

# Quick Facts about Osteoporosis in Long-Term Care Homes

Prevalence in LTC	80-85% have osteoporosis <sup>1,2</sup>
Who is at risk in LTC?	<b>All residents</b>
Leading cause of fractures	<b>Osteoporosis (+ falls)= Fragility Fracture<sup>3</sup></b> • 10% will re-fracture within 1-year <sup>4</sup>
Reason for admission to LTC	24% of individuals who fracture are admitted to LTC <sup>4</sup>

1 Duque et al. J Am Med Dir Assoc 2006; 7: 435-441

2 AMDA 2009 Osteoporosis and Fracture Prevention in LTC Setting Clinical Practice Guideline, Columbia Md.

3 Bessette L, et al. Cont Clinical Trials; 2008; 29:194-210

4 Papaioannou A, et al J Soc Obstet Gynaecol Can; 2000; 22(8):591-7

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Most common  
osteoporotic fracture

**Vertebral (Spinal) Fracture<sup>3</sup>**  
• 20% occur in men<sup>4</sup>

Most debilitating and  
serious osteoporotic  
fracture

**Hip Fracture**  
• Costs In Ontario:  
• 1 year cost of a resident readmitted  
to LTC after a fracture - \$41,756<sup>5</sup>  
• Newly admitted to LTC - \$54,665<sup>5</sup>

1. Duque et al., J Am Med Dir Assoc 2006; 7: 435–441
2. Giangregorio LM et al. Osteo Int 2009; 20(9):1471-8
3. Bessette L, et al. Cont Clinical Trials; 2008; 29:194-210
4. Eastell R., Boyle I.T., Compston J., et al: Management of male osteoporosis: report of the UK Consensus Group. QJM 91. 71-92.1998
5. Wiktorowicz M, et al. Osteo Int; 2001 12(4) 271-8 (Adjusted to 2007 \$CAN from [ww.osteoporosis.ca/multimedia/local/files/health\\_professionals](http://ww.osteoporosis.ca/multimedia/local/files/health_professionals))

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Falls in LTC	38-50% of residents fall annually <sup>1,2</sup> Of those who fall: 27-44% have fallen previously <sup>1,2</sup>
Injuries from falls	24%-30% sustain a fall related injury <sup>1,2</sup>
Fractures from falls	2-7% sustain a fracture <sup>1,2</sup> 1% of all falls result in hip fractures <sup>1,2</sup>

1. AMDA 2009 Osteoporosis and Fracture Prevention in LTC Setting Clinical Practice Guideline, Columbia Md.
2. Canadian Task Force on Preventive Health Care 2003 prevention of Falls in LTC

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Hip fracture rates	2-11 times greater in LTC than in community <sup>1,2,3</sup>
Hip fracture incidence	Annual incidence in LTC is 4% (range 2.3%–6%) <sup>4</sup>
Hip fracture prevalence	Hip fracture prevalence <ul style="list-style-type: none"><li>• 20%<sup>5</sup></li><li>• At 80 years, every 5th woman, at 90 years almost every second woman<sup>6</sup></li><li>• 30% of all hip fractures occur in men<sup>7</sup></li></ul>

1 Vu MQ et al. JAMDA 2006; 7:S53-8

2 Cumming RG. *Am J Epidemiol* 1996;143(12):1191-1194.

3 Brennan nee Saunders J, et al. *Osteoporos Int* 2003

4 Sawka A. *Osteoporos Int* (2007) 18:819–827

5 Maggio et al. Hip Fracture in Nursing Homes: An Italian Study on Prevalence, Latency, Risk Factors, and Impact on Mobility; *Calcified Tissue International*, 2001; 68(6):337-341.

6 Kannus in "Epidemiology of Hip Fractures" *Bone* 18 (Supplement 1) 1996:57S-63S, based on the citation - Thorngren, K-G. Fractures in older persons. *Disabil Rehabil* 16:119-126; 1994).

7 Eastell R., Boyle I.T., Compston J., et al: Management of male osteoporosis: report of the UK Consensus Group. *QJM* 91. 71-92.1998

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Death rate from hip fractures	39% within 12 months <sup>1</sup> <ul style="list-style-type: none"><li>• Greater for men than women<sup>1</sup></li></ul>
Most frequent reason for hospitalization	Hip fracture <sup>2</sup> <ul style="list-style-type: none"><li>• followed by pneumonia, cardiovascular</li></ul>
Treatment for osteoporosis on discharge after hip fracture	4.5% of men received treatment for osteoporosis on discharge from the hospital compared with 27% of women

1. Papaioannou A, et al J Soc Obstet Gynaecol Can; 2000; 22(8):591-7;

2. Ronald L et al. Cdn J Aging 2008; 27 (1) : 109 – 115

3. Kiebzak G.M., Beinart G.A., Perser K., et al: Undertreatment of osteoporosis in men with hip fracture. *Arch Intern Med* 162. 2217-2222.2002;

# Quick Facts about Osteoporosis in Long-Term Care Homes

Who is at greatest risk to sustain a fracture?

- Transfer independence <sup>1</sup>
- Prior fracture : 30-60% increase in hip fractures <sup>1,2,3</sup>
- Cognitive impairment <sup>1, 2</sup>

What are the other risk factors?

- Age >65 <sup>1</sup>
- 3 or more co-morbid conditions <sup>2, 3</sup>
- Residents with low BMD values <sup>1</sup>
- Medications associated with falls <sup>1, 2, 3</sup>
- History of falls <sup>1</sup>
- Low weight (poor nutrition) <sup>1,2</sup>
- Vitamin D deficiency <sup>3</sup>

1. Chandler et al. JAMA 2000; 284(8)  
2. Chen et al. Age and Ageing 2008; 37:536-541  
3. Colon-Emeric et al. OI 2003 Jul;14(6):484-9

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**What bone health protection  
best practices are effective in  
long-term care?**

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# Bone Health Protection Strategies

## Best Practices

- ✓ Vitamin D 800-2000 IU supplements daily
- ✓ Calcium 1200 mg from diet (or 500 mg daily supplementation if RDA not reached through diet)
- ✓ Bisphosphonate medications
- ✓ Hip protectors
- ✓ Exercise and multifactorial interventions to prevent falls and fractures

### Additional Key Practices:

- Improved assessments; on admissions, hospital re-admits, quarterlies/annual, with fractures and falls
- Regular activity and exercise
- Safe transfers