



**BC Epilepsy
Society**

Bone Health

Some of the medications that prevent seizures may make bones thin. This risk is higher in women. It doesn't happen all at once – it could take years. If you're a woman with epilepsy and take one or more of these medications for several years, this is a possibility. Most women with epilepsy don't know about this risk – many doctors are not aware of it either. Women with epilepsy may not be getting the information they need to protect their bones.

About Your Bones

Bones are made mostly of calcium. This is a mineral that you get from food and dairy products. The surface of bones looks smooth. Inside is a lacey but strong network of mineral deposits. If the network gets too thin, bones are more likely to break. Broken or damaged bones in the spine can cause pain, loss of height, and changes in the shape of the back.

Your bones are constantly changing. Old bone is replaced by new. When you lose bone, the inside structure of the bone gets thinner and it loses some of its strength. When the bones have lost density or thickness, the condition is called osteopenia. When bones have lost a lot of density or thickness, the condition is called osteoporosis.

How many people have bone loss?

About one million Canadians have some bone loss. Eight out of every 10 people with bone loss are women. The risk of having thin bones is higher in women over the age of 65. Other things that raise the risk of bone loss are:

- smoking cigarettes
- not getting enough calcium and vitamin D
- having other family member whose bones break easily
- early menopause
- being of Caucasian or Asian race
- heavy use of alcohol or caffeinated drinks
- not enough dairy products, fruit, and vegetables in your diet
- lack of weight bearing exercise
- lack of sunlight (sunlight on your skin creates vitamin D, which helps your body absorb the calcium your bones need to stay strong)
- taking medications that contain steroids

Why do women with epilepsy have to be concerned about thinning bones?

- Some of the medications to prevent seizures can increase bone loss
- Some of the medications result in side effects such as clumsiness and instability that increase the risk of falling
- Women who have seizures that make them fall are more likely to break a bone if their bones have become thin
- Treating bone loss at an early stage may keep it from getting worse
- Women with epilepsy are twice as likely as other women to have broken bones

What about men with epilepsy?

Men who have taken some epilepsy medications for several years are also at higher risk of thinning or breaking bones. Their risk is still lower than the risk for women with epilepsy.

Medications and Bone Health

Thinner bones are more likely if you are taking one or more of these older medications: Phenobarbital, Phenytoin (Dilantin), Primidone (Mysoline), Carbamazepine (Tegretol, Tegretol CR), and Valproate (Depakene, Depakote, Epival).



What about the new epilepsy medications?

None of the epilepsy medications approved over the past 15 years are known to cause bone loss. Some are so new that very few studies have been done. More research will help answer this question. The newer epilepsy medications include:

- Gabapentin (Neurontin)
- Lamotrigine (Lamictal)
- Levetiracetam (Keppra)
- Pregabalin (Lyrica)
- Topiramate (Topamax)

I take one of the older medications because it works for me. Should I stop taking it?

No. Not having seizures is important. You don't want to do anything that might make them begin again. You should never stop any epilepsy medication suddenly. It's a good idea to discuss the risks of thinning bones with your physician.

What other ways can I get enough vitamin D?

Some foods, especially fatty fish are high in vitamin D. Salmon and mackerel are good sources of vitamin D. You can also get vitamin D from cod liver oil or other fish oils. Milk, bread, and cereal have vitamin D added to them. If you still don't think you're getting enough vitamin D naturally, you can use vitamin D supplements.

Do I need extra calcium if I have epilepsy?

The average teenager or young adult needs 1200-1500 mg of calcium each day to keep bones strong. The average woman between 25 and 55 years of age needs 1000 mg a day. Pregnant or nursing women should be getting between 1200-1500 mg each day. After menopause, women need to take more calcium because their levels of estrogen (the hormone that protects bones) fall. After menopause, the average woman needs 1500 mg of calcium each day.

You may need to take more calcium because some epilepsy medications make it harder for bones to get the calcium they need. If you've been taking epilepsy medications for more than six months, you should be getting between 1000-1500 mg of calcium every day, regardless of age.

What should you do if you don't know how much calcium you're getting from food?

Check with your doctor or pharmacist about calcium supplements. If you're buying supplements, get calcium that includes 400 IU (international units) of vitamin D per tablet. That's because vitamin D helps your bones absorb the calcium so it gets where it's needed – into your bones. Always tell your doctor or pharmacist if you plan to take any vitamin or mineral supplements or herbal product of any kind.

Tracking Bone Health

If you're a woman with epilepsy and you've been taking epilepsy medication for several years, having a bone density test is a good idea. You can also get levels of vitamin D and calcium drawn. You should have a bone density test if you are over 65 or have broken a bone recently. Ask your doctor about ordering a bone density test to check on your bone health.

The test most often used to check for thinning bones is called a DXA scan. DXA stands for dual energy x-ray absorptiometry. A DXA is a painless type of x-ray. It measures how dense your bones are. Your doctor will compare your results with scans of normal bone density and the scans of other people your age.

If the DXA scan shows I have bone loss, it can be treated? There is no cure, but there are medications that may slow or even stop the bone loss. These medications include hormones, calcitonin, bisphosphonates, parathyroid hormone, and a group of substances called selective estrogen receptor modulators. It's important to talk to your family physician before taking these medications, as they're not for everyone.

What else can I do to stay healthy?

Another way of looking after yourself is to prevent broken bones. Falling is the most common direct cause of a broken bone. Look around the house. Do you see things that might make you stumble, trip, and fall? Get rid of loose rugs, electrical cords, and discarded personal items in areas where you walk. Take care of slippery floors. Hold handrails when going up or down steps. If your medications sometimes make you feel lightheaded, clumsy, dizzy, or unsteady, check with your doctor. A change in when you take your medications or how much you take may help.

What else can I do to keep from falling?

If you have epilepsy, the most common cause of a fall is having a seizure. Taking your medication as prescribed will help prevent seizures, falls, and broken bones. If you still have seizures that cause falls, think about putting carpet and padding in your house, including the bathroom.

This information sheet was adapted in January 2008 with permission of the Epilepsy Foundation. (sp)

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