

## WHERE TO NOW?

# Osteoporosis

Not long ago, conventional medical wisdom held that osteoporosis was an age-related disease — an irreversible process caused by the sudden reduction of estrogen in postmenopausal women, with a consequential loss of calcium from the bone.

Times have changed. Today, osteoporosis is understood as a chronic degenerative disease that is paediatric in origin — one that will strike without consideration of gender. It's a disease largely of our own making; we've brought it on through poor diet, a lack of regular exercise and exposure to pharmaceutical drugs used in the treatment of other disease processes.<sup>i</sup>

While we tend to think of our skeleton as inert, like the brick walls of a house, our bones are actually in constant dynamic balance with our bodies. At any given moment in millions of sites within our skeletal structure small segments of old bone are dissolved and new bone matrix is laid down to replace it — a process known as bone remodelling.

Through bone remodelling, the mineral content of our bones is completely replaced every few years.<sup>ii</sup> This means Mother Nature has gifted us the opportunity to create better bones for our bodies. It also means, if the process of mineral balance goes out of whack, we can rapidly deplete our calcium stores and our bones will become progressively weaker — just like acid rain on cement.

Osteoporosis occurs when resorption of calcium from our bones into the blood proceeds too quickly, or deposition of calcium occurs too slowly. Quietly, but incessantly, this “silent thief” robs us of bone mass, gradually leaching calcium and other minerals from the bone matrix, until a fracture suddenly heralds its presence.<sup>iii</sup>

Osteoporosis is preventable and manageable, but osteoporosis is not curable; it strikes with crippling force, often rendering its victims incapable of even the simplest of tasks.

Of those patients who suffer an osteoporotic fracture of the hip, 20 to 24 percent will die within a year and up to 75 percent of survivors will have some level of permanent disability.<sup>iv</sup> Osteoporosis is also an epidemic of global dimensions.

## Conventional Approaches

For many years it was believed that osteoporosis could be conquered with conventional hormone replacement therapy and other pharmaceutical interventions. It's a mistake that has proven costly.

Estrogen replacement therapy in postmenopausal women can temporarily slow bone loss and decrease the risk of fracture; but, the effect is transient at best and, after a few years, calcium loss recurs at normal rates.<sup>v</sup> Estrogen is one of the most potent drugs in the entire pharmacopoeia and the use of HRT as a prophylactic measure ignores the very real dangers of exposing women to the documented risks of endometrial and breast cancer, heart disease and stroke.<sup>vi</sup>

Recently, a large-scale U.S study on the effects of HRT was abruptly halted; researchers found that

i Sellman, S. *Osteoporosis – the Bones of Contention*, Nexus Magazine, 5(6) Nov 1998.

ii Lee, JD et al. *The Truth about Osteoporosis*, [www.johnleemd.com/](http://www.johnleemd.com/), 2002.

iii Osteoporosis, *Merck Manual of Diagnosis and Therapy*, [www.merck.com/](http://www.merck.com/), 2002

iv Society of Obstetricians and Gynaecologists of Canada, *What is Osteoporosis?* [www.sogc.org/](http://www.sogc.org/), 2002.

v Lee, JD et al. *The Truth about Osteoporosis*, [www.johnleemd.com/](http://www.johnleemd.com/), 2002.

vi Maté, G. MD, Op. Ed., *Globe and Mail*, Toronto, July 16, 2002.

the harm done significantly outweighed the potential benefits. There are a number of other pharmaceutical interventions currently used:

- ✓ Sodium fluoride has been touted as a means of increasing bone mass; however, it's no longer recommended, as the quality of bone formation is poor.<sup>vii</sup>
- ✓ The bisphosphonate drugs have all have been shown to reduce bone loss and decrease the risk of fractures; however, the benefits are more modest than those obtained through simple vitamin D and calcium supplementation<sup>viii</sup>
- ✓ Raloxifene is used exclusively to prevent osteoporosis, even though no published studies have shown a reduction in fractures related to its use;<sup>ix</sup>
- ✓ Calcitonin, a naturally occurring hormone available in spray and injection, slows bone loss and increases spinal density.
  - ✓ It's generally used in women at least 5 years beyond menopause and provides up to a 36 percent reduction in fracture risk;<sup>x</sup>
  - ✓ But, calcitonin only works with adequate calcium and vitamin D supplementation<sup>xi</sup>

The short of it is that few of these designer drugs work particularly well, none of them will cure osteoporosis, and all of them come with a host of rather nasty side effects. <sup>xii</sup>

In fact, none of the pharmaceutical treatments can compare to simple calcium and vitamin D supplementation, which has been shown to lower fracture risk by up to 70 percent.<sup>xiii</sup>

## In Search of the Magic Bullet

It's a tragedy, really — in the quest to find technological “cures” for degenerative diseases, such as osteoporosis, healthcare, today, has become almost entirely “disease” focused. In fact, about 98 percent of our healthcare dollars go toward treatment/cure, while less than 2 percent is committed to prevention — keeping people healthy.

In my Canadian province of British Columbia, the BC Medical Association, in its 2001 position paper “Turning the Tide — Saving Medicare for Canadians,” outlines 29 initiatives to address the challenge of modern healthcare delivery — not a single recommendation even hints at the need for preventive measures. Absolutely tragic!

Further proof of the pharmaceutical fixation to disease management lies in a review of the research conducted on osteoporosis over the last 40 years.

Out of thousands of research citations published on osteoporosis:

- ✓ 23,598 focused on menopause, estrogen or ERT
- ✓ 9,004 looked at the problem in men
- ✓ 2,932 focused on links to children and adolescents
- ✓ 1,727 investigated nutritional and dietary links to the disease

vii Osteoporosis, Merck Manual of Diagnosis and Therapy, [www.merck.com/](http://www.merck.com/), 2002.

viii Ullom-Minnich P. Prevention of osteoporosis and fractures, *Am Fam Phys*, 60:194-202, 1999.

ix Ibid

x American Medical Association. Prevention and treatment of Postmenopausal Osteoporosis, 2000.

xi Chestnut, CH, et al. A randomized trial of nasal spray salmon calcitonin in postmenopausal women with established osteoporosis, *Am J Med* 109:267-76, 2000.

xii Ettinger B, et al. Multiple Outcomes of Raloxifene Evaluation, *JAMA* 282:637-645, 1999.

xiii Cumming RG and Nevitt MC. Calcium for the prevention of osteoporitic fractures in postmenopausal women, *J Bone Miner Res* 12:1321-1329, 1997.

- ✓ 1,505 looked the role of vitamins, minerals and herbal supplements (other than vitamin D and calcium)
- ✓ 1,171 focused on exercise as a preventive measure
- ✓ 476 investigated lifestyle factors

A clear pattern emerges — the research targets treatment/cure in women; relatively little research focuses on investigation of preventive measures involving nutrition and lifestyle factors. A systematic sampling of references from 1992 to 2002 confirms that the primary focus has been heavily oriented to pharmaceutical intervention, with relatively little funding available for investigation of links to nutrition, lifestyle and more holistic measures of prevention.

It's also clear that, despite billions spent in research, the pharmaceutically-based treatment/cure approach has failed to deliver; the rates of osteoporosis have not declined — wherever you look they have risen, and quickly so.

## United States

In 1993, 25 to 30 million Americans — some 10 percent of the population — were diagnosed with low bone mineral density or full-blown osteoporosis; about 80% of these sufferers were women.<sup>xiv</sup> Between 1988 and 1994, hip fractures resulted in approximately 300,000 hospitalizations at a cost of \$ 9 billion,<sup>xv</sup> and by 1996 hospital costs had run to \$13.8 billion.

Osteoporosis is currently responsible for 1.5 million fractures each year and carries an economic burden to the U.S. healthcare system of \$17 billion annually.<sup>xvi</sup>

## Canada

Almost a decade ago, osteoporosis was costing Canada, with a population about one tenth that of the U.S., some \$1.3 billion annually; 1 in 4 Canadian women suffered from osteoporosis in the early 90s and recent evidence suggests that the ratio could soon rise to 1 in 2.<sup>xvii</sup>

In fact, osteoporosis may be as common in Canadian men as it is in women; early results of a recently completed 5-year study reveal spinal fracture rates in men and women that were virtually identical.<sup>xviii</sup>

And the beat goes on; over the next 25 years Canada is projected to spend a whopping \$32.5 billion on the treatment of osteoporotic fractures.

## Australia

In Australia, the direct costs associated with hip fractures in 1992 were A\$779 million;<sup>xix</sup> current direct costs for treating osteoporotic fractures in Australia now exceed A\$1.9 billion,<sup>xx</sup> where the disease causes 15,000 debilitating hip fractures each year.

Similar to Canada and the U.S. with an aging population, the incidence of osteoporotic fractures in Australia/New Zealand is rising rapidly.

## Finland

Epidemiological data from Finland show that, between 1970 and 1997, osteoporotic fractures

xiv Consensus Development Conf., Am J Med 94:646. 1993.

xv Morbidity and Mortality Report 47(45), 1998.

xvi National Osteoporosis Foundation, Disease Statistics: Fast Facts, [www.nof.org/](http://www.nof.org/), 2002

xvii Kin Yuen, C. University of Manitoba, as cited in Canadian Press article, 1 in 2 women could soon suffer osteoporosis, CP Wire, Winnipeg, April, 2000.

xviii Adashi, R. the Canadian Multi-centre Osteoporosis Study, as cited in Canadian Press article, Nov, 2001.

xix consensus statement, Public Health Strategies for the Problem of Osteoporosis in Australia, Public Health Association of Australia, [www.phaa.net.au/](http://www.phaa.net.au/), 2002.

xx Sambrook, P, Health Professionals Information, Osteoporosis Australia Medical and Scientific Committee, [www.osteoporosis.org.au/](http://www.osteoporosis.org.au/), 2002.

increased an astounding 23 percent per year. The incidence of osteoporotic pelvic fractures also shows an ominous increase over the same time frame — 232 percent for women and 192 percent for men.<sup>xxi</sup>

## Prevention is the only solution

In the United States, Canada, Australia/New Zealand, Finland and elsewhere, the data show the same pattern and portend a rising global challenge that threatens to swamp healthcare delivery systems the world over.

The bad news is: there is no “cure” for osteoporosis, and while contemporary medical science continues in its quest for the “magic bullet,” millions more succumb to the disease. The good news is: finally, there is a growing awareness in the medical and scientific communities that what we have done in the past has not served us well; that we must turn, instead, toward more natural measures; that prevention — not cure — should be our vision.

Like most other degenerative diseases, osteoporosis is almost entirely preventable; in fact, it's estimated that over 90 percent of current cases of osteoporosis could have been prevented through simple lifestyle choices. That's right — fresh air, exercise and optimal nutrition could have saved millions the agony of osteoporosis and billions of dollars for our beleaguered healthcare systems.

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## **NEXT ARTICLE: THE BARE BONES ABOUT...BONES!**

## Disclaimer

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