Some Drugs Can Weaken Bones  
By Carrie Isaacs, PharmD, CDE  --- Kentucky Rx Coalition

Osteoporosis affects an estimated 44 million Americans, and another 34 million have low bone mass (osteopenia), meaning that they are at an increased risk of osteoporosis. Also, there is a large gender gap in developing these conditions. **Women are four times more likely to develop decreased bone mass or osteoporosis.** Women are far more vulnerable because they lose bone at an accelerated rate during the first several years following menopause. Their bones are also less dense to begin with.

**Osteoporosis is a real condition with serious effects on women's health,** quality of life, and financial burden to society. The direct costs of osteoporosis to society in 2001 were estimated to be between $12-17 billion. People who have osteoporosis have a greater chance of fracturing their bones, especially in the hip, vertebrae (spine) and wrist. Hip fractures lead to hospitalization, can take a long time to heal, and many women may never fully recover from them. The National Osteoporosis Foundation (NOF) unfortunately reports that almost one-quarter of all persons aged 50 and older who suffer from a hip fracture will die within one year of their injury. Individual vertebral fractures can be completely painless and cause no problems at all, but if multiple fractures develop in the spine it can be very painful and restrict women’s ability to move without serious discomfort.

**Other well-known risk factors for osteoporosis include not getting enough calcium and vitamin D, smoking, race, advanced age, and a family history of osteoporosis.** However, individuals may not know that the medications that they take, either prescription or over-the-counter, can also put them at risk.

The medication classes listed in the table below can cause problems for bones. **If you are taking any of these medications, it's important to discuss calcium and vitamin D supplementation if it is determined that the benefits of these drugs outweigh their risks.** According to NOF, adults 50 and over need 1,200 milligrams of elemental calcium and 800-1,000 IUs of vitamin daily. (Because a dose of more than 500 mg at a time may not be well absorbed, calcium supplements should be taken in divided doses, with meals.) Also, **you'll want to engage in regular weight-bearing exercises, avoid smoking and excessive alcohol consumption, and have a bone mineral density scan.**

Medications should also not be stopped without consulting your prescriber. Also you and your prescriber may find consulting a pharmacist to be very useful. A pharmacist might be able to recommend a safer alternative therapy.

If a medication is listed in parenthesis following another drug name, it means that that drug is generically available, and the first drug in that instance is the generic name. Medications not followed up by another drug name in parenthesis next to it are currently only available as branded products.

### Medications Linked to Bone Loss

<table>
<thead>
<tr>
<th>Class of Drugs</th>
<th>Examples</th>
<th>Condition(s) they treat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum-containing antacids</td>
<td>Gaviscon, Maalox, Mylanta</td>
<td>Heartburn, indigestion</td>
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<td>Anti-seizure medications</td>
<td>Phenytoin (Dilantin), Phenobarbital</td>
<td>Seizure disorder, epilepsy</td>
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<tr>
<td>Aromatase inhibitors</td>
<td>Anastrozole (Arimidex), Exemestane (Aromasin), Letrozole (Femara)</td>
<td>Breast cancer</td>
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<tr>
<td>Immunosuppressants</td>
<td>Cyclosporine (Sandimmune), Tacrolimus (Prograf)</td>
<td>Organ transplant</td>
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<td>Glucocorticoids</td>
<td>Cortisone, Prednisone (Deltasone, Sterapred, Medrol Dose Pak)</td>
<td>Rheumatoid arthritis, asthma</td>
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<td>Proton pump inhibitors</td>
<td>Omeprazole (Prilosec), Lansoprazole (Prevacid), Pantoprazole (Protonix) Nexium, Aciphex, Dexilant, Vimo, Zegerid</td>
<td>Heartburn, gastroesophageal reflux disease (GERD), Barrett’s esophagitis</td>
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<td>Selective serotonin reuptake inhibitors (SSRIs)</td>
<td>Fluoxetine (Prozac), Sertaline (Zoloft), Paroxetine ( Paxil), Citalopram (Celexa), Escitalopram (Lexapro), Fluvoxamine (Luvlox), Priligy, Vilbyrd</td>
<td>Depression, generalized anxiety disorder, obsessive compulsive disorder</td>
</tr>
<tr>
<td>Thiazolidediones (TZDs)</td>
<td>Actos, Avandia</td>
<td>Type 2 Diabetes</td>
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Do you think you need flood insurance only if you live near water? Think again. Floods can be caused by heavy rainfall, melting snow, clogged drainage systems and broken levees. All it takes is a few inches of water to cause major damage to your home and belongings.

So don’t get caught off guard. If you think you’re at risk, consider protecting your home with a flood insurance policy. Although Liberty Mutual’s home and renters policies do not cover flood losses, you can purchase flood insurance through FEMA’s National Flood Insurance Program. To find out more information on coverage and premiums, visit www.fema.gov/business/nfip or contact your Liberty Mutual sales representative for assistance.

In the meantime, take these steps to protect your home from flood damage:

- Safeguard your important documents in a waterproof container.
- Keep gutters clear of debris.
- Landscape with native plants and vegetation that resist soil erosion.
- Leave the basement floor unfinished.
- Raise your washer, dryer, water heater, oil tank, furnace and electrical wiring at least a foot above your home’s projected flood elevation.
- Install and maintain a sump pump.
- Install backflow valves and standpipes to prevent backed-up sewers.
- Install flood shields for basement windows and doors.
- Plan and practice a flood evacuation route with your family.

Keep in mind that there’s a 30-day waiting period from date of purchase before a flood policy goes into effect. So don’t delay and buy flood insurance today!

**Liberty Mutual is a responsible company that delivers expert advice and caring service. For more information, please call Joey Doom and Jeff Creech, at 800-832-4419 ext. 53302 and ext. 53300 or visit www.libertymutual.com/gspeku. Or email Joey.Creech@LibertyMutual.com and Jeffrey.Creech@LibertyMutual.com.**

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**Glucocorticoids ("Steroids").** These medications treat a wide variety of conditions, ranging from poison ivy and pneumonia to rheumatoid arthritis, asthma and certain cancers. They can greatly reduce symptoms in some of these diseases, and in certain other conditions be life-saving. However, their negative effects on bone can be multi-fold. Steroids decrease the body’s ability to absorb calcium from the intestines, increase calcium loss from the kidneys, prevent healthy bone from being formed, and decrease estrogen levels. All of these effects increase the risk for osteoporosis and fractures. And the risk is greater when steroids are given in high doses (≥7.5 mg daily) for long periods of time (≥3 months).

**PPIs, SSRIs, and TZDs.** In 2010, these three drug classes constituted 3 of the Top 10 classes prescribed in the U.S., accounting for >500 million prescriptions dispensed that year. PPIs might affect bone health by inhibiting gastric acid thus impairing calcium absorption. PPIs’ association with adverse bone health appears to be more of a problem if they are taken greater than a year and especially at high doses. If you are taking a PPI for heartburn or GERD treatment you can discuss with your prescriber whether a trial off of this medication might be beneficial. Your prescriber may take this opportunity to reinforce lifestyle habits known to decrease heartburn such as not eating 2-3 hours before bedtime, raising the foot of your bed 4-6 inches, decreasing alcohol intake, staying at a healthy weight, stopping smoking and avoiding spicy foods, chocolate, peppermint and coffee. Also, rather than stopping the PPI all at once, your prescriber may have you slowly decrease your PPI use over a week or more. During this time, an H2-blocker like ranitidine or famotidine or antacid can be used if you have symptoms.

In the case where you are your prescriber are contemplating starting of one of these medications listed in the table, it is also important to consider a bone density scan beforehand especially if there is a likelihood that you might be on this medication for several months or more. By having the bone density scan (also called DEXA) performed beforehand that will allow you and your prescriber to know how strong your bones are to begin with. Once you begin taking one or several of these medications, bone density scans should be performed every two years and more frequently in certain situations.

If you have any questions in follow-up to this article, you may call a KYRx Coalition Pharmacist toll-free at 855-218-5979 or email our pharmacists at KYRxCoalition@uky.edu.