

## ***BONE LOSS FACTORS***

**The following lifestyle choices, which are within our control, are associated with bone loss:**

**SMOKING** contributes to poor metabolism, and is also believed to cause women to enter menopause earlier, putting them at risk earlier.

**HIGH ALCOHOL INTAKE** limits the stomach's ability to produce hydrochloric acid, which is necessary for the absorption of calcium and magnesium; when magnesium is lost in the urine, it takes calcium with it.

**CAFFEINE** is a diuretic that also contributes to a high rate of calcium excretion for several hours after consumption.

**SALT CONSUMPTION** also contributes to calcium excretion because it affects the calcium-magnesium ratio. Some people are very sensitive to salt and will excrete excess amounts of calcium even on a diet with moderate salt intake.

**SOFT DRINKS**, such as colas or soda pop (with or without caffeine) contain high levels of phosphoric acid. Consuming several servings per day disrupts the calcium-phosphorus balance, causing calcium to be leached from the bones and lost in the urine. Soft drinks with caffeine have an even higher rate of calcium excretion.

**SUGAR CONSUMPTION** contributes to calcium depletion because it hinders calcium absorption and increases calcium excretion.

**LACK OF EXERCISE**, especially weight-bearing exercise, accelerates bone loss. The phrase "use it or lose it" applies especially to bone health.

Although Osteoporosis most often develops as a result of the aging process, in some cases it can be triggered by another illness or use of certain medications. In particular, the following treatments are associated with increased bone loss:

**ANTICOAGULANTS**, such as Warfarin (Coumadin) or Heparin, are used for treating heart disease to reduce the risk of heart attacks and strokes, as well as to reduce blood clots in people undergoing or recovering from surgery. Anticoagulants work by reducing the effects of vitamin K, which helps calcium bind to bone tissue.

**ANTICONVULSANTS**, a class of drugs for treating epilepsy, are now also widely used for treating mood disorders such as bipolar disorder, as well as fibromyalgia, and nerve pain. Examples include Carbamazepine (Tegretol) and Pregabalin (Lyrica). These drugs interfere with vitamin D metabolism, reducing the body's ability to absorb calcium and leading to bone loss.

**ANTI-ANXIETY MEDICATIONS**, such as Clonazepam (Klonopin), Diazepam (Valium) and Lorazepam (Ativan), also inhibit vitamin D metabolism, leading to bone loss.

**AROMATASE INHIBITORS** are drugs used to treat breast and ovarian cancer in post-menopausal women. They work by disrupting the production of estrogen, which leads to accelerated bone loss as a side-effect of the cancer treatment.

**CORTICOSTEROIDS**, are used for chronic conditions such as rheumatoid arthritis, asthma, lung disease, and inflammatory bowel disease. In particular, corticosteroid drugs such as Prednisone, Prednisolone and Dexamethasone are very damaging to bone, as they both reduce the body's ability to absorb calcium and speed up bone resorption.

**DIURETICS** are prescribed for high blood pressure, congestive heart failure, liver disease and kidney disease to increase urination to reduce fluid throughout the body. Some diuretics, such as the commonly prescribed Furosemide (Lasix), cause the kidneys to excrete more calcium, which can lead to bone loss.

**IMMUNOSUPPRESSANTS** stifle the body's immune system reaction after a graft or organ transplant. They are also used to treat psoriasis, Crohn's disease, and other autoimmune diseases. However, they also hinder the formation of new bone.

**KIDNEY DIALYSIS SOLUTIONS AND ANTACIDS** contain aluminum, which disrupts the calcium-phosphorus balance necessary for bone formation, thereby contributing to bone loss. Other acid reflux drugs, such as Prilosec, Prevacid, and Nexium for treating gastroesophageal reflux disease (GERD) and heartburn, reduce the acid in the stomach, thereby interfering with calcium absorption and contributing to bone loss.

Dr. Irwin Goldstein, MD, director of The Institute of Sexual Medicine cautions that **ORAL CONTRACEPTIVES** may have a negative long-term effect on bone health. Oral contraceptives elevate the sex hormone binding globulin (SHBG) levels, and those elevated levels persist even after the pills are stopped. Osteoporosis may develop as a result of impaired androgen activity due to the elevated SHBG levels.