



Position Statement

Recommendations for Enhancing the Care of Patients with Fragility Fractures

Endorsed by: American Academy of Orthopaedic Surgeons (AAOS); American Society for Bone and Mineral Research (ASBMR); International Osteoporosis Foundation (IOF); National Organization of Orthopaedic Nurses (NAON); National Osteoporosis Foundation (NOF); Orthopaedic Research Society (ORS); and World Orthopaedic Osteoporosis Organization (WOOO).

Fragility fracture care: Action is needed

Fragility fractures are defined as fractures resulting from a fall from a standing height or less, or presenting in the absence of obvious trauma. Fragility fractures affect up to one-half of women and one-third of men over age fifty, and are often associated with low bone density.^{1, 2, 3, 4, 5, 6} Such fractures occur most commonly in the hip, spine, and wrist.^{1, 7} The dual burdens of suffering and health care costs are enormous for all fracture patients, particularly those with hip fractures. Clinical trials have demonstrated that treatment of patients with fragility fractures can reduce the risk of future fractures by up to 50%.^{8, 9} Thus, it is important that these patients not only receive treatment for the presenting fracture, but also for prevention of future fractures.^{10, 11}

Fractures lead to more fractures

One of the most compelling reasons to determine the etiology of a fracture and provide appropriate treatment is that a previous low-energy fracture is among the strongest risk factors for new fractures.^{1, 12, 13, 14, 15, 16, 17, 18, 19}

Specifically, patients with a low-energy fracture of the wrist, hip, proximal humerus or ankle have nearly a two to four-fold greater risk for future fractures than individuals who have never experienced a fracture.^{12, 19} Furthermore, up to half of patients with a prior vertebral fracture will experience additional vertebral fractures within three years, many within the first year.^{13, 15} Indeed, compared to individuals with no history of fracture, a patient with a prior vertebral fracture has nearly a five-fold increased risk of future vertebral fractures and up to a six-fold increased risk of hip and other nonvertebral fractures.^{14, 17, 19} *Taken together, these data indicate that patients with a history of any type of prior fracture have a two- to six-fold increased risk of subsequent fractures compared to those without a previous fracture.*

These findings emphasize that optimal care of fragility fracture patients includes not only management of the presenting fracture, but also evaluation, diagnosis and treatment of the underlying cause(s) of the fracture, including low bone density or other medical conditions.²⁰ In this regard, supplementation with calcium and vitamin D has been shown to lower fracture risk in the elderly.^{21, 22} In addition, several pharmacologic agents have been demonstrated to reduce the risk of future fracture by as much as 50% in patients with existing fractures.^{8, 9, 23, 24, 25, 26} Non-pharmacologic interventions, such as fall prevention programs and individually-tailored exercise programs, have been shown to reduce falls among the elderly,^{27, 28, 29} which may decrease the incidence of fractures. In addition, trochanteric padding has been shown to dramatically reduce hip fractures among those at highest risk.³⁰ Thus, initiating interventions soon after a fragility fracture occurs may significantly reduce the incidence and severity of subsequent fractures.

A unique opportunity

Orthopaedic surgeons manage most fragility fractures. Indeed, the orthopaedic surgeon usually is the first, and often the only physician seen by the fracture patient. Thus, orthopaedic surgeons have a unique opportunity to educate the fracture patient about the need to decrease the risk for future fractures and to advocate for improved fracture care in their communities.^{10, 11, 20, 31}

The American Academy of Orthopaedic Surgeons (AAOS) encourages the orthopaedic surgeon to:

- 1. Consider the likelihood that osteoporosis is a predisposing factor when a patient presents with a fragility fracture.*
- 2. Advise patients with fragility fractures that an osteoporosis evaluation may lead to treatment which can reduce the risk of future fractures.*
- 3. Initiate an investigation of whether osteoporosis is an underlying cause in patients with fragility fractures. The orthopaedic surgeon may conduct this evaluation or may refer the patient to another medical provider.*

4. ***Establish partnerships within the medical and nursing community that facilitate the evaluation and treatment of patients with fragility fractures.***
5. ***Urge their hospitals and office practices to establish clinical pathways that ensure optimal care is provided for patients with fragility fractures.***

By taking an active role in managing or referring patients with fragility fractures, orthopaedic surgeons can substantially improve the long-term outcome of these patients, reduce the risk of subsequent fracture, and thereby help mitigate the downward spiral in health and quality of life that often follows fractures.

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Document Number: 1159

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