

Preventing fractures by preventing falls in older women

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The logical approach to preventing fractures in women with established osteoporosis would seem to be improving bone strength through the identification of risk factors; the offering of sensible advice on various aspects of lifestyle such as diet, calcium intake, exposure to sunlight, exercise and smoking; and the judicious prescription of antiresorptive agents. Such a patient-centred, evidence-based lifestyle and therapeutic approach is absolutely sound, but, unfortunately, it does only half the job. Fracture prevention also requires prevention of falls.

Osteoporotic fractures, particularly of the long bones, result from falls, and most such falls occur during usual daily activities. There is now solid evidence that more than a third of these falls and the injuries resulting from them could be prevented by interventions that address specific risk factors. Falls have been prevented by reducing the use of psychotropic medications,¹ reducing the use of all medications,² correcting postural hypotension² and the cardiovascular causes of syncope,³ offering advice on home modification and safety,⁴ and prescribing specific exercises to improve strength and balance.^{2,5,6}

Tackling these problems requires a prolonged, team approach, and the Osteofit exercise program described and evaluated elsewhere in this issue (see page 997)⁷ could be part of such an approach. In the randomized controlled trial reported by Carter and associates,⁷ 65- to 75-year-old women with osteoporosis were assigned to participate or not in Osteofit, a twice-weekly 40-minute program of supervised exercise designed to improve strength and balance and delivered in a community setting. Although the demonstrated improvements in strength and balance among women in the treatment arm of the trial are encouraging, we must remember that these are just intermediate variables. It will be important for the authors to continue their investigations and determine if these improvements translate into prevention of falls and whether this particular program is better than exercise programs that have already been shown to prevent falls.^{2,5,6}

The Osteofit program and the reported trial have a number of features distinguishing them from other programs and trials. This was the first trial to specifically enrol women with established osteoporosis, although, given the ages of most participants in other trials,^{2,5,6,8} they would

also have been expected to have fragile bones. No other trial has attempted to correct some of the postural consequences of osteoporosis, such as those targeted by the Osteofit program (specifically “medially rotated shoulders, ‘chin-poke’ posture [protrusion of the mandible with extension of the cervical spine], thoracic kyphosis and loss of lumbar lordosis”). Such postural problems may contribute to musculoskeletal discomfort and impair stability through a shift in the centre of gravity. Unfortunately, the researchers have not reported whether the program yielded improvements in these problems, but a subsequent report on the effect of the exercises on these variables would be of clinical interest.

The Osteofit program has several characteristics in common with other successful exercise programs intended to prevent falls. Muscle strengthening was performed against resistance (either weights or Thera-band elastic bands [KAS Enterprises, Covington, La.]). In contrast, although walking may be a valuable component in an exercise program, there is no evidence that simply increasing activity through walking would increase muscle bulk or strength sufficiently to prevent falls. Similarly, the Osteofit training stressed balance through such activities as tandem walking and single-leg standing with arms extended. Because programs like Osteofit involve the use of weights and include balance exercises, participants may fall as they attempt the exercises; therefore, any such program should be started with the help of a person trained in individual assessment and exercise prescription, especially when the participants include older women with osteoporosis and perhaps other health problems.

Group exercise programs have several advantages, including social interaction, peer reinforcement and encouragement, and efficient use of the instructor’s time. However, the benefit from the exercises lasts only for as long as the person participates in the program, and twice a week is probably the minimum frequency for effectiveness. Home-based programs, which can be followed indefinitely, are also safe and effective.^{2,6} There may be an advantage in starting people in group programs with the longer-term goal of having them continue with a well-established home-based program.

Carter and associates⁷ tested the Osteofit program in women aged 65 to 75 years and demonstrated small per-

centage gains in strength and balance. My colleagues and I also demonstrated improvements in strength and balance through an exercise program, but the frequency of falls was reduced only in those 80 years of age and older.⁶ It is possible that small gains in strength and balance are most effective in preventing falls when the elderly person is at that critical threshold where daily activities, such as turning while holding a cup of tea, catching a toe on uneven pavement or carrying groceries up the stairs when tired, are sufficient to cause a fall. Women aged 65 to 75 years may not yet be at that threshold; therefore, for effective fall prevention, the program should be established early and sustained over the long term.

Osteoporotic fractures, which occur frequently, are painful and disabling for the individual and expensive for the health system. Fracture prevention requires a combined attack on the risk factors for both falls and osteoporosis. Sustainable, individually prescribed, proven exercises that improve strength and balance, such as those in the Osteofit program, are an essential component of any fracture prevention strategy. Such programs are a good investment in the health of people into very old age.⁹

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An editorial on editorials

John Hoey, Anne Marie Todkill

How well do our lead editorials in *CMAJ* reflect the opinions and sentiments of Canadian physicians? Judging from the feedback we receive, sometimes well, sometimes poorly — assuming that medicine can be fairly represented by any one, cohesive view. Is it our job to represent the filtered view of the majority? We don't believe that it behooves journalists in any guise to say things merely for the sake of being provoking. At the same time, if our commentaries caused no discomfort to anyone (including ourselves) we would worry even more than we usually do about how well we are doing our job.

And discomfort does arise, from time to time. Some have taken offence that their journal, published by their association, prints commentary that appears unsupportive, harsh, or simply out of touch. Some readers feel that any

criticism of the actions of physicians, especially in these beleaguered times, is misplaced in a journal published by their national association. We constantly remind journalists, and take this opportunity to remind our readers, of the arm's-length relationship that *CMAJ* has enjoyed with the CMA, a policy of editorial independence formally endorsed by the International Committee of Medical Journal Editors,¹ of which *CMAJ* is a founding member, that assures the autonomy of the journal and safeguards its credibility.

Some readers have expressed the view that any comment on international politics is inappropriate in our journal: the medical profession, or medical journal editors at the very least, they argue, should stay out of political debate. For our part, we fail to see how health can be viewed as apolitical, or how medicine can be practised in an ideologic vac-