

## Long-Term Care Survey Alert

### SPECIAL FOCUS: Boost Bone Strength, Cognition With This Often Overlooked Approach

The right vitamins, dietary changes can make a big difference.

They say an apple a day can keep the doctor away, but what about vitamin and mineral supplements for elderly residents in nursing homes?

Calcium and vitamin D by themselves can improve a person's bone density and reduce fractures -- "if the person is deficient in those nutrients," says **Michael Gloth III, MD, CMD**, who presented "ABD's of Long-Term Care," at the 2007 **American Medical Directors Association** annual meeting.

He doesn't recommend routinely testing residents for vitamin D deficiency because it's so commonplace in the nursing home population. "The odds are high a person is deficient -- or if not, he may become" that way, Gloth tells **Eli**.

Reduce falls, too: Just vitamin D plus calcium has been "shown to reduce risk of falls by improving muscle tone, strength and balance, resulting in fewer hip and non-vertebral fractures," says **Christie Teigland, PhD**, director, health informatics research for the **New York Association of Homes and Services for the Aging**, which has done research on osteoporosis and falls.

Vitamin D3 supplementation should be between 1,000 to 2,000 I.U. a day, counsels Gloth, a **Harvard University** associate professor of medicine and president of **Victory Springs Senior Health Associates** in Reisterstown, MD.

Vitamin D may improve resident health in other ways. Recent studies suggest vitamin D may provide protection against not only osteoporosis but also cancer, hypertension and several autoimmune diseases, according to information posted on <http://mayoclinic.com>.

Important: If you're giving vitamin D to improve bone density, the resident needs adequate calcium, as well. "With vitamin D on board, the person will absorb about 30 to 40 percent of calcium compared to about 10 to 15 percent" without the vitamin, Gloth explains.

Calcium requirement: "Everyone in the geriatric population needs a minimum of 1,200 mg of calcium a day," Gloth says. But that doesn't all have to come in a pill or other supplement.

Example: Instead of giving residents gelatin as a snack, provide yogurt, he suggests. The facility can also provide calcium-fortified juices and cereals.

"Dairy is the best source for calcium" because it's most easily absorbed, says **Becky Dorner, RD, LD**, president of **Becky Dorner & Associates and Nutrition Consulting Services** in Akron, OH.

But "a lot of older adults may not like to drink milk. For these individuals, you can be creative and provide products made with milk, such as yogurt, puddings, creamed soups, milkshakes -- or add dry milk powder to recipes (casseroles, baked goods, etc.)," she says.

"If the resident is getting 700 to 800 mg of calcium in his diet, he may only need one 500-mg. pill or dose of supplemental calcium," says Gloth. (See the chart showing the calcium content of various foods, page 126.)

Clinical gem: Calcium citrate may be a little easier on the GI tract and perhaps better absorbed, although calcium carbonate is the least expensive and works fine for most people, Gloth says.

Assess for this: Some people who start eating more calcium-rich dairy foods end up with diarrhea due to lactose intolerance, he cautions. (For tips on how to handle lactose intolerance, see the next issue of Long-Term Care Survey Alert.)

### **Be Aware of B-Complex Vitamin Benefits**

Vitamin B-12 deficiency can take a toll on cognition. The recommendation is for people in the long-term care setting to get 1 mg a day, which can be given orally, says Gloth. But keep in mind that supplementation won't prevent or turn around Alzheimer's disease, he says.

Clinical tip: It's good to give a vitamin-B complex supplement because it's "complex" in terms of how some of the B vitamins work together, Gloth adds.

### **Avoid Giving Excessive Vitamin A**

In multiple studies, excessive vitamin A was actually linked to potential harm with excessive retinol associated with reduced bone density and/or increased risk of fracture, cautions Gloth.

A more recent review of antioxidant vitamins also showed that taking excessive vitamin A and beta-carotene, in particular, posed an increased risk of mortality and morbidity, he adds.

Beware: If a resident is taking a liquid nutritional supplement, such as Ensure or Boost, which contains extra vitamin A, Gloth does not recommend the person receive a multi-vitamin containing vitamin A.

"Supplementation of vitamin A beyond achieving the overall RDA is not recommended," he says.

### **What About Vitamin C?**

There are no data about whether supplementation is useful, Gloth says.

"We don't even have great data saying it's going to be beneficial for wound healing."