

Strong women, strong bones: How to keep bones healthy

January 25, 2013 By [Laura Williams, M.S.Ed.](#)

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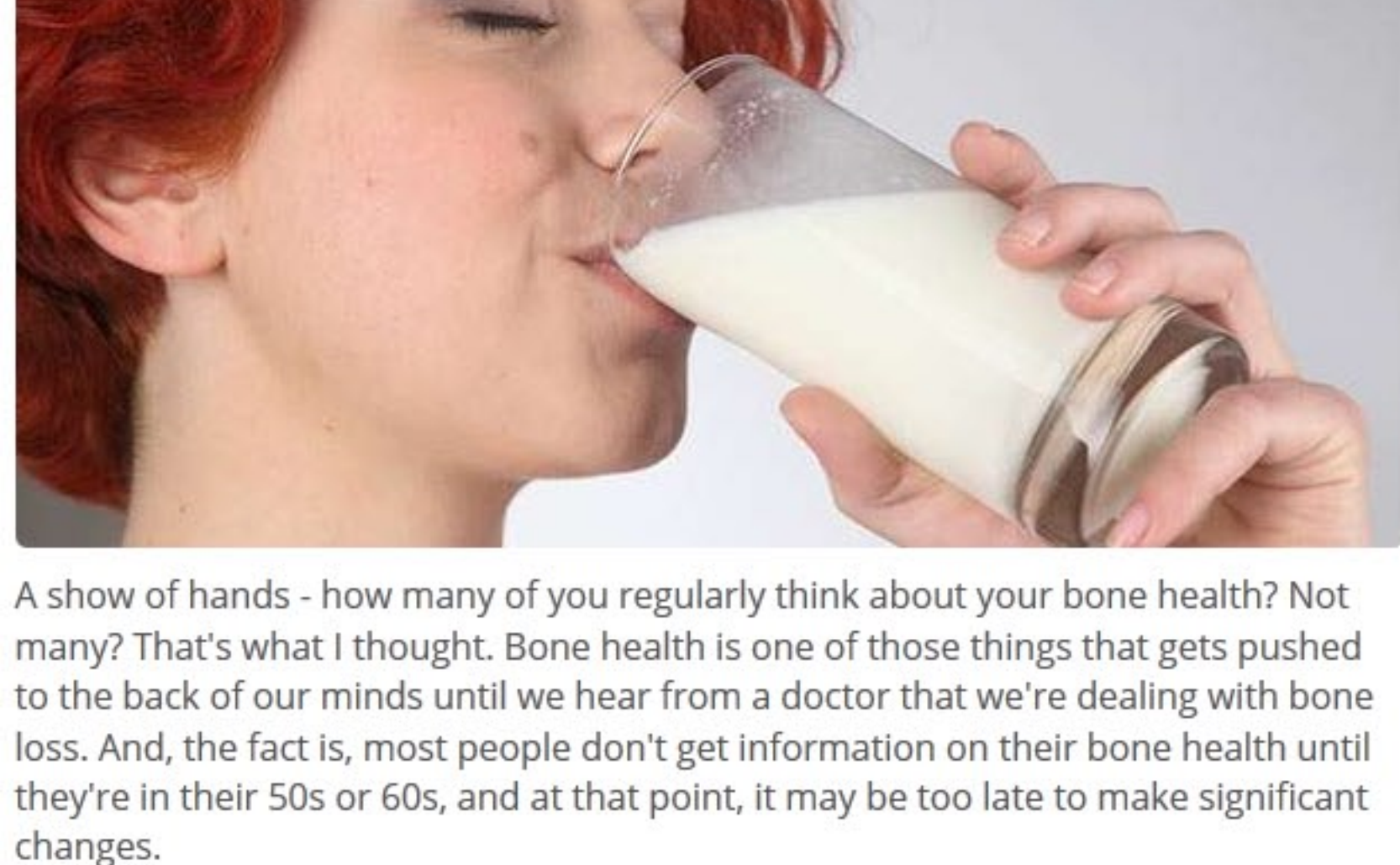
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BONE UP ON BONE HEALTH!



A show of hands - how many of you regularly think about your bone health? Not many? That's what I thought. Bone health is one of those things that gets pushed to the back of our minds until we hear from a doctor that we're dealing with bone loss. And, the fact is, most people don't get information on their bone health until they're in their 50s or 60s, and at that point, it may be too late to make significant changes.

Before you become an osteoporosis statistic, we decided to get the 411 on how to keep bones healthy from [Sherry Torkos, B. Sc. Phm.](#), a natural pharmacist, author and fitness instructor who works as an expert resource for [femMED](#), a doctor-formulated line of female supplements.

TEST YOUR KNOWLEDGE!

Before reading on, take this quick bone health quiz to test your knowledge. Find the answers at the bottom of the page!

1. Peak bone mass is reached at age _____ in women. A) 13-15 B) 16-20 C) 25-30 D) 35	2. Tween girls (age 9-13) need _____ milligrams of calcium each day. A) 1000 B) 1200 C) 1300 D) 1500	3. Which of the following can deplete calcium and vitamin D in the body? A) smoking B) too much caffeine C) taking antacids D) all of the above
4. Which of the following forms of exercise does not promote bone strength? A) swimming B) running C) dancing D) Strength training	5. Which vitamin or mineral does not play a vital role in bone health? A) calcium B) vitamin K C) vitamin D D) iron	6. What is the estimated percentage of women over age 50 that will break a bone due to osteoporosis? A) 25% B) 30% C) 50% D) 65%
7. When occurring together, disordered eating, amenorrhea and bone loss are termed what? A) Osteopenia B) Running-Associated Triad C) Female Athlete Triad D) Anorexia		8. What are the dangers of the Female Athlete Triad? A) bone fractures due to osteoporosis B) fatigue C) heart and problems D) all of the above

PROTECTING YOUR BONES

Girls Gone Sporty: Bone health is crucial for athletes and physically active women of every age, but it's an easy element to overlook in day-to-day life. What are some of the major pitfalls women fall into when it comes to nutrition and bone health?

Sherry Torkos, B. Sc. Phm: I think that woman may not be aware how much calcium they are getting in their diet and how much is actually recommended. The Institutes of Medicine, which sets guidelines for nutrient intake, recommends the following for women:

- Age 9 to 13 years – 1300 mg
- 19 to 50 years – 1000 mg
- 51 and up – 1200 mg

There are many nutritional factors that can affect bone health. Consuming fast food and processed foods, which are high in sodium and low in nutritional value could compromise bone health. Also, high protein and/or caffeine intake can also promote calcium losses.

Girls Gone Sporty: What are the current statistics for osteoporosis and osteopenia?

Sherry Torkos, B. Sc. Phm: According to the National Osteoporosis Foundation, about 10 million Americans have osteoporosis and another 34 million are at risk for the disease. It is estimated that about half of all women older than 50, and up to one in four men, will break a bone because of osteoporosis.

Girls Gone Sporty: How can a woman help protect her bones now to prevent bone wasting later in life?

Sherry Torkos, B. Sc. Phm: Osteoporosis is largely preventable through a proper diet and lifestyle. Here are some strategies for cutting your risk:

- **Eat a calcium-rich, bone-building diet.**
- **Participate in regular weight-bearing activities.** These types of exercises place stress on the bone, which helps to strengthen bones, prevent bone loss and improve bone density. Examples include weight lifting, walking, tennis and dancing. Exercise also increases muscle strength, coordination and balance, helping to preserve mobility and reduce the risk of injury and fracture.
- **Spend 15 minutes outdoors daily.** Your body manufactures some vitamin D through sunlight exposure.
- **Don't smoke.** Smoking increases bone loss, and the risk of osteoporosis.
- **Avoid and/or minimize alcohol, sodium and caffeine (>3 cups daily)** because these all contribute to calcium loss and increased osteoporosis risk.

Girls Gone Sporty: Are there vitamins and minerals other than vitamin D and calcium that help protect and maintain bone health?

Sherry Torkos, B. Sc. Phm: Yes, there are other nutrients that are important for bone health including:

- **Vitamin K:** A cofactor required for production of the major bone protein, osteocalcin, which binds to calcium to create healthy bones. A deficiency of vitamin K can impair proper bone formation. Supplements have been shown to help support bone health by reducing bone breakdown. Look for products that contain vitamin K2.
- **Magnesium:** Important for proper bone formation and may be deficient in those with osteoporosis.

I recommend [Bone Health by femMED](#) which contains a combination of a highly absorbable form of calcium, along with vitamin D3, vitamin K2, magnesium and glucosamine, which helps support joint health.

Girls Gone Sporty: What types of foods can a woman incorporate into her diet every day to help protect her bones?

Sherry Torkos, B. Sc. Phm: Here is a list of foods to include in your diet:

- **Calcium-rich foods** are essential to build and maintain strong bones. Examples include dairy, canned fish with bones (salmon and sardines), dark-green vegetables (kale, kelp, collards, broccoli, and Brussels sprouts), calcium-fortified orange juice, and soy milk. Yogurt provides calcium and it also contains friendly bacteria necessary to convert vitamin K to its active form, which helps in calcium absorption.
- **Omega-3 fatty acids** present in fish have been shown in recent research to reduce activity of bone-resorbing cells, increase activity of bone-forming cells, and increase calcium absorption and delivery to the bones. Plus they have strong anti-inflammatory and antioxidant effects.
- **Vegetables and fruits are rich in antioxidants and minerals that support bone health.** Some research suggests that people who get their calcium from plant source have lower rates of osteoporosis. Green vegetables are also a good source of vitamin K.
- Recent research suggests that **polyphenols (plant pigments)** in fruits, vegetables, green tea and red wine have a positive effect on bone-building cells.
- **Lycopene**, a carotenoid in tomatoes and tomato products, is an antioxidant that may offer some bone-preserving benefits.
- **Magnesium** is also necessary for bone formation and may be deficient in those with osteoporosis. Food sources include leafy green vegetables, whole grains, nuts, seeds, meat, milk, soybeans, tofu, legumes and figs.
- **Soy foods** (tofu, soy milk, roasted soy beans, soy powders and soy bars) can play a role in the prevention of osteoporosis. Soy contains isoflavones, which are plant-based estrogens that protect against bone loss. A total daily dose of about 54-110 mg isoflavones can help prevent loss of bone mineral content and reduce markers of bone resorption.
- **Vitamin D** aids in the absorption of calcium. Food sources include fortified milk products and breakfast cereals, fatty fish, and egg yolks.



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Girls Gone Sporty: Even if a woman consumes a calcium-rich diet, is a supplement necessary or prudent?

Sherry Torkos, B. Sc. Phm: Even if a woman eats a calcium-rich diet a supplement may still be necessary to ensure she receives the recommended amount of calcium and other bone-building nutrients. Plus, there are many factors that can deplete calcium and vitamin D in the body. Calcium can be depleted by the use of prescription medications (antacids and corticosteroids) and a high intake of sodium, protein and caffeine (>3 cups per day). Vitamin D can be depleted by alcohol drugs, anti-convulsants and certain drugs used to lower cholesterol such as cholestyramine.

Too much calcium is not a good idea, so before taking a supplement determine how much calcium you are obtaining from your diet.

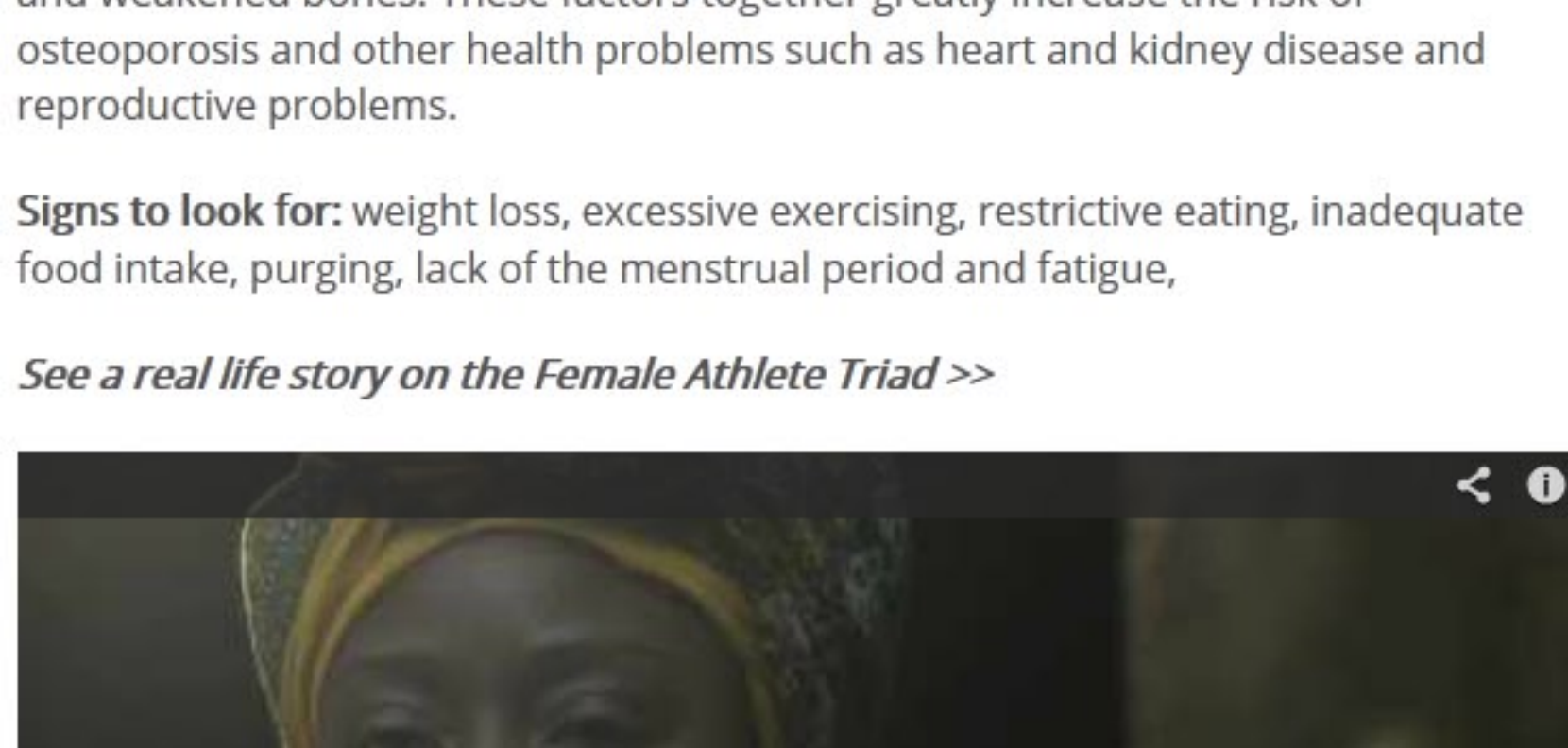
Girls Gone Sporty: Many women view their exercise routine as a form of protection against osteoporosis, but many aren't aware that there can be too much of a good thing. Can you share a little about the Female Athlete Triad and the signs women should look out for?

Sherry Torkos, B. Sc. Phm: Exercise is vital for good health and it is well established that moderate exercise protects against osteoporosis. However too little or excessive exercise may cause osteoporosis and other health problems.

The Female Athlete Triad, is a term used to explain the combination of: an eating disorder (inadequate or poor nutrition), amenorrhea (absence of menstrual period) and weakened bones. These factors together greatly increase the risk of osteoporosis and other health problems such as heart and kidney disease and reproductive problems.

Signs to look for: weight loss, excessive exercising, restrictive eating, inadequate food intake, purging, lack of the menstrual period and fatigue,

[See a real life story on the Female Athlete Triad >>](#)



Girls Gone Sporty: Most bone development takes place during childhood and adolescence. How can parents, coaches and mentors help kids to make choices that will protect their bones for years to come? Are there any behaviors that adults should look out for, especially in preteen and teen girls that could be detrimental to future bone health?

Sherry Torkos, B. Sc. Phm: It is true, our peak bone mass is achieved between the ages of 16 and 20 for women.

During bone development bone cells called osteoclasts are constantly breaking down old bone at the same time that other cells, called osteoblasts, are building new bone.

Until about age 30, there is a balance in activity of the osteoblasts and osteoclasts. After that point, bone loss begins and more bone is broken down than is replaced. In women, the rate of loss accelerates for several years after menopause, and then slows again. In men, as testosterone levels wane bone loss occurs, although it is a slower process than what occurs in women.

Parents and coaches need to be aware of the many factors contribute to and accelerate bone loss, including hormonal imbalance, nutrient deficiencies (poor diet, anorexia/bulimia, overconsumption of fast/processed food), lack of weight-bearing activity, oxidative stress, inflammation, elevated blood sugar, and the use of certain medications.

Quiz results:

1. A: Peak bone mass is reached in late adolescence, which is why it's so important for children and teens to get bone-strengthening exercise and proper nutrition early on.
2. C: Because tween girls are in their peak bone-building stage, they need more calcium than adult women, or even women who have been through menopause.
3. D: Smoking, excessive caffeine intake and taking certain medications can all deplete calcium stores in the body.
4. A: Swimming is not a weight bearing exercise, so it won't help improve bone strength.
5. D: This was a tricky one! While iron is a necessary mineral that can impact bone health, it doesn't play a vital role as calcium, vitamin D and vitamin K.
6. C: 50%! Just think about that - 50% of women over age 50 will break a bone due to osteoporosis. That's huge! And if the broken bone is a hip, femur or vertebrae? We're talking serious rehab and mobility loss. Osteoporosis is a serious disease.
7. C: Female Athlete Triad. A serious disorder that isn't limited to just athletes, but is often present in active women, especially those involved in sports that require leanness as part of the sport - long distance running, gymnastics, diving and dance, just to name a few.
8. D: All of the above! The Female Athlete Triad is a serious disorder that can affect women for a lifetime if it isn't identified, addressed and treated.

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