

Osteoporosis Canada's  
Scientific Advisory Council

# SAC Link

## Highlights from ASBMR

### Lindy Fraser Award 2018

Osteoporosis Canada's Scientific Advisory Consultants and Osteoporosis Canada, would like announce this year's Lindy Fraser Award winner as chosen by the members of the SAC.

Osteoporosis Canada established this award in 1993 to recognize individuals who have made an outstanding contribution to the field of osteoporosis research and education in Canada. The award is named in honour of Lindy Fraser, who in 1981 at the age of 87, started the first self help group for people with osteoporosis. She was an inspiration to others as she shared her struggle to get out of bed, into a wheelchair, then to walk again with a cane. In 1982, she answered a call from a small group in Toronto to take part in the first national symposium on osteoporosis. That appearance was the spark that gave rise to Osteoporosis Canada.



This year's award winner has advanced our vision of a Canada without osteoporotic fractures. Osteoporosis Canada recognizes posthumously Dr. Sumit (Me2) Majumdar as the 2018 Lindy Fraser Award Winner.

Sumit (Me2), who passed away in January 2018, was a Professor at the University of Alberta where he worked as a clinician, teacher and researcher.

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Me2 was an active and highly respected member of the Osteoporosis Canada Scientific Advisory Board, serving on the Executive and Guidelines committees. His contributions to OC and to the scientific community, through his engagement and excellence in clinical research and knowledge translation in the improving post fracture care will have a substantial and lasting impact. Me2 was recently elected a Fellow of the Canadian Academy of Health Science, a tribute to his many scientific contributions.

At the ASBMR SAC Breakfast in Montreal on September 29, 2018, Dr Suzanne Morin presented the award to Dr. Bill Leslie who accepted the award on behalf of Me2's family. Me2 will be remembered as a colleague and a friend who made a difference in the care of patients with osteoporosis.



*Dr. Morin & Dr. Leslie*

## SAC Members at ASBMR

### Poster: Engaging Patients in the Development of New Canadian Osteoporosis Clinical Practice Guidelines



*Dr Suzanne Morin and Mr. Larry Funnell*

To help ensure that new clinical guidelines for osteoporosis care being developed by Osteoporosis Canada address the issues important to those who live with the disease more than 1100 members of the Canadian Osteoporosis Patient Network (COPN) completed an on-line survey in the spring of 2018. Highlights of the survey, presented by long time COPN Executive Committee member Larry Funnell in a poster at the American Society for Bone Mineral Research annual conference in Montreal on October 1, 2018 include:

- Preserving quality of life and well being is the most important treatment outcome for patients

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- More than 1/3 want updated guidelines related to pharmacotherapy, like benefits and harms and drug holidays.
- Many stressed the importance of including recommendations on exercises and physical activities that are safe and effective for those with osteoporosis.

All of these, and many more survey responses on a full range of issues that also include risk assessment and nutrition will help the interdisciplinary working group of clinicians, researchers and patients ensure Osteoporosis Canada's Clinical Practice Guidelines reflect the wants and needs of patients.

## **Robert Heaney Young Investigator Award for the most outstanding abstract in nutrition research**

**Award Winner: Emma Billington**



"The Calgary Vitamin D Study: Safety of Three-Year Supplementation With 400, 4000 or 10000 IU Daily".

## **ASBMR 2018 Young Investigator Travel Grant**

**Award Winner: Andy Kin On Wong**

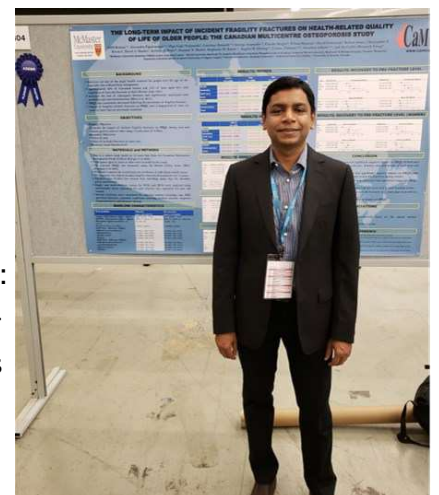
Abstract presentation "Conditional Bone and Muscle Correlates of Osteoarthritis Influenced by Use of Antiresorptive Therapy in Postmenopausal Women— the AMBERS study."

## **ASBMR Young Investigator Awards**

The ASBMR Young Investigator Award recognizes young investigators who submit top-ranking abstracts to an ASBMR Meeting. Two of the winners, Sayem and Danielle, were recently awarded an OC Travel Award.

**Award Winner: Sayem Borhan**

Title: "The Long-term Impact of Incident Fragility Fractures on Health-related Quality of Life of Older People: The Canadian Multi-centre Osteoporosis Study."



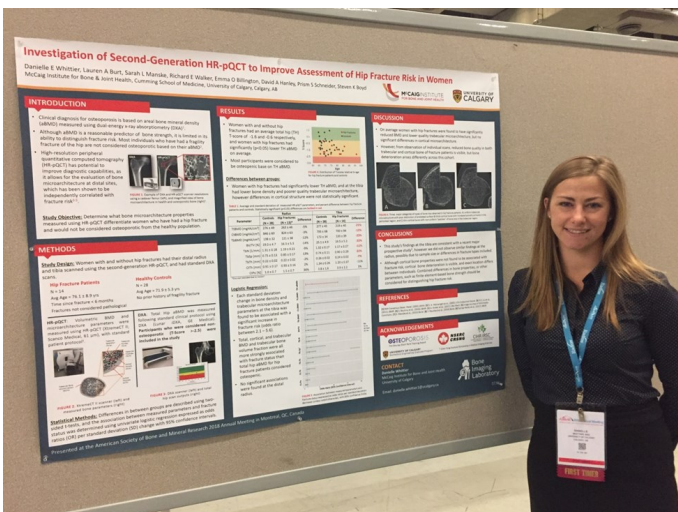
In this study we explored the long-term impact of incident fragility frac-

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ture on health-related quality of life (HRQL) of older people (50 years or older) using 10 years follow-up data from the Canadian Multicentre Osteoporosis Study (CaMos). This population-based study indicates that hip and spine fractures are associated with significant negative impact on HRQL, especially on mobility, self-care and ambulation. Recent fractures associated with greater negative impact on HRQL compared to fractures that occurred long before the follow-up assessment, except for hip fractures. Moreover, multiple fractures substantially affect the HRQL of older people. Finally, women with hip fractures never recovered to their pre-fracture level HRQL.

### Tim Murray Travel Award Winners at ASBMR—Danielle Whittier



### New Members of the SAC

OC received many applications for SAC membership this year. Please welcome the following new members:

#### Marie-Claude Audet, MD, FRCPC, Université Laval

Dr. Audet is an adult rheumatologist at CHU de Québec and clinical professor in the Department of Medicine at Université Laval. After completing residency training in adult rheumatology at University Laval in 2014, she completed a one year clinical fellowship in bone diseases in Geneva, Switzerland.

#### Anna Byszewski MD MEd FRCP(C) University of Ottawa

Dr. Byszewski is a geriatrician with the Regional Geriatric Program of Eastern Ontario. She has evaluated the osteoporosis care gap with hip fracture patients at The Ottawa Hospital. Anna is involved in strategies to bridge this care gap. Other interests include work done around dementia and driving as part of the national CanDRIVE network, focusing on developing tools around communication and Toolkits for patients/caregivers and health professionals.

#### Claudia Gagnon, MD FRCPC Université Laval

Dr. Claudia Gagnon is an Associate Professor in the Department of Medicine at Université Laval, an en-

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ocrinologist at the CHU de Québec and a clinician-researcher at the CHU de Québec Research Centre. Her clinical expertise is on secondary causes of osteoporosis, mainly endocrine disorders. Her research focuses on bone health in diabetes and obesity and the effects of diabetes and obesity treatments on bone (including bariatric surgery).

## **Dr. Thérèse Hodgson, Family Medicine**

Dr. Therese Hodgson, is a graduate of the University of Ottawa's Family Medicine program (1988) and has since been in full time practice in Orleans, a suburb of Ottawa.

For more than 20 years, she has been involved with the Medical Council of Canada. Her numerous functions include Chief Examiner for the National Assessment Collaborative, Deputy Registrar for the QE-II Exam and member of the MCC-II Test Committee. She was awarded the CLIME (Canadian Leadership Institute for Medical Education) bursary in 2015.

Dr Hodgson volunteered her time as member of the Children's Hospital of Eastern Ontario Continuing Medical Education Committee for over 10 years and presently as a member of CHEO's Privacy Committee.

As a physician co-lead for the Eastern Ottawa sub-region of the Champlain LHIN, Dr Hodgson is working towards health system improvement for her family physician colleagues.

Her interest and passion for digital health is demonstrated in her roles of Ontario MD peer leader, chair of an EMR Community of Practice and physician lead for the Champlain Service Delivery Partner for Connecting Ontario-NER program.

Dr Hodgson role also included sub-regional lead for the Ottawa East Champlain LHIN.

Her interest in Bone Health led to the development of a Bone Health Workbook. In collaboration and feedback from the Champlain RGPEO and Osteoporosis Canada Regional Leads, this digital tool incorporates over 30 EMR tools and supporting documents (including the GERAS EMR Custom form) dedicated to the prevention of falls, osteoporosis identification and management and post fracture care based on quality improvement framework. The workbook and tools are now available to community physicians. In 2018, Dr. Hodgson expanded her role in promoting osteoporosis knowledge to the community as a facilitator for OCFP Osteoporosis Workshop. In June 2018, Dr Hodgson presented the GERAS EMR Custom form at the first OCFP STEP Conference in Ottawa.

## **Adrian Lau, MD, MScCH, FRCPC, University of Toronto**

Adrian obtained his medical degree in 2007 at the University of Toronto, where he also completed his postgraduate training in Internal Medicine, and Endocrinology and Metabolism. In 2016, he obtained his

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Masters of Science in Community Health (Health Practitioner Teacher Education program) at the University of Toronto.

Currently, he is an Assistant Professor and Clinician Teacher in the Division of Endocrinology and Metabolism at Women's College Hospital. His particular clinical interests are in osteoporosis and metabolic bone diseases. He is actively involved in teaching at both the undergraduate and postgraduate levels.

Since 2017, he has also been serving on the Scientific Advisory Committee of The International Society of Clinical Densitometry.

### **Fabrice Mac-Way, MD, FRCPC, Université Laval**

Dr Fabrice Mac-Way is a nephrologist and clinician-scientist at Centre de Recherche du CHU de Québec, Laval University. He completed a post-doctoral training in bone biology at Université de Lyon, St-Etienne (France) where he developed an expertise in bone histomorphometry analysis in both animals and humans in the context of CKD-related bone disease. He then completed his post-doctoral training in the study of bone-vessels interaction in CKD. His research interests concern the mechanisms of bone disease and vascular calcification in CKD by conducting translational studies.

### **Dr. Jenny Thain, BMed Sci, BM BS, MRCP, Western University**

Dr. Jenny Thain is an Assistant Professor in the Division of Geriatric Medicine, Western University. She completed her geriatric medicine training in the United Kingdom, specializing in orthogeriatric care. Her area of clinical interest is in improving hip and fragility fracture care in the frail elderly.

### **Hassan Vatanparast, MD, PhD, University of Saskatchewan**

Hassan Vatanparast (MD, PhD,) Professor at the College of Pharmacy and Nutrition, University of Saskatchewan. He has been involved in research and health promotion activities related to bone health for over 15 years. Before moving to Canada in 2002, he was leading the national osteoporosis program in Khorasan province, Iran) as a part of his responsibilities directing Non-communicable Disease Prevention and Control Department (Provincial Health Centre, Mashhad University of Medical Science). During his PhD program, he explored the impact of nutrition on bone health from childhood to adulthood. That interest was followed during his postdoctoral fellowship and career as a faculty member. Among several key publications and knowledge mobilization activities, a highlight of his contribution is the current calcium DRI values for adolescences, where data from Pediatric Bone Mineral Accrual Study was considered as the main line of evi-

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dence. Currently, evaluating bone health in at-risk populations such as newcomer children in Canada, Maya Indigenous children in Guatemala, dietary patterns and bone health throughout lifespan, comparing changes in calcium and vitamin D intake and their sources in general and osteoporotic populations from 2004 to 2015 in Canada, and vitamin D fortification policies and health, are some of the examples of his research activities. In addition to these activities, he has provided advisory service to the Iranian National Nutrition Scientific Committee on vitamin D recommendations and fortification policies. He has also published and continue to publish on the controversial topics such as calcium supplementation and risk of cardiovascular disease.

## **Joanna Sale, PhD, St. Michael's Hospital, Toronto**

Joanna Sale is a Scientist in the Li Ka Shing Knowledge Institute at St. Michael's Hospital. She is also Research Program Lead for the Musculoskeletal Health and Outcomes Research group at St. Michael's Hospital, an Associate Professor in the graduate department of the Institute of Health Policy, Management & Evaluation at the University of Toronto, and a Full Member of the School of Graduate Studies at the University of Toronto. She holds a New Investigator Award from the Canadian Institutes of Health Research. Her current interests are in musculoskeletal health, medication use, the patient perspective, older adults, and behaviour change. She co-leads the evaluation of the Fracture

Screening and Prevention Program, a program within the Ontario Osteoporosis Strategy that is funded by the Ontario Ministry of Health and Long-Term Care.

## **SAC Committees 2018-2019**

### **Executive Committee:** Chair: Sandra Kim

Vice Chair: Rowena Ridout, Past Chair: Suzanne Morin  
Members: Aliya Khan, Steven Burrell, Heather McDonald-Blumer, Marie – Claude Beaulieu, Mohit Bhandari, Nese Yuksel, Alexandra Papaioannou, Stephanie Kaiser, Wendy Ward, Ravi Jain

### **Guidelines Committee:**

Chair: Heather McDonald-Blumer

Members: Andy Kin On Wong, Angela Juby, Angela Cheung, Bill Leslie, Lisa Ann Fraser, Lora Giangregorio, Nese Yuksel, Sandra Kim, Sidney Feldman, Suzanne Morin, Sandra Kim, Ravi Jain, Christine Thomas

### **Research Committee:** Chair: Wendy Ward

Members: Angela Juby, Maureen Ashe, Cathy Craven, Christine Thomas (COPN), Jerilyn Prior, Laetitia Michou, Sharon Marr, Suzanne Cadarette, Sandra Kim

### **Development Committee:**

Chair: Alexandra Papaioannou

Members: Rowena Ridout, Sabrina Gill, Sian Iles, Stephanie Atkinson, Susan Whiting, Sandra Kim

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**Rapid Response Team:** Chair: Aliya Khan  
Members: Sandra Kim, Rowena Ridout, Lianne Tile

**Knowledge Translation Core Committee:**  
Co-Chairs: Stephanie Kaiser and Prism Schneider  
Members: Aliya Khan, Lynn Nash, Nese Yuksel, Sandra Kim, Ted Tufescu, Monica Menencola, Ravi Jain

**GP Subcommittee:** Chair: Nese Yuksel  
Members: Lynn Nash, Sandra Kim, Marg McDonnell, Marie Claude Beaulieu, Sheila Dunn, Sidney Feldman, Heather Frame

**DI Subcommittee:** Chair: Aliya Khan  
Members: Stephanie Kaiser, Steven Burrell, Sian Iles

**Ortho Subcommittee:** Chair: Ted Tufescu  
Members: Prism Schneider, Greg Barry, Heather Frame, Sandra Kim, Monica Menencola, Luanne Schenkels

**COPN Review Committee:** Chair: Rowena Ridout  
Members: Maureen Ashe, Angela Juby

## OC's first national FLS audit

Osteoporosis Canada has released a report providing an overview from OC's first national FLS audit for the cohort of patients enrolled in Canadian FLSs between April 1 and September 30, 2017.

The results of the audit demonstrate the very positive impact that Canadian FLSs have on the lives of fragility fracture patients. By significantly improving osteoporosis care, FLSs help prevent future fractures, reduce patient suffering and increase their independence.

To read the full report, please [click here](#).

## Rapid Responses

*Rapid Responses can also be found [here](#).*

### Increased risk of vertebral fracture after stopping denosumab

October 2018

Denosumab (Prolia) has been shown to reduce the risk of fracture in postmenopausal women and men  $\geq 50$  years old with osteoporosis. It has also been approved for steroid induced bone loss.

Individuals who were in the FREEDOM study, which evaluated denosumab in comparison to placebo, were followed, and those who stopped denosumab had a subsequent reduction in bone mineral density (BMD) and an increase in the risk of fracture (Bone JCEM 2011).

Analysis of the data from the FREEDOM study as well as the Extension trial of denosumab up to a total of 10 years, confirmed that stopping denosumab was associ-



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ated with an increase in rate of bone loss as measured by bone turnover markers, which rose 3 months after missing a scheduled dose. BMD decreased back to the baseline level 12 months after missing a scheduled dose of denosumab (Cummings JBMR 2017).

Individuals who had received  $\geq 2$  doses of denosumab or placebo, and stopped treatment but remained in the study for  $\geq 7$  months after the last dose, were reviewed. In the 1001 patients who stopped denosumab, the rate of spine fractures increased from 1.2/100 patient-years (while on treatment) to 7.1/100 patient-years, a similar rate to the placebo group. Multiple ( $>1$ ) vertebral fractures appeared to be more common in the group stopping denosumab than the group stopping placebo (3.4% vs 2.2%). The risk of having multiple ( $>1$ ) vertebral fractures after stopping denosumab was higher in those people who had already experienced a prior spine fracture, and also in those who had rapid rates of bone loss. The rates of non-spine fractures were similar in those stopping denosumab and those stopping placebo (2.8% denosumab, 3.8% placebo) (Cummings et al JBMR 2017).

Due to the increased risk of vertebral fractures associated with denosumab discontinuation, it is important not to miss scheduled doses of denosumab once treatment has started. Patients need to be advised of the increased risk of bone loss and vertebral fracture when therapy is stopped. If denosumab needs to be stopped, it should be replaced by an alternative osteoporosis medication to help prevent rapid bone loss

and risk of fractures (Symonds CMAJ April 2018).

Osteoporosis Canada advises individuals on denosumab therapy to discuss their treatment with their physician prior to stopping therapy or missing a scheduled dose.

1. Bone HG et al JCEM 2011;96:972-980
2. Cummings et al JBMR vol 33, No2, Feb 2018 pp 190-198
3. Symonds C, Kline G CMAJ 2018 April 23 :190 pp E485- 486

*Prepared by Aliya Khan, Sandra Kim, Rowena Ridout and Lianne Tile, on behalf of the Scientific Advisory Council of Osteoporosis Canada, Rapid Response Committee*

## **Vitamin D and effects on Fractures, Falls and Bone Mineral Density**

Oct 16, 2018

The recent study by Bolland and colleagues published in the Lancet Diabetes Endocrinology (Oct 4, 2018) is an updated meta-analysis that evaluated the effects of vitamin D supplementation on fractures, falls and bone mineral density (BMD) in adults. This study analyzed the pooled findings of 81 randomized control trials, collectively involving more than 50,000 participants.

The majority of the trials included in this analysis were of vitamin D alone, with daily doses of more than 800

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IU daily, vs. untreated controls, in community-dwelling women age 65-years or older. Trials of high-dose vs. low-dose vitamin D, as well as coadministration of calcium with vitamin D were also included. Study duration was 1 year or less. The primary outcomes were fractures and falls; and the secondary outcome was change in BMD from baseline at the lumbar spine, total hip, femoral neck, total body, and forearm (1).

This meta-analysis found that vitamin D supplementation did not have an effect on the risk of fractures or falls, and there were no meaningful effects on BMD. The authors also concluded that there were no differences between the effects of higher and lower doses of vitamin D (1).

In more than half of the trials, subjects had a baseline vitamin D level (25OHD) of <50 nmol/L (a cutoff considered by many including the Endocrine Society to indicate vitamin D insufficiency( 2), and almost all had a baseline 25OHD <75 nmol/L. Only four trials (6%) studied people with vitamin D deficiency (25OHD <25 nmol/L), in whom vitamin D supplementation may produce different results. Since there is large variability in how vitamin D levels respond to fixed doses of vitamin D (most studies used 1000 IU per day or less), 25OHD levels may not have reached the target range of interest in these studies.

The finding that vitamin D alone may not prevent fractures, falls or improve BMD is consistent with prior

published studies. While studies have shown little impact on outcomes when vitamin D or calcium are used separately, a review of trials of calcium and vitamin D used together in individuals living in long-term care showed benefit (3). The current meta-analysis by Bolland included only 20 trials (25%) of vitamin D taken with calcium vs. calcium alone, and did not include studies that compared vitamin D used together with calcium vs. no treatment.

Although the major strength of the current study lies in the large number of studies included in the analysis, it is important to recognize potential limitations including the heterogeneity of populations, study designs and results of the studies in the meta-analysis. Importantly, this study did not specifically address the vitamin D requirements of individuals with osteoporosis, those with risk factors for osteoporotic fractures, or those with risk factors for vitamin D deficiency.

It is important to remember that vitamin D is needed for optimal calcium absorption from the gut, and plays an important role in calcium balance and bone mineralization. Inadequate vitamin D can result in poor bone mineralization, as well as bone loss due to a rise in parathyroid hormone levels.

Although this study suggests that routine vitamin D supplementation, in particular, high dose vitamin D, may not be necessary for healthy individuals in the general population, these findings cannot be applied to

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people with osteoporosis, or to those with risk factors for fractures or vitamin D deficiency.

Osteoporosis Canada recommends that individuals with osteoporosis or with risk factors for fractures receive adequate vitamin D, as recommended at 800-2000 IU per day (4) however vitamin D dosing may require adjustment in order to achieve the adequate 25OHD level needed for optimal calcium homeostasis. Further studies are needed to clarify the optimal 25OHD level for those with osteoporosis or with risk factors for fracture. High dose vitamin D supplementation should be avoided due to potential harms (5). There are large randomized trials currently ongoing to help answer questions about effects of vitamin D supplementation on other aspects of health (6). Appropriate osteoporosis medication may be required for those at high fracture risk. It is important to note that clinical trials showing the effectiveness of osteoporosis medications all included vitamin D and calcium as part of the treatment regimen.

#### References:

1. Bolland et al Lancet Diabetes Endocrinol Oct 2018
2. Evaluation, Treatment, and Prevention of Vitamin D Deficiency: an Endocrine Society Clinical Practice Guideline -Michael F. Holick Neil C. Binkley Heike A. Bischoff-Ferrari Catherine M. Gordon David A. Hanley Robert P. Heaney M. Hassan Murad Connie M. Weaver The Journal of Clinical Endocrinology & Metabolism, Volume 96, Issue 7, 1 July 2011, Pages 1911-1930
- (3) Papaioannou et al CMAJ 2015 187: 1-11.
- (4) Vitamin D in adult health and disease: a review and guideline statement from Osteoporosis Canada by David A. Hanley MD et al CMAJ 2010
5. Smith et al 2017 J Steroid Biochem Mol Biol 173:317-22
- (6). Pradhan AD Manson JE Update on the Vitamin D and Omega-3 trial (VITAL). Study J Steroid Biochem Mol Biol. 2016 Jan;155(Pt B):252-6.

*Prepared by Aliya Khan, Sandra Kim, Rowena Ridout and Lianne Tile, on behalf of the Scientific Advisory*

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**BEYOND  
THE  
BREAK**



SCHEDULE 2018-2019  
12:00PM to 1:00PM EST



- Watch the webcast by clicking on the event # link below prior to the event or find it on [webcast.otn.ca](http://webcast.otn.ca)
- Our sessions are run on OTN, and GoToWebinar for out-of-province sessions and will be archived within 5 business days.
- View our archived sessions by scrolling to the bottom of the Beyond the Break page at [osteoporosis.ca](http://osteoporosis.ca)

28 NOV

Ostéoporse: qui traiter?  
Register: <http://bit.ly/2CUM1ls>



Dr. Marie-Claude  
Audet



Presented on GoToWebinar

30 NOV

Preventing Falls for Patients with  
Neurological Impairment: One  
Step at a Time  
Event #: 92144549



Dr. Cathy Craven



Presented on otn  
Care. Connected.

21 FEB

Reducing the risk for falls in later life:  
It takes a village  
Event #: 83387747



Dr. Maureen Ashe



Dolores Langford



CENTRE  
FOR  
Health  
and Mobility

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Care. Connected.



OSTEOPOROSIS



Updated October 16, 2018

For more information, visit the Beyond the Break webpage [here](#).