

Letters to the Editor

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This series is coordinated by Kenny Lin, MD, MPH, Associate Deputy Editor for *AFP* Online.

Expanding on Risk Factors and Response to Therapy for Osteoporosis

Original Article: Diagnosis and Management of Osteoporosis

Issue Date: August 15, 2015

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TO THE EDITOR: Dr. Jeremiah and colleagues did an excellent job reviewing the basic issues related to the diagnosis and management of osteoporosis. However, three issues are more nuanced than indicated in the article.

First, caffeine intake does not increase fracture risk. The original study showing that more than 2.5 units of caffeine daily may increase the risk of fracture was published in 1990, and it commented that because caffeine use may be associated with other behavioral risk factors for fracture, the association may be indirect.¹ Since that time, more rigorous studies have found no increased risk with caffeine intake.² Tea consumption does not increase fracture risk³ and may even increase bone density.⁴

Second, an indication for denosumab (Prolia) therapy is for patients who have failed other osteoporotic therapies. The article, however, says the indication is for patients who did not improve with bisphosphonate therapy. Lack of improvement with bisphosphonate therapy has not been defined or studied. Bisphosphonates reduce fracture risk even if the bone mineral density does not improve or even decreases.⁵ Failure of other osteoporotic therapies would more likely be caused by inability to tolerate or unwillingness to comply with therapy.

Third, the need for or benefit of a repeat dual energy x-ray absorptiometry (DEXA) scan after starting treatment for osteoporosis has not been shown.⁶ No evidence-based answer exists for what to do with repeat DEXA results. Less expensive ways to assess medication nonadherence include asking

the patient if he or she is taking the medication and monitoring whether the medication has been refilled.

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REFERENCES

1. Kiel DP, Felson DT, Hannan MT, Anderson JJ, Wilson PW. Caffeine and the risk of hip fracture: the Framingham Study. *Am J Epidemiol.* 1990;132(4):675-684.
2. Hallström H, Byberg L, Glynn A, Lemming EW, Wolk A, Michaëlsson K. Long-term coffee consumption in relation to fracture risk and bone mineral density in women. *Am J Epidemiol.* 2013;178(6):898-909.
3. Chen Z, Pettinger MB, Ritenbaugh C, et al. Habitual tea consumption and risk of osteoporosis: a prospective study in the women's health initiative observational cohort. *Am J Epidemiol.* 2003;158(8):772-781.
4. Devine A, Hodgson JM, Dick IM, Prince RL. Tea drinking is associated with benefits on bone density in older women. *Am J Clin Nutr.* 2007;86(4):1243-1247.
5. Watts NB, Geusens P, Barton IP, Felsenberg D. Relationship between changes in BMD and nonvertebral fracture incidence associated with risedronate: reduction in risk of nonvertebral fracture is not related to change in BMD. *J Bone Miner Res.* 2005;20(12):2097-2104.
6. Muncie HL Jr, LeBlanc LL. Monitoring osteoporosis treatment: DXA should not be routinely repeated. *Am Fam Physician.* 2010;82(7):749-754.

IN REPLY: We appreciate the thoughtful letter from Dr. Muncie. In reference to his point about caffeine intake and its possible impact on osteoporosis, we agree that this is a nuanced issue and that the literature is mixed. Dr. Muncie cites studies that did not show an increase in fracture risk with increased caffeine intake, although the largest study (n = 61,433 women) did show an increased incidence of osteoporosis.¹ In contrast, a large study of postmenopausal women (n = 34,703) showed a modest increase in fracture risk associated with higher intake of caffeine.² We suspect that there may be a dose-dependent effect that may also depend on genotype. Additional studies have suggested possible mechanisms of action.^{3,4} Future studies may clarify how to best guide our patients on caffeine intake with regard to osteoporosis. ►

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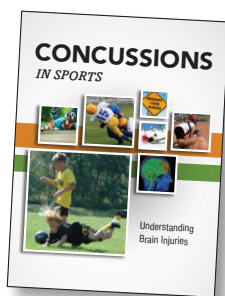
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Concerning the indications for denosumab use, we agree that “failure of other therapies” should include experiencing additional fractures while taking bisphosphonates or the inability to take any of the first-line medications.

Finally, regarding the need for follow-up DEXA screening after treatment initiation, we agree that benefit has not been shown and did not endorse this in our article. We did address the question of follow-up DEXA for screening purposes to diagnose osteoporosis if the previous study result was negative. This remains controversial, but we suggest an interval of four years between screenings based on referenced studies.

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REFERENCES

1. Hallström H, Byberg L, Glynn A, Lemming EW, Wolk A, Michaëlsson K. Long-term coffee consumption in relation to fracture risk and bone mineral density in women. *Am J Epidemiol*. 2013;178(6):898-909.
2. Hansen SA, Folsom AR, Kushi LH, Sellers TA. Association of fractures with caffeine and alcohol in postmenopausal women: the Iowa Women's Health Study. *Public Health Nutrition*. 2000;3(3):253-261.
3. Rapuri PB, Gallagher JC, Kinyamu HK, Ryschon KL. Caffeine intake increases the rate of bone loss in elderly women and interacts with vitamin D receptor genotypes. *Am J Clin Nutr*. 2001;74(5):694-700.
4. Rapuri PB, Gallagher JC, Nawaz Z. Caffeine decreases vitamin D receptor protein expression and 1,25(OH)₂D₃ stimulated alkaline phosphatase activity in human osteoblast cells. *J Steroid Biochem Mol Biol*. 2007;103(3-5):368-371. ■