

Chairperson's Report

Happy New Year!

We're gearing up for another great year of Sport Physiotherapy opportunities for everyone. There will be a couple of Sport First Responder courses offered this year, check out the "Bulletin Board" for details of our first one in February. If you missed it the first time, you have another chance to take Tyler Dumont's "Key Concepts of Bike Fit and Treatment of Cycling Related overuse injuries" this May in Kelowna.

This year's students at UBC are keen and eager to get learning all about Sport Physiotherapy. We've arranged education evenings for them this spring so if you need some extra help with a team or a sporting event and are willing to mentor an up and coming

Sport Physiotherapist, let us know and we can connect you with the students.

Congratulations to those of you who recently took the Certificate and Diploma written exams. Best of luck to all of you as you prepare for the practical exams to be held in Toronto in Spring 2011.

As always, we're happy to receive feedback, suggestions, submissions to the newsletter, and new members on the executive. If you have anything to provide, contact us at sportphysiobc@gmail.com.

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 Diploma Sport Physiotherapy
 Chair, Sport Physio BC
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Working the Commonwealth Games

By Andrea Reid, Diploma Sport Physiotherapist

I was selected to go to the 24th Commonwealth Games as part of the Canadian Medical Team this fall in Delhi, India. In the months leading up to the games there were concerns that construction on the competition venues and athletes village was behind schedule, and there were even rumors that the games would be diverted back to Melbourne, Australia.

I was scheduled to depart at 8:00 am Wednesday with the first group of medical team members. Arriving early would allow me to help with the set up of the medial clinic and treatment of the first athletes to arrive. Although there had been grumblings in the press that things were not ready in Delhi, it was really two days before my flight that the news was particularly negative. As many of you saw, the media portrayed a village of incomplete plumbing, flooding, snakes and rodents.

My phone rang at 4:00 am with news that my flight had been cancelled. Because the village wasn't ready, the Canadian team members who

had arrived in our "advance party" were forced to stay in hotels, and as such the hotels were quickly overbooked. If I was to arrive there was no place for me to sleep!

I finally departed three days later totally prepared for the worst. I had water purification systems, emergency food and any supplies I thought would help us "camp out". I was relieved to quickly learn that the extra stress and preparation was totally unnecessary. The village was absolutely livable, with all the basics like plumbing and air conditioning in working order (for the most part anyway).









Although I had 'shifts' in the clinic, my main responsibility was with the Women's Field Hockey Team. I was relieved that other than a few "tummy troubles", everyone stayed basically healthy. My visions of bodies lying everywhere with IV bags hanging from every spot were totally unfounded. In fact, other than a bit of

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Pepto-Bismol and Imodium, I don't believe there was any further medical intervention required for the dreaded Delhi Belly.

Delhi was HOT. Hockey matches were in the middle of the day with very little shade at the stadium. We used a special device to get a composite measure of temperature, humidity and solar radiation. It helped determine the true exposure our athletes had to endure. Most days the Wet Bulb Globe Temperature (WBGT) was close to 44 degrees. With the women competing in temperatures much higher than what they were accustomed to, one of the main challenges was keeping everyone hydrated and cool enough to play to their maximum potential. The combination of ice towels, shade, fans and iced drinks on field were our best defenses. We also used inflatable ice tubs in the dressing rooms so we could do ice baths immediately after the women cooled down.

One hard lesson learned came in our final game against India for 5-6th place. With 20 minutes left in the second

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Using the inflatable ice tubs



The shoeless coach



The shoe disaster

From page 2

half, our captain had some trouble with her shoe and wanted some tape to fix it. I ran over with leuko in hand, only to find... a total disaster. Thankfully she had thought to bring a second pair of shoes to India ... unfortunately they were back in the Village. With the clock-ticking town, the coach threw over his shoes and coached the rest of the game in his socks. Now that's teamwork! The women were disappointed with their 3-0 loss to India, but were proud to finish 6th in the tournament, the highest place finish in the team's Commonwealth Games history.

The medical team had a great mix of experience levels, with some therapists only having just over six years experience, and several with more than 20. There was a great atmosphere of sharing and learning in the clinic, and I feel very fortunate to have been a part of the India experience.

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RESEARCH UPDATE: ARTICLE REVIEW

Biomechanical measures during landing and postural stability predict second Anterior Cruciate Ligament injury after Anterior Cruciate Ligament reconstruction and return to sport

By Ian Pirie, UBC MPT student

– Mark V. Paterno, Laura C. Schmitt, Kevin R. Ford, Mitchell J. Rauh, Gregory D. Myer, Bin Huang and Timothy E. *Am J Sports Med* 2010 38: 1968 -1978

The incidence of Anterior Cruciate Ligament rupture is greater in athletes who have previously sustained an ACL injury than athletes which have not. What are the mechanisms that lead to an increase in secondary ACL injury? A research team from the Cincinnati Children's Hospital aimed to find the answers to this question. The researchers designed a cohort study (Level 2 evidence) which aimed to identify factors of neuromuscular control and postural stability which would be predictive indicators of a future ACL injury following a previous ACL repair. Inclusion criteria were that the athlete be between the age of 10 to 25 with no prior history of ACL injury (other than initial ACL rupture), no history of bilateral lower leg or lower back injury in previous 12 months. The athletes must also return to a sport which required cutting or pivoting for a minimum of 50 competition hours within the season. In all 56 subjects (35 female, 21 male) were recruited and participated in a "Drop Vertical Jump" which consisted of

a drop from a 31cm height on to force plates followed by a maximal effort vertical jump, all of which underwent 3-D kinetic and kinematic analysis. A single legged postural stability test was measured by the Biodex Balance System SD, and a measure of anterior-posterior joint laxity at 20° of flexion was recorded by a CompuKT device.

Over the one year time period between June 2007 and 2008, the monitored cohort had 13 ACL re-injuries of which 11 athletes were female and 2 athletes were male. Of the 13 re-injuries 10 were contralateral and 3 were ipsilateral to initial ACL injury. A series of statistical measures were used to determine distinguishing factors between the groups of athletes which were involved in a second ACL injury as well as the involved and non-involved limb of the specific athletes. Between the groups four key factors were isolated which served as strong predictors of ACL re-injury. These factors were reduced hip external rotation at early landing, significantly increased knee valgus movement at landing, asymmetry in knee extension moment at initial contact and single limb stance stability asymmetry.

MULTIVARIABLE MODEL ODDS RATIO ESTIMATES

Variable	Odds Ratio	95% Confidence Interval
Uninvolved hip rotation net moment impulse (initial 10% of landing)	8.4	2.1, 33.3
2-dimensional frontal plane knee motion during landing	3.5	1.3, 9.9
Side-to-side difference in sagittal plane knee moment at initial contact	3.3	1.2, 8.8
Postural stability on involved limb	2.3	1.1, 4.7

Odds ratios demonstrating the number of times more likely to develop an ACL re-injury per given characteristic.

The four combined factors demonstrated a specificity of 0.88 and sensitivity of 0.92 for re-occurrence of an ACL injury. The authors noted that their results are consistent with the results of other studies which aimed to determine predictors of initial ACL injury. However the team particularly described the high predictive value of the hip rotation net moment impulse at initial landing. Not only was the hip rotation moment shown to place athletes at eight times greater risk of having an ACL re-injury but measures of hip rotation moment deficits were able to predict ACL injury with a high specificity of 0.88 and

sensitivity of 0.77. For these reasons the authors postulate the role of emphasising training of gluteus maximus in ACL rehabilitation as it is known to be a powerful external rotator of the hip when in a flexed position, such as landing tasks.

This study was able to identify several high risk factors for ACL re-injury. The information is clinically beneficial as it will allow therapists to acknowledge deficits of movement patterning which place their athletes at high risk for re-injury. In typical "Reading Rainbow" fashion, you don't have to take my word for it, check it out for yourself!

BC Division of Sport Physiotherapy Canada



Presents:

Key Concepts of Bike Fit & Treatment of Cycling-related Overuse Injuries

Saturday, May 7, 2011

8:30 am - 4:00 pm

*Location: Pinnacle Capital News Centre Clinic
4105 Gordon Drive, Kelowna, BC*

The objectives of this one-day seminar are to help Physiotherapists: 1) understand the key concepts in correct bike fit for road cyclists, XC mountain bikers and triathletes, 2) recognize the common bike fit faults that contribute to cycling-related overuse injuries, and 3) enhance their treatment of clients with cycling-related overuse injuries. These objectives will be accomplished via lecture and practical hands-on sessions. Participants will work in small groups to analyze key elements of bike fit on volunteers selected to bring their bikes to this seminar.

Seminar Fee: \$ 300 (SPC members); \$ 375 (non-members); Students \$ 225

Registration: www.karelo.com - on-line payment and registration required. Registration limited to 20 people maximum.

Lecturer: **Tyler Dumont** BPE, BScPT, MSc, Diploma Sport Physio, CSCS, Clinical Associate Professor (UBC)

Tyler received his Bachelor of Physical Therapy degree from the U of A in 1993 and his Masters Degree in Rehabilitation Sciences from UBC in 1998. Tyler also attained his Diploma in Sports Physiotherapy in 1999 and has worked with athletes from many sports, including cycling, triathlon, rugby, hockey, field hockey, and gymnastics. Tyler has continued to teach in the Department of Physical Therapy at UBC since 1998. He was selected to the 2010 Medical team and worked as a Therapist at the hockey venue. He was very honored to represent the Department of Physical Therapy as a Torchbearer in the 2010 Olympic relay. Tyler has a Level 1 certification from BikeFit Systems, has performed well over 1000 bike fits since 1997, and enjoys all forms of cycling.

For more questions or information please contact: Tara Baker: tarbaker@gmail.com

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Sport First Responder (Full and Re-Cert)

Date: February 18th - 20th, 2011
Instructor: Agnes Makowski
Location: Allan McGavin Physiotherapy, UBC,
Vancouver BC

For more information and registration, go to
www.sportphysio.ca or contact SPC National office at
info@sportphysio.ca

“Key Concepts of Bike Fit and Treatment of Cycling Related Overuse Injuries”

Date: My 7th, 2011
Instructor: Tyler Dumont
Location: Pinnacle Physiotherapy, Capital News Centre,
Kelowna, BC

For more information and registration, go to
www.karelo.com or contact Tara Baker at
tarbaker@gmail.com

International Association of Dance Medicine and Science

By Erika Mayall, MPT, HBSc (Kin)

At the end of October I had the opportunity to attend the 20th Annual Meeting of the International Association of Dance Medicine and Science (IADMS) in Birmingham, UK. IADMS is an organization that enhances the health, well-being, training, and performance of dancers by cultivating educational, medical, and scientific excellence. The conference was a wonderful opportunity to network and share ideas with doctors, therapist, researchers, dance teachers and dancers from all over the world. As has been the case with other IADMS conferences I have attended, the standard of research, presentations and practical sessions was excellent. Although the focus on the conference is on dance medicine, much of the research is relevant to many different athletic and sporting populations. The focus of one of the clinical symposia this year, which is of particular interest to all therapists involved with athletes, was recent advancements in the treatment of patellar and achilles tendinopathies.

Dr Otto Chan (MD, FRCR (UK), London SportsCare, London Independent Hospital, London, UK) presented some exciting new research using ultrasound in the assessment and treatment of tendinopathies. Ultrasound has been used in assessment to show the neovascularization and neoneural ingrowth associated with symptoms in chronic tendinopathies. It is now being used in the treatment as well. There is good evidence to support the use of High Volume Image Guided injection (HVIG) for the Achilles and patellar tendon. This involves injecting a minimum of 50mls of fluid into the peritendinous region under direct ultrasound guidance using an aseptic technique. Retrospective and prospective studies show 84.7% of patients who have failed conservative treatment (standard physiotherapy, eccentric protocols, etc.) get substantial improvement or are cured with HVIG treatment. On average there was a 40-point improvement on the VISA A Score. The researchers were able to demonstrate a concurrent reduction in the size of the tendon and the neovascularization within 2 weeks of the injection. The big advantage of this

technique is that athletes can return to activity within 10 days, however they must follow up with a very strict rehabilitation program to address the cause (i.e., biomechanical faults, muscle imbalances, etc) of the tendinopathy. The research team is currently in the process of conducting a larger scale RCT for this protocol, and plans to develop protocols for other tendons in the future. For more information on dance medicine and science visit www.iadms.org.

DEAR SPORT PHYSIOTHERAPY COLLEAGUES,

If you ski or have clients that do, then this resource is for you! Whether a recreational or competitive skier - or anywhere in between - proper training, injury prevention, and recovery habits will help optimize performance in any ski environment and in your daily life.

My name is Carl Petersen, I am a physiotherapist & fitness coach from Vancouver, Canada. I was the fulltime physiotherapist & fitness coach for the Canadian Olympic Ski Team for 14 years.

The high performance training tips in *Fit 2 Ski* are designed by physiotherapists, coaches, physicians and other sports medicine science professionals. It is based on current research and years of practical experience working with high performance and recreational athletes from many sports disciplines. *Fit 2 Ski* is designed for skiers of all levels. In short, this book will help you and your clients become healthier and better skiers.

Over the years I've developed a solid relationship with the Sport Physiotherapy community. I'd like to extend my gratitude and give back to them. For every *Fit 2 Ski* book/ dvd bought by a Sport Physio BC member, 10% of those sales will be given back to SPBC. Once you've placed your order, please email Sport Physio BC: sportphysiobc@gmail.com, and let them know you've made a purchase, and thus a donation to the division.

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