

**AMERICAN COLLEGE OF RHEUMATOLOGY  
POSITION STATEMENT**

**SUBJECT:** Bone Mineral Density Measurement and the Role of Rheumatologists in the Management of Osteoporosis

**PRESENTED BY:** Committee on Rheumatologic Care

**FOR DISTRIBUTION TO:** Members of the American College of Rheumatology  
Medical Societies  
Centers for Medicare and Medicaid Services  
Managed Care Organizations/Third Party Carriers  
Members of Congress  
Arthritis Foundation  
National Osteoporosis Foundation

**POSITIONS:**

1. The American College of Rheumatology (ACR) supports the appropriate use of bone mineral density (BMD) testing for the diagnosis of osteoporosis or low bone mass. This is a critical element in fracture risk assessment.
2. The ACR supports the use of serial BMD testing when appropriate to monitor osteoporosis treatment response or to monitor progression of osteoporosis or low bone mass near treatment thresholds. The frequency of retesting should be determined based upon previous test results, existing literature, and clinical judgment of the rheumatologist.
3. Rheumatologists are among those who are uniquely qualified to read and report BMD tests, and should be reimbursed for their reads (see also the ACR's Diagnostic Imaging Credentialing position statement).
4. In addition to T-scores, BMD test reports should include an individualized clinical summary of osteoporosis risk factors.
5. The ACR concurs with the National Osteoporosis Foundation guidelines on use of BMD measurements in both the diagnosis and interval monitoring of bone mass in the following groups of patients (1):
  - Women 65 years and older, regardless of clinical risk profile.
  - Men aged 70 years and older, regardless of clinical risk profile.
  - Younger postmenopausal women and men aged 50 to 69 years about whom there is concern for fracture based on their clinical risk.
  - Women in the menopausal transition if there is a specific risk factor associated with increased fracture, such as low body weight, prior low-trauma fracture, or high-risk medication.
  - Adults who have a fracture after age 50.
  - Anyone being considered for pharmacologic therapy for osteoporosis.
  - Anyone being treated for osteoporosis, to monitor treatment effect.
  - Anyone not receiving therapy in whom evidence of bone loss would lead to treatment.

- Postmenopausal women discontinuing estrogen.
6. The ACR supports adequate coverage for BMD testing by Medicare and other health insurance carriers.
  7. Many patients managed by rheumatology providers are at risk of glucocorticoid-induced osteoporosis (GIOP). The ACR supports adequate coverage by government and third-party insurance carriers for BMD testing for GIOP at intervals recommended by ACR guideline for the prevention and treatment of osteoporosis. (2)
  8. The ACR supports rheumatology providers with an interest in osteoporosis and the care of individuals with osteoporosis through a wide range of initiatives including:
    - Comprehensive basic science and clinical education programs for professionals.
    - Support for osteoporosis research through grants and other services to investigators.
    - Development of clinical practice guidelines for optimal diagnosis and treatment of osteoporosis.
    - Programs to increase public awareness about osteoporosis and access to expert care from rheumatologists
    - Cooperation with health organizations interested in osteoporosis

## **BACKGROUND:**

Osteoporosis is the most common bone disease in humans and represents a major public health concern (3). It is characterized by low bone mass, deterioration of bone tissue, disruption of bone architecture, compromised bone strength, and an increased risk of fracture (1). Osteoporosis is associated with 1.5 million fractures annually in the United States. The annual direct costs of osteoporosis in the U.S. in 2005 were estimated to be \$17 billion and projected costs by year 2025 will be \$25.3 billion dollars (4). One-year mortality following a hip fracture in seniors is as high as 24% (5). Of the hip fracture survivors, 60% do not regain their pre-fracture level of independence, and 20% are confined to nursing homes for long-term care (2). Thus, early diagnosis of osteoporosis and prevention of fractures are important to preserve not only the lives, but also the functional independence of the large number of people at risk for fragility fractures.

The measurement of BMD is vital to detecting osteoporosis and low bone mass, which in turn are important risk factors for fragility fractures (3, 6-8). In fact, fracture risk increases exponentially as BMD decreases (1). BMD measurement is also an integral component of the World Health Organization's absolute fracture risk assessment algorithm tool (9). This algorithm utilizes BMD or body mass index as well as other risk factors to assess an individual's absolute risk of future fragility fractures. The Fracture risk assessment tool is then used in conjunction with ACR and/or National Osteoporosis Foundation guidelines for cost-effective pharmacological intervention (9, 10).

Central measurement of BMD using dual energy x-ray absorptiometry (DXA) remains the gold standard for the diagnosis of osteoporosis and low bone mass. Peripheral measurements of BMD are predictive of fracture but are not precise enough for monitoring patients on therapy (1). Serial measurements of BMD are necessary to monitor efficacy of osteoporosis therapy and to monitor patients not on treatment who are near treatment thresholds. The appropriate interval for repeat measurement is a clinical decision based on individual circumstances. Typically, this might be two years after initiation of therapy and then less frequently once therapeutic effect has been established. In the setting of glucocorticoid use or changing risk factors, more frequent testing may be appropriate (11).

Through training and experience, rheumatologists possess several key competencies that allow them to provide expert care for people with osteoporosis, including:

- Knowledge of osteoporotic disease, reinforced by continuing education in this field.
- A practice structure that emphasizes detailed analysis of complex medical problems and highly organized and comprehensive management of chronic diseases.
- Interpretation of bone density measurement which is key to identifying and managing patients with osteoporosis and those at risk for osteoporosis.
- A focus on rehabilitation of individuals with physically disabling diseases to recover optimal function and quality of life; and
- Prevention and treatment of glucocorticoid-induced osteoporosis (11).

Some rheumatologists devote their careers to expanding and disseminating knowledge about osteoporosis through an emphasis on clinical or basic science research and education. Their efforts enhance the capabilities of other rheumatologists and physicians in general in managing this disease. Arthritis health professionals including nurses, nurse practitioners, physician assistants, physical and occupational therapists, psychologists and social workers work closely with rheumatologists to provide a wide range of essential services for the care and rehabilitation of people with osteoporosis and other rheumatic diseases.

The ACR is the professional organization for rheumatologists and arthritis health professionals, with an interest in bone health and represents a source of leadership and education for rheumatologists throughout the world.

## REFERENCES

1. Cosman F, de Beur SJ, LeBoff MS, et al. Clinician's guide to prevention and treatment of osteoporosis. *Osteoporosis Int.* 2014; 25: 2359-81.
2. Buckley L, Guyatt G, Fink HA, et al. 2017 American College of Rheumatology guideline for the prevention and treatment of osteoporosis. *Arthritis Rheumatol.* 2017
3. U.S. Department of Health and Human Services. Bone Health and Osteoporosis: A Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, 2004.

4. Burge RT, Dawson-Hughes B, Solomon D, Wong JB, King AB, Tosteson ANA. Incidence and economic burden of osteoporotic fractures in the United States, 2005-2025. *J Bone Min Res*. 2007;22(3):465-75.
5. Robbins JA, Biggs ML, Cauley J. Adjusted mortality after hip fracture: From the cardiovascular health study. *J Am Geriatr Soc* 2006;54(12):1885-91.
6. Nelson HD, et al. Screening for postmenopausal osteoporosis: a review of the evidence for the U.S. Preventive Services Task Force. *Ann Intern Med* 2002;137:529-41.
7. Cummings S, Nevit M, Browner W, et al. Risk factors for hip fracture in white women. *N Engl J Med*. 1995; 332:767-73.
8. De Laet C, Van Hout BA, Burger H, et al. Hip fracture prediction in elderly men and women: validation in the Rotterdam study. *J Bone Miner Res* 1998; 12:1915-23.
9. The World Health Organization Fracture Risk Assessment Tool. [www.shef.ac.uk/FRAX/](http://www.shef.ac.uk/FRAX/)
10. Dawson-Hughes B, Tosteson A, Melton LJ III, et al. Implications of absolute fracture risk assessment for osteoporosis practice guidelines in the USA. *Osteoporosis Int*. 2008 Apr;19(4):449-58.
11. Grossman JM, Gordon R, Ranganath VK, et al. American College of Rheumatology 2010 recommendations for the prevention and treatment of glucocorticoid-induced osteoporosis. *Arthritis Care Res*. 2010;62:1515-26.

Approved by Board of Directors: 08/01 08/05 08/08 08/12 8/17 8/21