

## THE ABC'S OF OSTEOPOROSIS

### What is Osteoporosis?

Osteoporosis means 'porous bones' in Latin. It causes the bones to become weak and thin resulting in a gradual breakdown of bones. It generally begins in mid-thirties and continues into old age. The problem is that it is usually undiagnosed and untreated, therefore putting individuals at substantial risk for recurrent, debilitating and life threatening fractures.

### 80% of All Fractures After the Age of 50 are Caused by Osteoporosis

Just to put things in perspective, many Canadians fracture or are at risk of fracture because of osteoporosis every year. Statistics show 1 in 3 women and 1 in 5 men will have an osteoporotic fracture during their lifetime. In fact, most fractures after the age of 50 are caused by osteoporosis.

### The ABC's of Osteoporosis

#### **A** Assessment

##### Clinical Assessment

Risk factors are used to screen and identify at risk residents. Timely diagnosis of osteoporosis is extremely important.

Risk Factors	
<ul style="list-style-type: none"><li>• Age <math>\geq</math> 65 (both women and men)</li><li>• Women: early menopause (before age 45)</li><li>• Low body weight (&lt; 60 kg)</li><li>• Low levels of physical activity</li><li>• A diet low in Calcium</li><li>• Vitamin D deficiency</li><li>• Vertebral fracture or osteopenia</li></ul>	<ul style="list-style-type: none"><li>• Family history of osteoporosis and fractures</li><li>• Prolonged glucocorticoid use (cortisone, prednisone)</li><li>• Use of other high risk medications*</li><li>• Rheumatoid arthritis</li><li>• Other medical conditions associated with osteoporosis*</li><li>• Lifestyle: smoking, high alcohol intake (<math>\geq</math> 3 units per day), excessive caffeine intake (&gt; 4 cups per day of coffee, tea, cola)</li></ul>

##### Risk Assessment Tools

The 2 risk assessment tools validated and recommended in Canada are:

- I. Canadian Association of Radiologists and Osteoporosis Canada (CAROC): <http://www.osteoporosis.ca/multimedia/pdf/CAROC.pdf>
- II. Fracture Risk Assessment tool (FRAX) by WHO, specific for Canada: <http://www.sheffield.ac.uk/FRAX/tool.jsp?country=19>



Risk Category	10-year Fracture Risk
• Low Risk	<10%
• Moderate Risk	10-20%
• High Risk	>20%

These Risk Assessment tools are used to estimate the 10-year risk of a major osteoporotic fracture and stratifies patients age > 50 years into 3 categories:

## **B** Bone Mineral Density (BMD) Testing

Indication	T-Score
Osteopenia	-1 to -2.5
Osteoporosis	≤ -2.5

BMD testing is indicated for patients with risk factors. A T-score is calculated based on standard deviations from the bone density of a young healthy adult. It is commonly used to assess bone density, fracture risk and response to therapy.

## **C** Calcium and Vitamin D

Age	Daily Requirement Of Calcium	Daily Requirement of Vitamin D
19-50	1,000 mg	400 - 1,000 IU
Over 50	1,200 mg	800 – 2,000 IU

It is important to get enough daily intake of both calcium and Vitamin D (sunshine vitamin) from your diet and/or supplements in the prevention and treatment of osteoporosis.\* Calcium rich foods include milk and milk products; salmon and sardines with bones, beans, sunflower and sesame seeds, broccoli and other greens, figs, and almonds. Deficiencies have been shown to cause bone loss.

Reference: 2010 Clinical Practice Guidelines for Diagnosis and Management of Osteoporosis in Canada

## Medication

In general, high-risk patients should be offered pharmacological therapy. Medication can be considered in moderate risk category residents, depending on the individual's additional risk factors and the physician's clinical judgment.

Medications that are approved in Canada for the treatment and prevention of osteoporosis are those proven to have fracture reduction benefits. The first line/choice of medications recommended in Canada are alendronate (Fosamax®), risedronate (Actonel®), zoledronic acid (Aclasta®), denosumab (Prolia®), raloxifene (Evista®) and estrogen in women with menopausal symptoms.\*

## Exercise

Regular active weight bearing exercise is essential in keeping bones strong. Exercise programs should be individualized.

## Falls Prevention = Fracture Prevention

- Minimize hazards in the home i.e. remove rugs, adequate lighting.
- Minimize medications that are associated with risk of falls.\*
- Exercise that improves balance and coordination as well as flexibility exercises will help reduce falls and prevent fractures. Encourage residents to try several activities until they find one that's right for them.
- Wear comfortable shoes that give good support.

\* Talk to your Remedy'sRx Pharmacist for more information.

### REFERENCE:

2010 Clinical Practice Guidelines for the diagnosis and management of osteoporosis in Canada Osteoporosis Canada [www.osteoporosis.ca](http://www.osteoporosis.ca) and Health Canada [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)