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Sports Injury Prevention in Danbury, CT

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Sports Injury Prevention in Danbury, CT

Cori Polonski, MS-III

Family Medicine Clerkship

September 2017

Mentors: Dr. Robert Daher, Dr. Anureet Gill

Problem Identification/Description of Need

- Every year as the leaves change, the beginning of fall sports unfortunately comes along with another season of sports injuries
- While some of these injuries are simply the product of athletic competition and “bad luck,” many of the injuries suffered by student-athletes, and athletes of all ages, can be prevented by a few learned techniques and proper form and mechanics
- After speaking with providers and multiple patients, I recognized the lack of knowledge on both sides in regards to the evidence-driven ways to prevent sports injuries, especially those that happen due to overuse
- I decided to do a literature review on the topic and come up with easy to understand patient education materials to hopefully prevent people from continuing to train and compete in ways that continue to put them at risk for injury

Public health cost

- During the 2012-13 academic year, it was estimated that over 7.7 million high school students and about 46.5 million children participated in team sports (National Federation of State High School Associations)
- In 2012, over 1.35 million children were seen in an emergency room for sports-related injuries, which accounted for 20% of all injury-related ER visits for children aged 6-19 (Wier et al)
 - Medical costs for sports injury ER visits are more than \$935 million per year (Wier et al)
- A 2012 study done at Michigan State University found that nearly 30% of all injuries sustained by collegiate athletes are overuse injuries (Yang 2012).
- Knee injuries account for 15.2% of all high school sports injuries
 - Between 2005/06 – 2010/11, overall rate in US high school athletes was 2.98 knee injuries per 10,000 athlete exposures (Swenson 2013)
 - Athlete exposure was defined as one athlete in one game or practice
 - Multiple studies have found that knee injuries are significantly higher in female athletes, which is likely related to anatomy, as well as differences in training and competition
- One study found that in a 2-year period at an NCAA D1 college, foot/ankle injuries accounted for 27% of all sports injuries
 - “Of these, 21% caused the athlete to miss at least 1 day of competition, with an average of 12.3 days of time loss from sport” (Hunt 2017)

Community Perspective

- I spoke with the athletic trainers at Danbury High School, Emily Renna, ATC and Richard Janey, ATC at length about sports injuries and ways the high school has worked to prevent injuries
- Some key points from interview:
 - The most common injuries they see during the athletic season are knee and ankle injuries
 - While some are injuries due to contact with another player during a game, the majority of the injuries they deal with are non-contact injuries, and often occur during practice or training
 - They have witnessed a great deal of improper form and conditioning leading to injuries, especially in the younger student-athletes
 - Some of the coaches at Danbury HS have started implementing warm-up programs before every practice that works on neuromuscular re-training, such as jump training
 - Danbury HS has also been trying to implement an initiative about weight training for all athletes, to emphasize proper weightlifting form and the importance of balanced weight training to improve the strength of muscles protecting athletes' joints
 - They overall feel that student-athletes would benefit from more information about the importance of prevention for sports injuries and ways in which they can participate in athletics with a lower likelihood of injury

Intervention and Methodology

- I composed a literature review on evidence-based methods for preventing sports injuries to research further on the topic
- With the help of Dr. Daher, I created a patient education handout to be given to patients at the Orthopedic Specialists of CT office in Brookfield
- I also wrote up a discussion on the topic per my research, which Dr. Daher and I will work with the local paper to try to publish a short series of articles based on the separate topics covered in this write-up

Results / Response

- The response was very positive, as Dr. Daher and his partners felt this project would be a large benefit to their patients, many of whom have little understanding of ways to prevent overuse injuries
- The Danbury HS trainers also were very supportive of the project and felt that it would directly benefit the student-athletes, as the article and flyer touch on many of the missteps that their student population falls prey to each sports season

Evaluation of effectiveness and limitations

- With such a short amount of time, it was difficult to try to evaluate the impact of my project, but it would be interesting to meet back up with the athletic trainers again in a few months or a year and see if there has been any difference in overuse athletic injuries as a result
- It could also be useful to talk to a representative sample of the population to see their responses to the article and if they felt it changed the way they approach exercise and athletics
- The main limitation in my project was the short timespan, as I would have liked to be able to see the project's impact for a longer time, however, I have chosen to continue working on this project past the timeframe given for the clerkship, as we are attempting to publish a few articles based on my work

Recommendations for future interventions/projects

- I will be continuing the work past the timeframe, so my further project will hopefully involve a few published articles in the local newspapers about the topics covered in my full write-up on injury prevention
- With a more extended time for projects, I had this idea that it would be really great to build off this with trying to create an online blog for student-athletes to read about evidence-based topics in sports medicine that directly could impact their health
- I also would have loved to do a research project trying out the effectiveness of some of the methods in my article on prevention of injuries in high school and youth athletes
- Furthermore, I thought it would be interesting to give a speech and demonstration of proper form and mechanics as well as training on neuromuscular warmup programs to the coaches and possibly some of the athletes at the local high schools
- Lastly, much of my research highlighted the gender differences in sports injuries, and as a female former collegiate athlete, I would be very interested in learning more about why this difference exists and what can be done to decrease the incidence of sports injuries in female athletes

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Interview Consent Forms

INTERVIEW CONSENT FORM
Sports Injury Prevention
Cori Polonski
9/20/17

Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work.

The interviewer affirms that he/she has explained the nature and purpose of this project.
The interviewee affirms that he/she has consented to this interview.

Yes

Name: Richard Janey ATC/LAT

Name: _____

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Yes

Name: Emily Renna

Name: _____