June 3, 2013

POSITION STATEMENT: THE IMPORTANCE OF SAFE EXERCISE FOR SENIORS WITH OSTEOPOROSIS and/or AT RISK OF OSTEOPOROTIC FRACTURES

Osteoporosis is a disease characterized by low bone mass and deterioration of bone tissue, leading to increased bone fragility and risk of fracture (broken bones), particularly of the hip, spine, wrist and shoulder. Fractures due to osteoporosis are more common than heart attack, stroke and breast cancer combined. At least one in three women and one in five men will suffer from an osteoporotic fracture during their lifetime.

The 2010 Clinical Practice Guidelines for the Diagnosis and Management of Osteoporosis in Canada states that exercise improves quality of life for those with osteoporosis, particularly in the domains of physical function, pain reduction and improved muscle strength and balance. For people with osteoporosis, research indicates multicomponent exercise programs that combine resistance training and balance training are more effective exercise programs for preventing falls, and preventing bone loss. Resistance training helps maintain bone mass which is key to preventing fractures. Aerobic exercise has a variety of health benefits, but should not supplement resistance training or balance training in individuals with osteoporosis. Weight-bearing activities (e.g. dancing, walking) should not replace resistance and balance training when the goal is to prevent falls and fractures.

An increased emphasis on exercise and fall prevention programs for seniors should not just be about increasing access to general exercise programs for seniors, but to ensure that the programs are informed by current evidence with respect to effects on target outcomes, including prevention of fractures, falls and injuries, and ultimately a reduction in health care costs and human burden. Of particular concern are those at risk of vertebral or spine fractures. Fifty percent of women over the age of 80 have had a spine fracture. Spine fractures are the most common type of fragility fractures yet they remain largely undiagnosed and untreated. Two-thirds of spine fractures are “silent,” meaning they do not cause any pain and as a result may not be recognized by the patient or physician as they don’t require emergency care, unlike hip and other osteoporotic fractures. Other fractures often heal so that the bones resemble their former shape, whereas after a spine fracture, the bone is often permanently deformed; an

accumulation of spine fractures creates an abnormal spinal curvature or kyphosis. This "humped" back has been associated with impaired mobility, pain, and an increased risk of fractures and death. Individuals with spine fractures may need to have exercise programs adapted to ensure that they are effective, safe and do not cause additional spine fractures.

When prescribing exercise for individuals at risk of fracture, there is a need to consider the type of exercise that is most effective and safe. Exercise has the potential to increase the risk of falls or fractures in older adults if not performed safely. High risk individuals should receive an assessment and initial exercise prescription from a physical therapist with training in osteoporosis, as well as training on safe movement. It is vital to include a fracture risk assessment (10 Year Fracture Risk Assessment Tool: osteoporosis.ca/health-care-professionals/clinical-tools-and-resources/fracture-risk-tool/) in the general assessment prior to start of an exercise program for all seniors 65+ and is especially critical for;

- Those with an existing diagnosis of osteoporosis
- Seniors who are 80+. In women over 80 years, 50% have a prevalent vertebral fracture (The Breaking Spine, IOF, 2010).

Osteoporosis Canada and the Ontario Osteoporosis Strategy offer resources and programs for healthcare professionals and agencies. For further information please contact Ontario Osteoporosis Strategy's **Regional Integration Lead** in your area;

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