

CCPOR Website

The College has a new
website - www.ccpor.ca



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President's Report

Dr. Carlan Stants

On behalf of the Canadian Chiropractic Specialty College of Physical & Occupational Rehabilitation (CCPOR), I would like to welcome you to this inaugural edition of the College's new Newsletter - *The Rehabilitator*.

The CCPOR has undergone a steady evolution since its inception in 1996. Over the course of the last 30 months this evolution has seen a rapid progression and the College has been quite active in the development of new programs and more recently as partners in a series of CFCREAB initiatives.

Most recently, the College has developed and will be implementing a new three-year post-graduate educational curriculum in the Fall of this year. This new curriculum serves as partial fulfillment of requirements for Fellowship admission and will eventually lead to a series of new special interest certifications for Chiropractic Rehabilitation Specialists. This is discussed in greater detail in this newsletter.

The College recognizes that it needed to develop mechanisms to keep you, our members, better informed as to the College's ongoing activities. This newsletter represents one such mechanism. Concurrent with this newsletter, is the development of a new CCPOR website, which will be a dynamic

process.

With our increased activities, there is also a recognition that an expansion of the College's Board and Committees is required. This will require by-law changes and you will be receiving notification seeking your approval of these changes in the next couple of months. I would request that any member who is interested in serving in a voluntary capacity on the College's Board or any of its Committees to contact me.

The Federation of Canadian Chiropractic is the new representative body of chiropractic regulatory authorities in Canada and has the responsibility to: accredit, recognize, and certify the quality and integrity of chiropractic programs and to encourage excellence in education within these programs. Most recently, the Federation has recognized the Chiropractic Specialty Colleges as partners in this process. I now represent our College as the vice-chair of the Chiropractic Specialty Colleges Council and as a member of the Specialties Accreditation Standards & Policies Committee.

In conclusion, I would like to thank the membership for their support and the opportunity to continue to represent the College's interests.



Canadian Chiropractic Specialty College
of Physical & Occupational Rehabilitation
Collège canadien de chiropratique spécialisée
en réadaptation physique et professionnelle

promoting chiropractic excellence in physical and occupational rehabilitation

Annual Fellowship Renewal Requirements

As a condition of maintaining Active Status as a Chiropractic Fellow, each Specialty College is required to ensure that their members meet the following Renewal Requirements:

- Each Fellow shall fulfill any of the following requirements (the “Renewal Requirements”) in order to maintain membership as a Follow for each calendar year following the calendar year of his or her admission as a Fellow:
 - pay the annual dues levied, and
 - teach a minimum of 12 hours in a post-graduate program; or
 - teach a minimum of 12 hours in an under-graduate program; or
 - write and submit a rehabilitation related paper suitable for publication to the Rehabilitation College or a peer reviewed Journal of not less than 2000 words; or
 - write and submit to the Rehabilitation College for evaluation 2 rehabilitation case reports, or
 - attend a scientific symposium (12 hours), or
 - complete an equivalency approved by the Specialty College’s Executive Committee.



CCPOR develops new Core Competencies for Physical and Occupational Rehabilitation Fellows.

As part of CCPOR’s review of the Graduate Studies Program, the Education Committee realized that in the design of an outcome-based curriculum that the College had not clearly defined the Core Competency requirements for Physical and Occupational Rehabilitation Fellows.

To this end, the Education Committee, in conjunction with the College’s Board made use of The Royal College of Physicians and Surgeons of Canada CanMEDS process to develop a new core competencies framework for Chiropractic Rehabilitation Specialists.

Fundamentally, CanMEDS is an initiative to improve patient care. Its focus is on articulating a comprehensive definition and framework of the competencies needed for health profession education and practice. It is utilized by a wide variety of health professional groups aside from the medical community.

The College’s Core Competencies document for Chiropractic Rehabilitation Specialists is posted on the College’s website for Fellows to review.



New Three Year Graduate Studies Program

In 2011, the Rehabilitation College’s Education Committee started to map out a new Graduate Studies Curriculum, in partial fulfillment of Fellowship requirements, with CMCC. The new 1000 hour, three-year core program has been designed to be delivered in a sequential manner through a hybrid combination of in-class, on-line, self-directed and practica opportunities.

The Education Committee is also looking to the development of a number of one-year special interest certification programs in Rehabilitation. What is envisioned are one year (200-250 hour) special interest programs in the following areas – Geriatric Rehabilitation, Paediatric Rehabilitation, Cardiac Rehabilitation, Neurological Rehabilitation, Pain Management or Occupational Health.

This new curriculum design will allow interested chiropractors to complete their Graduate Studies requirements with less disruption to their current clinical practices and the requirement to travel to the Canadian Memorial Chiropractic College on a regular basis. It has been proposed that the program be open up to a maximum of 10 new students per year with a maximum of 40 students in the program over any given four year period. An additional 10 chiropractors who have partially completed the prior field-practitioner program will be accepted per year for a five year period. Graduate Students would have to complete all requirements for each year before being allowed to progress to the next level or sit for the Fellowship examination. The additional year allows Graduate Students extra time should they have difficulty completing their yearly requirements. All chiropractors wishing to be Graduate Students in Rehabilitation would have to apply to the Graduate Studies program and be accepted before they will be allowed to participate.

The Rehabilitation College and CMCC are committed to an October 2014 start to the new curriculum. Further notification will be available in the first quarter of 2014 for those chiropractors wishing to apply for the program. Notwithstanding the limitation on the number of Graduate Students accepted into the program, the Rehabilitation College will continue to offer general interest continuing education courses through CMCC’s Continuing Education Department.

The College has also developed a Mentoring program for Graduate Students where they will be paired with a current Fellow. Details for both the Graduate Studies Program and the Mentorship Program are on the College’s website.

Case Study - Charcot Joint

Ms. X, a 47-year-old female presented to a chiropractic clinic with 6 month history of right ankle pain resultant from a slip on an icy sidewalk. She had seen her family physician initially and x-rays had been performed which the patient stated revealed a "bone bruise." Review of her pre-existing medical history identified that the patient suffered from hypertension, type II diabetes, hypercholesterolemia and was a 6 to 8 cigarette per day smoker. She was on insulin, Lipitor, Hydrochlorothiazide, and Diovan for control of these symptoms.

On presentation, her chiropractor observed that the patient's right ankle was edematous with black/blue bruising. The patient had difficulty weight bearing and made use of a cane. Physical examination revealed decreased ranges of motion and diminished foot sensation.

The chiropractor diagnosed the patient with right ankle dysfunction and myofasciitis. Treatment was initiated which included weekly sessions of cervical, thoracic and lumbar spine manipulation; a home icing regime, ART mobilization of the lower extremities and the application of hot packs and Biofreeze topical ointment.

The patient received care over a four month period with no significant improvement. She was eventually lost from care and it was later determined that she had seen an orthopaedic surgeon who had diagnosed a "Charcot Ankle Joint" and the patient eventually underwent a below knee amputation of the right lower extremity.

Bone Bruise:

Bone bruise is one of the four types of fractures that occur in the human body, the others are: stress fractures, osteochondral fractures and bone fractures. Bone bruise is a term that contains 3 different kinds of bone injuries: sub-periosteal hematoma, inter-osseous bruising and sub-chondral lesion. A bone bruise can be described as a stage before the fracture. A real bone fracture means that all the bone trabeculae of that specific place are fractured. In case of a bone bruise only a few of the trabeculae are broken.

Bone bruise injuries have been reported frequently in the knee and also in the wrist, the calcaneus, the foot, ankle and in the hip." There are all kinds of situations where a bone bruise can occur. The most common causes are acute traumas in the knee or ankle. In 80% of patients with an ACL rupture a bone bruise is detected, mostly in the femur condyles or in the tibia plateau. In the ankle bone bruises can appear after a supination injury, those will be situated in the post-lateral talus area (1a and 1b) or in the caudal tibia epiphysis (2a and 2b).



Fig. 1a



Fig. 1b

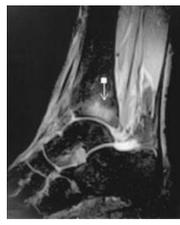


Fig. 2a



Fig. 2b

There are 3 different kinds of bone bruises:

1. Sub-periosteal hematoma - This is a concentrated collection of blood underneath the periosteal of the bone. It will appear mostly after a direct high-force trauma on the bone. This type is most common in the lower extremities.
2. Inter-osseous bruising - This is a damage of the bone marrow. The blood supply within the bone is damaged, and this causes internal bleedings. The trigger to this type of bone bruise is a repetitive high compressive force on the bone (extreme pressure on regular base). The areas most affected are the knee and the ankle from professional athletes, such as foot-, basketball players and runners.
3. Sub-chondral lesion - This type will occur beneath the cartilage layer of a joint. The main trigger is an extreme compressive force that literally crushes the cells, that results in a separation of the cartilage (or ligament) and the underlying bone, plus bleeding when the energy of the impact extends into the bone. The other trigger is a shearing force, it sustains from a rotational mechanism such as twisting and translational forces. These will also cause that the cartilage tissue will be stripped away and exposing the underlying bone. It results in the same injury as a compressive force injury but this is another source of the injury. This type is seen more frequently in foot- and basketball players.

For the three types: an extreme compressive force can include jumping or the impact from running on hard surfaces.

Bone bruises do not show up on X-rays, but an X-ray can confirm that a fracture is not present. The diagnose of a bone bruise is mainly based on T2-weighted fat-suppressed images or T1-weighted imaging (MRI). This is the best way to find out whether the patient suffers from a bone bruise.

The treatment of a bone bruise consists of rest and precaution. The affected area should be avoided to bear repetitive or strong loads. This is to avoid aggravation of the problem. Usually only painkillers (such as a small dosage of ibuprofen) are given to lighten the pain. The patient should receive advice about how they can reduce the load on the affected area and be made clear that if they do not rest enough the healing process will slow down or the structure can be damaged even more.

The time for the resolution of a bone bruise is variable. At its earliest the bruise will be gone 3 weeks after the acute trauma. In most cases the bone bruises disappeared at 2 years after the trauma.

Charcot Joint

The diabetic Charcot foot syndrome is a serious and potentially limb-threatening lower-extremity complication of diabetes. This condition continues to challenge even the most experienced practitioners.

Case Study - Charcot Joint (cont.)

Charcot neuropathic osteoarthropathy (CN) is a condition affecting the bones, joints, and soft tissues of the foot and ankle, characterized by inflammation in the earliest phase. Diabetic neuropathy is the most common etiology. The interaction of several component factors (diabetes, sensory-motor neuropathy, autonomic neuropathy, trauma, and metabolic abnormalities of bone) results in an acute localized inflammatory condition that may lead to varying degrees and patterns of bone destruction, subluxation, dislocation, and deformity. The hallmark deformity associated with this condition is midfoot collapse, described as a “rocker-bottom” foot.

Pain or discomfort may be a feature of this disorder at the active (acute) stage, but the level of pain may be significantly diminished when compared with individuals with normal sensation and equivalent degrees of injury.

The initial manifestations of the Charcot foot are frequently mild in nature, but can become much more pronounced with unperceived repetitive trauma. Diagnostic clinical findings include components of neurological, vascular, musculoskeletal, and radiographic abnormalities. There have been no reported cases of CN developing in the absence of neuropathy. Accordingly, peripheral sensory neuropathy associated with reduced sensation of pain is the essential predisposing condition that permits the development of the arthropathy. Typical clinical findings include a markedly swollen, warm, and often erythematous foot with only mild to modest pain or discomfort. Acute local inflammation is often the earliest sign of underlying bone and joint injury. This initial clinical picture resembles cellulitis, deep vein thrombosis, or acute gout and can be misdiagnosed as such. There is most often a temperature differential between the two feet of several degrees. The affected population typically has well preserved or even exaggerated arterial blood flow in the foot. Pedal pulses are characteristically bounding unless obscured by concurrent edema. Musculoskeletal deformity can be very slight or grossly evident most often due to the chronicity of the problem and the anatomical site of involvement. The classic rocker-bottom foot, with or without plantar ulceration, represents a severe chronic deformity typical for this condition.



Radiographs are the primary initial imaging method for evaluation of the foot in diabetic patients. They provide information on bone structure, alignment, and mineralization. X-rays may be normal or show subtle fractures and dislocations or later show more overt fractures and subluxations.

Medial calcification of the arteries is present in most Charcot feet and is a frequent secondary finding on radiographs. However, radiographic changes of CN are typically delayed and have low sensitivity. Magnetic resonance imaging (MRI) allows detection of subtle changes in the early stages of active CN when X-rays could still be normal.



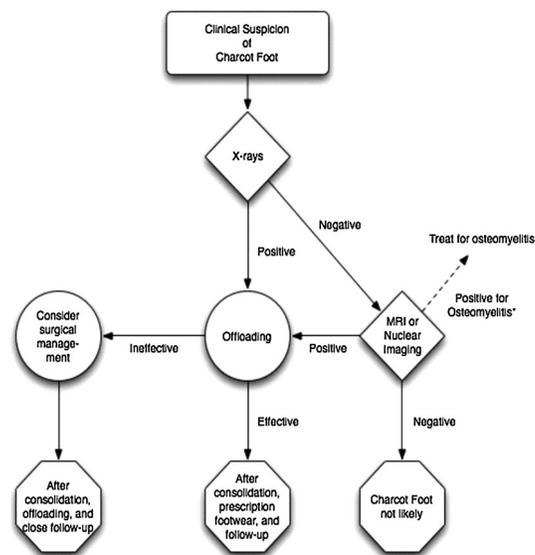
Lateral X-ray of a Charcot foot deformity showing a dislocation of the tarsometatarsal joint with break in the talo-first metatarsal line (dashed lines) and a reduced calcaneal inclination angle (solid lines).

Offloading at the acute active stage of the Charcot foot is the most important management strategy to arrest the progression to deformity. Ideally, the foot should be immobilized in an irremovable total contact cast (TCC) which is replaced at 3 days. Edema reduction is often remarkable in the first few weeks of treatment. The cast should be changed frequently to avoid “pistoning” as the edema subsides. If possible, the patient should use crutches or a wheelchair and should be encouraged to avoid weight bearing on the affected side. The casting is continued until the swelling has resolved and the temperature of the affected foot is within 2°C of the contralateral foot.

An alternative device for offloading the acute active stage of CN is a prefabricated removable walking cast or “instant TCC” technique, which transforms a removable cast walker to one that is less easily removed. It is important to take into consideration that a TCC may actually have unfavorable consequences on the non-Charcot limb and induce unnatural stress patterns causing ulcerations and even fractures. Furthermore, patients with CN have increased instability and risk for falling and fracture as a result of multiple comorbidities including loss of proprioception and postural hypotension. Nonetheless, it should be noted that total immobility has disadvantages in itself with a loss of muscle tone, reduction in bone density, and loss of body fitness.

Duration and aggressiveness of offloading (non-weight bearing vs. weight bearing, non-removable vs. removable device) are guided by clinical assessment of healing of CN based on edema, erythema, and skin temperature changes. Evidence of healing on X-rays or MRI strengthens the clinical decision to transition the patient into footwear. To prevent recurrence or ulceration on subsequent deformities, various devices are recommended after an acute or active episode has resolved, including prescriptive orthotics, shoes, boots, or other weight-bearing braces. Frequent monitoring is required.

In conclusion, the Charcot foot syndrome or Charcot neuropathic osteoarthropathy (CN) is a complex complication of diabetes and peripheral neuropathy. Its destructive effects on the foot and ankle begins with a cycle of uncontrolled inflammation. The classic rocker-bottom foot deformity is a late stage of the syndrome and can be avoided by early recognition and management. Offloading is the most important initial treatment recommendation.



Chiropractic Management of the Diabetic Foot



Most foot problems that people with diabetes face arise from two serious complications of the disease: nerve damage and poor circulation. The lack of feeling and poor blood flow can allow a small blister to progress to a serious infection in a matter of days. Chronic nerve damage (neuropathy) can cause dry and cracked skin, which provides an opportunity for bacteria to enter and cause infection. These two complications are often compounded by trauma to the area and in particular by strains and sprains to the ankle joint.

The consequences can range from hospitalization for antibiotics to amputation of a toe or foot. For people with diabetes, careful, daily inspection of the feet is essential to overall health and the prevention of damaging foot problems.

Chiropractors can work with their patients and other health professionals by encouraging patients to do the following:

Regular checkups with their family physician

Regular checkups with family physician to ensure that blood sugar levels are well regulated.

Regular exercise and proper nutrition to assist in blood sugar levels

Regular exercise and proper nutrition will help the patient to lose weight and better regulate blood sugar levels.

General Care of the Diabetic Foot

- Never walk barefoot. The nerve damage decreases sensation and the patient may not notice that little pebbles or objects have gotten stuck in your foot. This can lead to a massive infection. Always wearing shoes or slippers reduces this risk.
- Wash your feet every day with mild soap and warm water. Test the water temperature with your hand first. Do not soak your feet. When drying them, pat each foot with a towel rather than rubbing vigorously. Be careful drying between your toes.
- Use lotion to keep the skin of your feet soft and moist. This prevents dry skin cracks and decreases the risk of infection. Do not put lotion between the toes.
- Trim your toe nails straight across. Avoid cutting the corners. Use a nail file or emery board. If you find an ingrown toenail, see your doctor. Good medical care is important in preventing infections.
- Do not use antiseptic solutions, drugstore medications, heating pads, or sharp instruments on your feet. Do not put your feet on radiators or in front of the fireplace.
- Always keep your feet warm. Wear loose socks to bed. Do not get your feet wet in snow or rain. Wear warm socks and shoes in winter.
- **Do NOT smoke.** Smoking damages blood vessels and decreases the ability of the body to deliver oxygen. In combination with diabetes, it significantly increases your risk of amputation - not only of the feet, but can include the hands, as well.

Inspection

- Inspect your feet every day.
- Look for puncture wounds, bruises, pressure areas, redness, warmth, blisters, ulcers, scratches, cuts, and nail problems.
- Get someone to help you, or use a mirror if you are unable to do it alone. You may not feel that damage has occurred to the skin. Inspecting for skin breakdown is crucial.
- Look at and feel each foot for swelling. Swelling in one of the feet and not the other is an early sign that you may be experiencing early stages of Charcot foot. This is a unique problem that can occur in people with nerve damage. It can destroy the bones and joints.
- Examine the bottoms of your feet and toes. Check the six major locations on the bottom of each foot: the tip of the big toe, the base of the little toes, the base of the middle toes, the heel, the outside edge of the foot and across the ball of the foot.

Shoewear/Orthotics

Choose and wear your shoes carefully. A poor fitting shoe can cause an ulcer and lead to an infection.

- Buy new shoes late in the day when your feet are larger. Buy shoes that are comfortable without a "breaking in" period.
- Check how your shoe fits in width, length, back, bottom of heel, and sole. Have your feet measured every time you buy new shoes. Your foot will change shape over the years and you may not be the same shoe size you were 5 years ago.
- Avoid pointed-toe styles and high heels. Try to get shoes made with leather upper material and deep toe boxes.
- Wear new shoes for only 2 hours or less at a time. Do not wear the same pair every day.
- Inspect the inside of each shoe before putting it on. Do not lace your shoes too tightly or loosely.
- Avoid long walks without taking a break, removing your shoes and socks and checking for signs of pressure (redness) or ulcers.
- insurance companies frequently will cover the cost of orthotics for people with diabetes. It is important to minimize the risk of a pressure sore in these patients.
- An accommodative orthotic made from a soft material called plastizote is commonly prescribed. The orthotics should not be hard, as this will increase the risk of a pressure ulcer. The orthotic can be transferred from shoe to shoe and should be used at all times when standing or walking.



Annual General Meeting

In conjunction with the Specialty College Conference, The CCPOR will hold its Annual General Meeting. At this meeting, positions for an expanded Board will be voted upon. All **Active Members** are eligible to vote.

Upcoming Events

- **Canadian Chiropractic Specialty Colleges' Annual Conference**
The Omni King Edward Hotel, Toronto, Ontario



Upper Extremity Disorders

Saturday, November 15th, 2014

Scientific Symposium

Sunday, November 16th, 2014

Assessment, Diagnosis and Treatment Workshops

- **College of Physical & Occupational Rehabilitation's Annual General Meeting**
The Omni King Edward Hotel, Toronto, Ontario
Saturday, November 15th, 2014 - 4:30 PM

The Rehabilitator Issue 01 June 2014



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