

Denita Young
County Extension Agent -FCS
Rains County

Calcium and Vitamin D:

Nutrition in Harmony for Strong Bones and Muscles

Recently, you may have seen news stories discussing how much vitamin D people are actually getting in their diets and from their exposure to the sun. In reality, both calcium and vitamin D are needed to maintain healthy, strong bones and muscles during life. Until age 35, the daily calcium deposits of bone prevent the withdrawal of calcium from your bones. Calcium depends on vitamin D to promote the absorption of calcium in the gut. Vitamin D builds and maintains healthy muscles so they mature, function, and are active and strong enough to support the body. If you lack vitamin D, then your muscles can become weak.

To make sure that your bones are not weakening because of a lack of calcium, eat a balanced diet that is rich in calcium. Your body cannot make its own calcium. It must be supplied by eating calcium-rich foods. **Primary** sources are milk, yogurt, and cheese. The calcium content of low-fat-milk products (milk, cheese, and yogurt) is equal to full-fat foods, so don't worry about losing out on this bone-strengthening mineral. But beware—if you don't drink milk, it is very difficult to get enough calcium from other foods. **Secondary** calcium sources are meats, poultry, fish, dry beans, eggs, and nuts. Sardines and salmon with bones, oysters, kidney beans, and tofu made with calcium salt are examples of foods that contribute calcium. Most vegetables and fruits are poor sources of calcium, but some deep leafy greens (broccoli) and calcium-fortified fruit juices contain moderate amounts of calcium. Breads, cereals, and pastas contribute very little calcium in daily meal choices. In fact, milk and baking powder used to make these foods give them small amounts of calcium.

So, what foods are the best sources of vitamin D? To ensure you get enough vitamin D, eat fish, eggs, fortified milk, cod liver oil, and plants that can synthesize D₂. Some foods may be fortified with vitamin D, including cereals, breakfast bars, milk alternatives, or supplements.

Men and women under 50 years of age need 1,000 milligrams (mg.) of calcium and 400 B800 International Units (IU) of vitamin D₃ daily. Those over 50 years of age need 1,200 mg. of calcium and 800 B1000 IU of vitamin D₃ daily (National Osteoporosis Foundation). Most older adults do not eat enough vitamin D-rich foods to meet their daily needs.

The sun also adds significantly to the daily vitamin D₃ production. As little as 10 minutes of exposure is thought to be enough to prevent deficiencies.

When available, choose a supplement of vitamin D₃ (cholecalciferol) over vitamin D₂ (ergocalciferol) to protect bone health. Read dietary supplement labels to help you make the best choice. If you avoid milk products, ask your physician about taking calcium and/or vitamin D₃ supplements.

Contact Denita Young Texas AgriLife Extension Service County Agent at for more information.

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