

Quick Facts about Osteoporosis in Residential Aged Care Facilities (RACFs)

Prevalence in RACFs	80-85% have osteoporosis ^{1,2}
Who is at risk in RACFs?	All residents
Leading cause of fractures	Osteoporosis (+ falls)= Fragility Fracture ³ •10% will re-fracture within 1-year ⁴
Reason for admission to RACFs	24% of individuals who fracture are admitted to RACF's ⁴
Most common osteoporotic fracture	Vertebral (Spinal) Fracture ³ 20% occur in men ⁶
Most debilitating and serious osteoporotic fracture	Hip Fracture Costs In Australia: \$39,192
Falls in RAC	38-50% of residents fall annually ^{8,9} Of those who fall: 27-44% have fallen previously ^{8,9}
Injuries from falls	24%-30% sustain a fall related injury ^{8,9}
Fractures from falls	2-7% sustain a fracture ^{8,9} 1% of all falls result in hip fractures ^{8,9}
Hip fracture rates	2-11 times greater in RACFs than in community ^{10,11,12}
Hip fracture incidence	Annual incidence in RACFs is 4% (range 2.3%–6%) ¹³

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
5. Giangregorio LM et al.. Osteo Int 2009; 20(9):1471-8
6. Eastell R., Boyle I.T., Compston J., et al: Management of male osteoporosis: report of the UK Consensus Group. *QJM* 91. 71-92.1998
7. Tatangelo G, et al. The Cost of Osteoporosis, Osteopenia, and Associated Fractures in Australia in 2017. *J Bone Miner Res.* 2019;34(4):616-625.
8. AMDA 2009 Osteoporosis and Fracture Prevention in LTC Setting Clinical Practice Guideline, Columbia Md.
9. Canadian Task Force on Preventive Health Care 2003 prevention of Falls in LTC
10. Vu MQ et al. *JAMDA* 2006; 7:S53-8
11. Cumming RG. *Am J Epidemiol* 1996;143(12):1191-1194.
12. Brennan nee Saunders J, et al. *Osteoporos Int* 2003
13. Sawka A. *Osteoporos Int* (2007) 18:819–827

Quick Facts about Osteoporosis in Residential Aged Care Facilities (RACFs)

Hip fracture prevalence	Hip fracture prevalence <ul style="list-style-type: none"> • 20% ¹ • At 80 years, every 5th woman, at 90 years almost every second woman ² • 30% of all hip fractures occur in men ³
Death rate from hip fractures	39% within 12 months ⁴ <ul style="list-style-type: none"> • Greater for men than women ⁴
Most frequent reason for hospitalization	Hip fracture ⁵ <ul style="list-style-type: none"> • followed by pneumonia, cardiovascular
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
Who is at greatest risk to sustain a fracture?	Transfer independence ⁷ Prior fracture : 30-60% increase in hip fractures ^{7,8,9} Cognitive impairment ^{7,8}
What are the other risk factors?	Age >65 ⁷ 3 or more co-morbid conditions ^{8,9} Residents with low BMD values ⁷ Medications associated with falls ^{7,8,9} History of falls ⁷ Low weight (poor nutrition) ^{7,8} Vitamin D deficiency ⁹

1. 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.
2. 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).
3. Eastell R., Boyle I.T., Compston J., et al: Management of male osteoporosis: report of the UK Consensus Group. *QJM* 91. 71-92.1998
4. Papaioannou A, et al *J Soc Obstet Gynaecol Can*; 2000; 22(8):591-7;
5. Ronald L et al. *Cdn J Aging* 2008; 27 (1) : 109 – 115
6. 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;
7. Chandler et al. *JAMA* 2000; 284(8)
8. Chen et al. *Age and Ageing* 2008; 37:536-541
9. Colon-Emeric et al. *OI* 2003 Jul;14(6):484-9

Bone Health Protection Strategies Best Practices

What bone health protection **best practices** are effective in Residential Aged Care?

- Vitamin D 800-2000 IU supplements daily
- Calcium 1000 - 1300 mg from diet (or 500 mg daily supplementation if not achieved through diet)
- Osteoporosis medications: bisphosphonates or denosumab
- Hip protectors
- Exercise and multifactorial interventions to prevent falls and fractures

Additional Key Practices:

- Improved assessments; on RACF admissions, hospital admissions, resident reviews, with fractures and falls
- Regular activity and exercise
- Safe transfers