Spring 2014 Sports TALK Journal of the ACA Sport Council





Dr. Jim Kurtz holding the Vince Lombardi Trophy

What are a few of things that impressed you most or stand out to you in the Seahawks season and eventual Superbowl victory? The first, is the fact that the whole experience still feels like a dream! I guess the other thing that stands out is that we had every player available and healthy for the Super Bowl

SUPER BOWL XLVIII

Interview with Seattle Seahawks Chiropractor

Dr. Jim Kurtz

By: Michael Lord

which is pretty rare in the NFL especially at the end of a long season. This is a testament to all the hard work over the past 4 seasons of our training, strength and conditioning and coaching staffs and of course the players themselves who bought into our program and actually did the work necessary to achieve this goal.

How long have you been working with the Seahawks and how did you originally get involved with them?

I was sitting at home in the summer of 2009 nursing 4 broken ribs and a few other injuries after my son and I were involved in a bicycle accident when we were brushed to the side of the road by some kids in a car while trying to Continued on page 4

Presidents Message



Dear ACASC members,

Welcome to another edition of *Sports Talk*. We are excited about our upcoming Symposium in Portland, OR. Please note the dates are October 3-5, 2014. Our program will be outstanding, with an

amazing group of speakers and vendors. Please "Save the Date" and book your rooms early at the Embassy Suites. We have a limited number of rooms blocked for our group and we anticipate a sell out, so be sure to book early!!

I'm sorry to report that our potential partnership with Special Olympics did not materialize as we anticipated so we have decided to pursue a different charity. It's unfortunate that the management of the FunFitness station, who happen to be physical therapists, have instituted a policy that only allows PT's to perform the testing at this station. Special Olympics only offered chiropractors the ability to document and assist the PT's. Your ExCo decided this was not an appropriate use of our services and expertise, and have declined to partner with Special Olympics due to this policy. Stay tuned for more information on our quest for a worthy charity for our members to volunteer with!!

We are very proud to report that the ACASC has been awarded the very first "Specialty Council of the Year" award by the ACA. Thank you, Dr. Len Ershow, for representing us at NCLC and accepting this award on our behalf. And many thanks to the ACA for recognizing the hard work and dedication of our organization. We are honored to have received this award!

Since our last *Sports Talk*, we have had several exciting events to attend. Your ExCo had a day long mid year meeting, several of the ExCo represented the ACASC and attended the Rehab Council's seminar in Las Vegas, Dr. Len Ershow represented us and lectured at NCLC, Dr. Jay Greenstein attended the Youth Sport Safety Summit in Washington, DC on our behalf, and many of our ACASC members treated athletes during the Pro Bowlers tour in New Jersey. Watch for the May edition of *The ACA News* for an article highlighting our members' experience at the Pro Bowlers event. Thank you to all of our members for

representing the ACASC so well.

Are you working events in your local community?? Please, send us pictures so we can include them in future Sports Talk!! We also encourage members to submit articles for inclusion in ST. We love to hear from you.

Until next time, Sherri LaShomb, DC, ATC, CCSP, ICCSP President, ACASC





October 3rd—5th, 2014 Portland, Oregon | Embassy Suites Hotel Making Strides in Assessment, Treatment & Rehab

Held over Portland Marathon weekend, this year's symposium will include a focus on running injuries, as well as highlighting the latest on concussion, nutrition, rehabilitation and soft-tissue treatment.

Event will offer the opportunity for any CCSP to attain the internationally recognized and respected ICCSP (formerly ICSSD), the only certification allowing the holder to work international events through FICS.

Please visit our website for more information



www.ACASC.org

and the and the and the and the and the and

XLVIII





Dr. Jim Kurtz



Dr. Gerry Ramogida and Dr. Jim Kurtz

cross the US by bike. It caused us to crash our tandem bike and sent us skidding across a busy road. We ended up cycling 250 miles after that incident, but the rib pain forced me to abandon my dream of completing that trip. Several weeks later I received a phone call asking if I would be interested in an interview and potential tryout with the Seattle Seahawks. I was fortunate enough that their previous chiropractor Dr Gerry Ramogida had decided to take another position working with the UK Olympic Track and Field team in London and had recommended me. The Seahawks training staff were kind enough to give me a few more weeks to heal up and I began what has turned out to be a really incredible journey in itself!

I've heard the Seahawks' sports medicine staff is unique and progressive. What is it about the staff and how they/you operate that stands out?

The Seahawk's training and medical staffs are the best I have ever worked with and I have worked with some very good ones over the years. First of all, the entire staff has a ton of experience working in the NFL. Our training staff is very well educated and hard working. Sam Ramsden is our director of Player Performance and Donald Rich is our head athletic



Dr. Kurtz with his wife Dr. Ming Ming Su-Brown

trainer and both gentlemen are very open minded and willing to consider new ideas and new methods of doing things if they prove worthwhile. They are dedicated to being the best at what they do and they work extremely hard at their positions and their rehabilitation and treatment plans are well thought out. Everyone on staff is encouraged to bring their best and we combine the best of what each individual has to offer in the care of the athletes.

How are you integrated into the sports medicine team and has your role changed over the years?

Well, first of all Dr Ramogida had worked with the team for 8 seasons previously so he had already laid the groundwork for how chiropractic and manual therapy had been implemented in the rehab and general maintenance of the players was concerned. He had done the hard work of proving the value in what we do and I just had to learn how to work in that setting. Believe me, there was much to learn because I had never really worked with human beings of that size before nor had I seen that much acute injury care. The NFL is a whole different ball game in terms of the variety of acute injuries and post surgical care and rehab, etc. You learn to adapt your techniques because the ones you typically use in a clinical setting on normal sized individuals do not necessarily work on a 6' 8" 370 lb lineman!



Dr. Jim Kurtz and Dr. Gerry Ramogida

Are there particular manual techniques that you find are particularly helpful in dealing with acute injuries during a game, and/or during the rehab process of an injured player? I feel that Active Release Techniques works very well in both settings and I have used this technique for almost 20 years now. Wow! I feel old now but ART has proven itself in the NFL and other sports settings. Dr Mike Leahy the originator of ART has opened a lot of doors for many of us sports chiropractors

in pro sports and I am very greatfull to him for sharing this with us. I also use Graston Technique in the rehab setting and I find this useful, along with spinal and extremity adjusting. Lastly, I am a great borrower of other peoples work and I steal manual techniques from our trainers all the time because those guys have been doing this work on NFL players for longer than I have. I then call that the Kurtz technique!

What's the role of rehabilitation in your work with the Seahawks, and in your practice overall?

I am a huge believer in rehabilitation and I still do not understand how a sports chiropractor could treat musculoskeletal problems without a thorough knowledge of functional assessment and rehabilitation. I think it's very important to be skilled at rehab techniques so that you can truely understand what the trainers and strength and conditioning staffs are trying to do with your athletes. Also, it allows you to better understand why the athlete has certain joint and muscles problems and you can explain it in an intelligent manner that everyone on the training or medical staff can understand. In my humble opinion, lack of that often times hurts our profession.

What is your weekly time commitment with the Seahawks? (how often are you there and for how long?)

This season we brought back Dr Gerry Ramogida and it was a great thing because I fractured my ulna earlier in the year and he was able to step right in and help the team out. Dr Ramogida and I both work one day a week in the rehab dept on different days and then we split the games both home and away. The 3 seasons prior to that I was the only team chiropractor. The days are long in the NFL especially for trainers and staff. A typical day in the rehab dept starts at



Far left Sam Ramsden head of Seahawks player performance and then Donald Rich the Seahawks head athletic trainer with Dr. Kurtz and Dr. Ramogida

6:45am and ends for us at 2:30pm during the season. We treat players the day before games and then arrive early at the stadium the next day with the training staff to treat players right up until game time. Of course, sometimes we are needed during a game to treat and then after the game. Game day is a very long day especially for away games with airline travel back home that night. However, there is nothing like being on the sidelines for an NFL game! If you are not excited about that then there is something wrong with you. You get an up close view of just how fast and hard these guys hit one another and it is eye opening to say the least! They take an unbelievable amount of punishment every Sunday and it takes a dedicated team to put them back together properly to play again next Sunday.

Are there things you have learned by working with the Seahawks that you have taken back to



Drs Kurtz and Ramogida watch Coach Carroll get a Gatorade shower

implement in your practice? (either treatment based or in how you integrate the different services you offer at your practice?)

I learned so much from my time thus far in the NFL. I feel as chiropractors we are at a bit of a disadvantage when it comes to integrating treatment and rehab with other providers. The reason is most of us never had the opportunity of any type of residency. We have never seen another provider do an exam or treatment or heard how they communicate with their patients or athletes. I have had a tremendous opportunity to not only see first hand how the training staff, the PT or one of our 7 medical docs examines and treats the athlete, but also how they communicate those findings and develop a sucessfull integrated care plan. It has also been very eye opening to see how medication can truly aid what we do. Drugs work when people know how to prescribe

them and most of my colleagues would be amazed at how fast people can get better when you intergrate the best of what we all have to offer without the ego and financial motivation involved. Unfortunately, the real world doesn't always work this way and sometimes it can be frustrating when other providers don't get what we do. I am very blessed to have this opportunity and it has made me a better sports chiropractor. I wish every chiropractor who wanted to work in professional sports could experience what I did this year in being a part of winning a Super Bowl. It was a dream come true. I;m ready to go back and do it again!!

Keynote Speakers



Chancellor Dennis Marchiori, D.C., Ph.D.



William Moreau, D.C.





The Trusted Leader in Chiropractic Education[®]



Homecoming 2014 May 2-4 San Jose, Calif.

JOIN US FOR A WEEKEND OF ...

- Presentations by the profession's leading speakers
- Information to implement in practice on Monday morning
- Updates on the latest chiropractic products and services
- Reunions, fellowship and networking
- Earn 20 CEU's and up-to-six QME credits

Register for just \$259

(includes continental breakfast and lunch on Saturday) Online: www.palmer.edu/homecoming Or call: (800) 452-5032

Palmer's San Jose Campus Homecoming 2014 eventfeatures a strong sports-chiropractic dynamic, including:

- Sports Council 20-year reunion reception
- TIPS Program certification (sponsored by F4CP)
- Keynote-speaker Dr. William Moreau, managing director of sports medicine for the United States Olympic Committee (USOC)
- Sports-care sessions with speakers Dr. Molica Anderson, Dr. Steven Capobianco, Dr. Ed Feinberg, Dr. Thomas Hyde, Dr. Kyle Knox, Dr. Craig Liebensen, Dr. Edward Le Cara, Dr. Daniel Lord, Dr. Michael Lord, Dr. Phil Santiago, Dr. Alan Sokoloff, and Dr. Michael Tunning
- Plus ... Special appearance by SF 49er Hall of Famer Jerry Rice!

WORLD GAMES







FICS takes me to the World Games

Ed Feinberg, DC, DACBSP, ICCSP

In the summer of 2013 I had an amazing experience participating as a member of the FICS chiropractic delegation to the World Games in Cali, Colombia. Not knowing what to expect, I flew to Colombia, knowing very little Spanish and even less about the current state of the country. I did read on the US state department website that Colombia was safer that it used to be, but US travelers were cautioned not to use any public transportation....and should kidnaping occur, the US government would not intercede since they do not negotiate with kidnapers.

It was with this backdrop, I arrived in Cali, Colombia after 18 hours of overnight travel including three individual flights. Foreign travel scheduling can often get muddled and my arrival in Cali was no different. I was one of the lucky ones because I heard Sheila Wilson call my name just as I was coming through customs. She took a few of us to the correct hotel rather quickly but some of my compadres weren't quite as lucky. Eventually 35 expert sports chiropractors got settled into our hotels. We shared rooms and sometimes shared beds, but accommodations were quite adequate. On our first day Dave, Aaron and I decided to explore the area around the hotel. That's when we met Sebastian, one of



the hundreds of young, local volunteers, most who spoke English. He gave us an afternoon tour and we took him to dinner that evening. It turned out that these volunteers made the experience superb. Their translation skills were vital to proper communication and care of the athletes, coaches and officials. Many of the volunteers also became patients, some wanting to pursue chiropractic as a profession.

The next day we began the marathon experience of FICS chiropractic at the World Games 2013. Most Colombians had no idea what chiropractic was or what it is that we do. I believe the entire country had nine practicing chiropractors (one, Gabriel Quintero was my student at Palmer's West Campus in California). Once we donned our FiCS Sports Chiropractor uniforms, we went as a group to the opening ceremonies. This was a gigantic event. We were welcomed graciously with 50,000 spectators in a huge stadium. Nation television interviewed us. We all stood together as those local among us who spoke Spanish answered most of the questions. I was a bit surprised when I was asked a question, on live TV. Though I answered thoughtfully, I don't have memory of the topic.

For the next eight days, we all worked long hours in hot, humid environments to provided sports chiropractic care to athletes, coaches, officials, and volunteers. We







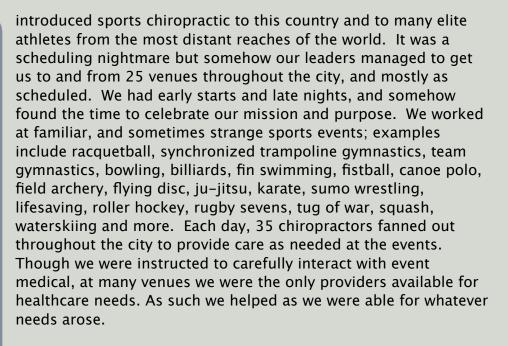




WORLD GAMES







I had the opportunity to work at Racquetball, Trampoline and Floor Gymnastic, Field Archery, and Squash. The best part of each of these experiences was the on-field interaction with international athletes and chiropractors. Though we are all different and individual, we also all use our hands primarily to provide comfort and care. I don't have the space to describe all my individual experiences but I hope many of you will come to





WORLD GAMES







our annual symposium to extract some of the more entertaining ones.

By the end of the World Games 2013, many of the locals and athletes had learned about sports chiropractic and came to rely upon us for sports injury evaluation and management. Just as we were packing up our equipment on the last day of the events, a volunteer came running to us screaming for help. I went with him to find his and I was honored to work friend holding his shoulder and screaming with fear and pain. He had dislocated his shoulder, which he had done three times before. I was able to get him relaxed and calm, which allowed me to reduce his dislocation on site. I told him to get x-rays and rehab before he attempted sports again. It was a fine ending to my clinical work in Cali.

The closing ceremonies were again fabulous. We all went as a team. While most of the 50,000 spectators were kept in the stands, we were accepted onto the field as members of The World Games, just like the athletes and coaches and volunteers. There was much dancing, hugging, music, and

fireworks. We reveled in the experience, and just about closed the celebration, being almost the last to leave. When we arrived in Colombia, most did not know who we were or what was our purpose. When we left Colombia, everyone close to the games recognized our function and value. From my perspective, it seemed extremely successful. We had several ACASC members included at the World Games closely with several. Our members included Bill Bonsall, Sheila Wilson, Tim Ray, Tim Stark and me. As ACASC members we are all automatically FICS members and those with CCSP training can easily attain the ICCSP certification by attending our annual symposium. This certification is required to participate in these FICS sponsored events. I have often said that the experience at the World Games is different for each chiropractor who participates. We all had different opportunities at different events. I hope this article will entice other ACASC members who have participated to share their experiences as well.



CrossFit: A Sports Chiropractic Good Fit

By Scott F. Gillman, DC, DACBSP

Fitness trends have come and gone. In the 1970s, everyone jogged. Then came aerobics, promoted by Jane Fonda, then

Nautilus, then programs like Pilates and Zumba, and finally, recent entries such as Bootcamp, P90X and Body Combat. But nothing compares to CrossFit. Greg Glassman established the CrossFit strength and conditioning program in 2000, and it has exploded in the last few years.

CrossFit's high intensity workout promotes fat reduction and increased muscle mass[1], and its culture and style especially fosters a psyched-up enthusiasm, which is why it is so popular. Chiropractors who have experience with CrossFit athletes surely have witnessed this phenomenon. Yet amid all the hoopla, CrossFit has a negative stigma, which is that those to do it will



surely get injured. As chiropractic sports medicine professionals, it is important we view this and other assertions objectively and to not lose our focus by agreeing with hyped-up media blurbs or the hysterical public. As with any athlete in any sport, we must help CrossFitters participate safely and perform at their best while also appreciating the reality that they are subject to sprains and strains from their activity.

CrossFit usually consists of a warm up, a skill development session, and a workout of the day (WOD), and it also blends in a diet philosophy and a positiveattitude culture. Exercises include Olympic weightlifting moves like deadlifts, cleans and squats; and calisthenics and gymnastics such as pull-ups, rowing, or rings, or a mix of odd exercises, such as the "Turkish Get Up," which is where you move from a supine position to a standing position with one arm holding weight over the head at all times. The site, www.reebokcrossfitone.com has examples of several exercises. All exercises are scaled to meet the individual's fitness level, and most are performed in high- intensity intervals, a training technique that is exactly what the American College of Sports Medicine's recent poll predicted would be the biggest trend in the exercise world for 2014.

People of all ages participate, and they seem to get hooked on the WODs, the peer-group motivation, and the social culture. I am not a CrossFitter myself, but I write this as a sports chiropractor who provides care to CrossFit athletes of every level. My observation is that higher-level CrossFitters are every bit as conditioned as Olympic athletes, and their clinical issues are no different.

But what about the much-touted risk of injury? Any high-intensity training program or sport will likely lead to some strain or injury. In a recent, small survey study in the *Journal of Strength and Conditioning Research*, the authors found CrossFit injury incidence to be similar to that of Olympic weight-lifting, power-lifting and gymnastics, and lower than that of competitive contact sports such as



rugby.[2] In another study of U.S. Army soldiers in a high-intensity training program that included CrossFit training, soldiers participating in the program showed injury rates comparable to those of non-participating soldiers.[3] I've provided care at local and regional CrossFit competitions and, so far, have seen only two serious injuries that would require surgical intervention. Compare this with risky sports like men's football, women's basketball, gymnastics or snowboarding, where there are bound to be concussions, sprains and fractures [4] as well as a chance

discs, whether the sit-ups are done at CrossFit or anywhere else.[7] Even with a quality personal trainer at a gym, injury risk increases with increased intensity of training. When performing any sport— CrossFit included— there is injury risk.

How do we help CrossFitters? To start with, be aware if they might be pushing themselves beyond their limits. Enforce rest or relative-rest periods. You can still appreciate the bad biomechanics that some CrossFit exercises impose, such as the knees-to-chest exercise that

modify or avoid exercises that cause problems. Thus, with lumbar disc strain, remove them from the knee-to-chest exercise and have them do mountain climbers or spider mans instead. For the higher level and competitive CrossFit athlete, treat them as you would any elite athlete. They are going to always be straining themselves. They are always going to have musculoskeletal issues. They are not going to quit CrossFit and lose their lean and muscular body. It is our job to treat them and help them stay in the game. This does not mean we don't have to use due

SPORTS ISSUE OF JCCA

Looking at the literature, there is a paucity of research in Sports Chiropractic effectiveness and treatment. This is one of the most hindering obstacles for Sports Chiropractic progress and inclusion in health care of athletes. As such it is our responsibility to focus and encourage research in Sports Chiropractic. For this very reason and the fact that there is no specific Sports Chiropractic Journal to showcase the Sports Chiropractors' research, the Sport Issue of the JCCA (Journal Canadian Chiropractic Association) is created in 2009 as an annual issue. JCCA is listed under Pubmed online with free access to full article in addition to printed Journal. As such it is a great avenue to showcase the Sports Chiropractic research worldwide.

The **5th Annual Sports Issue of JCCA (Journal Canadian Chiropractic Association)** was published in December 2013 and was a great success portraying the fine work of our Sports Fellows and Residents.

As such, please consider this a **Call for Papers for the 6th Sports Issue of JCCA**, which is scheduled to publish in December 2014. Papers should follow the standard JCCA format and be sent electronically to Dr. Kazemi (<u>drkazemi96@gmail.com</u>), the guest editor for the Sports issue, no later than **April**, **30**, **2014**. This is a great opportunity to showcase sports chiropractic research and encourage this kind of research. The papers could be case reports, original research, and literature reviews. These papers will be peer reviewed and the principle author will be contacted by JCCA with the reviewers' comments.

of catastrophic injury[5]. Dancesport and cheerleading also have high incidence of injury[6], but the public does not become hysterical when a parent allows his or her child to take up dance. Sit-ups are unsafe for the lumbar intervertebral cause repetitive lumbar flexion strain to the discs. As the saying goes, "it is what it is." Your best advice is to have them work with coaches who meticulously monitor good form, don't push them past their limit, and allow them to diligence in removing them from the game if training or competing is going to be detrimental. We would never tell an elite gymnast to stop training just because he or she has shoulder pain with a labral tear so long as that athlete can train with

CROSSFIT







Photos courtesy of CrossFit Synergistics

the tear. We would do what we could to help that athlete train and compete.

For the sports chiropractor to be the elite CrossFitter's best ally, it is imperative to maintain the highest standard of care. Never, ever assume that a CrossFitter's pains are "just a muscle." Always think deep. It's not called "joint" strain for nothing. Be prepared to think: tear, disruption, cartilage defect, AVN or stress fracture. Joint orthopedic testing is necessary. Functional examination is necessary. Being multimodal is necessary. This means having as many treatment modalities available as possible, and having the skills to address any and all joints in the body. One of the biggest failings I personally observe is the DC who assumes that all woes go away with active myofascial release technique. Nothing could be further from the truth. Consider the potential for rhabdomyolysis in these athletes.[8] At best there would be the obvious findings of myalgias, muscle weakness, and darkened urine. But not all athletes will be so obvious. Creatine kinase five times normal or urine dipstick testing for blood is needed, and or a serum myoglobin for a more definitive diagnosis.[9] While there are rare cases of kidney failure, most cases of rhabdomyolyis will resolve with rest, so it is best to take the athlete out of play when this condition is apparent.[10]

Whether we receive training from workshops or from certification courses, knowing both hands-on and instrument-assisted soft tissue mobilization methods are a must. I highly recommend the FAKTR course and also the Fascial Movement Taping course by RockTapeTM. Get good at both isometric and functional strength testing, because reflex or arthrogenic inhibition is something an athlete does not want, and there's only one way to know if you've turned it off: strength testing before and after treatment whenever possible. Finally, raise your clinical bar by going through the ACBSP or ICSSD diplomate-level program. There is nothing more insulting than hearing someone exclaim that he's a sports chiropractor when he's never had any training, or tout his position as the "team doctor" when the position was gained solely through nepotism, or describe herself as "advanced" when all she uses is an Activator instrument. This may fly for marketing, but it will fail when the elite CrossFit athlete is depending on you to deliver world-class examination and treatment.

If you are going to work at a CrossFit competition, bring all the necessary tools you would bring to provide care at any sporting event: analgesic lotions, strapping and kinesiologic tape, instruments for soft tissue mobilization, etc. Never be short on paper towels or sanitizing agents. While there is rarely a need for emergency equipment, be cognizant of access to it or the availability of EMS. If you are assuming the role of medical director, then you must be in touch with everyone on your provider team and be sure to have all logistics worked through. There should be no question about where or how providers will set up at a venue, what procedures will be employed or not employed, how documentation will be utilized, how to interact with other medical staff, how athletes are triaged within a provider group, etc.

The medical director should work with the event planner to be sure there is sufficient notice to athletes well in advance so they can locate the health care providers easily before the start of competition. A live or virtual team meeting is the way to communicate any concerns or expectations. The last thing any athlete needs is clinical confusion, whether it is from being treated by the wrong type of provider, from having inappropriate treatment, or from providers having clashing clinical mindsets.

The most common issues with CrossFit athletes are shoulder pain, lower back pain and knee pain. They repetitively strike the bar against their spinous processes (~T1-2) and their sternoclavicular joints. Peel-andstick foam padding in 1/4 inch thickness will make you their friends. CrossFitters also routinely shred skin off the palms of their hands, so be prepared to cover or bandage these wounds or, better, tape the palms of their hands with kinesiologic tape before their event. This technique can be found on the RockTapeTM web site. And, as with any sports chiropractic venue, intake forms that gather examination and treatment data are mandatory. Why? First, you (and any additional insured) will have no insurance liability coverage without documenting your findings and treatment. Second, this is not like covering high school football where there is an athletic trainer ultimately responsible for documenting and reporting their athlete's condition. You are the ultimate contact. Third, if an athlete returns for additional care, whether from you or another provider at the event, it is time consuming to have to re-address his or her issues, but more importantly it is potentially deleterious to their health or performance to provide care not knowing what was done previously. Ultimately, it is the medical director's job to see that all of this is in place, both for the sake of the providers and the athletes.

CrossFit is a unique newcomer to the exercise and sports medicine scene. The risks surely outweigh those of a sedentary lifestyle, and sports chiropractors are proving themselves to be pivotal in the health and performance of this unique class of athlete. From the recreational to the elite and competitive CrossFitter, they need us should deliver to them the best of what sports chiropractic has to offer.

(1)Smith MM, Sommer AJ, Starkoff BE, Devor ST. Crossfit-based high-intensity power training improves maximal aerobic fitness and body composition. J Strength Cond Res 2013;27:3159–72.

(2)Hak PT, Hodzovic E, Hickey B. The nature and prevalence of injury during CrossFit training. Journal of Strength and Conditioning Research 2013.

(3)Grier T, Canham-Chervak M, McNulty V, Jones BH. Extreme conditioning programs and injury risk in a US Army Brigade Combat Team. US Army Med Dep J 2013:36–47.

(4)Kruse D, Lemmen B. Spine injuries in the sport of gymnastics. Curr Sports Med Rep 2009;8:20-8.

(5)Luckstead MD EF, Patel MD DR. Catastrophic Pediatric Sports Injuries. Pediatric Clinics of North America 2002;49:1-11.

(6)Colvin AC, Lynn A. Sports-Related Injuries in the Young Female Athlete. Mt Sinai J Med n.d.;77:307-14.

(7)Balkovec C, McGill S. Extent of nucleus pulposus migration in the annulus of porcine intervertebral discs exposed to cyclic flexion only versus cyclic flexion and extension. Clin Biomech (Bristol, Avon) 2012;27:766–70.

(8)Szczepanik ME, Heled Y, Capacchione J, Campbell W, Deuster P, O'CONNOR FG. Exertional rhabdomyolysis: identification and evaluation of the athlete at risk for recurrence. Curr Sports Med Rep 2014;13:113–9.

(9)O'CONNOR FG, Brennan FH, Campbell W, Heled Y, Deuster P. Return to physical activity after exertional rhabdomyolysis. Curr Sports Med Rep 2008;7:328–31.

(10)Patel DR, Gyamfi R, Torres A. Exertional rhabdomyolysis and acute kidney injury. Phys Sportsmed 2009;37:71–9.

Dr. Gillman is a sports chiropractor in Natick, MA