

Network News

VOLUME 3, ISSUE 3

OCTOBER 2012

THE ATHLETIC TRAINING PRACTICE-BASED
RESEARCH NETWORK
(AT-PBRN)

Director's Update

I hope your fall sports have started off fine and you have been able to use EMR as your primary method of documentation. The AT-PBRN has continued to grow and we welcome the following sites to the AT-PBRN:

- ◆ Castro Valley High School (Sara Golec)
- ◆ Copper Canyon High School (Kelly Matthews, Matthew Corvo)
- ◆ Sierra Linda High School (Terri Lebrecht, Nicholas Kostishak)
- ◆ Phoenix Christian High School (Bradly Eppelheimer)
- ◆ Canyon State Academy (Stephanie Kulow)

We are excited to report that the first descriptive study of data from the AT-PBRN secondary school sites was published in the Sept-Oct issue of *The Journal of Athletic Training*. This descriptive study was published along with a commentary on the value of PBRNs to clinical research and an editorial by Drs. Hertel and Denegar discussing the benefit of practice-based research to the athletic training profession. We thank all of our sites who use the EMR and contributed to this first publication.

In addition to our first publications through the AT-PBRN, we have also successfully secured our first grant. The project, ***Health-Related Quality of Life in Adolescent Athletes: A Study From the Athletic Training Practice-Based Research Network*** was funded from the NATA Research and Education Foundation for \$143,726 to investigate normative data for generic HRQOL of adolescent athletes without a current sport-related injury and adolescent athletes who have suffered a sport-related injury and are receiving healthcare services from athletic trainers in the secondary school setting.

The publications and grant funding are great first steps in further establishing the AT-PBRN and leading us towards a better understanding of athletic training patient and practice characteristics.

Tamara

Call for Proposals!

Do you have something interesting to share with the other members of the Athletic Training Practice-Based Research Network? Would you like to write a short article for the next newsletter? Potential topics could include:

- ◆ Research updates for your clinical practice site or institution,
- ◆ Clinical case studies or case series reports,
- ◆ Academic or research achievements of students or faculty,
- ◆ Other information relevant to members of the AT-PBRN.



With ideas, please contact Cailee McCarty, Post-Doctoral Fellow at A.T. Still University, at cwmccarty@atsu.edu or 480.219.6178 by 11/15/12

Clinician Spotlight: Bradly Eppelheimer



Name: Bradly Eppelheimer, AT

Position: Head Athletic Trainer

Clinical Practice Site: **Phoenix Christian High School, Phoenix, AZ**

Years Certified: 1

Please describe your clinical practice site.

Phoenix Christian High School, located in Central Phoenix, is a private, non-denominational Christian school and was the first Christian high school in the state of Arizona when it was founded. With roughly 350 students enrolled PCHS competes in Division 5 of the Arizona Interscholastic Association. Student athletes participate in 19 varsity and junior varsity sports with many of them participating in more than one sport per year. I am employed through a local physical therapy clinic, and currently I am the only athletic trainer on staff. I spend each afternoon on the PCHS campus covering practices and games for both in-season and off-season sports. Additionally, I am currently a post-professional athletic training student obtaining my Masters of Science in Athletic Training at A.T. Still University.

You are the first athletic trainer at Phoenix Christian High School. How has your experience been so far?

To say it's been an adjustment would be an understatement. When I arrived, the school hardly seemed ready for me, and did not fully comprehend what my role was. I was without an athletic training room for the first three weeks and my supplies were initially limited to whatever I could find in the unorganized storage closet attached to the boy's locker-room. I recently graduated from Indiana University, a Division 1 school with a rich athletic training history, and I was used to having very few restrictions when it came to resources, facilities, and even time with student-athletes. I am currently working out of a 7'x10' transformed closet, with an extremely limited budget. However, the student-athletes are all really good kids, which has made the transition easier. It is a continual struggle to educate the PCHS community about my scope of practice, but I am optimistic that with a little time and persistence the resources available will improve and my role will be understood.

As a new athletic trainer at the high school, what options did you look into for documentation at your clinical site?

Since there was no available budget, I quickly decided that my only course of action regarding documentation was to create new paper forms. Each form was minimal pretty basic, but it contained the essential information. My main concern was having a documentation process ready for implementation on the first day, so I didn't really look any further.

What barriers did you encounter when initially implementing CORE-AT into your daily practice? How did you overcome these barriers?

By the time I reported for my first day, football preseason was starting, and unfortunately pre-participation exams had already occurred. That made patient registration into the CORE-AT a slight challenge at first. Even after PCHS was established as a clinical practice site within the AT-PBRN, I needed to have all of my current athletes register themselves in CORE-AT. Self-registration was somewhat difficult for some of the student-athletes, so it took the cooperation of the Athletic Director, coaches, and a carefully constructed email for the majority of student-athletes to register themselves and get into the EMR. However, now that the student-athletes are registered in the EMR, the CORE-AT EMR has made my daily clinical practice quite a bit easier. Since I have such little space in my athletic training facility, paper SOAP notes and daily treatment logs quickly began to take up a lot of space and time. Utilizing the CORE-AT system has allowed me remove the paper clutter and focus more on my patients.

“Utilizing the CORE-AT system has allowed me to remove the paper clutter and focus more on my patients.”

Clinician Spotlight, Cont.: Bradly Eppelheimer

What are the major benefits of using CORE-AT?

The most difficult part of documentation at my site is just finding the time to keep up with all of it. Luckily the CORE-AT EMR keeps track of who I provided care for and what we did for multiple days so that I can go back and document when it isn't so hectic. Since CORE-AT is intuitive, it is easy to get paperwork completed, and it's great that I can access the EMR from anywhere. Without CORE-AT, I'm not sure that I could keep up with covering practices, providing adequate care to my athletes, and maintain documentation standards all at the same time.

Are there any barriers you still need to address to fully incorporate the EMR into your clinical practice?

Trying to get all the student-athletes registered in CORE-AT has been an initial challenge for me. However, I recently obtained a second computer (ie., netbook) to use at my clinical site, so now I should be able to utilize one computer for daily treatment logs/patient sign in and the other computer can be used for athletes to complete the patient outcome measures while they are receiving care. Hopefully, I will be able to work with the coaches in the near future to continue getting all out-of-season athletes registered into CORE-AT, so that keeping up with documentation can occur when their season begins.

Is there anything you are looking forward to as a participating clinician in the Health-Related Quality of Life (HRQoL) study?

As a participating clinician in the HRQoL study, I aim to contribute by obtaining a large amount of data relating to HRQoL in adolescents. Hopefully the data can be used to emphasize the importance of athletic trainers in secondary school settings and increase the percentage of schools that have them. I am looking forward to working with the research team at A.T. Still University on implementing effective and efficient strategies to encourage injured patients to complete the necessary patient-outcome measures as they progress through the treatment provided to them. Lastly, I am excited about the \$1,000 stipend I will receive for being a participating clinician in this study. I hope to use that money to acquire new resources for my athletic training facility to greatly increase the quality of care that I can provide. The student-athletes I work with are amazing and certainly deserve to have all the resources that larger public schools have.

**** For more information on the HRQoL Study, please see pgs. 2-3 of this newsletter ****

Tip of the Quarter: Discharging Your Patients!

Oftentimes, when a patient is no longer receiving care, we tend to forget to complete the discharge summary form. However, discharging our patients is the final stage of documentation that can be considered just as important as the first phase. Here's a couple reasons why:

- ◆ If a patient is not discharged, they will continue to receive email notifications to complete new patient-rated outcome forms for their injury.
- ◆ Patients who are no longer receiving care for an injury but have not been discharged in CORE-AT will still appear on the injury status report you provide to the coaching staff or other medical personnel.

Discharging each patient following the completion of care for their injury will help you keep track of which patients are still currently receiving care!

“Since CORE-AT is intuitive, it is easy to get paperwork completed, and it's great that I can access the EMR from anywhere”

**Don't Forget
to discharge
each patient!**

Health-Related Quality of Life in Adolescent Athletes: A Study from the Athletic Training Practice-Based Research Network

Health-Related Quality of Life in Adolescent Athletes:

Since the 1970's, there has been a significant increase in the use of quality of life assessment as a research methodology because it enables assessment across the wholeperson spectrum of health from pathophysiology to societal limitations. These methods can provide information regarding a wide variety of health issues including the cost-effectiveness, efficiency, and human benefits of new treatments.¹ In addition, tracking HRQOL can identify subgroups with poor physical or mental health which should help guide policies or interventions to improve their health status. It is no longer enough to focus entirely on the effect of pathophysiology and impairment on overall health because this narrow focus does not address treating the whole individual. Despite the known physical and psychological benefits of physical activity and sport and the known prevalence of sport-related injury, issues of health-related quality life in athletes remain poorly studied.

To highlight the significance of sport-related injuries on adolescent HRQOL, it is important to understand the physical and psychosocial effects of physical activity / inactivity and athletic participation / non-participation. Physical activity and athletic participation appear to positively influence perceptions of quality of life by enhancing psychological well-being and improving physical functioning in persons compromised by poor health². It has long been established that regular physical activity is necessary for the prevention of future injury and chronic disease³. Research efforts clearly reveal that maintaining adolescents' participation in physical activity through sport participation is important for preventing the physiological consequences of inactivity that influence both disability and societal limitations. Participation in physical activity has been consistently linked to improvements in a variety of psychological and social factors including: 1) improved mental well-being; 2) decreased anxiety and depression; 3) improved academic performance; 4) improved parental relationships; 5) increased self-esteem and decreased anger; and 6) reduced tobacco and marijuana use. Additionally, physical activity appears to be a self-sustaining phenomenon amongst adolescents. In other words, adolescents who become active, especially in community-based physical activity (e.g., Little-League) tend to remain active throughout their lives.^{4, 5}

Two additional benefits are underscored when looking at the impact of athletics in adolescent's lives emerges with the research findings that adolescents participating in athletics tend to demonstrate higher levels of achievement and leadership ability and demonstrate a reduction in health-risk behaviors. Dobosz and Beaty found that athletes scored higher on standardized tests of leadership abilities than do non-athletes. In fact, a consistent correlation has been demonstrated between physical activity and academic achievement orientation in adolescents.^{4, 6} Involvement in athletic participation has also been linked to a reduction in health-risk behaviors. For example, self-reports of athletic participation were directly related to reduced frequency of sexual behavior and indirectly, to pregnancy risk⁷. Furthermore, relative to adolescents who watched a lot of TV and videos, adolescents who were physically active in skating and sports participation, and used neighborhood recreation centers were less likely to participate in a range of risky behaviors, such as illegal drug use, and violence⁸. They were also less likely to have low self-esteem and more likely to have higher grades demonstrating that physical activity contributes to whole-person well-being.



*If you are
interested in
participating in
this study, please
contact Cailee
McCarty at
cwmccarty@atsu.edu*

The Problem:

Recognizing the benefits noted from adolescents participating in athletics, the data regarding the number of sport-related injuries in adolescent athletes are compelling. Each year, more than 3 million injuries occur annually in children and adolescents that cause time lost from organized sports, resulting in significant health care costs. More importantly, they result in significant human costs to growing adolescents whose physical activity levels and physical and psychological health are frequently mediated by their sport participation. Sport-related injuries leading to temporary or permanent disqualification from athletic participation have the potential to significantly impact adolescent HRQOL.

Injury resulting from participation in interscholastic athletics is a national health concern, which can likely be minimized with proper intervention and management. The large number of participants, risk of injury, and associated health care and human costs should make investigations into this area a priority. However, there is little research, to date, that examines the health-related outcomes in adolescent athletes following sport-related injuries.

Study Purpose:

This study will examine normative data for generic health-related quality of life (HRQOL) of healthy adolescents and adolescent athletes who have sustained a sport-related injury and are receiving healthcare services from athletic trainers in the secondary school settings.

Twenty-five athletic trainers practicing in secondary schools will serve as data collectors. Clinicians will document sport-related injuries to interscholastic sport athletes using a custom, web-based electronic medical record (EMR) that integrates patient-oriented outcomes measures with usual clinical documentation. Specifically, each injured athlete will be asked to complete some surveys at day 3, day 10, every two weeks thereafter until return-to-play, and, and at discharge as prompted by the EMR system.

Benefits to Participation:

The research team is pioneering an approach to examining health related quality of life for high school athletes and offers athletic trainers **access to an EMR system at no cost**. Participants receive web-based training on the EMR, as needed, and have access to additional technical support for the software through the AT-PBRN research staff. Through the EMR, ATs will be able to generate reports regarding injury summaries, injury status, time loss, and economic estimates as well as create coach reports. The EMR offers the ability to capture and integrate the patient's perspective in treatment planning.

Articles Referenced:

1. Testa MA, Simonson DC. Assessment of quality-of-life outcomes. *N Engl J Med*. 1996;334:835-840.
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3. U.S. Department of Health and Human Services. *Physical activity fundamental to preventing disease*. Washington, DC; 2002.
4. Sallis JF, Prochaska JJ, Taylor W, C. A review of the correlates of physical activity of children and adolescents. *Med Sci Sports Exerc*. 2000;32:963-975.
5. Pratt HD, Patel DR, Greydanus DE. Behavioral aspects of children's sports. *Pediatric Clinics of North America*. 2003;50:879-899.
6. Rowley S. Psychological effects of intensive training in young athletes. *J Child Psychol Psychiat*. 1987;28:371-377.
7. Sabo DF, Miller KE, Farrell MP, Melnick MJ, Barnes GM. High school athletic participation, sexual behavior and adolescent pregnancy: A regional study. *Journal of Adolescent Health*. 1999;25:207-216.
8. Nelson MC, Gordon-Larsen P. Physical activity and sedentary behavior patterns are associated with selected adolescent health risk behaviors. *Pediatrics*. 2006;117:1281-1290.

Participating Clinicians in the HRQoL study will receive a \$1,000 stipend at the conclusion of this investigation!

Practice-Based Research Networks: Making Clinical Research a Reality in Athletic Training

Hertel J & Denegar CR. J Athl Train. 2012;47(5):487-488

Over the past several years, athletic training has made numerous strides towards becoming an evidence-based profession. Several resources have been developed, and are continuing to be developed to help clinicians access the resources they need to make the best clinical decisions. However, as part of the EBP paradigm shift, it is important that the athletic training profession collect the necessary type of research evidence. Previously, most athletic training research has been considered to be *translational research* (research on human subjects in laboratory settings). Although this research is beneficial, it is important that we shift focus on *clinical research* (studying the care given to actual patients in real-world settings). This type of research is more commonly referred to as *clinical outcomes*, and aims to provide clinicians with higher levels of evidence than *translational research*. To collect clinical outcomes data, it is essential that athletic trainers document the care they provide to patients. However, since currently there is no single unified mechanism for record keeping in athletic training, the need for a central data repository is apparent. In a two-part series presented in the *Journal of Athletic Training*, the research group at A.T. Still University presents the theoretical framework and need for practice-based research networks in athletic training (part I) as well as a descriptive analysis of the athletic training practice-based research network (AT-PBRN).

Practice-based research networks offer a centralized aggregation of large sets of patient-oriented data, and have the potential to revolutionize research and clinical practice in athletic training.

Practice-Based Research Networks, Part I: Clinical Laboratories to Generate and Translate Research Findings Into Effective Patient Care

Sauers EL, Valovich McLeod TC, Bay RC. J Athl Train. 2012;47(5):549-556

To help shift the athletic training profession towards a culture of EBP, it is critical for clinicians and researchers to work together to translate research findings into clinical practice. Translating research into practice will allow clinicians to make appropriate adjustments to their daily clinical decision making process, and in turn aims to diminish the gap between research and clinical practice. In addition, it is also important that the research evidence being collected focuses on relevant patient populations, receiving actual care, in real-world point-of-care conditions. This type of research is commonly referred to as *practice-based research*, and is often collected within a central data repository known as a practice-based research network (PBRN). Utilization of a PBRN has numerous benefits for athletic training research. This approach allows for enhanced generalizability of results, pooling of resources, rapid patient recruitment, and collaborative opportunities. Furthermore, collaborative efforts across diverse clinical practice settings can generate larger sample populations. Since previous research studies in athletic training frequently included relatively few participants from a single site, it has been difficult to gather sufficient data to report conclusive findings that should elicit clinical practice changes. Therefore, the incorporation of a PBRN within athletic training will help produce patient-oriented research, including comparative effectiveness studies and cost-effectiveness analyses, that will revolutionize research and clinical practice in athletic training.

Practice-Based Research Networks, Part II: A Descriptive Analysis of the Athletic Training Practice-Based Research Network in the Secondary School Setting

Valovich McLeod TC, Lam KC, Bay RC, Sauers EL. *J Athl Train.* 2012;47(5):557-566

With the aim of enhancing patient care and patient outcomes within athletic training, researchers and clinicians partnered together in the Athletic Training PBRN (AT-PBRN) to formulate an infrastructure for engaging in multisite clinical research. The AT-PBRN, which is the first PBRN in athletic training, was developed in 2009 and received recognition as a registered affiliate PBRN from the Agency for Healthcare Research and Quality (AHRQ) in January 2010. To help characterize the usefulness of the AT-PBRN, Valovich McLeod et al., provides a descriptive analysis of the secondary school clinicians and their clinical practice sites (CPS) involved in the AT-PBRN between 2009-2011. Additionally patient records within a web-based electronic medical record (EMR) were retrospectively evaluated for patient and practice characteristics. While the findings provided from this investigation focus solely on secondary school athletic trainers and the adolescent population, the data offer an insightful starting point for future prospective studies to evaluate the effectiveness of treatment options for injuries sustained by adolescent patients. Thus, descriptive study of the AT-PBRN provides the first estimates of the types of conditions seen and treatments performed by secondary school clinicians and it is a critical first step in developing the research agenda for the network.

Table. Percentage (frequency) of the top 20 injury diagnoses recorded across all patients at the time of intake (n=877).

Diagnosis	ICD-9	Percentage (Frequency)
Sprain/Strain: Ankle	845,845.01, 845.03	17.9 (157)
Sprain/Strain: Hip, Thigh, Groin	843.9, 844.9	12.5 (110)
Concussion	310.2, 850.0, 850.5, 850.9	12.0 (105)
Contusion	922.1, 922.3, 923.0, 923.11, 923.20, 924.01, 924.1, 924.21	10.0 (88)
Knee Pain	719.46	2.5 (22)
Sprain/Strain: Neck	847	2.4 (21)
Low Back Pain	724, 846, 846.1	2.3 (20)
Sprain/Strain: Hand/Finger	842.1	2.2 (19)
Sprain/Strain: Wrist	842.0	2.1 (18)
MCL Sprain	844.1	1.8 (16)
Cruciate Ligament Sprain	844.2	1.7 (15)
Meniscal Tear	717, 717.41, 836.1, 836.2	1.6 (15)
Sprain/Strain: Rotator Cuff	840.4	1.4 (12)
Sprain/Strain: Foot	845.1	1.4 (12)
AC Joint Sprain	840	1.3 (11)
Dislocation/Subluxation	831	1.3 (11)
Labral Tear	840.0	1.3 (11)
Achilles Strain, Tendinitis	726.71, 845.09	1.3 (11)
Fibula Fracture	824.3	1.0 (9)

PBRN Advisory Board and Member Presentations at the 2013 Athletic Training Educators' Conference

Several PBRN advisory board and other members are presenting at the 2013 Athletic Training Educators' Conference in Dallas. If your schedule allows, we would love to see you in attendance. Please also look for several free communication abstracts from members.

Gary Wilkerson

Patient-Centered Athletic Training: Issues in Clinical Practice, Research, and Education

Plenary Session (Saturday, January 12th 5:00 - 5:45pm)

John Parsons and Eric Sauers

The (Controversial) Future of Doctoral Education in Athletic Training Education

Plenary Session (Saturday, January 12th 10:45 - 11:30am)

Alison Snyder Valier and Kenny Lam

Beyond the Basics of Clinical Outcomes Assessment: Selecting Appropriate Patient-Rated Outcome Measures for Patient Care

Concurrent Breakout Session (Saturday, January 12th & Sunday, January 13th)

Cailee McCarty

Educational Tools and Clinically-Based Assignments to Infuse the EBP Competencies Throughout Your Curriculum

Plenary Session (Sunday, January 13th 11:30 - 12:30pm)

Knowledge Translation: Is it the Key to Developing Effective Evidence-Based Clinicians?

Concurrent Breakout Session (Saturday, January 12th)

Aim to see these and other talks given by PBRN Advisory Board Members at ATEC in Dallas

THE ATHLETIC TRAINING PRACTICE -BASED RESEARCH NETWORK (AT-PBRN)

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