

camoscope

 **CaMos**

Canadian Multicentre Osteoporosis Study
Étude Canadienne multicentrique sur l'ostéoporose

Welcome to the Youth!

ISSUE NO. 10 JUNE 2006

Editorial

SUZETTE POLIQUIN – NATIONAL COORDINATOR, MONTREAL



The past year has been a very exciting one. The CaMos cohort has been expanded to include the participation of another 1000 young men and women aged 16 to 24 years, residing in the nine CaMos centres across Canada. The addition of these young participants will help us determine the age at which peak bone mass is reached in the spine and hip and the characteristics that are related to achieving this peak bone mass. (See the *Youth Zone* of this newsletter!)

A new funding partner joined the Canadian Multicentre Osteoporosis Study. In the fall of 2005, Servier Canada committed to funding CaMos over the next five years. The funds will enable more centres to participate in collecting blood and urine samples for biochemical analyses and establishing genes that are related to osteoporosis.

This year we began the 10-year follow-up. We are meeting with as many of you as possible to perform interviews and bone densities. Those over 50 will also have back x-rays. Ultrasound measurements will also be performed in some centres. All of this is similar to when you first started the study and at the year five follow-up. Also as previously mentioned, some centres are able to do blood and urine testing. As always, we are grateful for your continued participation. It doesn't matter what age you are or what health status you have, your information, collected on a regular basis is creating a valuable picture of bone health in the Canadian population. ♦

Welcome to CaMOS!
You are now 1000-strong with about 100 of you ages 16-24 in each of the nine CaMOS Centres from Vancouver (BC) to St. John's (NL). Over the 10 years since CaMOS started we've learned many things about adult bone density and risk for fractures, so why does CaMos need you?

**YOUTH
ZONE**

- We need your bone density results to find out at what age in life bone density is the highest—this is called peak bone density.
- We need your answers on the questionnaires to learn what characteristics are related to building the highest peak bone density.
- For some of you, who will be asked to provide a blood sample and some urine, we need to figure out characteristics related to strong and weak bones, including the frequency of genes that are associated with osteoporosis in older adults.

YOUTH ASK

Q: *The other day I fell while blading and broke my wrist. Does that mean I have osteoporosis?*

A: That's a good question! For teens as well as older people, we decide that a broken bone means osteoporosis if it happened without a big force. So, if you were hot-dogging, going fast and jumping, you probably have normal bones. However, if you were just starting or were blading slowly, it tells us that your bones are weak.

Don't panic! It is common for young women and men to break their wrists, especially around the time when they are growing most rapidly. We think that occurs because the bone has gotten bigger but not yet had the chance to get as strong as it will soon be. ♦



Dr. Jerilynn Prior
Vancouver Centre Director



*Dr. Wojtek P Olszynski
Saskatoon Centre Director*

Use of Ultrasound and Osteoporosis

With any new technology there are always growing pains. However, the ability of innovators to persevere through these difficulties has led to innumerable advances in medicine, which positively impact all of our lives today. Ultrasound is an attractive technology to assess fracture risk. It is simple to use, does not involve ionizing radiation, has a low capital cost, and is portable. Unfortunately we had some “bad luck” with the original equipment, which assessed bone at the heel. The measurements were discontinued when it became clear that the machine provided results that were of little use. Subsequently, in 2000, five CaMos sites (Saskatoon, Calgary, Quebec, St. John’s, Hamilton) acquired a new genera-

tion of ultrasound, the Sunlight Multisite Ultrasound (SMUS), which can measure bone at a number of sites including the wrist, finger and shin bone. After collecting this data on two different occasions in a large number of CaMos participants, we amassed enough information to begin to understand the potential utility of assessing fracture risk with this equipment. Our results generally indicate that, in women over 50 years of age, the SMUS measurements at the wrist and shin are able to discriminate between women with and without a vertebral deformity (fracture). These results are very promising and certainly justify continuing data collection and analyses. From this database we hope someday to be able to assign a “fracture risk” based on SMUS measurements. This SMUS-based fracture risk would then be used with other clinical risk factors to assign an overall fracture risk. If proved to be reliable for fracture prediction, the Sunlight Multisite Ultrasound would be an inexpensive tool that could be taken easily to small centres and far away places where complex technology is unavailable. ♦

Commentary

Do results of the recent USA Women’s Health Initiative Study published this year in the New England Journal of Medicine mean we should change our recommendations for Calcium and Vitamin D?

Many of the readers of this newsletter will have seen the extensive media coverage in mid-February (New England Journal of Medicine) of the Women’s Health Initiative (WHI) trial of calcium and vitamin D conducted in the USA. This was a seven-year study in which 36,282 women aged 50 to 79 received 1000 mg of calcium (as calcium carbonate) and 400 I.U. vitamin D daily or placebo (similar appearing pills, but containing no calcium or vitamin D). The study concluded that the calcium and vitamin D supplements did not significantly reduce the risk of hip fracture.

Basically, there are too many problems with the study design for it to be considered a truly negative study. Here are some of them:

- The women entering the study already had relatively high intakes of calcium, and were allowed to continue taking their own calcium supplements in addition to the supplement they were given in the study. This meant that many subjects were receiving more than 2000 mg per day, an amount well above current recommended intakes.

- The dose of vitamin D chosen for the study was only 400 I.U. - lower than the 800 I.U. currently recommended by Osteoporosis Canada.
- The women who volunteered for the study were, in general, at low risk for osteoporosis, and those that were at higher risk were allowed to take osteoporosis medications such as bisphosphonates or were in another study of menopausal ovarian hormone therapy. This means that many subjects were receiving other therapies to prevent fractures, and the authors of the paper indicate that the study may not have had statistical strength to show an anti-fracture effect of calcium and vitamin D.



*Dr David Hanley
Calgary Centre Director*

- When the analysis was restricted to people who actually took the study drug or placebo, at least 80% of the time those taking calcium and vitamin D had a 29% reduction in hip fractures.
- There was a small increased risk of kidney stones in the subjects taking calcium and vitamin D, but the investigators did not take into account some of the other risks or preventive factors for kidney stones.

There is general agreement that vitamin D and calcium supplementation can prevent fractures in elderly people ▶

(See Hanley on page 4)

Questions and Answers

Q: *If, after reaching a normal bone density level, I stop taking my Didrocal, will my osteoporosis return?*

A: Unfortunately, there is not a clear answer to this question. First, congratulations if your bone density has become normal on Didrocal! Patients with osteoporosis do not usually normalize bone density with Didrocal or other therapies in the same family (called bisphosphonates, including risendronate [Actonel], and alendronate [Fosamax]). These drugs are usually associated with only a modest improvement in bone density. The main effect of drugs like Didrocal is to slow bone loss and to prevent fractures. These drugs reduce your fracture risk by about 50%. They have been studied in clinical trials for at least 7-10 years of treatment, and appear to be safe and effective for that long.

After drugs like Didrocal have been taken for at least 2 - 3 years, and then are stopped, bone density remains relatively the same for 1- 2 years and then decreases about the same as normal age-related bone loss. This is in contrast to the fairly rapid bone loss that occurs when menopausal women stop estrogen therapy. Some osteoporosis experts have suggested a "drug holiday" might be a good idea for people who have been taking bisphosphonates for a long time, because it is possible that long term bisphosphonate therapy slows down bone turnover too much. However, this concern has not been demonstrated to be a problem in clinical experience with bisphosphonates. How long one should take osteoporosis therapies, and what happens to the risk of fractures after the therapy has been stopped, are two issues that have not been well studied in controlled trials. ♦

DAVID HANLEY, CALGARY CENTRE DIRECTOR

Q: *The doctor told me I have osteoporosis in my back and I have pain. My friend was also told she had osteoporosis in her back, but she has no pain. Why is that?*

A: That's a very difficult question to answer! We really don't know why some people with back fractures from osteoporosis have a lot of pain and some don't. Less than a third of the men and women in CaMOS who have had a back fracture knew they had it at baseline.

Answering more generally, you can have osteoporosis and back pain or you can have no osteoporosis and have back pain because there are many reasons for it. Those with osteoporosis may have back pain due to problems involving the bones which may fracture, the joints that may be affected by arthritis and the muscles that may cause pain when they are strained or when they become weak from lack of use. In those who have osteoporosis and who have localized back pain and height loss, it is important to make sure that there haven't been any fractures. The presence of one fracture significantly increases the risk of having further fractures. Individuals with osteoporosis on their BMD measurement and who have fractures in their spine are said to have severe osteoporosis. Typically back pain that is a result of osteoporosis occurs because of fractures. It is important to note that the most common cause of back pain is not osteoporosis and fractures but arthritis.

Your friend with osteoporosis probably hasn't had a recent fracture or any of the other conditions that might cause back pain. ♦



Dr. Jonathan Adachi
Hamilton Centre Director

Ask CaMOS your questions! We'd love to answer them in upcoming issues, please send them to us either by mail at our coordinating centre address (687 Pine Avenue West, Room E1.64, Montreal, Quebec, H3 1A1) or by e-mail to: info@camos.org



The 9 regional Coordinators Left to right : Back – Barbara Gardner-Bray (Toronto), Laura Pickard (Hamilton), Barbara Matthews (Kingston), Emma Sheppard (St. John's), Jola Thingvold (Saskatoon), Yvette Vigna (Vancouver) Front – Jane Allan (Calgary), Marc Gendreau (Quebec), Barbara Stanfield (Halifax)

Behind the scenes

"Behind the Scenes" provides an opportunity for us to feature CaMos personnel who work hard to record and manage the multitude of data that has been collected over the past nine years. This edition of "Behind the Scenes" focuses on the Coordinators who are the heart and soul of CaMos across this huge country!

The Coordinators are the people whose names appear on most of your mailings. They facilitated the recruitment of over 1000 volunteers in each of nine centres and have managed their centres over the past 10 years. Their responsibilities include: organization and mailing of your yearly questionnaire, booking CaMos appointments, administering the fracture reports when bones are broken. They also listen sympathetically to anyone who has ever had to receive one of these. Coordinators train centre interviewers, manage the centre's administrative

(See **Behind the scenes** on page 4)

(Hanley from page 2)

➤ living in extended care facilities. Although several recent studies have shown no significant effect on fractures, in all of these, the subjects have had a low rate of actually taking the supplements, reinforcing the observation that medicines don't work if people don't take them!

There are few good food sources of vitamin D, so the current recommendation from Osteoporosis Canada is that people over the age of 50 should take 800 I.U. vitamin D daily. Adequate calcium (1500 mg per day) can be obtained from diet, and supplements should only be used to bring the total intake up to 1500 mg per day. These recommendations stand despite new research. ♦

References:

Osteoporosis Canada (formerly Osteoporosis Society of Canada) www.osteoporosis.ca
Jackson RD, et al. Calcium plus Vitamin D Supplementation and the Risk of Fracture *New Engl J Med* 2006; 354:669-83

(Behind the scenes from page 3)

➤ database, communicate with study participants, allied health professionals, as well the centre Principal Investigator and the National Coordinating Centre. The Coordinators ensure that phone numbers and addresses are current and they remember important days like birthdays! They make sure you are well informed about study requirements and they are always willing to answer any of your questions or concerns.

The Coordinator works very closely with the interviewers, and together they form a very dedicated team. Because we are into our Year 10 follow-up, you will be hearing from or have already gotten a letter from one of our team members. For the CaMos Youth Cohort, the second interview begins in the fall of 2006. ♦

Regional News Celebrating excellence

CALGARY

Dr. David A. Hanley, Calgary Camos Director, was awarded the 2005 Robert Volpe Distinguished Service Award by the Canadian Society of Endocrinology and Metabolism. Presented annually, this is a career award that recognizes outstanding contributions to Canadian endocrinology in the areas of research, education and clinical service.

Dr. Hanley's research interests are in how calcium directs the formation and release of parathyroid hormone (PTH) in normal and abnormal bone development and change. Dr. Hanley has been involved in the key clinical trials of parathyroid hormone therapy for osteoporosis. His current research is related to the study of osteoporosis in populations (like CaMos). ♦

HAMILTON

Dr. Alexandra Papaioannou, Hamilton CaMos Centre Co-director, is the 2005 recipient of the Lindy Fraser Memorial Award of Osteoporosis Canada. This award is presented annually to a recipient who is nominated by Osteoporosis Canada's Scientific Advisory Council in recognition of their many contributions

to osteoporosis research and education and outstanding leadership. Dr. Papaioannou, past chair of Osteoporosis Canada, is the current chair for the Guidelines and Research Committees. She contributed significantly to the creation of the Ontario Osteoporosis Strategy that provides funding for education, prevention, assessment and treatment of osteoporosis. ♦



*Dr. Alexandra
Papaioannou*

Your Regional Centre

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CaMos Web Site

www.camos.org

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