

Worldwide, an Osteoporosis-Related Fracture Occurs
Every 3 Seconds¹



Osteoporosis-Related Fractures >

Impact and Risk of Osteoporosis-Related Fractures >

Is Your Patient Next?

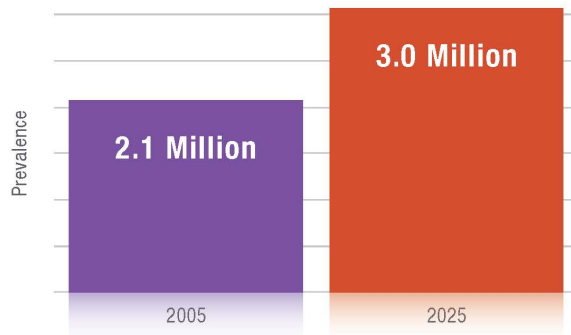
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1. International Osteoporosis Foundation. Facts and Statistics. www.iofbonehealth.org/facts-statistics. Accessed November 25, 2020.
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Osteoporosis-Related Fractures Are Highly Prevalent in the US, Affecting Around Half of Women Over 50

Projected **increase in the prevalence** of osteoporosis-related fractures in the US among individuals ≥ 50 years old¹

48%
Increase



In the United States,

1 in 2

Women > 50 years old

will suffer an osteoporosis-related fracture in her remaining lifetime²



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1. Burge R, et al. *J Bone Miner Res.* 2007;22:465-475. 2. U.S. Department of Health and Human Services. *Bone Health and Osteoporosis: A Report of the Surgeon General.* 2004.

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Women Are More Likely to Have Osteoporosis-Related Fractures Than to Be Diagnosed With Breast Cancer

Disease Incidence in Women (United States)

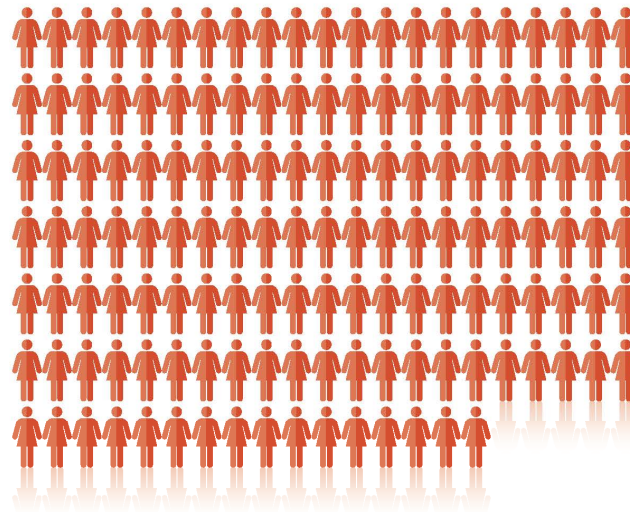
Breast Cancer

Annual New Cases: 213,000*



Osteoporosis-Related Fractures

Annual Incidence: 1,420,000†



Legend



Breast Cancer



Osteoporosis-Related Fractures



10,000 Women

*2006 new cases, women all ages. †2005 annual incidence all ages.
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Watts N, et al. *Endocr Pract.* 2010;16(suppl 3):1-37.
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Osteoporosis-Related Fractures Signal an Increased Risk of Future Fracture

~2x
Increased
Risk

Among postmenopausal women, **prior osteoporosis-related fracture** is associated with an approximately twofold increased relative risk of another fracture over 15 years of follow-up¹

45%

of patients with hip fractures report prior fractures^{2*}

7x
Greater
Relative
Risk

Globally, women with prior clinical vertebral fractures have a 7x greater relative risk of another vertebral fracture³

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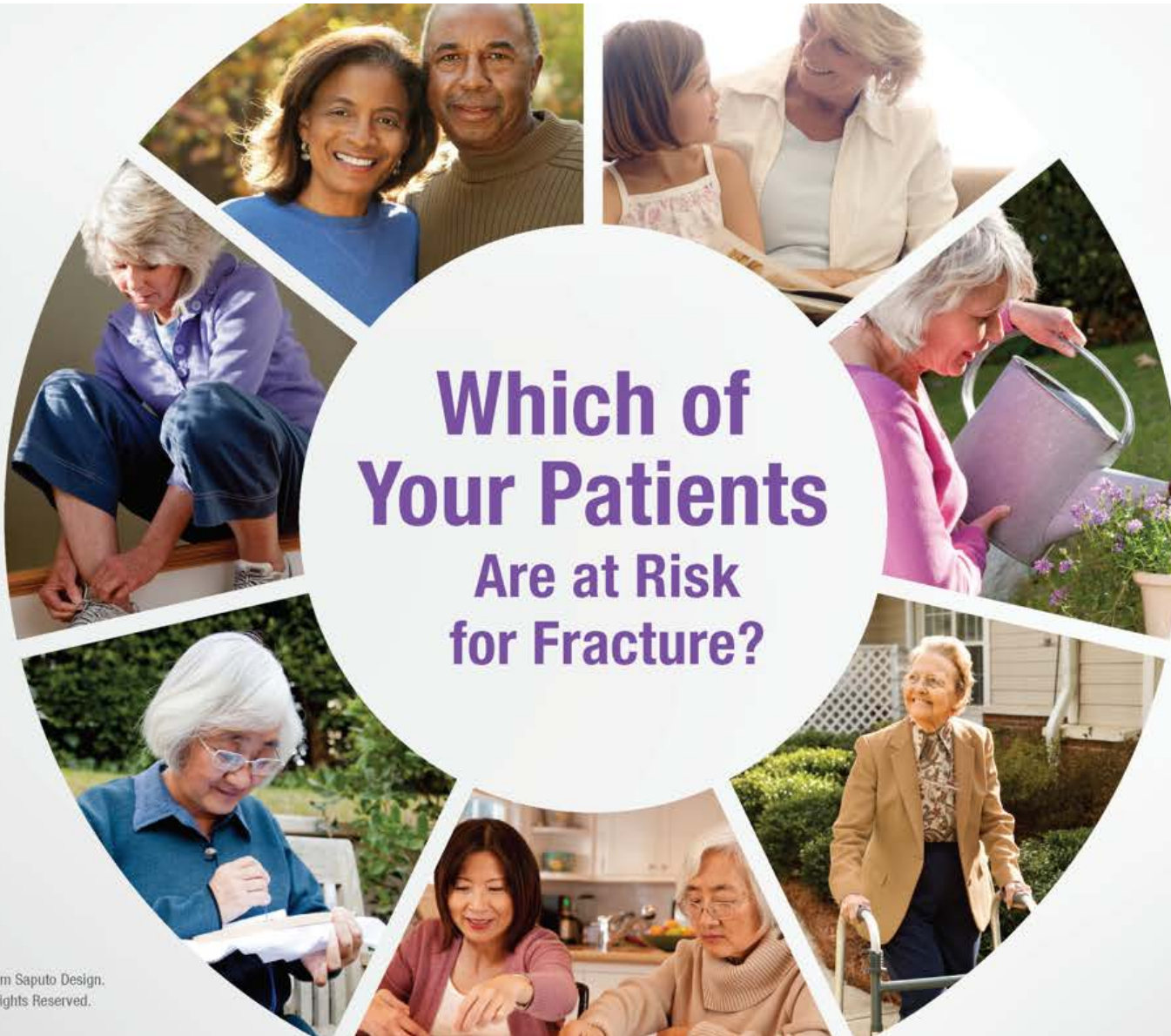
*n = 282.

1. van Geel TA, et al. *Ann Rheum Dis*. 2009;68:99-102. 2. Edwards BJ, et al. *Clin Orthop Relat Res*. 2007;461:226-230. 3. Gehlbach S, et al. *J Bone Miner Res*. 2012;27:645-653.

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Which of Your Patients Are at Risk for Fracture?

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Identify Patients at High Risk for Osteoporosis and Osteoporosis-Related Fractures¹⁻⁴

Look for Signs and Symptoms

to Identify Patients at Risk and Who Warrant BMD Testing or Vertebral Imaging



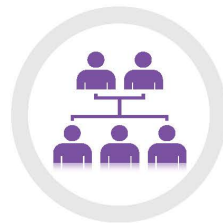
Prolonged back pain as possible sign of vertebral fracture^{1,2}



Kyphosis* or significant loss of height^{1,3,4}

Ask Questions

About Risk Factors



Parental history of hip fracture²



Medications that may increase bone loss²

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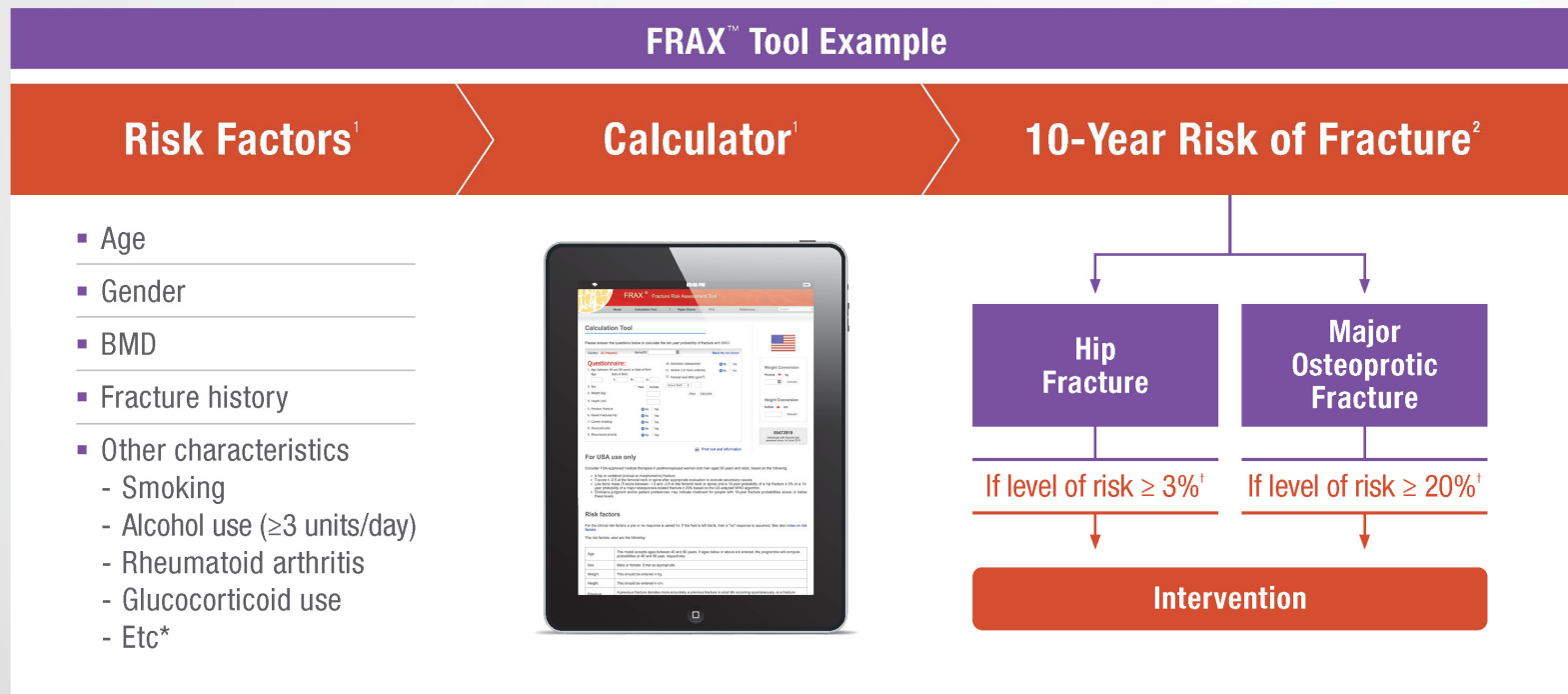
*Progressive spinal curvature.
BMD, bone mineral density.

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1. Camacho PM, et al. *Endocr Pract.* 2016;22(suppl 4):1-42. 2. Cosman F, et al. *Osteoporos Int.* 2014;25:2359-2381. 3. Kanis JA, et al. *Osteoporos Int.* 2013;24:23-57. 4. Orimo, H et al. *Arch Osteoporos.* 2012;7:3-20.

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10-Year Fracture Risk Can Be Quantified Using Current Risk-Assessment Tools, Such as FRAX™, but Such Tools Do Not Adequately Reflect Specific Short-term Risk¹



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*Other measurements include: height, weight, and secondary osteoporosis. [†]Represents National Osteoporosis Foundation recommended intervention thresholds¹
 BMD, bone mineral density; FRAX™, fracture risk assessment tool.

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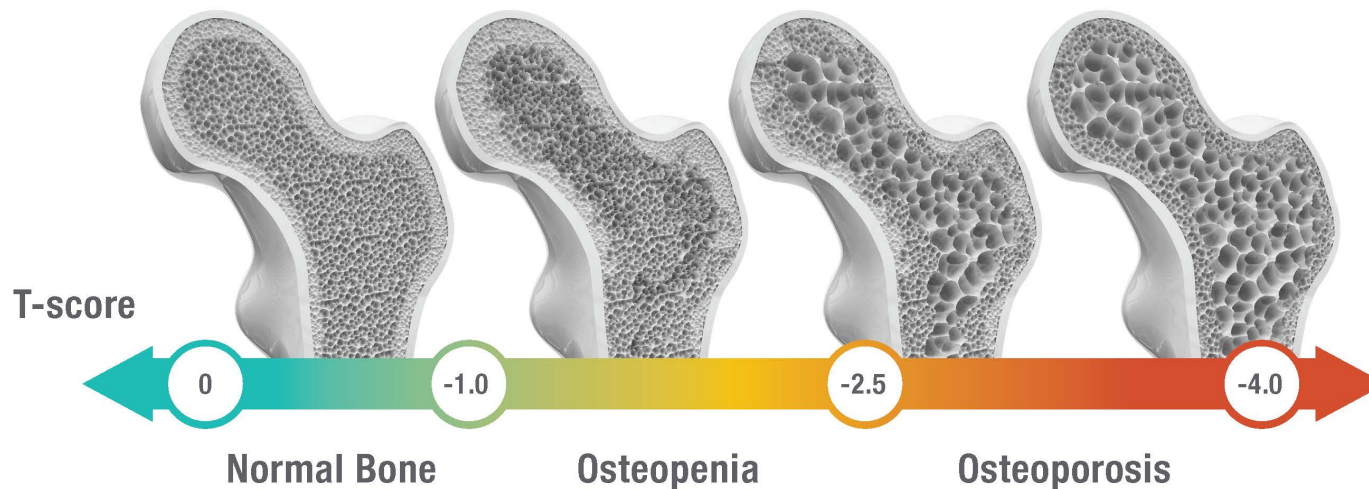
1. Kanis JA, et al. *Osteoporos Int.* 2011;22:2395-2411. 2. Kanis JA, et al. *Osteoporos Int.* 2010;21:35-40. 3. National Osteoporosis Foundation. *Clinician's Guide to Prevention and Treatment of Osteoporosis.* April 2014.

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A DXA Scan Provides a T-Score Used to Diagnose Osteoporosis and Help Predict Fracture Risk¹

A T-score shows how much a person's bone density differs from the average bone density of a healthy young woman^{1,2}



The lower the T-score, the lower the BMD, and the higher the risk of fracture^{1,2}

Osteoporosis is diagnosed with a T-score ≤ -2.5 or between -1.0 and -2.5 with prior fracture^{1,2}

BMD, bone mineral density; DXA, dual-energy x-ray absorptiometry.

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1. Cosman F, et al. *Osteoporos Int*. 2014;25:2359-2381. 2. Camacho PM, et al. *Endocr Pract*. 2016;22(suppl 4):1-42.

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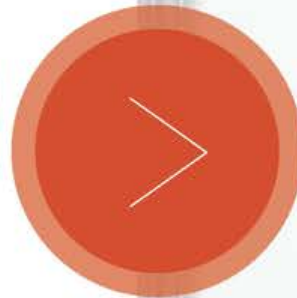


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Broken Bones Can **Fracture** Her Life

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Osteoporosis-Related Fracture...

-  Risk Factors for a First Fracture
-  Fractures May Be a Warning Sign
-  Possible Impact of Fracture
-  Risk of Fracture After a Fracture

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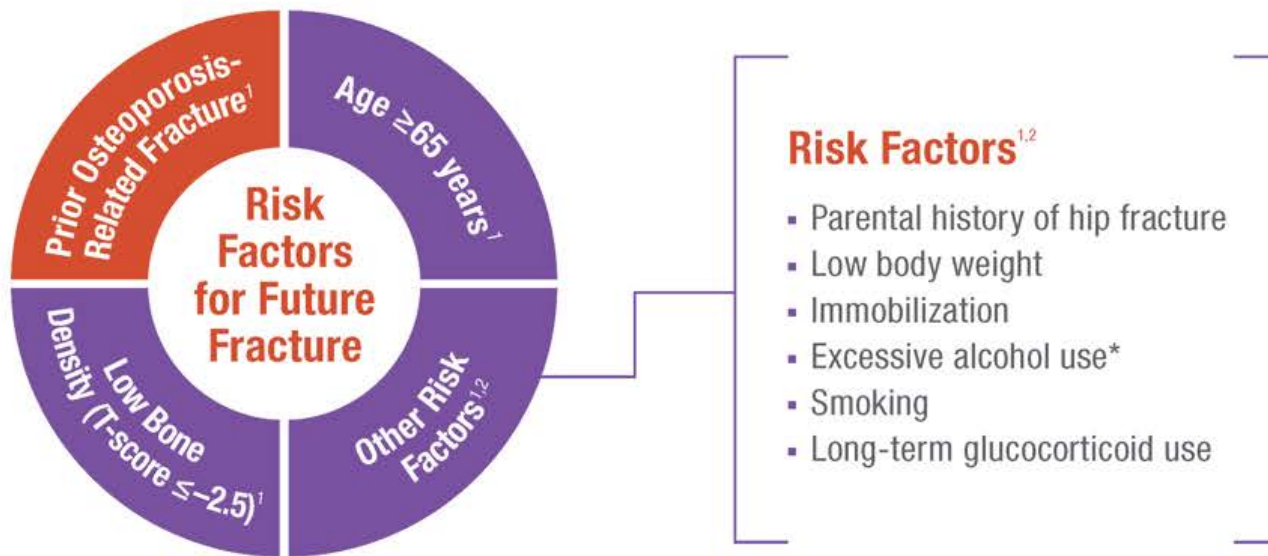


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Prior Osteoporosis-Related Fracture Is an Important Predictor of Future Fracture Risk, Along With Other Risk Factors

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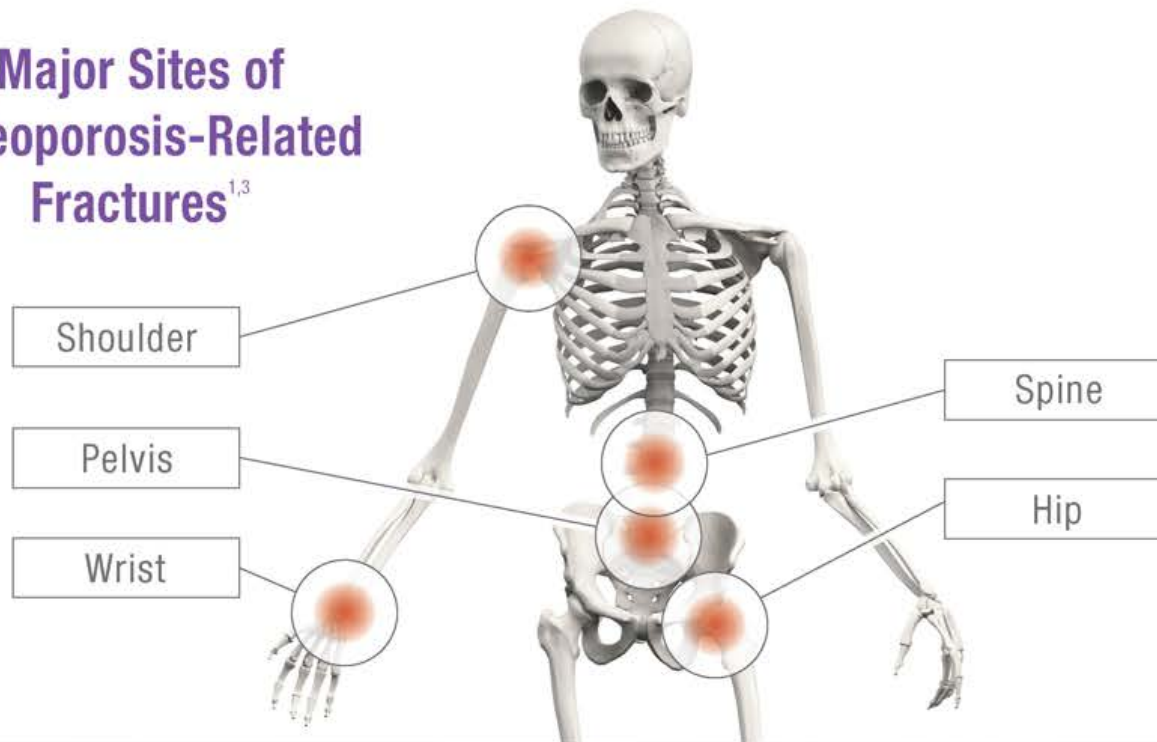
*Greater than 3 drinks/day.

1. Camacho PM, et al. *Endocr Pract.* 2016;22(suppl 4):1-42. 2. National Osteoporosis Foundation. *Clinician's Guide to Prevention and Treatment of Osteoporosis.* April 2014.
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Fractures at Major Skeletal Sites in Adults Older Than 50 Should Be Further Assessed for Osteoporosis^{1,2}

Major Sites of Osteoporosis-Related Fractures^{1,3}



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1. Cosman F, et al. *Osteoporos Int.* 2014;25:2359-2381. 2. International Osteoporosis Foundation. Capture the Fracture. www.capturethefracture.org/about. Accessed November 25, 2020. 3. Burge R, et al. *J Bone Miner Res.* 2007;22:465-475.

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Osteoporosis-Related Fractures Can Be Associated With Disability and Loss of Independence

Potential Impact of Osteoporosis-Related Fractures



Admission to nursing home or **long-term care facility**¹

> More on This Topic



Financial burden on patients and caregivers²⁻⁵

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Decreased ability to perform **activities of daily living**^{1,6,7}

> More on This Topic



Worry about falls, future fracture, and potential for nursing home care^{3,8}

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Consequences such as **chronic pain** and **other complications**^{6,9}

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1. Bentler SE, et al. *Am J Epidemiol.* 2009;170:1290-1299.
2. Tajeu GS, et al. *J Gerontol A Biol Sci Med Sci.* 2014;69:346-353.
3. National Osteoporosis Society. *Life With Osteoporosis: The Untold Story.* October 2014.
4. Tarride J-E, et al. *Osteoporos Int.* 2012;23:2591-2600.
5. Kaffashian S, et al. *Age Ageing.* 2011;40:602-607.
6. Cosman F, et al. *Osteoporos Int.* 2014;25:2359-2381.
7. Fischer S, et al. *Osteoporos Int.* 2017;28:2843-2851.
8. Vass CD, et al. *Age Ageing.* 2014;43:i29.
9. Inacio MCS, et al. *Perm J.* 2015;19:29-36.

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Osteoporosis-Related Fractures Can Be Associated With Disability and Loss of Independence

Potential Impact of Osteoporosis-Related Fracture



Admission to nursing home or long-term care facility¹



After a hip fracture, patients have a **4-fold** increase in requiring long-term nursing facility care

Decreased ability to perform activities of daily living^{1,6,7}

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Tajeu GS, et al. *J Gerontol A Biol Sci Med Sci*. 2014;69:346-353.



Worry about fracture, and potential for nursing home care^{3,8}



Pain and other complications such as chronic pain and other complications^{6,9}

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1. Bentler SE, et al. *Am J Epidemiol*. 2009;170:1290-1299. 2. Tajeu GS, et al. *J Gerontol A Biol Sci Med Sci*. 2014;69:346-353. 3. National Osteoporosis Society. *Life With Osteoporosis: The Untold Story*. October 2014. 4. Tarride J-E, et al. *Osteoporos Int*. 2012;23:2591-2600. 5. Kaffashian S, et al. *Age Ageing*. 2011;40:602-607. 6. Cosman F, et al. *Osteoporos Int*. 2014;25:2359-2381. 7. Fischer S, et al. *Osteoporos Int*. 2017;28:2843-2851. 8. Vass CD, et al. *Age Ageing*. 2014;43:129. 9. Inacio MCS, et al. *Perm J*. 2015;19:29-36.

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Osteoporosis-Related Fractures Can Be Associated With Disability and Loss of Independence

Potential Impact of Osteoporosis-Related Fracture



Admission to nursing home or long-term care facility¹



After a hip fracture, patients* are **twice** as likely to enter low-income status¹ within the next year

Decreased ability to perform activities of daily living^{1,6,7}

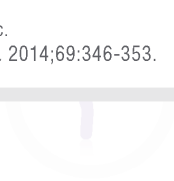
*Medicare beneficiaries. ¹Defined as becoming newly eligible for Medicaid or for low-income subsidies under Medicare Part D. Findings suggest a possible relationship between long-term care use and eventual Medicaid dependence, although a causal pathway has not been established.

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Tajeu GS, et al. *J Gerontol A Biol Sci Med Sci.* 2014;69:346-353.



Worry about fracture, and potential for nursing home care⁸



Pain and other complications⁹

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1. Bentler SE, et al. *Am J Epidemiol.* 2009;170:1290-1299. 2. Tajeu GS, et al. *J Gerontol A Biol Sci Med Sci.* 2014;69:346-353. 3. National Osteoporosis Society. *Life With Osteoporosis: The Untold Story.* October 2014.

4. Tarride J-E, et al. *Osteoporos Int.* 2012;23:2591-2600. 5. Kaffashian S, et al. *Age Ageing.* 2011;40:602-607. 6. Cosman F, et al. *Osteoporos Int.* 2014;25:2359-2381.

7. Fischer S, et al. *Osteoporos Int.* 2017;28:2843-2851. 8. Vass CD, et al. *Age Ageing.* 2014;43:129. 9. Inacio MCS, et al. *Perm J.* 2015;19:29-36.

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Osteoporosis-Related Fractures Can Be Associated With Disability and Loss of Independence

Potential Impact of Osteoporosis-Related Fracture



Admission to nursing home or long-term care facility¹

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Decreased ability to perform activities of daily living is **greatest within the first 2 years after** an osteoporosis-related fracture, and may persist beyond that

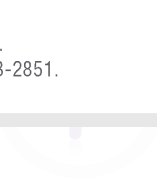
Decreased ability to perform activities of daily living^{1,6,7}

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Worry about fracture, and potential need for nursing home care

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Pain and other complications^{8,9}

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Fischer S, et al. *Osteoporos Int.* 2017;28:2843-2851.

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1. Bentler SE, et al. *Am J Epidemiol.* 2009;170:1290-1299. 2. Tajeu GS, et al. *J Gerontol A Biol Sci Med Sci.* 2014;69:346-353. 3. National Osteoporosis Society. *Life With Osteoporosis: The Untold Story.* October 2014.

4. Tarride J-E, et al. *Osteoporos Int.* 2012;23:2591-2600. 5. Kaffashian S, et al. *Age Ageing.* 2011;40:602-607. 6. Cosman F, et al. *Osteoporos Int.* 2014;25:2359-2381.

7. Fischer S, et al. *Osteoporos Int.* 2017;28:2843-2851. 8. Vass CD, et al. *Age Ageing.* 2014;43:129. 9. Inacio MCS, et al. *Perm J.* 2015;19:29-36.

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Osteoporosis-Related Fractures Can Be Associated With Disability and Loss of Independence



Admission to nursing home or long-term care facility¹

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Worry about fracture, and nursing home admission for nursing

> More on This Topic



After an osteoporosis-related fracture, many patients experience **fear of falling** that may be associated with **decreased activity levels**^{1,2,*}

*Activities assessed using the Nottingham Leisure Questionnaire of 30 items, including driving, gardening, attending sports events, volunteer work, watching television, walking, and others.³

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1. National Osteoporosis Society. *Life With Osteoporosis: The Untold Story*. October 2014. 2. Vass CD, et al. *Age Ageing*. 2014;43:i29. 3. Drummond AER, et al. *Clin Rehabil*. 2001;15:647-656.



Decreased ability to perform activities of daily living^{1,6,7}

topic

es such as pain and medications^{8,9}

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1. Bentler SE, et al. *Am J Epidemiol*. 2009;170:1290-1299. 2. Tajeu GS, et al. *J Gerontol A Biol Sci Med Sci*. 2014;69:346-353. 3. National Osteoporosis Society. *Life With Osteoporosis: The Untold Story*. October 2014. 4. Tarride J-E, et al. *Osteoporos Int*. 2012;23:2591-2600. 5. Kaffashian S, et al. *Age Ageing*. 2011;40:602-607. 6. Cosman F, et al. *Osteoporos Int*. 2014;25:2359-2381. 7. Fischer S, et al. *Osteoporos Int*. 2017;28:2843-2851. 8. Vass CD, et al. *Age Ageing*. 2014;43:i29. 9. Inacio MCS, et al. *Perm J*. 2015;19:29-36.

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Osteoporosis-Related Fractures Can Be Associated With Disability and Loss of Independence

Potential Impact of Osteoporosis-Related Fracture



Admission to nursing home or long-term care facility¹



After a fracture, patients **may experience:**^{1,2}

- Pain
- Height loss/disfigurement
- Other complications

Decreased ability to perform activities of daily living^{1,6,7}

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1. Cosman F, et al. *Osteoporos Int.* 2014;25:2359-2381. 2. Inacio MCS, et al. *Perm J.* 2015;19:29-36.

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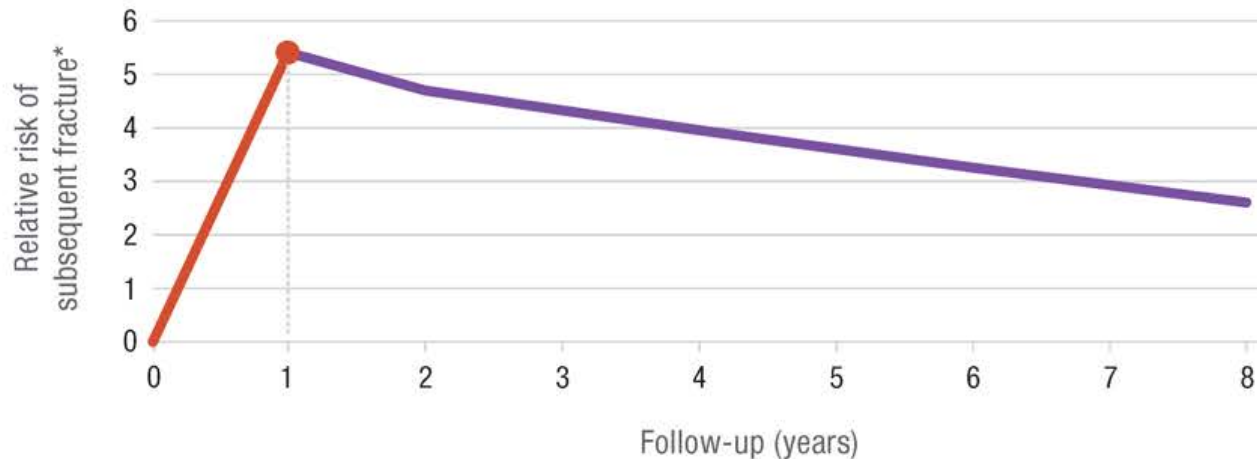
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Fracture Risk Is Highest Within 1 to 2 Years After the Initial Fracture

After an osteoporosis-related fracture, postmenopausal women are 5 times more likely to suffer another fracture within 1 year¹



Data represent a population-based study of 4,140 postmenopausal women aged 50–80 years¹
 Fractures were classified as hip, clinical vertebral, forearm, humerus, and other^{1,2}

*Compared with the risk of a first fracture, the relative risk of subsequent fracture was highest in the first year after the first fracture (RR 5.3; 95% CI 4.0 to 6.6). ¹Defined as a major fracture. ²Defined as a minor fracture.
¹Other fracture sites included the pelvis, ribs, distal femur, and tibia.
 CI, confidence interval; RR, relative risk.
 Adapted from van Geel TA et al. *Ann Rheum Dis.* 2009;68:99-102.
 1. van Geel TA, et al. *Ann Rheum Dis.* 2009;68:99-102. 2. Kanis JA, et al. *Osteoporos Int.* 2013;24:23-57.
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Break the pattern

of osteoporosis-related fractured bones

Talk to your patients about a lifelong
strategy for bone health