

# Sports Medicine & Pedorthics

While some people might think that Sports Medicine is just for elite athletes, Canadian Certified Pedorthists know first hand the benefits it can have for a range of people from children to weekend warriors to aging athletes.

“Pedorthists work with all types of sports enthusiasts to heal current injuries and prevent future ones. On a very basic level, injury occurs when a force exceeds the tolerance of tissue resulting in injury. The goal of sports medicine is to identify the cause and provide advice and treatment to ensure safe return to play at an optimal performance level,” says Kim Rau, Canadian Certified Pedorthist – C. Ped (C).

Pedorthic management for sports injuries includes providing services and products to normalize biomechanics necessary to heal current and prevent future injury while ensuring optimal performance. It begins with a full assessment to identify underlying causes as well as an in depth biomechanical evaluation. Depending on the presentation, treatment will include recommendations on activity avoidance, relevant exercises, fabrication of foot orthotics and of utmost importance, especially with athletes, footwear evaluation and advice.

When custom made foot orthotics are indicated, it is imperative that the provider has the knowledge and ability to modify the device to optimize its function. The device must be comfortable to be effective. The more elite the athlete generally the greater the demand for precision and attention to detail is required by their high level of performance. A very subtle modification to a device can have a huge impact on both comfort and effectiveness.

Ms. Rau notes that sports injuries often occur in the athletic population when a person engages in a new activity

or accelerates the intensity of a program too rapidly. Athletes who are fit and strong develop compensations for muscle imbalances allowing them to function symptom-free for many years. It is often not until they tax their body in an alternate or excessive way that the imbalance manifests itself in an injury. This holds true for both the weekend warrior and the aging athlete who fails to acknowledge changes in their body composition or imbalances or weaknesses due to prior injury. Attempts to participate at a level previously enjoyed and tolerated result in injury.



Then there are those athletes who continue to push the limits no matter what the activity, as can be said of Kitchener-based firefighter Lori Grant. When she was first referred to Pedorthist Kim Rau by her family physician, Dr. Martha Taylor M.D., C. C. F. P., 15 years ago at the age of 25, she had pain across the lesser metatarsal phalangeal joints as well as in her knees, hip and lower back.

The primary cause of Ms. Grant's chronic injuries was identified as pelvic imbalances and restrictions in lumbar motion exacerbated by the extreme demands from Ms. Grant's

various running, weight training, gym work outs, and cross-training activities. The secondary contributors were related to foot structure and misalignment issues and exaggerated by inappropriate running shoe selection.

*“I know I can trust the assessment and advice offered by Pedorthists,”*

*explains family physician  
Dr. Martha Taylor.*

Ms. Rau has created and modified a few pairs of orthotics for Ms. Grant over the years which combined with a home exercise program, physiotherapy and recommendations for appropriate footwear had eliminated the pain until she recently began an intense cross training program. The frequency and extreme intensity of this program combined with the postural demands which exposed her pelvic imbalances which manifested once again in hip, knee and foot pain.

Working with her family physician, Pedorthist and physiotherapist, Ms. Grant reduced her training and activity level so her healthcare team could address these imbalances and ensure healing of the injured tissues. Once healthy she can sensibly increase her training to a desired level and with the advice and treatment of her Pedorthist and the rest of the healthcare team, she will be well equipped for optimal – and injury free - performance.

Ms. Grant adds, “I’ve had a lot of issues with my feet over the last 15 years and I really feel that pedorthic management is what has kept me active and in the game. I’ve had a great experience with Kim Rau. I feel I lucked out finding her because I wouldn’t be as active as I am today if it weren’t for her.”

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PEDORTHIC ASSOCIATION OF CANADA

# Family Physicians and Pedorthists Working Together

**As part of the Canadian healthcare team, Pedorthists consult with patients based on referrals from prescribing healthcare professionals**

In treating a patient with sports-related injuries, Pedorthists can work as part of an entire team of healthcare professionals including the family and sports medicine physician, physiotherapist, athletic therapist, massage therapist, chiropractor, nutritionist, orthopaedic surgeon and sports psychologist.

Canadian Certified Pedorthist Kim Rau explains that she believes that regardless of the medical specialty, every Sports Medicine healthcare provider's goal is to attempt to identify the cause of the injury, heal the injury, prevent future injury, and assist the athlete in achieving their optimal level of performance.

"I see the family physician as the Director of Care for each patient," explains Ms. Rau. "They rely on other healthcare professionals who are specialized in their field and whose services complement each other. They depend on each professional to be competent, qualified, honest and ethical when dealing with their patient. The fact that a Pedorthist is one of very few healthcare professionals trained in the assessment of lower limb anatomy and biomechanics – and who conducts thorough examinations up to one hour long - makes Pedorthists an excellent addition to a family physician's healthcare team."

Canadian Certified Pedorthists are unique from other orthotic providers because they do not both prescribe the treatment and provide the treatment for their clients - similar to the relationship between a physician and pharmacist. This helps eliminate potential conflict of interest, as a patient can choose who will

provide the treatment recommended by their physician. Even more importantly, the collaboration of healthcare professionals from different disciplines ensures a high-level of quality in patient care.



"I know I can trust the assessment and advice offered by our local Pedorthists to provide the patient with a careful assessment, make sensible recommendations and provide appropriate follow-up," explains family physician Dr. Martha Taylor of her decision to include a Pedorthist on her healthcare team. "I am not able to keep up with all of the shoes on the market and how they relate to various patients' needs, but I trust that Pedorthists do have this knowledge."

During an assessment, it is critical for the biomechanical evaluation to include a scan of overall posture, and a comprehensive evaluation of the pelvis and entire lower limb is vital. While the feet may be considered the base of support, their function is highly dependent on the stability of the core and pelvis for balance and power during propulsion. The goal of an orthotic in addressing lower limb and foot misalignment is to enable normal function, inhibit excessive motion, and enhance overall performance and this cannot be achieved without a thorough understanding of normal and pathological gait.

"My impression of foot care specialists prior to working with Kim and her team of Pedorthists was that it was 'all about orthotics'. This is far from the truth," says Dr. Taylor. "The creative devices and suggestions that Pedorthists have offered to my patients of all ages and levels of activity have been critical in keeping them pain-free and active. Minimizing foot injuries, callouses and joint wear-and-tear caused by deformity helps everyone, whether they're elite athletes or those with compromised vascular status or diabetes."

Pedorthists are well trained to address the whole lower body in their assessments through their kinesiology background and rigorous education and training process including a minimum of 3,500 hours of training in the areas of clinical evaluation, footwear (fit and modification) and fabrication of custom orthotics.

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