRS scores reached a minimally clinical important difference (MCID) on the NRS following the second day of treatment and at discharge (Table 2) (Farrar J, Young P, LaMoreaux L, Werth J, Poole M, 2001; Pool J, Ostelo R, Hoving J, Bouter L, de Vet H, 2007) . The patient's DPA scale also produced an MCID with a six-point change reported by the third treatment session and maintained through discharge and follow-up (Table 3) (Vela L, Denegar C, 2010). Researchers have indicated the use of a self-reported, patient-specific functional task to assess functional change throughout the intervention process and measure positive results in the form of a patient-reported outcome (Horn K, Jennings S, Richardson G, Vliet D, Hefford C, Abbott J, 2012). For this particular patient and case, the personal comparable sign was the difference of her split, when compared bilaterally, with her right split closer to the plinth than her left split was considered her specific functional task that helped us assess functional improvement throughout the intervention (Figures 2 & 3). Pictures were taken to help illuminate any difference with the patient's ability to get closer to the plinth during a left split after the six treatment sessions (Day 10) using the MTSLR (Figures 4 & 5). At the beginning of the

intervention sessions, the patient defined improving her split as important to her functional improvement; therefore, recording changes of this measure in a visual manner assisted the patient in the form of a pseudo measureable outcome, even though there was not measurement previously established to determine clinical significance of this change.

Discussion

Hamstring injuries are a common injury in the athletic population, often characterized by acute pain in the posterior thigh, a deficit of knee flexion strength, and an overall decrease in range of motion (Askling C, Lund H, Saartok T, Thorstensson A, 2002; Hall et al. 2003; Opar et al., 2012). Sports medicine professionals frequently use traditional methods (e.g., static stretching, dynamic stretching) in an attempt to increase hamstring flexibility and range of motion (Decoster LC, 2009; Hall et al. 2001, 2003; Opar et al., 2012). In addition to improving flexibility, it has been argued that hamstring stretching may prevent injury, improve athletic performance, and reduce dysfunction (Hall et al. 2001, 2003; Opar et al., 2012). In fact, a recent examination of dancers indicated that stretching regimens (e.g., static stretching, dynamic stretching, and a combination of static and dynamic stretching) can improve hamstring ROM and athletic performance indicators (i.e., balance and vertical jump) (Morrin N, Redding E, 2013; Steinburg et al., 2012). Decoster LC (2009) conducted the most recent review of the literature examining the effects of hamstring stretching on range of motion across various parameters (e.g., different techniques, duration of the stretching protocol, and marked flexibility gains following the cessation of the stretching protocol). Prentice (1983) compared two popular stretching techniques: static versus proprioceptive neuromuscular facilitation (PNF). He recorded that static stretchers showed a 9° gain in motion and a 12° gain in PNF stretchers. In a separate study, Wiemann and Hahn (1997) did not find a significant difference in static stretching and ballistic stretching following a single session of stretching. Cipriani (2003)

discovered significant gains in range of motion within the first three weeks of a stretching protocol, which continued in the following three weeks.

Given the concerns with utilizing stretching techniques in clinical practice and the anecdotal evidence provided by Mulligan to support his traction technique, it is necessary to examine the effectiveness of the TSLR in a similar setting. Hall et al. (2001) measured SLR range of motion (ROM) in twenty-six healthy patients' before and after the MTSLR intervention. The average increase in SLR ROM post-intervention was 13.3° (Hall et al., 2001). A later investigation by Hall et al. (2003) also showed an improvement of SLR hip flexion in forty-seven health patients when measuring pre and post hip flexion following a MTSLR intervention. The intervention group reported a 6.3° increase in the intervention group following the MTSLR compared to a 4.7° increase in the control group, but the researchers considered this improvement to be insignificant (Hall et al. 2003). Studies have also been conducted to determine the effect of the MTSLR on the components movements of hip flexion and posterior pelvic rotation, which may be contributing factors to the improved SLR ROM (Hall et al. 2001, 2003, 2006). Hall et al. (2001) reported the MTSLR produced a 2.7° increase in posterior pelvic rotation, considered to be statistically insignificant. Later Hall et al. (2006) found a single MTSLR treatment, without follow-up treatment, produced an 11° increase in SLR ROM as a result of an increase in hip flexion and not of a significant change in posterior pelvic rotation. Hall et al. suggest that posterior pelvic rotation alone could not be statistically attributed to the increase in SLR ROM, but instead, the increase was the result of a combined increase in hip flexion and posterior pelvic rotation.

To date, there are no studies focused on the long-term effects of the MTSLR as an intervention strategy for increasing SLR ROM. The ROM changes following the use of the MTSLR in this case report provide support for potential long-term changes in SLR motion

from repetitive application of the MTSLR. The results from the previous studies (Hall et al.), combined with patient outcomes such as these, indicate a change may be needed in how clinicians classify patients who need stretching interventions to lengthen the hamstring muscle group. Utilizing the MTSLR has produced greater increases in ROM from a single treatment bout when compared to other stretching techniques (i.e., static, passive, and PNF). However, more research on the MTSLR technique is still necessary. Future studies should examine the patients with specific pathologies (e.g., neural tension, SI joint dysfunction), the long-term effects of the technique, and the use of the MTSLR as a prevention technique.

Conclusion

Using the Mulligan Traction Straight-Leg Raise (MTSLR) technique successfully increased the patient's hip flexion bilaterally and restored normal range of motion after six intervention sessions across 10 days. The MTSLR intervention produced immediate and long-term results in increasing range of motion, as well as resulting in clinically significant changes in pain and disability as measured by patient-reported outcome instruments. Whatever the scientific reasoning, the overall effectiveness of the straight leg raise with traction leads to this procedure being as potentially beneficial for patient-athletes as an intervention following injury or prior to competition (Mulligan, 2010). The results of the MTSLR in patient care warrant further investigation to determine the physiological basis for these results and if the MTSLR is more effective than other interventions (e.g., stretching techniques) at treating patients versus healthy participants.

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Figure 1. Mulligan Traction Straight Leg Raise Technique (arrow denotes line of force provided by clinician)

Table 1. Goniometry Range of Motion Measurements

	Day 1	Day 2	Day 3	Day 4	Day 7	Day 10	Day 23*	Day 35*
Left Leg (Before MTSLR)	99°	104°	107°	115°	119°	117°	127°	126°
Left Leg (After MTSLR)	109°	115°	120°	122°	125°	120°	-	-
Right Leg	114°	118°	120°	115°	121°	120°	127°	134°

* **No MTSLR intervention performed on these days.**

Table 2. DPAS & NRS

	Day 1	Day 2	Day 3	Day 4	Day 7	Day 10	Day 23*	Day 35*
DPAS	14	-	8	-	9	-	5	4
NRS Before	5	4	3	2	2	2	1	1
NRS After	4	3	2	1	1	1	-	-

* **No MTSLR intervention performed on these days.**

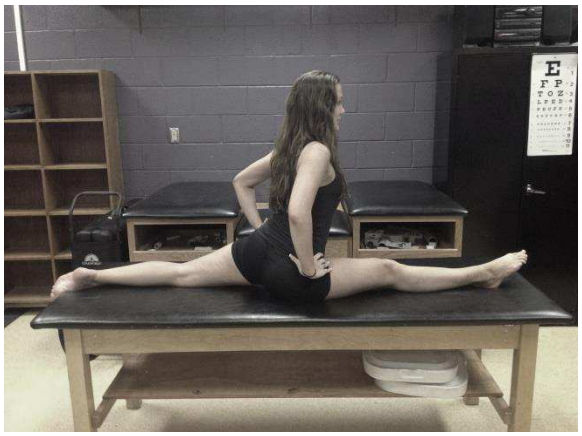

Figure 2. Right Split

Figure 3. Left Split Prior to MTSLR Interventions

Figure 4. Left Split Prior to MTSLR Interventions (with Measuring Device)

Figure 5. Left Split After MTSLR Interventions (with Measuring Device) after Day 10

APPENDIX B

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Utilizing Mulligan Sustained Natural Apophyseal Glides (SNAGS) within a Clinical Prediction Rule for treatment of Low Back Pain (LBP) in a Secondary School Football Player

Key Points:

1. The Mulligan sustained natural apophyseal glide (SNAG), is a pain-free, immediate mobilization technique, which is also an alternative to a high-velocity thrust manipulation technique.
2. A spinal manipulation clinical decision rule is a structured approach to classify patients through examination improving intervention outcomes.
3. Utilizing a spinal manipulation clinical decision rule while applying the SNAG technique can improve patient-centered and clinician-centered outcomes.

Introduction

Low back pain (LBP), a prevalent and disabling musculoskeletal condition (Hancock M, Maher C, Latimer J, 2008), has been treated with a wide variety of interventions, including spinal thrust manipulation. Despite controversy regarding the use of spinal thrust manipulation, the technique is widely used (Flynn T, Fritz J, Whitman J, Wainner R, Magel J, Rendeiro D, Butler B, Garber M, Allison S, 2002; Hancock et al., 2008) and has been demonstrated to improve disability scores in subjects that reported low back pain of two to four weeks in duration (Cook C, Learman K, Showalter C, Kabbaz V, O'Halloran B, 2013). Confusion exists in the literature and amongst healthcare providers regarding the definition of "spinal manipulation" techniques. The current literature defines two different spinal manipulation techniques: thrust manipulation (TM) and non-thrust manipulation (NTM) (Childs J, Fritz J, Flynn T, Irrgang J, Johnson K, Majkowski G, Delitto A, 2004; Cleland J, Fritz J, Kulig K, Davenport T, Eberhart S, Magel J, 2009; Cook et al., 2013; Flynn et al., 2002; Maitland, 1997). A thrust manipulation, is a high velocity, low amplitude end range procedure (Childs et al., 2004; Cleland et al., 2009; Cook et al., 2013; Flynn et al., 2002; Maitland, 1997; Mintken P, Derosa C, Little T, Smith B, 2008) and a non-thrust manipulation is a passive, low-velocity, oscillatory movements within the physiological range of the joint (Maitland, 1997; Mintken, 2008).

Mobilization, a term similar to non-thrust manipulation, is a low-velocity technique that can be performed through various parts of the available range based on the desired effect (Childs et al., 2004; Maitland, 1997). Mobilization techniques have been indicated to produce concurrent effects on pain, sympathetic nervous system activity, and motor activity; unlike manipulations, mobilizations can be prevented by the patient and are generally considered safer than manipulations (Childs et al., 2004; Maitland, 1997). One particular mobilization technique, created by Brian Mulligan, is the "sustained natural apophyseal glide" or SNAG (Exelby L, 2002;

Mulligan B, 2010, 2013; Wilson, 2001). The SNAG is a pain-free sustained facet glide of the vertebrae with associated movement by the patient (Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001) designed to mobilize the spine as the patient performs the motion (flexion, extension, etc.) that produces pain (Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). As there are no high-velocity motions and the technique involves a pain-free sustained hold of the affected joint, it can be assumed safer than manipulations.

Clinicians may apply "SNAGs" at all three spinal levels (cervical, thoracic, and lumbar) and the technique is considered easy to perform, even for novice clinicians (Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). In the lumbar spine, a SNAG can be performed at the affected, complaint level of the spine, either centrally (directed through the spinous process) or unilaterally (directed through the facet joint) (Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). The technique should be done with the patient standing, unless standing elicits pain, then the technique can be performed with the patient seated (Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). When applying this technique, the clinician should utilize an adjustable belt around the patient's waist to aid in keeping the patient stable throughout the technique (Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001).

As with any Mulligan technique, certain rules help indicate and guide the administration of the techniques. The guidelines are presented in two acronyms: "PILL" and "CROCKS" (Baker R, Nasypany A, Seegmiller J, Baker J, 2013; Mulligan, 2010, 2013). The "PILL" acronym stands for **P**ain-free mobilizations that produce an **I**mmediate effect and leads to **L**ong-**L**asting results (Baker et al., 2013; Mulligan, 2010, 2013). If a "PILL" response does not occur, the technique is contraindicated (Baker et al. et al., 2013; Mulligan, 2010, 2013). The "CROCKS" acronym presents certain guidelines the clinician should follow when performing the Mulligan technique (Baker et al., 2013; Mulligan, 2010, 2013) (Table 1). After the application of a Mulligan

technique, the patient should perform the same movement that was painful or restricted as a comparable sign to confirm if the technique was successful (Baker et al., 2013; Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). The lumbar SNAG technique should follow the Mulligan "Rule of Three," meaning the first treatment session should only incorporate one set of three repetitions until the patient returns for the next visits (Baker et al., 2013; Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001).

The decision on which spinal manipulation technique to use should be based on assessment results and clinical reasoning (Hancock et al., 2008). Flynn et al. (2002) used a prospective study to develop a spinal manipulation clinical prediction rule in an attempt to classify LBP patients into subgroups which would match the intervention to patient presentation and improve intervention outcomes. Utilizing a spinal thrust manipulation technique, clinical predictors were determined to elucidate when to use a spinal manipulation as treatment for LBP (Flynn et al., 2002). The purpose of this study was to explore the use of the Mulligan Lumbar SNAG in the treatment of LBP. The study also incorporated the use of the clinical prediction rule created by Flynn et al. (2002) to determine if similar results occurred across pain and disability scales.

Case Report

An 18-year-old male patient (75 in., 207 lbs.) reported to the athletic training clinic with a chief complaint of low back pain. The patient was involved in a motor-vehicle accident (MVA) two days prior to reporting to the athletic trainer. He had been released by an orthopedic physician to resume physically activity (except contact football drills) and be treated by the athletic trainer. The patient reported a pulsating sensation in his back, but was not experiencing any weakness or parasthesia into his legs, thigh, buttocks, or genital area. The patient did not report any family or personal previous medical history concerns. The patient had been

prescribed a muscle relaxer and analgesic by the emergency department physician, but still reported a pain scale of 10/10 on the Numeric Rating Scale (NRS). He described his pain as a deep ache in the lumbar and thoracic area, as well as a stabbing pain in the buttocks and thoracolumbar region. Further complaints of symptoms included: bilateral, constant, pain and stiffness in the lumbar spine and intermittent, bilateral pain in the buttock.

During examination of the patient, the athletic trainer utilized measures of clinical outcomes, including demographics, the NRS, a Modified Oswestry Disability Questionnaire (ODI), a Fear-Avoidance Beliefs Questionnaire Work subscale (FABQw), and other examination procedures (i.e. history & palpation, stress tests, mobility, ROM, etc.) as similar compared to similar studies. The Fear-Avoidance Beliefs Questionnaire (FABQ) was used to assess their belief about certain activities that influenced their LBP (Waddell G, Newton M, Henderson I, 1993). The FABQ has two subscales, general physical activity, and work (Waddell et al., 1993). The Oswestry Disability Index (ODI) is used to assess the patient's level of disability due to LBP (Fritz J, Irrgang J, 2001).

The patient did not report any motor or sensory deficits, and there were no diminished deep tendon reflexes. Standing observation of the patient revealed an acute kyphosis curve in the lumbar spine, a high right posterior superior iliac spine (PSIS), iliac crest, and anterior superior iliac spine (ASIS). The standing flexion test was positive on the right side, but Gillet's test was negative. Seated observation of the patient indicated a high right PSIS and iliac crest, but the seated flexion test was negative. Supine examination demonstrated a right straight leg raise (SLR) of 85°, left SLR of 90°. No pain was present upon a bilateral SLR but was present with an active sit-up. During the supine long-sitting test, the patient had a short left leg in supine position, but was level upon performing the test. Prone examination revealed hypo-mobile segments at L2, L3, L4 during a spring test with localized pain and spinal tenderness. Measurements of hip range

of motion were also taken in a prone position on the right leg (IR - 45°, ER - 45°) and left leg (IR - 43°, ER - 50°). During the baseline assessment, the patient was evaluated using the same examination forms and outcome measurement forms/questionnaires as previous studies using the clinical prediction rule.

The athletic trainer chose to perform a central SNAGs (L3-L4) and right side unilateral SNAGs (L3-L4) while having the patient perform flexion and extension due to the patient's painful spinal level and motion complaint (Figure 1 & 2). With the patient standing, the adjustable belt was placed around the patient's anterior superior iliac spine (ASIS) and around the clinician's hips (Baker et al., 2013; Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). The ulnar border of one hand was placed on the patient, above the suspected level of the spine, and the other hand was placed on the patient for additional support (patient standing) (Baker et al., 2013; Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). The clinician then applied a gliding force through the facet joint as the patient performed the complaint action (Baker et al., 2013; Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). If done correctly, the patient was able to perform the action pain-free (Baker et al., 2013; Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). If there was pain with the motion, a SNAG at a different spinal level can be attempted, and if this still does not produce a pain-free motion, the technique should be discontinued (Baker et al., 2013; Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). On day one, the athletic trainer followed the Mulligan "Rule of Three", performing only three SNAGs (Baker et al., 2013; Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). On subsequent days, the athletic trainer performed one set of ten SNAGs in both directions at the same spinal level.

Clinician and Patient-Oriented Outcomes

After each day of treatment, the patient's NRS scores improved and demonstrated a minimal clinically important change (MCIC) (Pool J, Ostelo R, Hoving J, Bouter L, de Vet H,

2007). Over the course of treatment, the NRS score improved from a ten to a seven, then from an eight to a four, and finally from a four to a zero, producing an average change of 3.6 (Table 2). The results were similar to a study by Learman K, Showalter C, O'Halloran B, & Cook C (2013) who demonstrated a change in NRS scores in three different spinal manipulation groups averaging 3.6, 3.3, and 2.5. Chen J, Phillips A, Ramsey M, Schenk R (2009) reported similar results of an overall NRS change from six to zero following four sessions (two of spinal thrust manipulation and two of mechanical diagnosis and therapy). Cook et al. (2013) also reported a significant decrease in the total NRS of 3.4 following seven treatments of a non-thrust manipulation technique and a decrease of 3.3 following six treatments of a thrust manipulation technique.

The patient reported a day one Oswestry Disability Index (ODI) score of 48%, followed by a day two score of 28% and a day three score of 18%, which was a success rate between 36-42%. The range of success rate was comparable to outcomes experienced on the ODI when using spinal manipulations. Childs et al. (2004) reported ODI success rates between 44%-54% for a one-week trial of spinal manipulation, while Learman et al. (2013) reported a success rate of 36.8% and 43.3% for thrust manipulation and non-thrust manipulation, respectively. Similar decreases in both NRS and ODI were produced in other studies. The patient reported a twelve on the FABQ general disability subscale on day one and two, and a zero on day three, and reported a zero all three days on the FABQ work subscale (Table 2). Flynn et al. (2002) suggests that a high FABQ score are unlikely to respond to manipulation.

Researchers have indicated the use of a self-reported, patient-specific functional task to assess functional change throughout the intervention process and measure positive results in the form of a patient-reported outcome (Stratford P, Gill C, Westway M, Binkley J, 1995; Yeo H, Temple L, 2012). The patient's personal comparable sign was the inability to touch his toes,

which he considered his specific functional task that helped assess functional improvement throughout the intervention. Pictures were taken to show a notable difference with the patient's ability to get closer to the ground during the treatment sessions (Figure 3-5). The patient's distance from the floor was measured before and after each SNAG treatment. On day one, the patient was measured eight-inches from the floor prior to the treatment, and was measured at two inches post treatment (Table 2). Upon returning on day two, there was no improvement in the distance from the floor from the prior day; however, after the treatment on day two, the patient was able to touch the floor and this result lasted until he was seen on day three (Table 2) and continued to last after day three.

Discussion

The Mulligan SNAG is performed by applying a force along the facet joint's plane, with taking into consideration that the facet joints orientation may be different due to movement by the patient and location on the spine (Baker et al., 2013; Exelby, 2002; Mulligan, 2010, 2013; Wilson, 2001). Mulligan theorizes the technique is beneficial because it "gets the joint use to tracking properly" (Mulligan, 2010, 2013; Wilson, 2001). A reason for the patient being in pain is neuromuscular imbalance, by which a misaligned structure in the body causes a sudden stretch in the mechanoreceptors at the joint, and a protective state in the body, leading to pain with movement and altered biomechanics (Wilson, 2001). Therefore, manually correcting the misaligned joint can cause a "mobilization induced analgesic" affect for the patient (Wilson, 2001).

Konstantinou K., Foster N., Rushton A., Baxter D (2002) performed an investigative study on the use of SNAGs in the management of LBP, by which they surveyed 2357 British physiotherapists and found that only 10.3% used this technique on a daily basis, while 40.7% used it weekly, and 27.2% used the technique on a monthly basis. The common LBP

presentation that often elicited this technique as treatment was "mechanical" LBP (61.9%) and chronic LBP (16.2%) (Konstantinou et al., 2002). Therapists indicate their expected treatment outcomes, when using this technique, were patient reported pain relief (38.3%) and improvement in range of motion (31.3%) (Konstantinou et al., 2002). Reported throughout the respondents was a relationship between years of experience and frequency of using this particular technique, revealing that therapists with more than 10 years of experience reported using the technique more frequently than therapists with other experience levels (Konstantinou et al., 2002). Majority of the respondents (94.2%) reported using this technique in combination with others (Maitland mobilizations, McKenzie approach, muscle imbalance exercises, and patient education) (Konstantinou et al., 2002).

Flynn et al. (2002) established five clinical predictors that best projected if a spinal manipulation would be successful (Table 3) in patients with LBP. If a subject had four or more variables in the prediction rule present at baseline, the probability of success with manipulation was 95%, and three or more of the predictors produced a 68% success rate (Flynn et al., 2002). Similar results were replicated by Childs et al. (2004) performing a validation study of the clinical prediction rule, which indicated patients who were positive on the clinical prediction rule and treated with manipulation reported improved pain and disability after 1-week and 4-week follow-ups. Based upon the patient's baseline evaluation and assessment, using the same criteria from the Flynn et al. (2002) study, this particular patient met all five predictors, and is considered a good candidate for spinal manipulation.

In addition to the five predictors in the clinical prediction rule, the patient's ODI score may have been a determining factor for the success rate of the spinal manipulation. After the baseline treatment session, if the ODI revealed an improvement of greater than 50%, the manipulation treatment was deemed a success (Childs et al., 2004; Flynn et al., 2002). If the ODI

score demonstrated less than a 50% improvement, the intervention was repeated. AT the third intervention day, if the ODI showed a greater than 50% improvement, then the manipulation treatment was then deemed a success, but if not (< 50%), then the intervention was deemed not successful (Childs et al., 2004; Flynn et al., 2002). The patient in this present study had a decreasing score in the ODI every subsequent day, but the score never was greater than a 50% reduction, meaning that the Flynn et al. (2002) study would have considered this particular case unsuccessful.

Conclusion

The case report was performed to present a pain-free, manual therapy technique that provides clinicians a way to alleviate symptoms associated with low back pain. The technique contains no high-velocity motions, and assumed safer than manipulations, however, assessment results and clinical reasoning should guide the decision to use the technique just like manipulations. The prediction rule created by Flynn et al. (2002) attempts to assist in the clinical decision making by classifying certain predictors present in LBP patients which would improve intervention outcomes. Following assessment and evaluation, the patient met all five predictors within the clinical prediction rule, and showed improvement throughout multiple measureable patient oriented clinical outcomes (NRS, ODI, & FABQ). The patient also successfully performed multi-segmental flexion (i.e., touched the ground) by the end of the treatment process, indicating functional improvement throughout the intervention.

The Mulligan SNAG demonstrates an alternative technique to the high-velocity "thrust manipulation" technique that athletic trainers often do not perform. Even though manipulations fall under the area of orthopedic manual therapy, some athletic trainers may feel that manipulations fall outside of their scope of practice, but this could be in the result of the way manipulations versus mobilizations are defined within the literature (Vesci, 2012). In addition,

some athletic trainers may not have learned manipulation procedures through their professional education, even though there are educational competencies regarding athletic trainers about performing joint mobilizations; furthermore, the licensure in some states may limit athletic trainers from performing manipulations (Vesci, 2012). Regardless of the reason for not performing manipulations, there are numerous accounts in the literature supporting the effectiveness of the technique (Vesci, 2012). Athletic trainers should consider utilizing spinal manipulation following the clinical prediction rule created by Flynn et al (2002) (Vesci, 2012).

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Table 1. The "CROCKS" Acronym (Baker et al., 2013; Mulligan, 2010, 2013)	
C	Contraindications: If the patient has any traditional contraindications to manual therapy, or the technique does not produce a PILL response.
R	Repetitions: There should typically be three treatments on day 1 followed by 10 on future visits when treating the lumbar spine, commonly three sets of 10 repetitions are acceptable for the extremities, and err on the side of caution for irritable joints.
O	Overpressure: Passive overpressure applied by the patient or clinician at the end range of the motion should be done to provide long-lasting success.
C	Communication: Every concept, technique, and the expected results should be explained to the patient prior to treatment; the patient should immediately report any discomfort.
K	Knowledge: The clinician should have knowledge of treatment planes and pathologies.
S	Sustain, sense, skills, success: Sustain the mobilization from the initiation of movement through the return to the starting position, sense through your touch, handling skills to perform the technique correctly, and common sense to guide the clinician to success.

Figure 1. Mulligan SNAG Lumbar Flexion

Figure 2. Mulligan SNAG Lumbar Extension

Table 2. Clinical-Measureable Outcomes

	Day One	Day Two	Day Three
NRS (Pre)	10	8	4
NRS (Post)	7	4	0
ODI	48%	28%	18%
FABQW			
General Physical	12	12	0
Activity	0	0	0
Work			
Toe Touch (inches from the floor)	8 inches	2 inches	Able to touch floor

Figure 3. Spinal Flexion, Day One

Figure 4. Spinal Flexion, Day Two

Figure 5. Spinal Flexion, Day Three

Table 3. Clinical Prediction Rule for Spinal Manipulation (Childs et al., 2004; Flynn et al., 2002)

Criterion	Definition of Positive
Duration of current episode of low back pain	< 16 days
Extent of distal symptoms	Not having symptoms distal to the knee
FABQ work subscale score	< 19 points
Segmental mobility testing	≥ 1 hypomobile segment in the lumbar spine
Hip internal rotation range of motion	≥ 1 hip within > 35 degrees of internal rotation range of motion

APPENDIX C

INTRODUCTION LETTER,

CONSENT/ASSENT FORM &

SURVEY INSTRUMENT

Dear Participant,

I am requesting your participation in a survey & focus group that I am conducting with the Doctorate of Athletic Training program at the University of Idaho. I am asking coaches, parents, and student-athletes to reflect on the quality of patient-centered care given at the secondary school population. Your responses are very important and will help advance the athletic training profession and improve the quality of care given at Hahnville High School.

The research procedure is a two-part survey process. Part one is this questionnaire about your knowledge and perception of the athletic training services at the secondary school. This part of the survey should take you no more than ten minutes to complete. Part two will occur after the completion of part one. Part two is a focus group that will take place with other members of your stakeholder cohort (coaches, parents, or student-athlete). During the focus group you will respond to certain current problems in the athletic training setting at Hahnville High School. The focus group will take no more than an hour (60 minutes). You will be contacted with potential dates for the focus group once part one (the survey) is completed.

Participation in this research project is voluntary and information obtained in this survey will remain confidential. If you choose to take part, you may change your mind and stop at any time. **Minors will have to complete and return the hard copy of the consent/assent form in order to participate.** Anyone over the age of 18, clicking the link below is considered your consent/assent to participate. There will be no compensation for you participating and there is no risk involved.

Should you have any questions or comments, please feel free to contact Jeremy Eusea at 504-228-7802 or euse1441@vandals.uidaho.edu. If you have any questions regarding your rights as a volunteer in this research study you may call the University of Idaho's Office of Research Assurances at 208-885-6162.

I appreciate your time and consideration in completing the research project. Thank you for participating in this study! It is through your assistance that we can improve the health care at Hahnville High School.

Many thanks,

Jeremy M. Eusea, MS, LAT, AT
Doctorate of Athletic Training Student
Athletic Trainer
Hahnville High School

Demographics

What is your age?

(enter the appropriate number)

What is your gender?

- ☐ Male
- ☐ Female

What is your current role/position in the sports medicine team at the secondary school?

- ☐ Coach
- ☐ Parent
- ☐ Patient/Student Athlete
- ☐ None of the above

Do you view an athletic trainer as an important health care professional?

- ☐ Yes
- ☐ No
- ☐ Unsure

How important overall, to you, is it to have an athletic trainer at the secondary school?

- ☐ Very Important
- ☐ Important
- ☐ Neutral
- ☐ Unimportant
- ☐ Very Unimportant
- ☐ N/A

On a scale of 0-10, how important to you are the following specific tasks/duties performed by the athletic trainer? (0 = least important, 10 = most important)

Rank/scale each task/duty individually. It is okay to put the same number for multiple tasks/duties.

	0	1	2	3	4	5	6	7	8	9	10
Coverage of Athletic Events (Practices/Games)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Develop and Maintain an Emergency Action Plan	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hydration	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Maintain and Implement a Sports Medicine Team	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Make Return to Play Decisions	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Prevention of Injuries	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Provide Emergency Care	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Provide Injury Education to Parents	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Recognize, Evaluate, and Treat Injuries	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Rehabilitation of Injuries	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Paperwork/Documentation of Injuries	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

What percentage of an average week do you PERCEIVE an athletic trainer spends on the following duties at the secondary school setting?

(The total of all the duties/tasks should equal 100%)

Coverage of Athletic Events (Practices/Games)	
Develop and Maintain an Emergency Action Plan	
Hydration	
Maintain and Implement a Sports Medicine Team	
Make Return to Play Decisions	
Prevention of Injuries	
Provide Emergency Care	
Provide Injury Education to Parents	
Recognize, Evaluate, and Treat Injuries	
Rehabilitation of Injuries	
Paperwork/Documentation of Injuries	

The values should add up to 100. Currently: 0

What percentage of an average week do you EXPECT an athletic trainer spends on the following tasks/duties at the secondary school setting?

(The total of all the duties/tasks should equal 100%)

Coverage of Athletic Events (Practices/Games)	
Develop and Maintain an Emergency Action Plan	
Hydration	
Maintain and Implement a Sports Medicine Team	
Make Return to Play Decisions	
Prevention of Injuries	
Provide Emergency Care	
Provide Injury Education to Parents	
Recognize, Evaluate, and Treat Injuries	
Rehabilitation of Injuries	
Paperwork/Documentation of Injuries	

The values should add up to 100. Currently: 0

Dear Participant,

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The research procedure is a two-part survey process. Part one is this questionnaire about your knowledge and perception of the athletic training services at the secondary school. This part of the survey should take you no more than ten minutes to complete. Part two will occur after completion of part one. Part two is a focus group that will take place with other members of your stakeholder cohort (coaches, parents, or student-athlete). During the focus group you will respond to certain current problems in the athletic training setting at Hahnville High School. The focus group will take no more than an hour (60 minutes). You will be contacted with potential dates for the focus group once part one (the survey) is completed.

Participation in this research project is voluntary and information obtained in this study will remain confidential. If you choose to take part, you may change your mind and stop at any time. **Minors will have to complete and return this consent/assent form in order to participate.** There will be no compensation for you participating and there is no risk involved.

Should you have any questions or comments, please feel free to contact Jeremy Eusea at 504-228-7802 or euse1441@vandals.uidaho.edu. If you have any questions regarding your rights as a volunteer in this research study you may call the University of Idaho's Office of Research Assurances at 208-885-6162.

I appreciate your time and consideration in completing the research project. Thank you for participating in this study! It is through your assistance that we can improve the health care at Hahnville High School.

Many thanks,

Jeremy M. Eusea, MS, ATC, LAT
Doctorate of Athletic Training student
Athletic Trainer
Hahnville High School

If you are a minor (below the age of 18) then you and a parent/guardian must sign below.

_____ _____

Parent/Guardian Signature (student over the age of 18) — Date

_____ _____

Signature (under the age of 18) — Date

APPENDIX D

AUDIO TRANSCRIPTIONS

Question 1: Was there any general difficulty with any of the questions on the survey?

Coach, Male, Age 49: No. The first question and second question almost appeared redundant. So, you took a little time to just trying to figure out what you were asking between the first and the second question. The one where I rated the percentage of time you put. It almost something like the exact same question again that have to go back and look at it a couple of times. I answered it wrong on the first one when I was really answering the second one.

Coach, Male, Age 52: There was some difficulty and the fact that it's hard to differentiate between the levels of needs like when you're talking about… It seemed like it was an all-or-nothing type deal which I understand that you can spread yourself thin a lot of times but there was some confusion there.

Coach, Male, Age 30: No, no. It was all…well, I mean, some of the stuff that was like, you know, you kind of debate a little bit where you wanted to fall.

Coach, Male, Age 44: The percentages were difficult to get right a 100%. You go back and read it just a couple of times.

Coach, Male, Age 39: The only problem in the survey is when it asked to 100. I thought you wanted me to list at 100% or I didn't know how to break it down in each those section until going into the end.

Coach, Male, Age 41: It was another thing about the questioning or the way the question was post. The first one was how do you see it and how would you like to see it. So, when I saw the first one, it was how I would like to see it. So, I had to go back and then change it down.

Coach, Female, Age 26: The question where you had to do the percentages, because I know that there is no way you can do all of that in the expected time. So, I know that it's more than a 100% like what you're able to do or whatever.

Coach, Male, Age 28: Also, one, I didn't know you did all those things, because the problem is with the trainers, you normally you know that they treat injuries. All I knew for sure that you did. I knew you have a lot of other stuff to do. So, I was like, "Oh, wow, okay. Yeah, I guess this is 10, this is 20."

Coach, Male, Age 28: In the idea of the world that would have been an even split or whatnot, as close to it as possible. But I knew that is definitely wasn't the case.

Parent, Male, Age 41: I think the format was okay. The percentages – you had to matched up your percentages and everything so, I was a little – you had to go back and make sure everything equaled up. But oh, I thought it was okay.

Question 2: Would you like to elaborate on how you answered any of the questions?

Coach, Male, Age 28: That was pretty hard because I thought that some of the tasks needed more percentage than I was allowed, because when I started doing the math, I was like, man, he needs to be able to do more of this than here, so I put 50%, then I had nothing else to do. So, it was difficult for me to actually assign it because under there was no way 1% of your time was dictated by one specific thing.

Coach, Male, Age 40: Yes, I agree with him. I thought the percentages were a weird way to break it up, because they have so many responsibilities and I don't know how much time you have in a day. And honestly, each responsibility seemed fairly important. So, again, for me to say, all right, maybe he has eight hours. Maybe he have seven hours. I didn't know how to break it up. But each one seemed fairly important to me and I just didn't feel like the percentages adequately referenced how important each job was or give you opportunity to reference on how important each job was.

Coach, Male, Age 49: I thought about what I know of your job and what I know of what [other athletic trainers] did and the time you spent, and also the requirement that you have in the classroom with kids and the class that you teach … and I tried and guess on what I thought you did during the day time and approximated.

Coach, Male, Age 44: I just used peripheral knowledge. You know just what I've seen [athletic] trainers do, what I've seen you do. And tried to evaluate it.

Coach, Male, Age 52: When I assign the percentages, what I think is most important from a baseball perspective is getting an injured player back. However, also need you here at games. Do you understand what I'm saying? It was kind of hard to say percentage-wise.

Coach, Male, Age 29: And I did on that survey to see that. I thought the percentages kind of like, "Man, it's like…" There are certain things that it was like, "Okay, these are almost equal. I got to have this right there but how do I do that and prepare to make the percentage of everything," not that everything is important.

Coach, Male, Age 30:: Yes. All right. So, basically, I think I ranked treatment of injury as 1. I think I put recovery and stuff like that, you know… Well, one was treat injury at the time and one was like recovery and treatment basically. So, rehab, yes, basically was number two. I think I put taping and stuff, maybe, like that next. And then, maybe, I know, water, I put last. I'm talking about the 0 to 10 and the rank of importance. That's what I basically…I think the most important job that you have is obviously medical treatment, medical advice for coaches, clearing players, I think that was on there. You know, like, for me at least, I feel like taking the liability issues over medical professional always gives me more comfort than having to make that decision on my own if you weren't here or if you weren't available, something like that. I think I put, I think, treatment of injury and I think, rehab, at least 30% of your time. And then, I think I put, you know, like taping and what else? Oh, I think managing like the [student] trainers and stuff like that, I think I put that like a quarter of your time. You know what I'm saying? I figured that takes some time to do that. Other than that, I put water at zero. I mean, I think other than managing the trainers to make them do that, I meant, it shouldn't be a concern of yours. And then, to me, it's medical treatment and then it's about prepping the players or something like that. I mean, like, with wrestling, we tape our own players, with football. I mean, you know how to tape with cleats on and stuff like that way better than I ever would or could. So, it's better to have you around for things like that. You know what I'm saying? If I got to tape a wrist, that doesn't bother me. You know what I'm saying? I'm good with all that kind of stuff. It's just like, I guess, you know, game day taping for things like football, go with that as opposed to, I don't think you need to tape every kid that has any sort of soreness, you know?

Coach, Male, Age 44:: I gave coverage the highest one because there are so many sports and so many things, so I gave coverage the highest one.

Coach, Male, Age 41: It was very different from the way that I see it to the way I would like to see it. I know you have to give the training. You have to be there for the games, not just football, but every sport you have to be there. I know just from hearing you speak sometimes that paperwork is your biggest bane, I guess, you would call it instead of it being the last thing you have to worry about. So, how I see it, I put the paperwork as something that should be loved. Other than speaking to the parents as far as, "Hey, you need to send your kids here and send your kids here and able to see the doctor." I don't see any other reason why you have to speak to the parent outside of what you're doing in your classroom. But as an athletic trainer, other than saying "Okay, he's hurt,

he needs to go here. Give me the paperwork when you're done and that's it," but I know you get a lot of…

Coach, Male, Age 48: I think he does a good job with that because I think a lot of these parents come in, not knowing what's involved, what's going on, and the way he explains it to him and lets him know like he say, the paperwork, once he gets that paperwork to the parents, it should be the parents' responsibility. I think he does a good job with that and letting them know what's the scenario and what's the situation and what they can be waiting for because a lot of these parents really don't know -- heard the needs. They don't realize what goes into effective of being injured with a knee injury and I think step by step and gives in each scenario and I think you do a good job with that.

Coach, Female, Age 26: Well, I know that I knew I gave you a lot of time to work with the athletes because obviously that is the big part of what you do, rehabilitation and all of that kind of thing. But you also may have to do the paperwork. And I know that that is the part that sucks and is time consuming.

Parent, Female, Age 52: It actually enlightened me as to all what you do because I didn't realize that it encompassed so many things the athletic trainer did. You know, being that you have to take care of the students' injuries, but it's more than just that. It's teaching, paperwork, you know, you have to do the paperwork. You have to allot time for that. But, I just didn't realize that your job responsibilities encompass so many other things other than just what I thought they were.

Parent, Female, Age 48: I did too. And, it was hard for me to put a percentage of importance because to me, they were all important, so it's hard to distinguish. Gosh, what percentage of importance really is this? And, I don't know how you decipher it all. That part was hard because I think they were all such a value to each part of it.

Athlete, Female, Age 18: I thought that was pretty hard because I see you do so much stuff simultaneously, like at the same time, you're doing rehab with someone while you're finding a new injury while you're getting ready for football practice. I see you do so much at the same time, so it's hard to say like…it's hard only having a hundred percent because…you need a 200%

Parent, Female, Age 52: And then, I think, I also thought, and maybe, this is just from being in my own personal environment, but I naturally wanted to gravitate towards the paperwork because in most cases, most people end up doing loads of paperwork and not able to focus on the other things that might be more important. So, I almost wanted to answer that, weighing heavier, because just from listening to other people in the system and things like that. So, I was wondering, in my mind, whether or not it was the same within the school system as it is in any other business.

Athlete, Female, Age 18: Well, I know you do a lot of paperwork because I've helped you with filing and stuff before. So, I know, like how much it's very intensive more than what people would think.

Parent, Female, Age 52: Well, and then, I found it was hard to divide up the percentages also because you don't work just like an eight-hour day like any other teacher would, because you also have after-school practices and games and conditionings and training. So, you know, our eight-hour day might be your 16 or 18-hour day. If there's a game at night, you might be there until 10:30 or 11 o'clock. So, when I thought about all of that, what you do in those amount of hours, thinking, okay, sometimes there's a lot of paperwork involved, you have to give some time for that. But, to give 2% of your time, that seemed like enough. So, it was rather hard to try to divide it because you do have so much outside of your regular workday.

Athlete, Female, Age 16: Treatment, probably. Helping us with our injuries.

Athlete, Female, Age 17: I agree with the treatment is the most important part because without treatment, the athletes can't get better to get back into their sport.

Athlete, Male, Age 17: I think you need to help us with rehab a little better.

Athlete, Female, Age 17: Helping us with injuries and not getting hurt again, and coverage not so much practices but the games would be nice.

Athlete, Female, Age 17: I always see you doing something with somebody or you're by your computer doing work. I feel you're efficient in my eyes.

Athlete, Female, Age 16: I feel like you have a lot of paperwork that you need to do, but you can't get to it.

Athlete, Female, Age 16: You're always busy.

Athlete, Female, Age 17: You need an assistant.

Athlete, Female, Age 17: It's not your fault, but I feel people need to know when their injuries are real injury and when it's not a real injury.

Athlete, Female, Age 16: You just need help like an assistant.

Athlete, Female, Age 17: I'll comment, I think I've put a lot of your time is spent at the event, covering events, monitoring athletes, and treating them for injuries especially with everything they've been through with her. And I know there's a lot of other, like you said the documentation, the paperwork that's a lot that you have to keep up with. And after I looked at all the tasks, I realized that with the number of athletes that they have here, they need two of you. Really, when you just look at everything you have to do and I found the hardest part was trying to divide up the percentages of time of our expectations because looking at everything you have to do and it's only one of you. And I know how many athlete, there's different sports going at the same time of the year, too. So, for me that was the hardest was you know putting my expectations in a number for the percentages knowing how much you do. I feel like there needs to be more of you.

Parent, Female, Age 47: I mean because I don't know how you would pick which one you go to, you know what I'm saying? It's like, "Okay, if there's a volleyball game and a football game or something that's set at the same time," you're like just because they have more players you go there or I mean, you know.

Parent, Female, Age 42: Or you're going back and forth between the two, that's true.

Parent, Female, Age 47: Right. Right. And you were talking about paperwork and if something I would think to make it easier I know that they have in [the physican's] office, they have the EMR, electronic medical records. If they had some type of something that is associated with an iPad that you could just [use]...

Athlete, Female, Age 17: For the percentage questions I had to go back and I would have to like double-check myself and make some percentages higher and lower base on my -- base on what I had already filled out.

Athlete, Female, Age 17: Like I would put like 30% but then like I wanted another one higher. So that I had to like go back and change another one…

Athlete, Female, Age 17: It wasn't difficult but some of them I wanted higher and then some of them I didn't really want at all so…

Parent, Male, Age 41: For me, it was the injury prevention. I think it's really important to prevent an injury from occurring at all cost. Because if you have an injury, then you have everything else that has to be done to get him back on the playing field. So, to me injury prevention like Amber was saying -- to me if you had injury prevention as like a 60, you know weight, but you wanted to include other things as well as being important, you might have to take that 60 and move down a little bit. But at the same time, it was still the one that had the most importance in my opinion.

Athlete, Female, Age 17: Yeah. I think I put prevention as highest but I think right after was actually treating an injury if you have an injury. Because I mean some injuries you can't really prevent like a back injury like I had. You can't really prevent a back injury. I mean, you could have a brace but that's uncomfortable to play with and stuff like that.

Question 3: Are there any general comments regarding the survey as a whole that you would like to make?

Coach, Male, Age 40: I hope the information is used wisely in terms of determining how important this information would be to student athletes. You know, this is my first year coaching and I saw how important it was to have you guys on the sidelines just in terms of determining concussions, injuries, water and stuff like that. So, I hope the information goes toward helping you guys perform your job even better.

Coach, Male, Age 44: I agree with [the other coach] a little bit. It seems as though some of the questions I didn't repeat themselves. I was like [the other coach], too. I think I have to go back. I didn't change any of the answers but I have to go back. Just to see if I have -- I read the question, move to the next one and then was probably distracted and came back and thought, "Didn't I just do this one?"

Coach, Male, Age 49: The only comment I have is that after looking at all the things you're responsible for and then trying to figure out on a 18-hour day when it's obviously tough to try and juggle all of that in a one-week time, and I was trying to figure out where the bulk of your time had to go just by the nature of the job.

Coach, Male, Age 52: As far as a high school program and what a high school program needs. My thing is I've been in schools where the guy came at the end of the school. He might be needed at other times and then, you're accessible. I can get in touch with you and so on because I'm more familiar with you, not somebody who comes in at the end of the day.

Coach, Male, Age 44:: It was short. It was good. It was short and it was, like I said before, the only thing was the percentage. It's that confusing.

Coach, Male, Age 39: I thought it was a pretty straight forward. There were not confusing.

Coach, Male, Age 48: It was you read them, you answer, you move on. It wasn't "Oh, wait, I have to think about this a little bit." They were straight forward questions.

Coach, Male, Age 48: If you asked me before our seasons started may have been a little different, but having that season behind does actually gave us a better view on what actually happened, especially with the number of weird injuries I have this year.

Coach, Male, Age 41: You certainly earned your pay last year with the boy soccer. But this year, we didn't have too many issues. I know you had issues with the girl soccer and I know what football you had, key injuries that you had to take care of. It's just you're constantly busy. So, it's just one of those things where any way for us as a coach is to make your job easier. I have no problem with doing that.

Coach, Male, Age 39: I know you had a lot to deal with for basketball. We had many injuries. I thought you do a good job with it. I thought you gave each individual an opportunity to do what they needed to do to get back or to seek further help from either seeing a doctor or going through surgery or step by step. How to say you spread yourself within. You can always spread yourself so much and I think you do a good job with spreading between all those course.

Coach, Male, Age 28: I mean I didn't even think about the paperwork that you would have to do. Again, in the world of lawsuits and legal battles, like I didn't even think that you would have to cover your butt that much. But when you talked about having the paperwork and the documentations, that guy got to take at least the planning period on its own. I met with this person as such as such a time they said I treated this, anything but that.

For the last part, I'm going to give you a scenario that I've seen, not only specific to Hahnville, but also in my past experiences as a being an athletic trainer, as well as some of the experiences that some of my colleagues experienced, and there will be some follow-up questions on those too.

First scenario is "An athlete comes in for treatment but the athletic trainer is too busy to spend time with them." What is your perception of the main problem or issue in this scenario?

Coach, Male, Age 40: For me, just from what I've seen, again, I'm not an athletic trainer to know the exact process. But from what I've seen, the majority of the problem seems to be students not showing up at the right time or student athletes not showing at the right time. I think the student athlete was under the impression that the [athletic] trainers are supposed to be at their beckon call. And we all know that is not the case. So, a lot of it, and, again, from my view, a lot of it seems to be the students not understanding the process, not one understand the process but that is what it boils down to.

Coach, Male, Age 28: I would agree because I know that the setup here, everything is run for a specific reason. But I think there are a lot of kids who assume that they're hurt, injured and whatever maybe but don't take the time to take care of themselves first. I think that is a big thing. It's very rare that you have a kid that will go and do treatment on his own, or take care of the responsibility over weekend to heal themselves up so they don't have to see the [athletic] trainers again. So, I would agree 100% that a lot of it is on the student athlete.

Coach, Male, Age 49: Time parameter is not being set ahead of time for treatment. You said the word treatment so I'm saying not having time for treatment there is no comment. Have you say an emergency or injury or [inaudible] [00:03:51], that is a different question. But treatment, no.

Coach, Male, Age 44: Yes. I think it needs to have a schedule. You'll never have two [athletic] trainers unless you're in a college setting.

Coach, Male, Age 52: Because there are kids that excessively go to the athletic trainer for every bump and bruise and some other kids who are more important to a program or more injured need prompt and good care at that time, especially, during the football season. I think it's not your responsibility. It's largely the coach's responsibilities across the board at the school to ensure that you're not sending everybody just to say, "I have a bump or a bruise." They can't go to you till they come to me. So, they're not going to you if they got hit with the ball and it's a bruise on their shin. But if they have a joint problem or a consistent amount of soreness over a long period of time, they need to see you. They need to see you often, or an ankle or something like that. I've passed your room in August and September and I see the same people in there all the time. They're in there because for whatever reason, they like being in there. They like the attention. They like the girls around, whatever it may be. Half of them don't belong in there. The more comfortable an atmosphere you have, the more people you are going to have. If it's dirty and disgusting, they're not going to want to be in there. If you say, "Get in and get out," and I think you do that.

Coach, Male, Age 29: Kids don't understand injuries. They think of the state. They don't know how to diversify between soreness and hurt and things like that. I think that's part of the problem, too.

Coach, Male, Age 30:: I think that if an athlete comes in and you're too busy, I mean, it all depends on the situation, I guess. I mean, you know what I'm saying? Like, to me, the problem in the situation is that you're too busy. What are you busy doing that you can't provide adequate treatment to somebody who actually needs it? First of all, I'm assuming that the kid needs it. You know what I'm saying? You say treatment, I'm assuming he's not some kid that walks in, doesn't really need treatment and is just coming in to hang out and flirt with the girls in there. You know what I'm telling you. It's a problem, and that's a problem because there's some sort of mismanagement of your time or services somewhere. I mean, obviously, as I've told you before, the medical treatment and medical diagnosis and rehab, that's your main function. If you ask me, that's what athletic training is about. You know what I'm saying? You're supposed to be working with your patients.

Coach, Male, Age 44:: In a large school like ours, we have a lot of student athletes that go back to the [athletic] trainer, and a lot of times the trainer has to take care and see the people first and the other kids get put on the side. I don't see it as a problem. Not getting to the kid is the problem. But in timely fashion, I understand that.

Coach, Male, Age 39: I think first is what season -- depending of what seasons in. I'm not in basketball season, but you've got an athlete that's down, but you're in soccer season. I believe first priority would have to come with the soccer scenario before basketball. I'm not saying that you have to throw basketball aside into basketball season, but you have to take care of your first priority first and then get to the next one.

Coach, Male, Age 48: I think some of the athletes do not understand the difference between soreness and pain. They think a little bit of soreness that needs to be treated every day where it's just youth soreness. It's not even injury soreness.

Coach, Male, Age 41: I think it has to do with the student athlete itself. They have to know their limitations and they have to know their body. As much as you can study and as good as an athletic trainer as you can be, you still don't know their body as well as they do. They have to know what they're feeling. They have to know how they're feeling and they have to be able to convey that message to you in a timely manner and in an intelligent manner too. "It hurts when I do this." "What did you do?" "I don't know." "How would you not know? You're not with your body the whole time?" I applaud you for keeping your cool because I wouldn't be able to do that and it's just you work through it. So, I think, like I said, it's up to the athlete themselves. Like what [the athletic trainer] was saying, they have to know the difference between pain and being sore. Sore, you work through it. Pain, you try to work through it; if you can't, then you go see your [athletic] trainer.

Coach, Female, Age 26: I think students not knowing the difference between being hurt and feeling pain and like soreness. That's a big thing that I know we deal with is, "Are you really hurt? Or, is it just because you're sore and it's a little bit of pain?" Then you're overloaded with kids that are hurt but they're not really hurt. They are just sore.

Coach, Male, Age 28: Like right now I'm dealing with people with shin splints and they keep telling them, "Guys, do this, do this, do this", but there isn't anything you can do but they just keep saying, "Can I go to [the athletic trainer]?"

Coach, Male, Age 28: Yes, absolutely. Always. You have to be more educated about this. Your legs are going to hurt. I'm sorry. There is nothing that anybody can really do. I think the problem is that I see a lot of students see it as two things, as a way for attention, because it makes them feel

good, that they're getting treatment and it makes them feel special. And also I know some kids will wait to go to the athletic trainer as oppose to go in to see, like, the family doctor whatnot, which is in some cases is encouraged. But they get hurt at home playing a pick-up basketball and they'll wait until the next day of school to come and see you. So, it's kind of like a free decision.

Coach, Male, Age 28: I mean other stuff. Should you have an assistant? I mean we're all student teachers and whatnot. I mean I don't know. Should you have an assistant? I mean you serve in how many different sports? Hundreds and hundreds and hundreds of kids and they all expect you to do it within certain hours of the day? How many sports going on at the same? You should definitely have more than one. And you have to teach. So, it definitely needs to have more than one person. Would you have one nurse running a hospital?

Parent, Female, Age 48: Yes. I mean, I guess, if you have four people come in that were all injured at one time, I mean, how can you be dealing with four people?

Coach, Male, Age 52: I mean, you got to have the time to put in because, I mean, say, somebody needs to be stretched out before you go do… I mean, it's got to get done or it'll just hurt worse.

Athlete, Female, Age 18: A lot of people go to get treatment when they don't really need treatment. Like, I have a cut on my finger and then they're waiting and they get mad because they have to wait 30 minutes to get a band-aid because it's not that big of a deal. Other people have injuries that need more attending to. And so, they come in and there's a bunch of people and they have to wait forever for a band-aid because other people have higher priority, like they are higher prioritized.

Athlete, Female, Age 16: And then, there's the people that used to play sports that think even though they quit, they could still go for help, even though they're not playing anything anymore.

Athlete, Female, Age 18: And then, there is those people who just think that the room is a hangout room and always get in your way.

Parent, Female, Age 52: They can go to the school nurse, they can go to the office after the school nurse has gone.

Athlete, Female, Age 18: Everyone goes before practice, so, that's like always the worst time. So, maybe, having some people go, if you don't have to practice that day, like, I know a lot of times I go in there and there'll be some athletes that will be in there and they're not able to play because of their injury, but they are there, first thing, trying to get treatment and they expect to get treated right now whenever people can't play and you could treat them and get them on their way.

Athlete, Female, Age 17: There's only one of you like you can't go in many different ways.

Athlete, Female, Age 17: It depends on what you're doing, what you were busy with. Most of the time, you're busy with somebody else, so they have to wait and they'll get inpatient like, "Hurry up." It just depends on what you're busy with.

Athlete, Male, Age 17: Sometimes you're not ready, like you're busy with other person, and you forget about us….

Athlete, Female, Age 16: There are too many people. Too many athletes that need help.

Athlete, Female, Age 16: Yeah. Too many injured player.

Athlete, Male, Age 17: Too many sports at one time.

Athlete, Female, Age 16: Yeah. The ratio of athletic trainer to athlete.

Athlete, Female, Age 17: There are just too much mental injuries.

Athlete, Female, Age 17: Yeah. You think you're hurt when you're really not.

Parent, Female, Age 47: There should be more. At least someone to tag team, you know. If you're doing paperwork or something and somebody else comes in that will be a way to get more kids seen, that need to be seen and taking care of.

Parent, Female, Age 42: Maybe working with the athlete that has an injury. I mean we can't expect you to stop taking care of them or treating them to, you know, and then you don't make, if it's something serious then I'm sure you would triage and go, "Okay, this one's serious what do we need to do with this one." But at the same time she came home and said, "I had an injury," and you didn't have time to treat her, "Okay, well, let me see and do we need to go to the emergency room?"

Really, as a parent take responsibility for it if you didn't have a time but I completely understand if you're taking care of someone then that's what you're going to do, especially with only one athletic trainer.

Athlete, Female, Age 16: I had to wait till the end because of the stuff you would do [for me]

Athlete, Female, Age 17: Like, if I have another time then I'll go back to practice and I'll come see you later. But then coach will be mad because I'm missing practice time and then I'll get mad at you but it's not your fault.

Athlete, Male, Age 17: Yeah, if it's something simple I'll just [do it myself].

Athlete, Female, Age 17: I mean, it's basically -- it's pretty chaotic like you said. But -- I mean like I feel like there's so many – there needs to be multiple athletic trainers out there because there's so many kids that just stay after school just because -- I mean they're some hurt or whatever. And I mean -- it's like you can't treat a finger injury. You know, there's no way. And then -- I mean some people have like serious like ankle or knee injuries that like, that like require pain everyday. So, I mean, I think you need multiple athletic trainers like that.

Parent, Male, Age 41: I think the main problem to me would be if a student comes in, let's say after school when it's like pretty much like you step on an ant pile. Bam! After school, that's how it is. The kids are ready to get out. Some kids -- I would say the main thing that probably – it should be organize. So, if you have kids that are just in pre-season conditioning maybe they don't need to be treated right away. If somebody's deep in the middle of their district season, they probably should be treated right away because they need to get to practice. Somebody's condition before the season even starts shouldn't be taken as quickly. Now, somebody if it's an emergency situation of course, you know, we try to, you know do that. But I would say it had to be organizational thing more than anything else. If I -- if I have somebody that needs to get some type of treatment that's going to take 30 minutes maybe I can get him started because that 30-minute process could be during what is do a lot of help and takes somebody or whatever. So, once again, to me, you know organizational aspect would be the most important thing. And then, of course, in season kids, student athletes and then, of course, those who are pre-season probably shouldn't be taken before anyone else.

Parent, Male, Age 47: It goes back to organization as I mentioned before. Yeah.

Parent, Male, Age 47: It depends on what your priorities are. Are there more injured athletes? Do you have administrative responsibilities? I don't know. Obviously, if it was my kid that I would want treated, I would have an issue with that. But again you are only one trainer, right? you have some student trainers, but instead you are spread pretty thin because you got a lot of athletes here, right? So, probably dealing with multiple injuries at any given time. Yes. I know it's difficult, and something you should balance.

Athlete, Male, Age 16: I get the treatment I need because football gets bumped to the front of the line.

Scenario 1, Follow-up Question: What is a way that you see to improve that situation or that scenario?

Coach, Male, Age 28: I don't know how we can get the kids to understand the importance of running on the schedule whenever the athletic trainer has posted it number of times and explain to each individual sport this is how it's going to be run, this is when you need to show up, this is how you do it. And in my five years here, I've very rarely had one student or very, very few students who take care of themselves on their own when any little nick and bruises they want to go and run to the [athletic] trainers. So, I think it's -- I really think it's on the student athletes.

Coach, Male, Age 40: Yes. It's mainly -- you can educate the student as much as you want. A good portion of the responsibility falls on them and their parents. And if they don't take up that responsibility, there is so much you guys can do from your end. So, again, a lot of it falls on student athletes/parental responsibility to do what they need to do before they come running to the trainer.

Coach, Male, Age 44: Schedule. Priority of sport. If you're end season, you should probably get taped or treated or whatever. It happens to be at first, you can be right back. If you're out of season, you're just training then you can wait enough time.

Coach, Male, Age 49: Same thing. In-season sport priority, severity of treatment, if that is such a thing. There are some things that may need more intensive treatment before they're going out to practice or have a practice versus something that is lesser treatment or easier treatment. So, sort of, prioritizing treatments but mainly end-season, out of season.

Coach, Male, Age 52: I've already stated it. The head coach should send the injured players. I've called you before and said, "Hey, when's the best time of sending you?" You tell me 3:15, 3:20. That's the simple thing, you know, the simple thing. But I'm going to tell you another thing. I've never been in a school where there was not a coach assigned prior to an after practice to be by the [athletic] training room to take care of that for you. Yes. But I'm going to tell you. You got to be careful here because you're dealing with boys and girls and the girl coach better be there as well as the boy coach. I can't tell a girl, "Get out. What are you in here for?" I can't do that. I'd like to but I can't and I understand I can't. I mean I was in an all boys' schools. "What are you doing in here again? Get out of here. There's nothing wrong with you." Kids like tape. … Right? If I let

them tape everything they wanted for every game, they'd have tape from here to here, tape from here to here, tape on your shoes, right?

Coach, Male, Age 29: It's communication between the coach and the [athletic] trainer to go in. I mean, him to come in as opposed to some kid just running in and going, "Oh well, I did this."

Coach, Male, Age 35: And that's the thing. Is should be coach-initiated, not player-initiated because sometimes, they might go and just want to talk to the girl [student] trainers and things like that.

Coach, Male, Age 30: Well, there's also probably something where they schedule with you. I mean, you can try to schedule with you, so it can reverse the situation at the same time, you know, like if it's something where it's not immediate treatment, well then, maybe you should have… Obviously, you can't hook up 12 people at once, so, I mean, you have some sort of scheduling, maybe some sort of coordination between the coaches, some sort of way to book athletes in for rehab, that you know have injuries that need rehab. You know what I'm saying? Like, everything cleared beforehand and whatnot. And so, that way, it maximizes your ability to see everybody, not have kids get upset because they feel like you used that time for me and whatever. I mean, I have more qualified people here other than you. You know, I feel like when you get the [athletic training students] around and stuff like that, that helps you. You know what I'm saying? You're able to kind of diagnose and then say, "Okay, you can do this" and it's someone you can trust more than say, a student trainer, where you're not necessarily sure of exactly what quality work they can perform.

Coach, Male, Age 44: Maybe a timesheet. Put in the end-seasons sport at the top. I'm doing it from here to here. But other sports underneath, you put them by name or you can put them by -- I mean just put out of season sports, put a timeframe. I guess that I really -- that is the problem. Get a bigger training room.

Coach, Male, Age 48: I know we're doing it know through education, but there needs to be some type of thought process change from the time they walk through the doors here. You're going to be sore when you lift a weight. You're going to be sore when you run. Now, pain is different. If it is a recurring soreness in the same spot over and over, then it's probably becoming pain; but if it goes away by the next day, it's soreness. I mean, you just worked out. You're going to hurt or otherwise you haven't really worked out. If you don't feel it the next day, at least that's what I was told. If you

don't really feel anything, a little soreness … but they need to know the difference between soreness and pain. Unfortunately, I don't know how you explain it to the kids coming in as an athlete.

Coach, Male, Age 41: I think it's difficult because you have to retrain. It was different when we were all in high school and we were all playing sports because if you got hurt, you played. Nowadays, if you got hurt, you go tell the coach and the first thing the coach says is "Go see [the athletic trainer]." I'm guilty of doing that same thing as well because it's one of those things where if you push the kid and you say "Well, you're not really hurt. You're just sore and everything like that and you compound that injury into something worse," then it's our fault; but we send muscle soreness to you. It's just making your job more difficult. So, I think, we as a coach is we need to have a little bit more say, I guess, in telling the kid or telling the athlete "You're fine. You're sore. You worked out yesterday. You're going to be sore, just keep playing. Otherwise, you're just going to keep doing double duty."

Coach, Male, Age 48: Even in many of the cases, I don't think they're coming to us before they go to [the athletic trainer]. I think they just head as soon as bell rings, they head straight back, "Oh, it hurts here." It's just soreness because we ran the day before. We're doing conditioning, of course, you're going to be sore in your muscles and muscle soreness is very different like a knee or an elbow. They don't realize that. Yes, that was my ankle cracking in the background.

Coach, Male, Age 41: Well, it's like you're saying the first thing they do when the bell ring is they go and see [the athletic trainer] and it's like you're looking around and we're like "What's up?" So, you go on with practice and then all of a sudden you see him walking up and I was like "Oh, I want to go see [the athletic trainer]." It's like you need to tell me first.

Coach, Male, Age 39: Come and let me notice where you're going and then you are more than welcome to go. I have no problem with that. But if I don't know that sore you had, I'm going to start my practice and the next thing you know, I see you walking in and it's like, "Where have you been?" Let me know the situation. Maybe there's something I can help with the situation like someone who want to get tape and I do some taping. So, that leaves a little bit burden for him because all I know they need is taping, and he can be doing a lot more other things besides having to tape somebody that from basketball, and I think one thing too as a coach is I think that's one thing we need to also learn to as little things that we need to know, basic little things that we need to be

educated. We need to dissect our services too because sometimes when we go to an away game, we might not have the luxury of having somebody there to tape, which majority of the time we do and sometimes we don't.

Coach, Male, Age 48: I've been lucky because my kids trained to tape because they're in [the athletic trainer's] class, so they do the taping for him on the road.

Coach, Female, Age 26: I think we can start by educating the kids about -- I mean we try to tell them, but maybe actually at the beginning of seasons or whatever, you doing something because then maybe it'll save you time later or whatever, or the coaches somehow someone telling them the difference between pain and -- they can do it in health class?

Coach, Male, Age 28: I mean maybe educating people more on what you do, because I know people, even coaches just think you're here to treat the kids. So, we don't really know all of your responsibilities and everything that you have on your plate, because I know some people say, "Oh, such and such hurts", and they won't stop complaining. "I go see [the athletic trainer]", because I don't know what else to do with you. We have students that do that.

Parent, Female, Age 48: Maybe there could be some protocols where if it's something simple as a band-aid… I guess there's trust issues. Can you trust every student just go grab what they need and take care of it and go. So, you know, it just seems like something so minute, like, "I need a band-aid. I have a blister" or whatever, that some ways they perform maybe some procedure protocol could be made. I don't know…[so you're time is free.]

Parent, Female, Age 48: I think, what [another parent] said, I think the students, you've taught them how to wrap and they can put a bandage or something.

Parent, Female, Age 52: Ice things down. Under your direction, they can do things.

Coach, Male, Age 52: I mean, is there any other coach that's [certified or does any of this stuff]?

Parent, Female, Age 48: You know, you, as the trained professional, need to decipher which injury need to [be priority.]

Parent, Female, Age 52: My thoughts on that is you can train students to do things like wraps and things like that, but the students can't do assessments and they can't rate injuries. That's something that you, with your degree, can only do. They can do tasks but they can't do assessment of problems.

Coach, Male, Age 48: If there's only one of you, maybe they need another one.

Coach, Male, Age 52: Time and personnel.

Parent, Female, Age 48: Or, the students that are in the Sports Medicine class, are they considered your assistants in that?

Coach, Male, Age 48: I guess I would say, maybe you need help. You need assistance.

Athlete, Female, Age 17: I think you need someone like you do the treatments then somebody just ask them like do some of the questions like what happen, how did it happen, what's hurting or stuff like that. So, they can do all that and by the time they get to see you, all you've got to do is like "Okay, here, I'm doing this to you."

Athlete, Female, Age 16: Yeah. Like how we have to fill out the forms before seeing you, our pain and everything. You're going to have somebody else helping us do that and helping us figure out what's actually wrong with this, and then you can actually help us.

Athlete, Male, Age 17: [Like when] we go to the doc, then you have the nurse come to check you out to see what's going on and then the doctor comes in and actually helps you.

Athlete, Female, Age 17: More of you.

Athlete, Male, Age 17: More of you

Athlete, Female, Age 17: Additional athletic trainers

Athlete, Female, Age 17: Train some of the coaches to do some of the stuff. You know, like if it's an ankle sprain or something, make sure there's ice at all every practice in bags or something and

then if a player is injured then they can at least put ice in and immediately treat the situation and then can come see the [athletic] trainer afterwards.

Athlete, Female, Age 17: Just like I know [one of our coaches] and [a student helper] would come to varsity tournament and then like the other two girls they really know how to do that. They would go with JV, like [coach] knew how to tape an ankle like the rest and everything.

Parent, Male, Age 41: Aside from being organized and as [someone else] said you can't treat every injury, you know if it's a finger injury and all that. Maybe the coach shouldn't have sent him in the first place. I don't know. But -- aside from that and having more people on hand that can help in certain situations. You know, I don't know, really if there was three [athletic trainers], not just one, that would definitely be able to, you know, help out with the line that's happening around 2:20, 2:30. Or you know if somebody has an opportunity, if they have, let's say they have P.E. at the end of the day, maybe they can get treated before anybody else to get a more plan quicker for practice or what not. So, maybe that's an option, maybe giving them a little sooner, then the dismissal bell.

Scenario 1, Follow-up Question: How do you feel this scenario or situation affects the quality of care given to the athlete?

Coach, Male, Age 28: I think it changes in perspective of some of the student athletes because they may go in and realize that the [athletic] trainer may be busy assessing someone else, taking care of someone else, treating someone else. They may not be there on their certain time, but then the student athletes will spread the word to somebody else saying, "Well, this guy doesn't do this. He didn't take care of me at this time." When in reality, they should have been there at their time or they should know the responsibility of waiting, being patient, go at your own time, different things like that.

Coach, Male, Age 40: Yes. I agree for what he said. But like I said, a good portion of it, I don't know how much can be improved without improving, without sounding so cruel, without improving the student athlete perception, the parent parental perception. I think our athletic department does a great job with what they have to work with. And nothing is going to work smoothly or perfectly but it will probably go a lot smoother if parents and students took their portion of it seriously.

Coach, Male, Age 44: On a high school level? I think 9 times out of 10 the [athletic] trainer is overwhelmed because of lack of time, because of lack or resources and trying to cover three sports at one time. And that is in-season and then two or three that are post season or preseason.

Coach, Male, Age 49: And you're talking to a 19th century coach who grew up without [athletic] trainers. So, the worst case scenario we have here is a great scenario for me because I don't have to deal with the treatment of injuries. So, I don't see it as a problem for me, it's a problem for the [athletic] trainer, but it's pretty good situation in [at this school] where I've been in many other places that we didn't have an [athletic] trainer.

Coach, Male, Age 52: Tremendously, to the ones that are injured and need help. If it's an emergency, you're going to drop everything and come. That's not what I'm speaking about. I was speaking about the pitch. They pitch on Tuesdays and he's going to pitch on Saturday. He's got an abundance of soreness on Wednesday and we need to have somewhat of a diagnosis to go forward. That has to be done. It's imperative, I mean, for my program.

Coach, Male, Age 30:: Because, you know, I feel like, a kid gets discouraged sometimes from going in there. I know I've heard kids make comments like, "I'm not going in there. No one wants to treat me anyway." And, that's a product of the tragedy that that situation occurs, and then the kid doesn't take the time to process everything that goes on to why you don't have time to treat them at that point in time. They just know that they walk in, they're hurting and they feel like you can't see them and so they get pissed off. And so, you know, it's a product of, once that happens to them a couple of times, then they don't take their injury to you, then they start hiding injuries. You know what I'm saying? And they feel they get discouraged to even come, and then, they don't get the quality treatment that they should be getting that we're trying to provide to everybody at a 5A institution. You know what I'm saying? There should be a level of care…it comes with the fact that you go and play for a 5A high school.

Coach, Male, Age 44:: It changes a lot. It's on the [athletic] trainer. If the [athletic] trainer is bad, you have bad results. [Athletic] trainer is good, you have good results…

Coach, Male, Age 39: You just have to wait your turn. Well, look, you're going into a hospital is the same situation. You have to wait your turn. You can't say, "Well, look, you got to see me." You're going to look at the person that has the most significant injury and if you're walking in there, obviously, your injury is not significant enough to be taken care by that time. So, you just have to wait your time and be patient with it. It happens in that situation.

Coach, Male, Age 48: It's just prioritizing what injuries are important or as coach said before, what sports and season do I need this kid to practice the second if I need to get some sort of football and soccer just doing condition. The soccer kid can wait after the football kids are done or if it's soccer and let's say baseball kid -- the baseball kid can wait until the soccer kid is done. So, it's got to be prioritized. During the fall, probably volleyball, cross country and football. During the winter, it's basketball and soccer. When you get to the spring, it's softball, track and baseball.

Coach, Female, Age 26: So, they're not getting treated and they could really be hurt, which is the biggest problem. So, some of those people that aren't really hurt are taking up your time.

Athlete, Female, Age 16: I feel like maybe not everybody gets their full treatment that you could give them because you're worried about having to go to somebody else too at the same time. So, not everybody might get the equal treatment that they need.

Parent, Female, Age 48: I'm sure that that would probably be the biggest problem, just trying to use your time wisely and trying to get to everybody, and maybe that person needed a little bit more time [of treatment]

Parent, Male, Age 47: Also, I guess you got to prioritize if they're playing or they're just at practice and get treated…But, I mean, you need to do this so they can go play. I guess you'd do that prioritizing who needs to go in.

Parent, Female, Age 46: But, you'll probably feel some pressure to hurry up if they [need to go play]

Parent, Male, Age 47: It could be rushed and you're not given the full treatment, yes. Or, you have to do a quick fix instead of the right…

Athlete, Female, Age 18: If we're talking third party, not necessarily… If it's some other athletic trainer, if they get flustered, they could give less than what the athlete should have gotten in care. If, let's say, they should really get the massage and the athletic trainer doesn't have time for that, they might just settle with some other treatment when they should have gotten something else. But, due to time and coaches wanting them to go to practice or the game or something…

Coach, Male, Age 48: Probably decrease in quality.

Athlete, Female, Age 18: And, I remember in class one time, we had to do all these wraps because we're acting like an athletic trainer. We had to do tape jobs and wraps in no time as quick as we could, and then, they all looked like crap. That was so bad.

Athlete, Female, Age 17: You have to be quick to get everybody else.

Athlete, Female, Age 17: I've witnessed because before football games, it's crazy in here and it's hard because you're going like hurrying up, getting done taping that one person, going up to the other one asking what's wrong. It's like a jump-to-jump like quick so its, not allowing you to get the best you can get done treatment to that one person.

Athlete, Female, Age 16: You usually look at us, forget what's wrong and you say "Come back later," but we usually don't come back later.

Athlete, Female, Age 16: It's like that time or no time.

Athlete, Female, Age 16: It's like in volleyball. It's that time or no time.

Parent, Female, Age 47: Well, I think if they have to wait and I don't know the whole technical thing, you know, if they are given the slip from the coach or whatever to go see you or whatever but if they get tired of waiting and then they decide to go on home and suck it up, so to speak, if it's not that bad of an injury. And then they go back to practice the next day and then they get worst, that can, you know, not that there's necessarily a liability issue because it's kind of like AMA, but it's not taking care of the problems at hand. It could make things worst in the end if they're not taken care of.

Parent, Female, Age 42: If, they don't realize how serious the injury is, they may just, "Oh, I think I just pulled a muscle," but it could be something more serious and then you go home, take some ibuprofen, feeling better, get back at it and they could might have a worst injury. Could be more serious.

Parent, Male, Age 47: Obviously, they're not giving them that because there's not enough resources to give them care.

Parent, Male, Age 41: And at the same time, if you're handling an injury but let's say it's the student trainer that obviously that student trainer can't do what you do, so I have to be prioritized. Okay, my student trainer can give what this type of situation. I'm going to go ahead and let him or her do that. I got to do something a little bit more serious. It would probably come down to, you know, that aspect. But obviously, if you're not dealing with one kid, you never see them kid when they come in, then that's probably not the best thing for them in the long run.

Parent, Male, Age 47: It goes back to the other question. They have to prioritize these kids as they come in, you know, but the right resources on the injury

Athlete, Female, Age 17: Yeah, because if it's just like tape injury, I mean, one of your student athletes can just do that. But if it's like a post-surgery or rehab or something like that, it's more you.

Second scenario is "An athlete claims that a coach will not let them go to their athletic trainer because the athlete feels the coach does not believe they are hurt." What is your perception of the main problem or issue in this scenario?

Coach, Male, Age 40: For me, and I mean I grew up in old school football, if it wasn't broken, rub some dirt on it and get ready to play. I always hated that mentality because there are number of times that I thought I was really hurt. To me it's that perception of the coach trying to build a certain level of toughness. Well, to me it's not up to the coach to determine if a player is hurt. That is athletic trainer's job to determine that. So, I'm sure there are some kids who probably just wanted to get out of practice. But, again, to me, that is up to the athletic trainer to determine. It's not up to the coach to determine. So, that is a mentality of a number of football coaches that I've been around. I don't think it's right simply because of my own personal experiences. But I don't think it's up to the coach to determine who is injured and who is not.

Coach, Male, Age 28: I agree with your statement that it does send a certain level of toughness or teach the kids some responsibility to take care of themselves, really assess themselves physically and understand how their body is working. But then, again, I do agree where you're saying that I am not certified or trained in any way to understand an injury. So, I think it's a line that you kind of have to cross. You can, as a coach, assess a student athlete as well as you can and know you should go back on the field or you should probably go see the [athletic] trainer. But I also think it always falls on the coach saying, "If I can't handle this anymore, I need to send the kid."

Coach, Male, Age 44: The coach better start to realize liability issues, because if you're not going to let him go and get treatment, now, he is liable for the injury especially if it gets worse.

Coach, Male, Age 49: I mean he did sum it up. But it also it's going to be addressed with the coach's aspect of it, and a lot of the better [athletic] trainers, in my opinion, have the same aspect, they talked about toughness and mental toughness. So, even though they're going to do a good job at evaluating the injuries, they're still going to talk to the kids about toughness and being tough and the coaches really that is the only role now. When you have an [athletic] trainer, talk about it but you still allow the kid to see the [athletic] trainer and let the [athletic] trainer make the medical decision. You take yourself out of the loop.

Coach, Male, Age 44: One of the things I try when I was the head coach, I try to get across the kids that there is a difference between pain and injury. There is a difference. Injury means you cannot physically do what we're asking you to do and the pain means there is a problem there that would probably get treatment before practice or after practice but you can still function.

Coach, Male, Age 52: I think that's an uneducated, ignorant coach. I put my hand up on my face because I don't let them go unless I think they're injured because I know. I understand. I mean, 25 years of experience being in two sports helps you to understand the difference between pain and injury. I'm going to tell you. I've been around for 25 years. I'm going to diagnose the injury and if I think they need to go to you, I'm going to send them to you. However, when I don't know… If I'm not sure, I'm also going to send them but in a lot of cases, I'm going to speak to you about it. I'm not sending them for bumps and bruises. I'm not sending them for a sore finger. That doesn't hold them out of what we do. I've noticed a limping and said, "You need to go see [the athletic trainer]." I mean, it just depends on… and we know our players, maybe not by this point in the year but in a month's time, are we going to spend an exorbitant amount of time with them on bus rides, at games, in the hotel, this and that. If he complains about something, he will come to you because I know he's not, you know.

Coach, Male, Age 29: Again, communication between coach, parent and [athletic] trainer, haven't that gone up? The coach's communication to parents and the coach communicated to them with the [athletic] trainer and everything with that and get that worked out.

Coach, Male, Age 30:: I mean, sometimes, they don't understand the difference between injury and pain, you know? That's the way that I can explain it, and I feel like, we pamper the hell out of them and any sort of stiffness or any sort of aches and pains and stuff like that… They think exercise is supposed to feel good. I mean, it hurts. You know what I'm saying? It's physical activity and tackling people and hurtling things and throwing yourself over a pole vault, I mean, all these things cause bruises and bumps and damage to the body. I mean, some of it's normal and some of it is not normal. Your part comes in where it's not normal, and I feel like the kids don't necessarily have a distinction of this. And then, of course, as soon as the parent gets involved and they think their kid is catastrophically injured, and then you know, we're not responding to Little Johnny's needs because Little Johnny is crying about the fact that his arm hurts. Well, his arm hurts because he took a helmet today. You know what I'm saying? He's got a bruise. Put a bag of ice on it. You

want to take a couple of Advil. That's all you need to do. And, the coach probably told him that, or at least, in my experience, sometimes. "Oh, coach doesn't know what he's talking about. I need to see a doctor." And then, the doctor tells him the same thing or you tell him the same thing and then, they're like, "Oh, that's not good enough." And then, they go somewhere else. I mean, if you pay somebody enough money, they'll tell you something is wrong with you.

Coach, Male, Age 44: You got to tell the legality issues now and administrative issues that if the kid is really hurt and you keep playing them, you're in real trouble as a coach. But I believe there is a difference between hurt and injury. And I like to make sure my kids are injured before. Sometimes I can't tell if they're injured especially in my sport of wrestling. I don't think it's that bad and some kids do.

Coach, Male, Age 39: First case, I'll talk to him about the situation and if they feel that they need to go, I'll give them that opportunity to go ahead and maybe there's something that I'm not seeing or maybe there's something that he could tell you different that I'm not telling you. So, I will never deny the fact of going to the [athletic] trainer. Sometimes I may have a few more young ladies did go back there, but I've given my expert opinion on it and we're going to need somebody that has dealt with it before. They might see something that I don't see.

Coach, Male, Age 48: We always send them back to you in the first place, but in other sports I have heard is that certain kids they know are hypochondriacs are trying to get out of doing the running and the stretching. "Oh, I've got to go and do this and I'll sit in your [athletic] training room and maybe we'll just stay in the background," until they know the running is done and then come back out to practice. And if the coach just got wind of that, some of the sores, I will not let them go back anymore.

Coach, Male, Age 41: I was asking them if there's -- what's the problem. I said what's the problem and they tell me. "Well, is it in a significant amount of pain that you cannot continue?" And then I just leave it up to them. Asking that question, is it a significant amount of pain that you cannot continue? When I asked them that, I leave it up to them. "No, it doesn't hurt that bad. I guess, I can still play" or "Yeah, I can't move my knee or I can't move my ankle." And that's okay, then go seek. So, I'll leave it up to them. If they say yes, okay go see the [athletic] trainer, go see what he can do for you. If not, then it's "Okay, get back out there." Maybe that's not the right thing to do,

but I'll leave it up to them. Because like coach was saying, most of the time, it's usually the hypochondriacs that do come up and "Oh, this is hurting and this…"

Coach, Female, Age 26: I think the kids just don't -- they just don't know. They think that they are hurt and they are not. They are not tough. They're soft.

Coach, Male, Age 28: Well, I think that they think of you as a doctor. Like such and such hurts, I'm going to go to [the athletic trainer] and he is going to do the stem treatment and it's going to be all great again. No. He doesn't wave a magic wand especially when you do no preventative measures at home. You take no care of yourself outside of practice. And you think that we're going to wave a wand and it's going to make your shins or your legs or your knees or your whatever better, and it's not the way it works. I think some of that has to deal with like the relationship between the coach and the athlete if it's a student that is hurt all the time, "No, stay. You were like, seriously?" I said I try not to do that because then you get in to the legal battle. If the student really is hurt, well, then how come you don't let him go to the [athletic] trainer, you should have let him with the [athletic] trainer, that is what the [athletic] trainers are there for and I try not to. So, if they've complained enough then let them go because it covers everybody's butt.

Athlete, Female, Age 18: Okay, coaches, coaches, I'll call them out. The cheerleading coaches, well, and I'm sure other coaches too, would rather the athlete not go to the doctor or the athletic trainer. They will specifically tell them don't go so that they can still practice, they won't miss any practice, that they won't have the possibility of actually having an injury and not being able to play. They would much rather the athlete stay injured than go to the doctor or go to the athletic trainer.

Athlete, Female, Age 18: Because, they would rather them play. If they're truly injured, that they need to go to the doctor, they don't want the doctor telling them, "Oh, you can't play" and then be out of an athlete.

Athlete, Female, Age 18: Also, if you push injuries too far, you're going to make the athlete try and have to have surgery and get injured and stay out for a while.

Athlete, Female, Age 18: So, the athlete just ends up getting hurt more and more because the coaches don't want them getting the proper treatment because they don't want them missing practice.

Athlete, Female, Age 18: Let them go get treatment. Just let them go get treatment because, I mean, it's not that hard to go get treated and come back.

Athlete, Female, Age 18: And, at least give them the chance to go talk to the athletic trainer to see if it's a severe injury or if they can practice and then come to them after.

Athlete, Female, Age 18: Because, ultimately, if they keep getting hurt, they're going to be out for longer than if they would just go and have the two weeks or something, and end up having two months, if they would have just let them go.

Coach, Male, Age 52: I know my child better than [any coach] and I've been dealing with her. You know the pain tolerance and everything else, and I know mine. She's not going to tell you she's hurting unless something's bothering her, and then she would tell me how much it is. I don't need nobody over here to tell me when my child is hurt. I will bring them to the doctor of my choice. That's the bottom line. I'll take it in my own hands because that's my child, not theirs.

Parent, Female, Age 48: I also think too, especially now, the kids that are in this room, they've been involved in the activities that they've been involved in, some for four years already. I think these coaches know the kids that complain for no reason, know the kids that work hard and know the kids that are legitimately hurt and not just trying to get out of practice or what have you. So, I think that's one thing that a coach needs to respect from the child. The child is never hurt or never complains, and the child comes to you one day and say, "My arm is killing me" they need to trust that child and believe in them. If it's another child that complains about everything all the time, "Fine. Go see the [athletic] trainer and then I'll speak to the [athletic] trainer and get input on that, and then I'll call your parents tonight and I'll find out what needs to be done." I think communication needs to be a little bit better between the parent, the child, the [athletic] trainer, the coach, the teacher or whatever. Everybody has to be on the same page, which leads to more paperwork, more phone calls. And, maybe if a child who's a chronic complainer knows that those checks and balances will be done, maybe they might not complain so much anymore when it's not a legitimate injury because they know that are checks and balances being handed over them.

Parent, Female, Age 52: I have two points. Number one, even though you have a student who is a hypochondriac and cries wolf all the time and people might get tired of them complaining does not

mean that at one point it might be a legit. So, you can't just dismiss one that's always complaining about something because at some point, they might be real. That was one point. The other point is that, if coaches don't have a medical degree or a [athletic] training degree or a nursing degree or a physical therapy degree, they should not be making that call. Coaches should not assess injuries themselves. That's what medical professionals are there for. And, they should not be involved in that because that's opening up a liability to them and to the school and to the school district.

Athlete, Female, Age 18: Yes, scope of practice. So, not only is she potentially harming the athlete more or putting them more at risk or not doing any help at all, but it's also a possibility that she can get, or the school can get sued.

Athlete, Female, Age 16: I believe that trust on a team because if a player says that she's hurt and the coach didn't trust the player to believe that she actually is hurt, then she's not going to make up an injury.

Athlete, Female, Age 17: No. She is not at all. And then if we come see you for treatment, then she is going to be like "Oh, you have to run after practice." "But we're already hurt, why would you make us run?"

Athlete, Female, Age 16: If we hurt our leg, she will say like "Oh, well, you can still do that, just stop when it hurt or just do push ups instead of running 20 laps."

Athlete, Female, Age 17: But it's funny how we say, "Oh coach, I have little migraine. I got to go run to the [athletic] training room." "Okay, alright." I know even in PE, if I got to go somewhere and not just for treatment issues, there are just certain coaches or teachers who just like, "No. That's not important right now. Running is more important than healing." That is what I believe happens.

Athlete, Female, Age 16: Like they're her player, like they're her property and not just players. She doesn't think of us as people who have feelings and can hurt ourselves, mentally and physically.

Athlete, Female, Age 17: She is really dramatic with what she does to us. She looks everything seemed a big deal, which is not.

Athlete, Female, Age 17: She has the right mindset. I thought she wants her players to stay at practice and get better, get better, get better; but she doesn't realize the harder she is pushing them, the more their injury is getting worse.

Athlete, Female, Age 17: It just makes me I don't want to play anymore, and that's when she's got people quitting left and right.

Athlete, Female, Age 17: If it gets worst then [the athlete] might have to get surgery. Or [you] could twist something, hurt an ankle, [etc.]

Parent, Female, Age 47: I think there's some school liability issue as far as that goes. If a coach isn't taking responsibility for their players which they are the teacher at hand at that time and they're responsible for those kids and if they're not addressing an injury seriously so that it can be seen and taken cared of then there could be a liability issue for the school. And the school didn't like liability issues. Most schools anyway.

Parent, Male, Age 41: Well, I think there are some coaches that think that you know the beginning of practice is just as important as the middle or the end of practice. And I understand that from a coach's perspective. I get that. But you got to pick and choose. You got to pick the battle's you can win so to speak. If I had a kid and I knew that the kid needs a good rehab for first 30 minutes of practice, and let's say it was a guard, then maybe I would work with more of the post players in that first 30 minutes. Or maybe I would do something a little different, change my practice up. I wouldn't want put anything in brand new -- a new play and our Johnny who had to go to rehab is coming back and he has no clue what we're doing. So, it's all about, you know, organizing yourself and the coaches in and say "Hey, I know I got some injuries. We had a game Tuesday. It's Wednesday now. So, I'm not going to really go too hard the first 30-45 minutes. I'm going to get them some treatment." So, from that perspective, the athlete – it would be a shame for coach won't support that rehab process even though they feel like maybe they're not getting what they need when they go there. They still going to try and get them back on the court 100%.

Athlete, Female, Age 17: Yeah. I'll say something. I guess from my athlete's perspective, I have had a time my coach let me go. I had problem with my knees and she wouldn't let me go so, I mean,

you just have to like toughen out, I mean if it gets worse and then gets worst. That's mainly on you I guess because your coach won't let you go. So…

Athlete, Female, Age 17: I mean, I would email you later that night saying like my coach won't let me go, you know. And then you would just say "Okay, when can we work it out tomorrow?"

Parent, Male, Age 47: The coach needs to understand what's the risk, because if they aren't getting treatment. It could potentially be a longer injury.

Scenario 2, Follow-up Question: What is a way that you see to improve that situation or that scenario?

Coach, Male, Age 40: I think coach education. I mean that is what it boils down to. I can say you're still going to run some of those old school coaches who just, you know, they want to win. There is a lot of pressure winning from high school, college, at the professional athlete. But I think coaches have to be educated. I think you're starting to see on the professional level and collegiate level where coaches are being educated. Their taking concussions a little more seriously. So, I think it's the same thing on high school level that the coaches have to be better educated to know when to sit a player down or tell them to go see the trainer and not just throwing back in the game. And they will start to see that at high school sports too but I think it needs to be pushed even further.

Coach, Male, Age 28: I can agree more with everything you said right there. The coaches are trained in their specific sport and not very often are they trained in anything other than their specific sport. So, if there is other educational ways that we can figure out, learn, hands-on training to physically see what happens in the body, I think that would go a long way to help out.

Coach, Male, Age 49: For me, as a coach, I don't try and evaluate and guess anything I send. If the kid comes to me, I think I have a hip injury, you've said it. I think I might need, you've said it. I send them away and you make the medical person makes it and takes me out of the loop. Now that is unfair to the [athletic] trainer but for me it's easier because it takes me out the loop.

Coach, Male, Age 44: And I agree with that. I think that once the kid states it, that liability is on you. And your job is to, unfortunately like [the other coach] said -- unfortunately like he says you've got to pass that liability on to the trainer now. And so, when documentation comes back and that kid's injury continues to worsen and a lawsuit does come about, they're going to say, "Did you know, Coach, that he was hurt?" "Yeah, he told me that." "What did you do about it?" "I told the [athletic] trainer. I send him to the [athletic] trainer." Now, all liability shuts off to me.

Coach, Male, Age 49: Or, versus "I didn't think he was hurt and I didn't send him to the [athletic] trainer", you know you never want that situation.

Coach, Male, Age 52: I think it's the coach's education. [We have] a young coach but he's been in this business for seven years and he understands plus he's an ex-player as well. Some of the guys that we have on campus don't understand that. I believe this and you have to tell me if I'm wrong. They send them for anything, anything at all. I think that not that they necessarily have to go through a large amount of training but the information that you give out at the beginning of the year is not enough for those coaches that have no idea what you're talking about. I don't want to go sit in a four-hour training with you but there are some coaches around here that probably should and especially, when it deals with head injuries. I don't need to know about concussions. I just need to know if their head hurts, they're going out the game and the next person they're going to talk to is either a doctor or you. If we're on the road, it might be a doctor. If it's here, it's going to be you and until you tell me he can go back in a game, he's not going back in the game.

Coach, Male, Age 30: I think that you have to come up with some sort of… I mean, I know this doesn't prevent everything, but some sort of class that you put for parents of the student athletes at the beginning of their career. Like, your kids signed up for sports. You need to attend a meeting with the athletic trainer to go over our medical procedures and policies for student athletes. Explain the fact to them that we pick up anything that doesn't get covered. Explain the fact to them that if your kid needs an appointment to a doctor, we're the fastest way to get him there. So, if you go to the emergency room, you're going to pay and you're going to get a band-aid, a lolly pop and told to sit down for two weeks. If you go to a real doctor that can diagnose what's actually wrong with you once he's seen you, you know what I'm saying? And, you've diagnosed what's wrong with him and you go through the chain of command, one, you get the care that you need faster, two, you get more reliable care, I feel, and three, you eliminate unnecessary loss of playing time and I feel like you see high quality physicians. You know, that's what they don't understand. They think we're just ignoring their kid. You know what you're talking about. Dr. Haddad knows what he's talking about. Dr. Melancon also knows what he is talking about. If they just follow the procedure, your kid is going to get high quality, and I think if they had confidence in that and they know that we're going to take care of their kids from the get-go, they'd feel more confident in following the medical procedures outlined by the school, hopefully, at least maybe eliminate some concern.

Coach, Male, Age 44:: Coaches training. Coaches need to be trained either by the athletic trainer or an outside athletic trainer. I would probably prefer an outside athletic trainer to come in, probably

not from our [parish], to come in and tell us the things that you tell us anyway but coming from a different person might be better. I would probably like if an athletic trainer. May be like somebody -- even if it's a college athletic trainer. I've done that but you know come in tell us that this is what you need to do, these are the procedures, we follow here, legality issues.

Coach, Male, Age 48: Yeah, just make up what they've missed that day. When they come back, they know they have to -- whatever was missed, they have to do it. So, it's not like you're getting out of it anyway and I don't believe I have any girls from my group they go do that. If they go back to the [athletic] trainer, it's for a reason that they need to go back there. It's not that I don't like them to go see you, I just don't want them just be spending the time back there where it can be done on someone's accord. And you get a way for something that you need to do. So, I try to take care in my own way and if they do have to go and did come back, if they are capable of doing what they need to do, they get back to work and do what they've missed.

Coach, Male, Age 41: You know your players. You know which ones are going to try and get out of different situations during practice. So, for them to say, "These aches, I don't feel right. My knee is tweaked," or anything like that and they go and see you. They know once they come back to us, they have to continue where they stopped of at. I mean, if it's during stretching, they have to finish their stretching. If it's during running, they have to finish their running when they come back. Just because they go and see you, when they come back "Oh, there're playing already, then I'll just jump in." No, because if they're not hurt and they do come back and they don't go through the running or the stretching or anything like that, they could hurt themselves more.

Coach, Male, Age 28: Again, educate them on the difference between pain and feeling sore and being hurt. I mean just teach them to monitor their bodies because they don't know how to do it.

Parent, Female, Age 46: I think the suggested one was the good one. Just putting something in place to, when you do have somebody come and if they continue to come for say, different reasons, like, maybe you have somebody that is like a hypochondriac or whatever, make the call to the parent. That way, the parent can address it at home and then take it further if more care is needed. So, I think maybe that's another process, but it could be just something like that.

Parent, Male, Age 47: And, it's real convenient with [a physician's office close to school] to go right there and get it addressed pretty quick. I mean, you have the facility right there with professionals, and he communicates with them well and we just brought her there a few weeks ago and had to get a cortisone shot and everything else. It's there.

Athlete, Female, Age 18: I mean, there just has to be a level of trust. The coaches have to trust the athlete and the athletic trainer that it's the athlete's problem and the only person who could solve it is the athletic trainer or the doctor, and they just have to trust that the athlete is trying to go to practice and trying to participate and let them go.

Parent, Female, Age 48: I think too that mutual respect, that, you know, if a child comes to you, tells the coach, "Look, my shoulder hurts" "Go see the [athletic] trainer". You, the [athletic] trainer, look at the kid and you say, "That child is hurt", assess the situation, send them to the doctor, do a treatment, whatever, then for you to be able to go back and tell the coach, "Look, this kid is really hurt. They need a follow up or whatever." And, I don't know, there is that respect, do the coaches think whatever they want to think? Do they communicate with you? We don't know, sitting here, if they even talk to you. I'm saying you, but any person who assesses the situation. So, I think there definitely needs…the communication between the coach and the athletic department system or whatever with a mutual respect.

Athlete, Female, Age 18: Also, they need to keep in mind like, we're athletes. We love our sport. It might suck sometimes. It might be hard, but we want to play our sport or else we wouldn't try out every year. We wouldn't, I don't know, sign up, if some sports do that. I mean, we want to play so, the coaches need to understand that. I mean, we're trying to do what we can do so that we can play as best as we can.

Parent, Female, Age 52: Well, I think it goes back to what I said. They're not trained to do what you do. So, it affects the care of the athlete because they may be getting substandard treatment or no treatment at all when that can inhibit their rehab process or make their healing process either prolonged or worse than what it has to be.

Athlete, Female, Age 18: I was just going to say, if the coach doesn't let them go, they don't get care and they're just messed up.

Parent, Female, Age 48: I think it's about being an athlete and wanting to play the sport. I think, at the same time, an injury is being assessed, I think, probably, at one time or another, all of us in this room has played, maybe not at 100% of their potential because of some type of injury. And, I don't know where that line is drawn where you're told, "Oh, you have a sprained toe, so that means you can't go play tennis." I mean, just because you do have an injury doesn't mean that you can't play the sport that you love or that you committed to. So, who gets that final say-so as to whether you can play or can't play? I think that has to be a parent decision, along with the athlete's decision, along with the coach's decision. I think everybody has to come to be on the same page so that the sport can go on, the player can play. Because, I think all these kids in here have played hurt.

Coach, Male, Age 52: That's when, as a student, you contact your parent and let them handle it.

Athlete, Female, Age 16: Maybe you need to have communication between you and her. It can't you go face-to-face to her and say, "Athlete should not be working out right now" or something of that sort.

Athlete, Female, Age 17: You have to put your foot down and say that this person cannot [participate] because her injuries are going to get worse and if you want her to get better, to be able to play, then you can't let her do this or the other. We'll come to you during PE, in between classes, during classes, during lunches because we know you can't go see during practice because we're going to do a run or do a punishment drill, and that's going to piss her off.

Athlete, Female, Age 16: You have to stop your class periods to listen to us.

Athlete, Female, Age 17: Here's my thing, I just feel like once an injury happens to the person on school, like a school sport or function; that coach who is coaching the sport needs to jot down who it was, what the injury is, and inform the [athletic] trainer.

Athlete, Female, Age 17: I know that one time at soccer game, I hurt my knee, my coach contacted you right away just to let you know and then the trainer at that school was contacting you. That's really a good system because by the time I get here, you know what to do and you can think about it and contemplate on what to do.

Athlete, Female, Age 16: I feel like they don't care about the injury really until they have a doctor's note saying they can't play.

Athlete, Female, Age 17: And then you're out for two weeks and that's what pisses them off even more.

Athlete, Female, Age 16: That makes them complain even more considering, "Oh, you're still not doing what you have to do."

Athlete, Female, Age 16: And even if you do have a doctor's note, they're still saying "Well, you can do upper body."

Athlete, Female, Age 17: I believe having the athletic trainer not be a teacher would help because it allows the students who were in PE at different periods of the day to go in so not to waste the athletic trainer's time. So, they can go into the athletic trainer and get that situation fix and not interrupting his time or their time.

Athlete, Female, Age 16: We used up your off period a lot of the time because we do try to go during PE and that's taken away from preparing for your classes' time.

Athlete, Female, Age 17: Taking care of the problem right away.

Parent, Female, Age 47: Develop some -- maybe developing some protocols.

Parent, Female, Age 47: If A happens then B, and then if B, C, you know what I mean. You have a flowchart of things to do in the event of an injury but again that goes back to training. And if A but not B, too then there's something that they can take care of themselves. So, like put an ice on a sprained ankle until they could go and see you or something.

Parent, Female, Age 42: And also have administration enforce that if a coach recognizes an injury, they are responsible they have to take the next step. I think if it comes from administration, then hopefully they'll follow that.

Parent, Female, Age 47: That's right. Whatever training there is should be mandatory again, I think. Like you were saying from the top, it needs to come from.

Parent, Male, Age 41: Maybe a communication between the athletic director or possibly the athletic trainer. If a student athlete comes to you with a problem or in your athletic director, then maybe that is where you can communicate with the coach. It's a -- look you know I'm not going to sit here and tell you how to run your team. But if a player tells me they need to come to rehab, and they're not being allowed to, then that's a concern that you have. So, I think maybe communication in your part or you can go above the coach to the athletic director, let them start. Because I don't think an athlete, you know, if your position coach tell you, you know, "Hey, I want you at practice at the beginning", and you can -- you barely limping out there. I mean, you know, you would probably not tell your position coach. I don't care what you say. I'm going to rehab. You probably do what he says but -- so some kind of way the athlete needs to be taken out of the situation and maybe adults need to talk about it and get that take care of. Like we were saying, if the injury lingers on, you're not going to be playing at 100%. A week or two later probably get back where you started, still hurt.

Parent, Male, Age 47: And it might not be an issue with this but if you got good communication between the therapist and the coach, to understand [athletic] trainer and the coach. Understand this is the injury. This is what I need to do. This is what the kid needs. And maybe he refuses to get treatment. What the coach doesn't know, what's going on with that injury.

Scenario 2, Follow-up Question: How do you feel this scenario or situation affects the quality of care given to the athlete?

Coach, Male, Age 40: I'm not sure. I mean I'm sure if the coaches holding back, then you know something that could have been diagnosed earlier, you know, make a diagnose later and we could have taken care of this earlier, we have known about it earlier. But I think if the coaches is forthcoming and sending their players to an athletic trainer when they need to go and not playing that "oh, you're not hurt", whatever, I think it alleviates itself as long as everyone is following that protocol that "hey, you need to go see the athletic trainer. You need to go."

Coach, Male, Age 28: I think for the most part, depending on the severity of the injury, a couple more reps, a couple more plays won't change what's going on. So, as soon as you notice something and you send it over, I think it could be taken care over there. But I do agree that it's all on the way the coach feels, the way the coach foresees what is going on, and then once he thinks that it's a viable reason to go see the trainer, I think the [athletic] trainer has all the right and everything to take care of the rest of the situation.

Coach, Male, Age 44: Right now the coaches are so gun-shy. For some guys, now the old school guys in 19th century, I don't think 18th century guys. The 19th century guys, the old school guys, those days was, "Oh, you've got to play through the pain." You cannot do that anymore because of the kid's injury becomes something that is life threatening. Now, you've push him pass that point. So, I think it's become -- because it's such a litigious society for everyone, you have to understand that you have to be careful every single minute with those kids.

Coach, Male, Age 52: Yes. That's a big "if it depends". The coach may know that he's not hurt but you find out later on that he is. I mean it could very well, but I think in most cases that coaches are going to air on the side of caution and they're going to send him.

Coach, Male, Age 29: As far as minor stuff goes, you can teach the kids themselves, "Okay. This is the difference between that and this and things like that." As they get older, they'll learn and they know when they have… They can feel their own. They know their own bodies. They grow to them. They know them and that's the thing.

Coach, Male, Age 52: I truly believe in something we do early in the year when we start doing those plyometric stations and all that. They get unbelievably sore and we tell them they're going to be unbelievably… "And you're gonna be sore tomorrow." I think that helps train them as well. "You're not hurt. You're gonna feel like you're gonna die but you're not hurt." We explain that to them but we bring a wealth of knowledge about that into the situation. I don't really know if coaches do that.

Coach, Male, Age 30:: I feel like they go to the emergency room or they wait, and then, you know, if something is really wrong with them, then mom or dad can pull them out the sport and they go wait weeks and months and they're going to go see a doctor, you know. I think it discourages participation, which is what they're trying to do, get kids to play sports and learn something from it. And so, I think medical situations can cause lack of participation due to the fact that you don't exactly understand what's going on.

Coach, Male, Age 44:: I don't think it affects at all. If the kids are not with you, you didn't even care. But the problem is that if you don't see him when the kid first gets hurt and the kid keeps getting hurt and it gets worse, you're going to end up not being able to give him care. You just have to send him to the doctor and that is not a good thing.

Coach, Male, Age 48: I think if they cry wolf so many times, when something really does happen, you're less likely to believe him. You know, "I got to go see [the athletic trainer]. I hurt…" And finally it's something that's serious and you've been there seven times in the last ten days. It's just they need to go to the point where they're very honest with this about what's going on.

Coach, Male, Age 41: They also got to realize that injuries will occur too. So, a little sprain in the finger or a bruise here and there doesn't mean necessarily I have to go spend time with the trainer. It has to come down to these kids have to realize what's their injury point and saying what's the significance of their injuries.

Parent, Female, Age 52: Well, I think it goes back to what I said. They're not trained to do what you do. So, it affects the care of the athlete because they may be getting substandard treatment or no treatment at all when that can inhibit their rehab process or make their healing process either prolonged or worse than what it has to be.

Athlete, Female, Age 18: I was just going to say, if the coach doesn't let them go, they don't get care and they're just messed up.

Athlete, Female, Age 17: Because you have to make time for us and sometimes you really can't. You have responsibility here as a teacher and then you're a [athletic] trainer, which is not fair to you.

Athlete, Female, Age 17: It doesn't allow the athlete to go and get the treatment they need. So, they have to work still on the injury causing the injury to worsen

Athlete, Female, Age 16: Sometimes you'll say, "Oh, I have this quick thing. This will make it better for a couple of hours, but you need to go home and ice it" and that's not really too great. But if you had more time, maybe you could help us. Not just that, but after we beg to be able to go to get treatment, as soon as we get back, she still expects us to be perfect again like nothing was ever wrong. So, we have to work out just like we would even if we didn't have the injury. With that, [the coaches] also push us to an extent where if they don't believe us about our injury, then you've got to make it believable. So, you'll cry or something and they'll say, "Get out in my face," from experience or "Get off of the court."

Athlete, Female, Age 16: You could be even hurting to that point and they still would say that you still have to work ten times harder to prove that you're suppose to be there. They'll make you feel bad about your injuries.

Athlete, Female, Age 17: Yes. Sometimes, we are crying on the court one time and I had to run into the stands to get medicine for my mom, so I can still play because I knew she's going to be mad at me.

Athlete, Female, Age 16: When you're trying to satisfy them and not go to the athletic trainer and you hurt yourself even more while you're at practice or at a game, then that's even worse.

Athlete, Female, Age 16: It's because they get to a point to where you're scared to tell your coach about your injury because you don't want to get in trouble for it basically.

Parent, Female, Age 42: They're not getting the care. They're not getting the care. They keep playing and the injury gets worst.

Athlete, Male, Age 17: Gives you a lot more work. More healing time.

Athlete, Male, Age 17: Longer healing time

Parent, Female, Age 47: I mean, technically, you're talking about if kids are in position to potentially get scholarships to do something and the coach doesn't recognize or they ignore the injury then and the child has to sit out their Senior year, for instance, then their whole potential college career in sports is over.

Final Question: Do you have any last minute comments about anything from the survey or scenarios?

Coach, Male, Age 28: It may be a little off topic but I think the Athletic Training Program is incredible as opposed to what it was. In high school, we had no one. We didn't even know how to leave, where to leave, who to take care of us. It didn't matter. Coach tape us up, just to tape us up because he has a brief understanding of it. And now we have certified educated professionals who know exactly what they're doing, how to treat injuries. And I think we need to make sure that those guys and girls, whoever they may be, are trusted, respected and are allowed to do their job for sure.

Coach, Male, Age 40: And it's the same thing. I mean I play football probably 10, 12 years before, number 28 here. I mean it was even worse. We had a guy who was our team [athletic] trainer named Doc and I've found out years later, he wasn't a doctor, and I'm serious. So, you got hurt and it was the same thing. He would put ice on everything, wrap everything, and you come and found out and later you had some serious injuries that he was not trained to handle. So, over the years, like I said, you see the atmosphere of athletic training in high school sports getting better. But again, compared to what it was when I was in high school, you might as well just have a pizza man out there checking everyone out, because he had no idea what he was doing. So, again, it's good to see highly trained professionals at the high school level now because I know where I came from and I play high school sports, so it's bad.

Coach, Male, Age 29: I think communication is key. That's the big issue whether it's starting them off at learning what there is. Yet, with coaches, no one will tell them what the player's injury is. Players and coaches communicate, parents and coaches communicate. That's where it all starts.

Coach, Male, Age 52: I mean the fact that you are on campus all day long lends itself to that ability to communicate with you. I can pass you in the hall. I can find you. I know what your classroom is. I think that's a tremendous asset that we have here. I'm only saying that because I've been in situations where you came at 2:30. At 2:30, I'm rushing to get to practice and I don't have time to stop and talk, "Hey, let's look at it." Now, the good thing was is the guy we had was a baseball fan. If he was not busy in his office, he would come out and watch practice. I could send a kid over. That worked out well within a school day. As you know, I believe a lot in ice bath. I didn't like

giving the ice bath right before practice. I wanted it done in the morning or after practice. Sometimes, he had to leave. He had to go cover other things. So, from that standpoint, I think that's a really good thing to have and the way that you listen to other things, the hard thing is to say, "On this particular day, I think this is important but tomorrow when it's a game, that's not so important. This is more important." That's the hard part. Like, getting water and things like that, I think it's more important in the end of April and May. I guarantee you. Right now, we're filling up a water cooler. We pour half of it out. In football in August, it's imperative that you better have… You have 20, 25 people just—not 25, but you know what I mean—solely responsible and making sure that everybody has enough water. That becomes more important. On a Friday night in November, how important is that? Diagnose injuries and get them back at practice or in a game is to me, from a coach's standpoint, the most important thing because I have to move forward with them or without them. Coach, I'm not sure. It's 50-50. I accept that. That's fine. Now, I work out two scenarios. But if you tell me, "Hey, 90% chance, he's gonna be fine," I'll go with that scenario and you're usually going to be correct because you're going to air on the side of caution as well.

Coach, Male, Age 29: Yes. The only other thing I add is not only getting them back from the injury but, I think this was on the survey too but conventional injury is something that's big. Not so much in baseball but in football where if you got a kid with weak ankles, he need ankle braces. Making sure they have the preventative measures to make sure that they don't get injured to save you the trouble down the line. I think that's another big part but again, that kind of goes with the sport because that is big in baseball as it is in football? Well, no.

Coach, Male, Age 30: Yes. I guess I feel like sometimes athletic trainers are underappreciated in what they do. I think that sometimes you're seen in different scenarios. I don't think everybody truly understands the capacity in which you should be serving, or, your medical knowledge. You know what I'm saying? I think that some people you all as just water and the tape and then "Give me a real doctor if something goes wrong." And, I think that's a misperception in the athletic training world, I guess, so to speak.

Coach, Female, Age 26: Well, obviously if the athlete is really hurt, they're not getting treatment and are being forced to do something they shouldn't be doing anymore, that is a problem.

Coach, Male, Age 28: If they're getting treatment for something that they don't need, that can harm them as well. If you're constantly getting stem treatments and whatnot just because you have a sore muscle, then that can caused you harm as well.

Coach, Male, Age 48: Well, obviously, the amount of people that come in would affect the percentages in the time that you can spend on the other things that were listed. So, either one of those scenarios could actually waver maybe the scoring or the weighting of that.

Parent, Female, Age 48: I didn't realize all the steps that were all of an athletic trainer's responsibility. I thought you just kind of handled the athletes, and didn't realize, or you know, just handled the injuries and then the rest of the process was kind of passed on the paperwork and all the other things that you're responsible for. I had no idea.

Coach, Male, Age 52: Maybe, just focus your time or have your time refocused on the athletic training part and take some of the classroom away...

Coach, Male, Age 52: You could be devoted more to the athletic training. I mean, a school with this size, you got a 5A school with a bunch of athletes. In a lot of other schools, you know, one kid might play every sport, where here, there's not many kids playing multiple sports. So, you have way more athletes at this school, and the timeframe that, you know, maybe you are at the classroom or taking paperwork away or something, to dedicate more time to treating athletes.

Athlete, Female, Age 18: Not to mention the fact that we have all these athletic groups and all of them are very demanding.

Athlete, Female, Age 18: Yes. Our school focuses so much on athletics. I mean, that's a big part, the whole community focuses so much on athletics, so, I feel like our athletic trainer should focus all on athletic training, not having to teach.

Parent, Female, Age 48: Although, I do have to say, I think the kids really like you now to teach.

Parent, Female, Age 52: I definitely think you have job security. But, I think they can have two or three or four of you guys and still, everybody, you know, athletic trainers, and everybody still be having a full plate, with all the sports… We have what, 4,000 students here? You know, I think…

Coach, Male, Age 52: If you can have a head coach that devotes only time to coaching and, it's only part of the year, and you have athletics going on the whole year, and injured students, multiple sports, and injured students in every sport.

Parent, Female, Age 48: I just want to say, as a parent, I appreciate the treatment you've given my children and always being willing and able and accommodating. So, if it wasn't for that thing provided here, immediately, we will always just have to go to the doctor

Coach, Male, Age 52: With the tournaments and the weekend treatments and everything else when they need to be done, you know, she got smashed with a ball and he worked on it between games and got her back going and she never missed.

Parent, Female, Age 42: I have a comment, unrelated to the survey. I'm from Houma, have a lot of friends and relatives that have kids that play sports and in Terrebonne Parish, their school there is no athletic trainer. So, I feel very blessed that we have an athletic trainer here at the school. But what I'm curious about is the ratio of student athletes to [athletic] trainers? At other schools, other school systems around the country that do have an athletic trainer, I'm just curious as to what the ratio is of student athletes to trainers.