Osteoporosis Canada
Ostéoporose Canada

COPING

November 16, 2016

Remember: You can live well with osteoporosis!

People with Diabetes are at Higher Risk of Fractures

In this issue

Fracture Fact

Osteoporosis that results from having another disease or condition or from the treatment of another condition is called secondary osteoporosis.

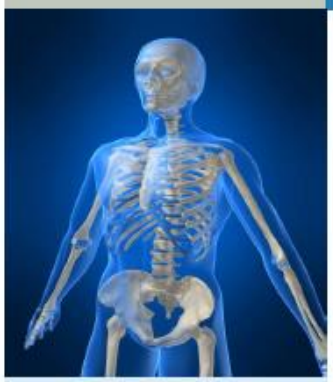
Diabetes & Bone Health:
A Forgotten Complication

Watch it live!

Have your questions answered!

Tues. Nov. 29, 2016
12:30 - 1:30 EST

Register for the forum at:
http://www.osteoporosis.ca/virtual-forum



Presenter:

Julie Gilmour, MBChB, FRCPC, MSC (HQ)
Endocrinologist, St. Michael's Hospital

November is Osteoporosis Month and Diabetes Awareness Month. Join Dr. Gilmour as she explores the connection between the two.

- Both men and women with diabetes are at increased risk of broken bones from osteoporosis
- Reduced sensation in the feet and episodes of low blood sugar from diabetes can cause falls, resulting in fracture
- Certain drugs used to treat type 2 diabetes can increase the risk of fracture

For more information on Osteoporosis Canada and the Canadian Osteoporosis Patient Network (COPN) call 1-800-463-6842 or visit osteoporosis.ca/copn

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People with Diabetes are at Higher Risk of Fractures

Published by the International Osteoporosis Foundation, August 19, 2014. Adapted and reprinted with permission.

With the incidence of type 2 diabetes rising at alarming rates, osteoporosis management in people with diabetes is a topic of growing concern.

Type 2 diabetes mellitus - which accounts for 90% of all diabetes cases - affects millions of people worldwide. With the aging of the world's population, decreasing physical activity and more obesity, the incidence of type 2 diabetes is rising at alarming rates. The International Diabetes Federation estimates that there are more than 382 million people with diabetes worldwide, and this number is likely to increase by 55% by 2035.

What's the relationship between diabetes and osteoporosis?

Diabetes occurs either when the pancreas is no longer able to make the hormone insulin (type 1 diabetes), or when the body cannot make good use of the insulin it produces (type 2 diabetes). Insulin helps glucose pass from the blood stream into the cells in the body in order to produce energy. Not being able to produce insulin or use it effectively leads to hyperglycaemia, i.e. raised glucose levels in the blood. Over the long term, high glucose levels can damage the body resulting in the failure of various organs and tissues.

Because of the vast number of people affected, the relationship between diabetes and osteoporosis is of special concern. Although more research is needed to clarify the complex relationship between these two diseases, researchers have shown that the hormone osteocalcin, which derives from bone, regulates insulin secretion by the pancreas. This interplay between bone and insulin is a key link between osteoporosis and diabetes. The use of some antidiabetic drugs has also been associated with an increased risk of fractures.

Type 1 diabetes, which typically occurs at a young age when bone mass is still increasing, is linked to low bone density. One reason is that children and adolescents who have diabetes may achieve lower peak bone mass (the maximum strength and density that bones reach by adulthood) and that this increases the risk of developing osteoporosis later in life.

Doctors now know that people with type 2 diabetes are also at increased risk of fractures, despite typically having higher bone mineral density (BMD). There is new evidence suggesting that there may be structural abnormalities that may cause greater bone fragility. However, the higher fracture risk is also due to the increased risk of falling. This may be caused in part by poor eyesight, nerve damage in the feet, or poor muscle strength and balance related to sedentary lifestyle. Hypoglycaemia (low blood sugar reactions) may also contribute to falls.

Osteoporosis management in people with diabetes

According to the National Institute for Health (NIH) in the U.S., the strategies to prevent and treat osteoporosis in people with diabetes are the same as for those without diabetes.

Recommendations for people with diabetes include:

A healthy diet rich in calcium and vitamin D

Calcium is contained in various foods, and especially in milk and milk products. Vitamin D is produced in the skin upon exposure to sunlight. However, in Canada sunlight is an unreliable source; there are few food sources of vitamin D; and as we age, our body is less able to make vitamin D from the sun. Therefore, Osteoporosis Canada recommends routine daily supplementation of vitamin D for all Canadian adults all year round. Also, not

everyone is able to get enough calcium in the diet and so many may require calcium supplementation. Individuals should take calcium supplements only after talking to their doctor.

Regular bone strengthening exercise

The best exercises for bones are regular strength-training and weight-bearing exercises. Strength training includes working with free weights or your own body weight, as in wall push ups. Some examples of weight-bearing exercise include walking and stair climbing. Regular exercise can also help prevent bone loss and, by enhancing balance and flexibility, reduce the likelihood of falling and breaking a bone. Exercise is especially important for people with diabetes since exercise helps insulin lower blood glucose levels. People with diabetes should talk to their doctor before starting an exercise program.

Healthy lifestyle

Avoiding smoking and alcohol not only helps with the management of diabetes, it is also important for bone health.

Bone density testing and fracture risk assessment

People with diabetes should talk to their doctors about whether they might be candidates for a bone density test. CAROC and FRAX calculations may also be used to predict 10-year risk of fracture based on individual risk factors. Although FRAX does predict fracture risk in older patients with Type 2 diabetes, it has been shown to underestimate the risk in these patients. Doctors must therefore consider a possible further increase in risk due to diabetes when interpreting the FRAX scores.

Medication

Drug treatments approved for the prevention and treatment of osteoporosis in postmenopausal women and men are commonly prescribed, although more research is needed to determine how effective these treatments are in older patients with diabetes.

Minimizing the risk of falling

Two main steps to avoid falls are wearing slip-proof shoes and fall-proofing the home. The latter may include installing hand rails on stairs and in bathrooms as well as ensuring that walkways are free of hazards (such as loose rugs). Balance and strength-training exercises also help to reduce the risk of falls.

For more information on diagnosis and fracture risk assessment, go to http://www.osteoporosis.ca/multimedia/pdf/publications/Diagnosis_EN.pdf; for drug treatments, go to http://www.osteoporosis.ca/wp-content/uploads/Drug_Treatments_September_2013_EN.pdf.

If you have questions about this article or any other aspect of osteoporosis, please call toll-free 1-800-463-6842 (416-696-2663 in the Greater Toronto Area) to speak to an information counsellor.

FUNNY BONE:

Youth would be an ideal state if it came later in life. – Herbert Asquith

Register Today

Webinar: New Research in Protein & Healthy Aging

Date and Time: Thursday, November 17, 2016 at 12:00pm-1:00pm EST
Cost: Free!

Speaker: Dr. Wendy Ward
Topic: Protein and Bone Health

A Professor in the Faculty of Applied Health Sciences at Brock University where she holds a Canada Research Chair in Bone and Muscle Development.

Wendy's research program, studies how foods and food components can set us on a better trajectory for bone health throughout the lifespan. The goal of her research program is to develop dietary strategies that help protect against fragility fracture and osteoporosis. She is a member of the Scientific Advisory Council of Osteoporosis Canada and is actively involved in continuing education for health professionals and community groups.

Speaker: Dr. Stéphanie Chevalier, RD
Topic: The role of protein in preventing sarcopenia: how much, which and when?

An Assistant Professor in the Department of Medicine and associate member of the School of Dietetics and Human Nutrition, McGill University.

Her research goal is to better understand the metabolic alterations leading to muscle and function loss and develop nutritional strategies to counteract it. Her work involves the use of stable isotope tracer methodology to quantify protein kinetics in humans, coupled with assessment of body composition, nutritional status and physical function performance.

Osteoporosis Canada / Ostéoporose Canada

Ontario Pork

Webinar on Protein and Healthy Aging

Join Osteoporosis Canada and Ontario Pork at a free webinar on the role of protein in Healthy Aging on Thursday 17 November at 12:00PM EST

This webinar will be exploring new research on the role of quality protein in healthy aging in the prevention of muscle wasting and as it affects bone health.

Click here to register for the presentation.

Presenters include:
Dr. Stéphanie Chevalier, Ph.D. is an assistant Professor in the Department of Medicine at McGill University and Associate Member at the School of Dietetics and Human Nutrition. She will be discussing protein nutrition in the aging population and its role in preventing the age-related loss of muscle mass and function, i.e. sarcopenia.

Dr. Wendy E. Ward, M.Sc., Ph.D. is a Professor at Brock University in the Faculty of Applied Health Sciences and a Canada Research Chair in Bone and Muscle Development. She will be discussing the importance of high quality protein in bone health.

A Recipe from our Sponsor

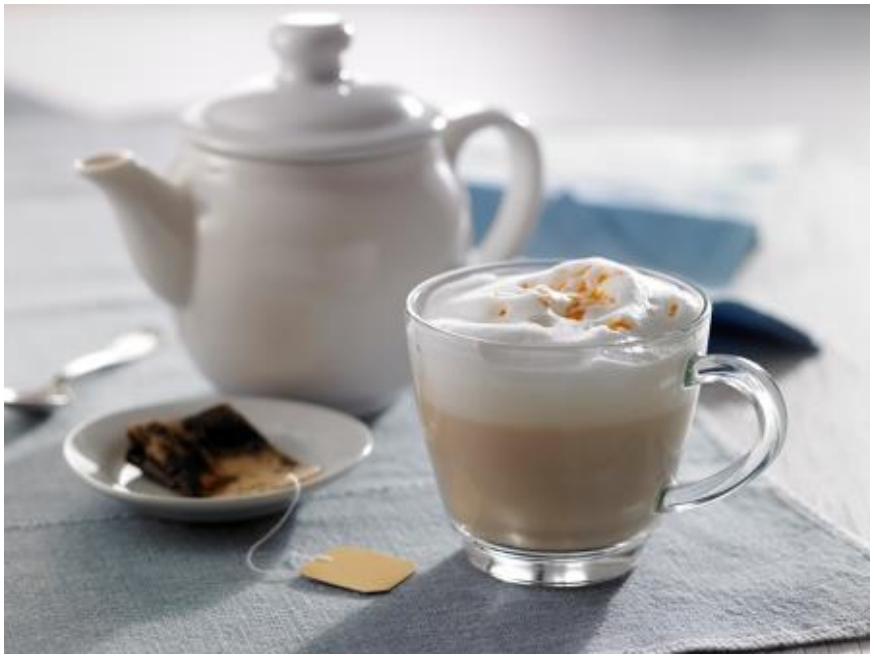
Orange-Scented London Fog

Course: *Beverages & Snacks*
Preparation Time: *5 mins*
Cooking Time: *5-10 mins*
Yields: *1 serving*

1 milk product serving(s) per person

Calcium: 28% DV/ 303 mg

A London Fog is quickly becoming a favourite at specialty shops thanks to its aromatic Earl Grey tea accented with vanilla. Try this version with a twist of orange zest and turn your own kitchen into a trendy café.



Ingredients

1 cup (250 mL) **milk**
1 strip (about 2 x ½-inch/5 x 1 cm) orange zest
1 Earl Grey tea bag
1/3 cup (80 mL) boiling water
1/4 tsp (1 mL) vanilla extract
1/2 tsp (2 mL) sugar (optional)
Orange zest for garnish

Tips

Use a sharp vegetable peeler to peel strip of orange zest making sure you only peel the orange portion and avoid the white pith, which is bitter. For garnish, use a channel knife to peel a thin strip or use a peeler to cut a wide strip, then cut it into thin strips, or simply use a zester or a fine grater to shave the zest on top of the mug.

You can double or quadruple this recipe for more servings. Just multiply the ingredients and use a large saucepan to heat the milk. If using the microwave, increase the time for heating the milk accordingly.

Preparation

In a microwave-safe measuring cup or in a saucepan, heat milk on Medium-High (70%) power in the microwave or over medium heat for about 3 minutes or until steaming.

In a tall mug, combine orange strip, tea bag and boiling water; pour in half of the hot milk. Let steep for 5 minutes.

If desired, froth remaining hot milk with a battery-powered frother or whisk attachment on an immersion blender.

Remove orange strip and tea bag from mug (without squeezing tea bag). Stir in vanilla and pour in remaining hot milk. Sweeten with sugar, if desired. Garnish with a strip of orange or finely grated orange zest and serve immediately.

For more information about this recipe:
http://www.dairygoodness.ca/getenough/recipes/orange-scented-london-fog

This issue of COPING is sponsored by Dairy Farmers of Canada

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These newsletters are not intended to replace individualized medical advice. Readers are advised to discuss their specific circumstances with their healthcare provider.