FRACTURE LINK

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In this issue:

It Feels Good: Our inspired journey

It's sometimes hard to pick one day or one moment to celebrate. So we have decided to celebrate all 3650 of the days we've worked on bridging the care gap for those with osteoporosis and fractures. We celebrate each day which has brought us closer to our goals. Our team has worked hard to achieve a level of admiration from the patients we affect and from colleagues around the world.

Join us as we continue to improve the lives of fracture patients.

website osteostrategy.on.ca

Osteoporosis Canada
Ostéoporose Canada

St. Michael's
Inspired Care. Inspiring Science.

Women's College Hospital

McMaster University

Ontario College of Family Physicians

Stronger bones. Better lives.
Ontario Osteoporosis Strategy

Our 10 year story

A celebration and reflection of our past, present and future

Dr. Earl Bogoch, an Orthopaedic surgeon at St Michael's hospital, was instrumental in laying the foundation for the Ontario Osteoporosis Strategy including the Fracture Clinic Screening Program.

Dr. Angela Cheung and other specialists have been instrumental in championing the benefits of fracture screening to the medical community.

Ravi Jain, Director of the Strategy has worked tirelessly to bring our efforts to the forefront of international recognition.

Sending a message

To the future of fracture management

We have been working for more than 3650 days to bring closure to the massive fracture care gap that exists for those within Ontario. Our wonderfully fractured journey began 10 years ago, February 2005 and today our journey continues. 10 years ago our fractured osteoporosis management care gap was metaphorically just diagnosed and required treatment and management. Overtime we implemented processes to heal this care gap. Now it is decreasing and we are noticing a cascading change. We continue to reach out to partners, patients, specialists and care givers to help continue to move our vital work further along.

Fracture Prevention Coordinators (FPC)

FPC's work within hospital fracture clinics and/or primary care practices identifying and screening patients 50 years of age or older. During their interaction with patients they determine/confirm that the patient has sustained a fragility fracture; are at moderate or high risk for subsequent fractures and are eligible for diagnostics such as BMD tests. Working with the patients and various HCPs the FPC s put appropriate intervention in place to reduce the risk of future fractures.

Fragility Fractures
A Brief Review for Radiologists

Radiologists and radiology technologists play a key role in the diagnosis of osteoporosis which can be made clinically in the presence of a fragility fracture. Osteoporosis can also be diagnosed in the presence of a low bone density T-score in a postmenopausal female or male over 50 years of age. In order to obtain an accurate diagnosis of osteoporosis it is crucial for the radiologist and the radiology technologist to work together as a team and obtain the key information necessary to confirm the presence of osteoporosis.

This essay removes confusion and provides clarity to an area of great concern and is based on current evidence.

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Fragility Fractures
A Brief Review for Radiologists

Importance

Fragility fractures represent a major health care issue, resulting in excess mortality, morbidity, chronic pain, admission to institutions and economic costs[1]. Radiologists are in a key position to influence management outcomes. Most patients with fragility fractures undergo radiographs or other imaging, and reporting radiologists can help close the "osteoporosis care gap" by recommending management for osteoporosis[2]. Further, radiologists who report bone mineral density (BMD) studies are doubly engaged with fragility fractures: under the Canadian Association of Radiologists and Osteoporosis Canada 2010 approach to fracture risk assessment (CAROC 2010)[1,3] a prior history of fragility fracture is a key factor (along with the measured BMD and a history of relevant steroid use) in determining fracture risk over the next 10 years. That 10-year fracture risk is then one of the major components of the radiologist's BMD report[3], and is a key element used by clinicians in determining whether to initiate management for osteoporosis[1]. In short, a history of a fragility fracture predicts future fragility fractures, affording an opportunity for intervention. But just what is a fragility fracture? This article addresses that question. In most clinical instances this will be clear, but in some situations there may be uncertainty whether a given fracture should be considered a fragility fracture, and in particular whether it carries a significantly increased fracture risk, and clinical judgement may be required. While radiologists may feel they do not have sufficient clinical information, often they do. In the scenario of reporting fractures, unless there is an obvious history of trauma, the recommendation for osteoporosis management can still be made and the clinician can ultimately decide whether this is warranted. In establishing the fracture risk when reporting BMD studies, information on prior fractures is available to the radiologist through the requisition, the patient questionnaire, and PACS. Initiatives are underway to develop standardized BMD requisitions and patient questionnaires which emphasize collection of important information on prior fractures, including mechanism.

"In short, a history of a fragility fracture predicts future fragility fractures, affording an opportunity for intervention"

Fragility Fractures
A Brief Review for Radiologists continue

Definition of a fragility fracture, including level of force

A fragility fracture may be defined as a fracture caused by injury that would be insufficient to fracture normal bone. As a practical working definition, a fragility fracture is usually considered to be one that occurs due to a low energy event such as spontaneously or from a fall from a standing height or less. While it can be difficult to define a discrete transition point that is universally applicable, as an example we generally consider a fall due to slipping on ice as fulfilling this criterion, whereas a fall while skating does not. In the BMD clinic it is very helpful to have the technologist review the questionnaire with the patient to clarify the mechanism of any fracture, as a patient entry of "fall" may be clarified as "slipped and fell" (fragility fracture) or "fell down stairs" (not a fragility fracture). Fractures occurring before the age of 40 are not considered fragility fractures[3]. This is not to be confused with the age-50 threshold below which fracture risk categories are not assigned in the CAROC 2010 model. Fragility fractures are not to be confused with stress fractures, as may occur in runners for example. While stress fractures are also due to low force, the forces are repetitive, usually many thousands of cycles. Pathologic fractures, for example through metastases, are also not fragility fractures.

Bones included

The future fracture risk associated with fractures of different bones varies substantially, and can be categorized into 3 levels (Figure 1).

Level 1: Definite increased fracture risk

Fractures of a vertebral body, proximal femur, proximal humerus, and forearm are generally considered fragility fractures if they occurred due to a low energy event. In fact fractures of the spine or proximal femur are particularly highly associated with future fractures and automatically place the patient in the high risk category (10-year fracture risk > 20%) regardless of the patient's BMD[1,3]. With respect to spine fractures, note that compressions in the Genant grade 1 category (<25% height loss) are generally not considered fragility fractures increasing the fracture risk category [1,4]. Fragility fractures of the proximal humerus and forearm increase the fracture risk category by one level.

Level 3: Not fragility fractures, not significant increased risk

Fractures of certain bones do not qualify as fragility fractures and do not increase the fracture risk category. These include craniofacial bones, hands, ankles, and feet.

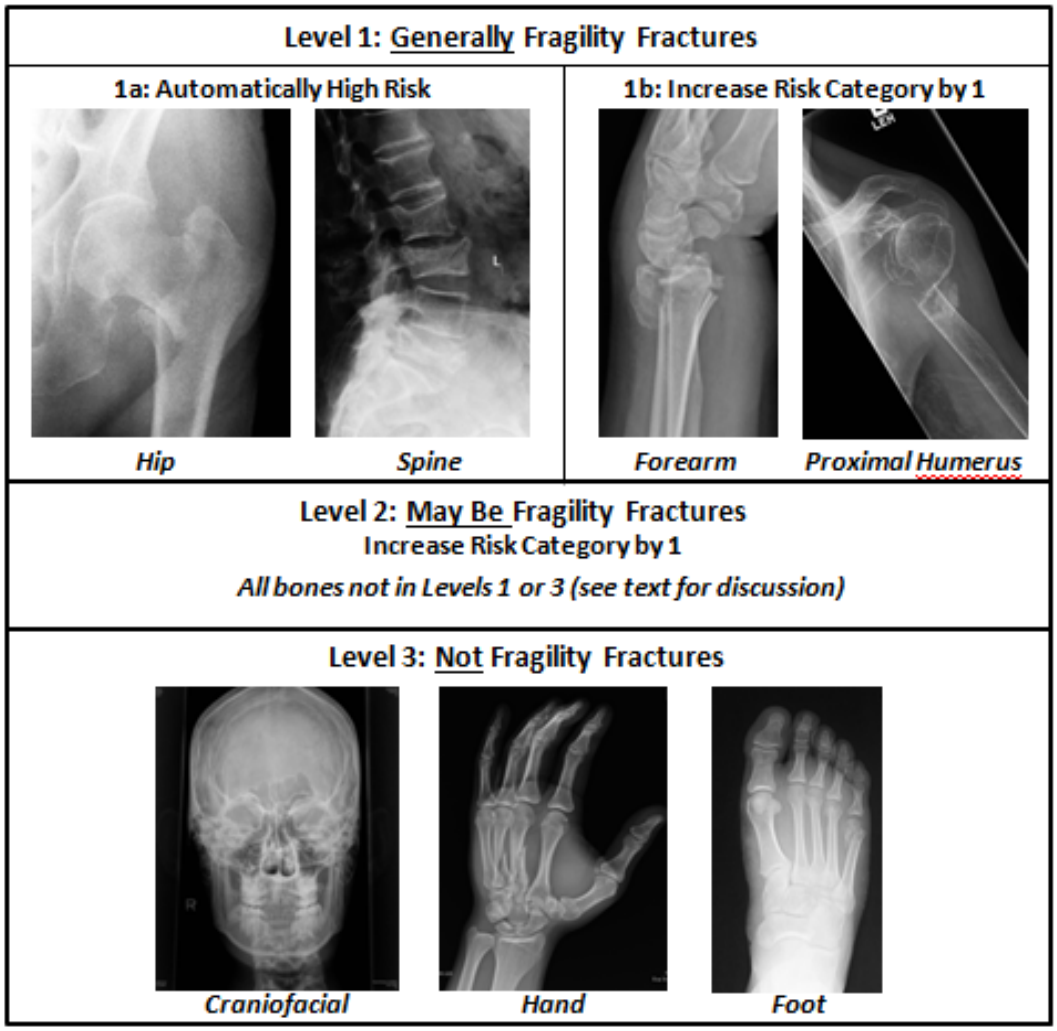
Fragility Fractures … continue

Level 2: Everything else: often fragility fractures

This leaves everything else. The CAR technical standards for BMD reporting[3] state that "Other types of fractures have weaker relationships to osteoporosis but may be regarded as fragility fractures if the history suggests that the fracture occurred with a degree of trauma that would not normally be expected to lead to a broken bone." Here too clinical judgement may be required in specific cases, but as examples we generally consider fractures of the pelvis as qualifying (excluding fractures of the coccyx due to a direct fall on the coccyx). On the other hand we do not consider rib fractures as fragility fractures, regardless of whether they occurred from a fall or repeated vigorous coughing.

Summary

Knowledge of what qualifies as a fragility fracture is important to all radiologists, particularly those involved in BMD reporting, and can lead to significant improvements in patient care and a reduction in future fractures.



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3. Siminoski K et al. Canadian Association of Radiologists Technical Standards for Bone Mineral Density Reporting. CARJ 2013;64:281-294.

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Update on BMD screening
Evaluation of "Fast Track" program

Update on the Evaluation of a Bone mineral Density "Fast Track" Program

In the previous fall issue of Fracture Link, the research team at St. Michael's hospital reported on the benefits of the BMD Fast Track program by comparing sites with and without the program available. The Fast Track program was found to be associated with significantly higher testing and treatment rates when compared to sites without BMD Fast track.

The latest analyses show the same beneficial results when comparing exclusively *within* active sites. Testing and treatment rates were generated for comparable individuals who participated in the BMD FT program versus those who chose not to, although *both* were deemed eligible and seen at active BMD FT sites. 96% of BMD FT participants completed their BMD testing prior to their follow-up interview at 6 months, in comparison to 58% of eligible non participants. 36% of BMD FT participants got prescribed OP treatment, versus 20% of those who did not participate. The treatment rate (20%) of the eligible non participants at active sites is comparable to those participating at sites where BMD FT was inactive (21%). Thus the superior rates seen within the BMD Fast track program are from actual participation in the program, and not due to differences between active versus inactive sites.

Update on Vitamin D Uptake

Vitamin D consumption is considered an important part of the plan to help reduce fracture risk. Vitamin D uptake was tracked at follow-up among those not taking it at baseline. In those who initiated OP prescription treatment, 88% also started vitamin D. In those who did not have prescription medication at follow-up, 71% started taking vitamin D. The vast majority of those taking vitamin D (>75%) reported taking it as a stand-alone supplement, which is typically 400 IU or 1000 IU. Among the minority who did not start vitamin D by follow-up, most of them did not recall being told to do so.

Vitamin D may give us a better indication of a positive patient-initiated change in caring about bone health, even if it is not considered enough to reduce re-fracture risk in our fragility fracture population. While vitamin D can be purchased over the counter and is considered relatively safe, prescription medications on the other hand require a doctor's visit, and are dependent on that physician's decision to prescribe and then a trip to the pharmacy to fill the prescription. And not all of these factors may be within the control of the patient.

Vitamin D
800 - 2000 IU required per day

Grey Bruce Prevention Model of Care
A unique Secondary Fracture Prevention Model

The Ontario Osteoporosis Strategy **Fracture Clinic Screening Program** was developed and operated by Osteoporosis Canada in partnership with the Ontario Orthopaedic Association and the Ontario College of Family Physicians. It is one of the secondary fracture prevention initiatives launched in 2007 to screen fragility fractures and facilitate diagnosis and appropriate care.

Grey & Bruce Counties have now initiated a **Regional Fracture Prevention Program (RFPP)** based on this model. Judy Porteous, Ontario Osteoporosis Canada Regional Integration Lead for the area, coordinated the development of partnerships with the **Owen Sound Family Health Team (OSFHT)** including the Executive Director, IT and administrative staff, and **Grey Bruce Health Services (GBHS)** including management staff, orthopaedic lead; Dr. Stuart Manwell, ambulatory care, IT, and diagnostic imaging staff. Both facilities have been very welcoming and supportive of our secondary fracture prevention endeavour.

Front to back: Carrie Elder, Michele Best, Alanna Tucker, Mike Strutt, Judy Proteous, Michelle Turcotte, Martin Baulch

With agreements in place and office space at the OSFHT, the Grey Bruce Fracture Prevention Coordinator (FPC), Alanna Tucker, receives data from the GBHS Fracture Clinic for patients aged 50 and older who have had a fragility fracture (a fracture due to low trauma such as a fall from standing height or less). These patients are screened over the phone and are given support and information regarding their bone health in an effort to prevent subsequent fractures, including hip fractures. An information package is mailed to each screened patient.

Grey Bruce Prevention Model of Care continued

For patients of the OSFHT the Fracture Prevention Coordinator has access to the Practice Solutions Electronic Medical Record (EMR) system to ensure she is able to view detailed medical history. The OSFHT physicians have signed a medical directive allowing the FPC to order a Bone Mineral Density (BMD), blood work, or vertebral x-rays when clinically indicated. Once a patient has been screened and appropriate diagnostics arranged, the FPC enters a note onto the patient's EMR and sends a message to the physician or nurse practitioner. Patients were also invited to attend Bone Health education sessions facilitated by Dr. Donald and Margo Hunsberger (recently retired), who have championed bone health initiatives at the OSFHT and have been staunch supporters of the RFPP.

Deb Kean, IT Support at the OSFHT, worked with Alanna to develop Custom Forms to post to the EMR that identifies that a patient was screened and what actions were taken.

Left to right: Alanna Tucker, Deb Kean, Judy Proteous, Dr. Don Hunsberger, Margo Hunsberger

For patients outside of the OSFHT, they are still screened by telephone and letters are sent to their Primary Care Providers. The letter includes details about bone health risk factors, as reported by the patient, as well as suggested next steps that can be taken in order to help prevent future fractures based on the 2010 Clinical Practice Guidelines for the Diagnosis and Management of Osteoporosis.

The integration of the Fracture Liaison Coordinator within the OSFHT fills a community service gap between patients being treated for their fracture, and the follow-up assessment of their bone health. This collaboration is unique within the province, but work is underway in Simcoe Muskoka and other areas to a integrate the Fracture Prevention Coordinator within primary care settings.

Patient Resource

After the Fracture - Pain management

visit the web page at: http://www.osteoporosis.ca/copn

June is Seniors Month - A patient's story

FPC's approach to building advocates

In November 2014 Lorraine fell on the ice in her driveway which led to a fragility fracture of her femur. More than anything, she explained, she was not prepared for the emotional effect of her fracture. She went from being an active, feisty 80-year-old full of good self esteem to feeling like a frail old lady. Lorraine felt she had a significant loss of identity after her fracture. It was then she told herself she was 'wounded, not dead'. With the will power and emotional support from her family, Lorraine is starting to feel back to her normal self again.

She was screened through the Fracture Clinic Screening Program at the Grand River Hospital fracture clinic. Staff with the Ontario Osteoporosis Strategy recently met with Lorraine to discuss her experience.

When Lorraine came into the fracture clinic she was unaware of when her last BMD test was. Therefore, the Fracture Prevention Coordinator arranged one for her and provided her with literature about the program and resources about ways to support her bone health. Once she had the BMD done, Lorraine visited her family doctor to discuss the results. Grateful to have been given the information to help her make an informed decision and take back control, Lorraine began treatment for her bones. Expressing her gratitude toward the Screening program, Lorraine explained that she is not quite sure what she would have done if she had not been approached about having the bone density test done. She would encourage others like herself to not be afraid of the results, to take charge and take back control of their bones.

Before being seen in the fracture clinic Lorraine had heard little about how to keep her bones strong and the importance of bone density testing. She felt if she had known when she was 19 to exercise and take care of her bones, she would have done so.

When Lorraine was discharged from hospital, her first thought was – now what? Some encouraging words for other patients from Lorraine include; reach out, ask for help, and utilize the resources available. Take advantage of counselling or therapy offered and be your own advocate. In addition to these things, 'attitude makes a big difference in the healing process'.

One of the most instrumental aspects of her recovery was the emotional support she had with her family. Not many people realize the emotional struggle that comes along with a fall. The fear of falling is very real in those who have fallen, especially when it results in a fracture. "If I fall again, I might break something" is a thought in the back of Lorraine's mind. She also recommends to health care professionals, take a moment to address the patient as a human being who is frightened, and keep in mind to treat the patient as a whole.

A patients story

" If I fall again, I might break something"

Lorraine

Canadian Academy of Health Sciences

Highlighting Dr. Susan Jaglal contributions to research

We are delighted to inform you that **Dr. Susan Jaglal** was elected to Fellowship in the Canadian Academy of Health Sciences (CAHS), where a formal Induction ceremony will take place in Ottawa on September 17, 2015. Fellows of the Academy are elected on the basis of their demonstrated leadership, creativity, distinctive competencies and commitment to advance academic health sciences. Membership is considered one of the highest honours for members of the Canadian health sciences community and carries with it a covenant to serve the Academy and Canadian society.

Dr. Susan Jaglal

Dr. Jaglal's most significant contributions to research have been in the area of osteoporosis and hip fractures, with emphasis on health services research. In 2005, she was awarded the Toronto Rehabilitation Institute Chair at the University of Toronto (renewed three consecutive terms until 2020) to advance rehabilitation health services research. The renewal for a third term is only considered for exceptional individuals and Dr. Jaglal fits this description. Over the last few years, she conducted a number of studies that have influenced osteoporosis researchers and health policy analysts in Canada and internationally.

Canadian Academy of Health Sciences
Dr. Susan Jaglal continued

It is noteworthy that since 2010, she was selected as a mentor for United States Bone and Joint Initiative and Bone and Joint Decade Canada Young Investigators Initiative. In addition, Dr. Jaglal is on the Knowledge Translation Scholar Panel in the US for the National Institutes for Disability and Rehabilitation Research. Nationally, she is a very well respected member of the osteoporosis community and serves as a member of the Scientific Advisory Committee for Osteoporosis Canada.

Dr. Jaglal has made numerous significant contributions which include developing knowledge translation interventions to improve post-fracture care. The Ontario Women's Health Council provided Dr. Jaglal with funding to develop an integrated model for post-fracture care in Ontario. This led to a successful grant from the CIHR Aging Pilot studies competition (2002). In 2004, she received funding from the Primary Health Care Transition Fund to conduct a demonstration project of an Integrated Post Fracture Care Model for areas under served by family physicians. Through this work, she served as a member of the steering committee to develop a chronic disease management strategy for osteoporosis for Ontario funded by the Ministry of Health in 2005. Dr. Jaglal continues to lead the evaluation and rehabilitation compo(nents of the Ontario Osteoporosis Strategy. One of her most significant contributions has been the following publication:

> Jaglal SB, Weller I, Mamdami M, Hawker G, Kreder H, Jaakkimainen L, Adachi R. Population Trends in Bone Density Testing, Treatment and Hip and Wrist Fracture Rates: Are the Hip fracture Projections Wrong? Journal of Bone and Mineral Research 2005;20(6):898-905.

This article had an accompanying editorial and demonstrated that the incidence of hip fractures is decreasing and that this decrease is linked to better diagnosis and treatment of osteoporosis. In the last five years, Dr. Jaglal was also responsible for the development of the Fracture Fighters Program for Inpatient Rehabilitation. This program addressed a significant care gap as conventional rehabilitation protocols frequently did not make the link between fractures and osteoporosis, and therefore lacked osteoporosis assessment and management interventions.

In short, Dr. Susan Jaglal's work is leading to important practice changes locally and beyond. The care models she has developed and evaluated have influenced and will continue to influence care internationally in the years ahead as others view the benefits of the models she has implemented and tested in Canada.

Markham Stouffville and Southlake Hospital
Recognized by the Ontario Osteoporosis Strategy

Representatives from the Osteoporosis Strategy visited Markham Stouffville Hospital and Southlake Regional Heath Centre to recognize both hospitals for the successful implementation of the Fracture Clinic Screening Program. Dr. Bertoia and Riki Yamada accepted the award for Southlake Regional Health Centre from Osteoporosis Canada, and Dr. McMahon accepted for Markham Stouffville Hospital.

In addition, Dr. Thorne and his team at The Arthritis Program were recognized for connecting their osteoporosis program to the Fracture Clinic Screening Program. This successful collaboration has allowed us to improve patient care by facilitating bone mineral density testing, referring to a specialist, and providing osteoporosis care to patients who do not have a family physician. Dr. Ng and Diane Tin accepted the award from Osteoporosis Canada.

Too Fit to Fracture

Managing Osteoporosis through Exercise

The challenge was to: Design an exercise routine that includes strength training, posture, balance training and weight bearing aerobic physical activity for patients with osteoporotic fractures. With this goal in mind Dr. Lora Giangregorio from the University of Waterloo and a group of international experts developed the '**Too Fit to Fracture exercise recommendations**' for individuals with osteoporosis or osteoporotic vertebral fracture. The guidelines were published for Osteoporosis International as an e-publication in November 27, 2013.

In June 2014, at the Canadian Physiotherapy Congress, Osteoporosis Canada launched 'Too Fit to Fracture' with an English booklet and an educational series by Dr. Angela Cheung, Dr. Lora Giangregorio and Dr. Judi Laprade.

The 'Too Fit to Fracture' booklet is full of tips, exercises, and safe exercise modifications for people with osteoporosis and/or fragility fractures.

Exercise Tips for individuals with osteoporosis

* Exercise every day!
* Engage in weight bearing activities daily
* Perform strength training activities at least 2 days of the week
* Participate in activities that challenge balance daily
* Practice good posture and proper position every day

Download your copy of Too Fit to Fracture today:
http://www.osteoporosis.ca/wp-content/uploads/OC-Too-Fit-To-Fracture-Osteo-Exercise-Book.pdf

bonefit Highlights

The University of Waterloo is engaged in translating 'Too Fit to Fracture' research to community partners through Bone Fit™ workshops. The research project is committed to supporting one Bone Fit™ training in each LHIN by April 2016.

At the Bone Fit™ workshops, the University of Waterloo will engage with healthcare providers and community fitness professionals to understand their knowledge of 'Too Fit to Fracture' & Bone Fit™ principles and to identify knowledge gaps.

By training health, fitness and clinical exercise specialists with 'Too Fit to Fracture' Exercise Recommendations through Bone Fit™ we are providing safe exercises for those at risk of falls or fractures.

Ontario College of Family Physicians

The Ontario College of Family Physicians (OCFP) is committed to the delivery of educational activities to promote the osteoporosis guidelines as part of the Ontario Osteoporosis Strategy (OOS) and will be providing the Mainpro-C workshop: How do the Osteoporosis Guidelines Apply to Your Patients?
This workshop is geared towards family physicians and other interdisciplinary providers and aims to improve participants' understanding of the current osteoporosis care gap and provide details about the 10-year risk stratification and treatment algorithm. This program meets the accreditation criteria of the College of Family Physicians of Canada, and is accredited for 3.0 CFPC Mainpro-C Credits. Events will be coming to 10 communities across Ontario such as Windsor, Orangeville, and Mississauga soon! Please visit http://ocfp.on.ca/cpd/calendar for details.

Additional osteoporosis management tools and resources are available through the e-learning module which provides health care professionals with a quick-reference summary of the most important recommendations from the 2010 Clinical Practice Guidelines for the Diagnosis and Management of Osteoporosis in Canada. This program has been accredited by the College of Family Physicians of Canada for up to 1.5 Mainpro-M1 credits. The online course can be accessed through the following link: https://machealth.ca/programs/osteoporosis/

Upcoming Events

Osteoporosis Canada and Women's College Hospital have collaborated on the development of an inter-professional education series, "Beyond the Break" presented via telemedicine. Targeted towards health professionals working with people living with osteoporosis, this modular series is designed to provide updates on the latest advances in recognition, diagnosis, treatment and education on osteoporosis.

Module 3: Osteoporosis & Cancer

Part 1: Cancer, Exercise & Bone Health
Date: August 21, 2015
Time: 12:00 pm – 1:00 pm DST
Speaker: Kate Smith, B.Kin (Hons), R.Kin.

Contact your Regional Integration Lead

If your facility or program would like to include an article in your hospital newsletter contact your local RIL

Look for the next issue of Fracture Link in Nov 2015.

If you would like to be featured in the upcoming issue of Fracture Link please contact Marq Nelson

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