

## QUESTIONS From Symposium Participants

**Q:** How long should patients be kept on oral bisphosphonates and/or intravenous bisphosphonates? What's the half-life of these drugs and how does it come into play?

**A:** Bisphosphonates accumulate in the skeleton, so half-life refers to how long it takes for the medication to leave the skeleton. The half-life of alendronate is estimated to be more than 10 years. For zoledronic acid, the half-life is not known. The drug has been seen to work in individuals who have had 1 infusion of zoledronic acid 3 and 4 years earlier. For alendronate, some think about stopping after 5 years. But if the patient has osteoporosis as determined by BMD testing, stopping may result in a fracture. Duration of treatment should be assessed on a patient-by-patient basis.

**Q:** What effect do inhaled steroids have on bone when used by a patient with chronic asthma?

**A:** Correctly used inhaled steroids have very little effect on bone. Intra-articular steroids have detrimental effects on bone because much of it enters the circulation. If the patient is taking more than 2000 micrograms a day—if they're abusing inhaled steroids—then that will have deleterious effects on the skeleton. Bone loss related to steroid use usually occurs in the first 6 to 12 months of starting the medicine. For patients older than 45, the recommendation is to do BMD testing before initiating steroids. If bone density is low, intervention is probably recommended. Another commonly used group of medicines that affect bone loss are the aromatase inhibitors. They cause rapid bone loss.

**Q:** Do patients with malabsorption issues, such as Crohn's disease, ulcerative colitis, and other conditions, absorb bisphosphonates? Should these patients receive intravenous forms?

**A:** There are 2 aspects to malabsorption. First, if the patient has increased intestinal motility because of their disease, they won't absorb the bisphosphonate. It will be moved out before it has time to be reasonably absorbed. On the other hand, sometimes symptoms of intestinal disease worsen when an oral bisphosphonate is initiated. Intravenous bisphosphonates have to be considered in both of these situations.

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**Q:** It has been said that obese people have decreased levels of vitamin D because even with supplementation, vitamin D goes into fat cells. As a result, should obese patients be treated with vitamin D differently than people who are normal weight?

**A:** Obese patients should be treated for weight loss because being overweight puts them at much greater risk for other problems. Their vitamin D insufficiency is not a major problem and they should not be treated any differently in terms of vitamin D.

**Q:** What should be done for a patient whose T-score worsens dramatically 1 year after the start of treatment?

**A:** There are 2 issues here. First, it's not valuable to follow up by T-score. It's better to look at the real data, which is expressed in grams per centimeter squared. You can measure bone turnover biochemically. Measuring fasting serum C-telopeptide (CTX) is one method of bone turnover measure that is covered by most healthcare plans. In general, bone turnover has to change in the spine by at least 3% and in the hip by more than 5% before it's statistically significant. These are fairly large changes compared with what you might expect over the course of a year. Changes by that amount should be confirmed by repeating the test, making sure the 2 measurements have been done in the same place by the same technician so that we know the machine hasn't changed. There are many variables associated with repeat testing. Most of the time it's an error in the test rather than an error with the patient. Much of the time, for example, if patients are taking the drug, >90% of these people will respond to a bisphosphonate. If patients are in the postmenopausal range, they're not taking their medicine or they're not absorbing it. That's easy to check. If CTX is below about 250, there's a fair chance the bone density is wrong and the patient is taking the medicine and it's working.