# Canadian orthopedic surgeons and postfracture osteoporosis care: moving from persuasion toward facilitation

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Twenty years ago there was little effective care for osteoporosis, no proof that prevention of hip fracture was possible and no accurate way to readily measure bone density. Ten years ago, after improvements in these domains, fewer than 20% of Canadian fragility fracture patients — those manifestly at high risk for hip fracture — were receiving appropriate osteoporosis investigation and treatment from any of their health care providers. It was unusual to see osteoporosis investigation or treatment in Canadian fracture clinics or hospital wards.

In the last 10 years, international awareness has grown regarding the need for osteoporosis management in the highest risk group, the patient with a prevalent fragility fracture. The evidence has engaged orthopedic surgeons in Canada and around the world, and Canadian orthopedic surgeons have been in the vanguard of this trend.

On page 8 of this issue, we publish the results of a survey taken at a plenary session of orthopedic surgeons during the 2003 Annual Meeting of the Canadian Orthopaedic Association in Winnipeg.[1] In this real-time interactive poll, Canadian surgeons unequivocally agreed that the current emphasis on osteoporosis in orthopedic practice is appropriate. A large majority (85%) indicated that they currently refer or personally investigate for osteoporosis in fragility fracture patients, and two-thirds of the surgeons were comfortable prescribing calcium, vitamin D and bisphosphonates. Interestingly, older surgeons were more likely than younger surgeons to personally investigate and treat for osteoporosis.

The survey indicates that Canadian orthopedic surgeons are generally aware of and motivated to provide appropriate osteoporosis care as a legitimate component of postfracture care. However, the barriers to osteoporosis care in the orthopedic environment are formidable. The fracture clinic (which can resemble the intergalactic bar in the film *Star Wars)* is an extremely busy and sometimes chaotic environment with a high volume of patients. Orthopedic surgeons cite a lack of time to diagnose osteoporosis and address secondary prevention in patients being treated for a fragility fracture.[2,3] Patients admitted with hip fractures now have either short lengths of stay or a clinical course complicated by comorbidities and cognitive impairment. These and other barriers such as lack of knowledge regarding osteoporosis and its effective treatments, as well as concerns about the cost, effectiveness or side effects of medications, have been well documented by McKercher and colleagues,[2] Sheehan and colleagues,[3] Simonelli and colleagues[4] and Kaufman and colleagues.[5]

Lack of education about osteoporosis is an important barrier to orthopedic postfracture osteoporosis care. The fact that older orthopedic surgeons in Canada were more comfortable prescribing calcium, vitamin D and bisphosphonates than their younger colleagues suggests that newly minted orthopedic surgeons are not receiving the education that they need and that their older colleagues probably learned through experience how to manage osteoporosis. A large international survey performed by the Bone and Joint Decade and the International Osteoporosis Foundation indicates that only 25% of orthopedic surgeons in France, the United Kingdom and New Zealand felt well-informed about managing osteoporosis.[6] Although more than 80% in Germany and Spain were confident in their knowledge, the survey uncovered several misconceptions, notably, in the indications for bone mineral densitometry. There is an international need for osteoporosis education for orthopedic surgeons.

Today's pressing need is for systems and resources to facilitate osteoporosis care in the orthopedic clinic and ward. More than 90% of the patients at highest risk for future fracture are funnelled through the gateway of Canadian

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fracture clinics and orthopedic wards managed by fewer than 1000 active orthopedic practitioners nationwide. This is a major public health opportunity, a chance for the gatekeepers to take action — to implement osteoporosis management programs that will reduce the incidence of hip fracture in a national population.

The best model of postfracture osteoporosis management, supported by the most evidence to date, is the coordinator-based model.[7–10] In this model, a person based in the fracture clinic is specifically charged with the task of identifying patients who have probable fragility fractures, a critical first step in the process. The coordinator then works with the orthopedic surgeon, nurse, physiotherapist, orthopedic technologist and other members of the clinical team to educate the patient, supervise the investigation and ensure appropriate treatment and follow-up with the family physician or, in some instances, an osteoporosis consultant.[7] This model clearly has financial costs, but a 1-year decision analytic model based on the first year of the coordinator-based osteoporosis program found that hiring a full-time coordinator was ultimately cost-effective. In only 1 year, the coordinator saved costs greater than her salary, even with the conservative assumptions that only 220 patients were seen annually, that only one-half of the patients initiated treatment and only one-half of those complied, and that treatment efficacy reduced fractures by only 20%.[11]

In February 2005, the Minister of Health and Long-Term Care of the province of Ontario, Mr. George Smitherman, announced an annual investment of $5 million for a comprehensive, Ontario Osteoporosis Strategy. Basic components of this initiative include public education to increase awareness, bone mineral density testing for early diagnosis and additional osteoporosis research to expand the knowledge base and improve prevention and treatment in the future. Importantly, the strategy provides for the creation of a province-wide fracture clinic intervention program to increase patient referrals for osteoporosis diagnosis, care, treatment and prevention of future fragility fractures.[12]

In partnership with Osteoporosis Canada, the Ministry of Health and Long-Term Care (MOHLTC) is currently engaged in hiring, training and placing osteoporosis screening coordinators in some of the busiest fracture clinics in Ontario. The Ontario Orthopaedic Association and its osteoporosis consultant, Dr. Steven Richie, have been engaged by the Ministry to act as a liaison between the coordinators and Ontario orthopedic surgeons to provide local support for this program and ensure its success. The MOHLTC has guaranteed additional funding to monitor and evaluate the outcomes of the project.

Orthopedic leaders in osteoporosis care from 10 provinces met in Toronto on June 3, 2006, to formulate strategies to develop osteoporosis postfracture care programs for fragility fracture patients across the country.

To address the concern that orthopedic surgeons, particularly those in their residency programs, might not be receiving adequate education regarding relevant issues in osteoporosis diagnosis and potential management, a formal orthopedic-friendly curriculum module has been compiled and distributed to the 16 Residency Training Program Directors in Canada (personal communication, Dr. Heather McDonald-Blumer, University of Toronto, 2006). More needs to be done to support the continuing educational needs of practising orthopedic surgeons.

Canadian orthopedic surgeons have reported that they are now mostly engaged or prepared to engage in osteoporosis diagnosis, treatment and care for patients with a fragility fracture. It is no longer necessary to advocate and persuade. It is time to shift our focus to providing the systems and resources needed to facilitate the care.

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