

## ABC'S OF BONE HEALTH FOR MIDLIFE WOMEN

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### **BONE HEALTH: AS SIMPLE AS “ABC”!**

Perimenopause, the time of change before and for a year after the final menstrual period, is also a time of increased risk for falling, fractures and bone loss. Bone loss is more rapid from the start of irregular flow until a year after the final period than it is in the first years after menopause (Prior *Endocrine Reviews*, 1998).

Below are the many practical things you can do (with the help of your health care provider) to prevent or treat osteoporosis (the problem of weak and fragile bones). Bone health is influenced by how we live our lives!

### **“A” IS FOR “ACTIVE”**

Bones gain strength through forces they “feel” from muscular work or gravity. Early in perimenopause, when flow is still regular exercise will likely increase bone density. Later, when periods become irregular, it will help reduce normal bone loss. Either way, exercise is good for whole body health. Therefore aim for at least a half-hour of walking daily. Harder aerobic exercise will help control weight gain and may help with premenstrual symptoms, too.

### **“B” IS FOR “BRAWNY”**

Weight gain, no matter how much we abhor it, is normal in midlife and protective for bones. Thinner women lose bone more rapidly in perimenopause. Muscle weight, in particular, is good for bones. Exercise can maintain *muscle* weight and decrease waistline expansion. Remember: weight loss, no matter how careful, will cause increased bone loss.

### **“C” IS FOR “CALCIUM”**

Calcium is not only the building block for bone but also can prevent bone loss. Women at risk for osteoporosis need 1500-2000 mg of elemental calcium each day. Each high-calcium food (one cup [250 ml] milk and other supplemented beverages,  $\frac{3}{4}$  c. yogurt or hunk of cheese) contains 300 mg of calcium. Calcium is not stored therefore it needs to be taken with each meal and at bedtime. If five or six high-calcium foods are not practical, replace some food with supplemental “elemental” calcium with meals and at bedtime.

### **“D” IS FOR “VITAMIN D”**

Vitamin D is in some foods and can be made in sun-exposed skin. Everyone needs 200 IU a day and 400 IU a day is practical through the dark winter. Bone loss increases in perimenopause. Vitamin D is a safe way to

prevent bone loss—800 or 1000 IU a day is appropriate. That can be achieved with a multiple- vitamin and a 400 IU pill or by a single 1000 IU pill. Vitamin D is stored in fat and can be taken all at once.

### **“E” IS FOR “EASY GOING”**

Does feeling good about your value as a person and about your body help bones? Yes! High stress hormones, such as cortisol cause bone loss. Perimenopause is time of major life change. Anything, such as talking with friends, learning about the changes ahead, and practicing relaxation will help decrease stress and thus protect bone.

### **“F” IS FOR “BONE FORMATION”**

Bone balance requires new bone formation by osteoblast cells. Osteoblasts work slowly and after growth often do not keep up with normal bone loss. Progesterone, the natural hormone made after ovulation (egg release) stimulates osteoblasts to build bone. Bone formation is decreased in perimenopause because progesterone levels are lower. If low bone density is already present, cyclic progesterone is needed. You can get a handout about Cyclic Progesterone Therapy on our web page: <http://www.cemcor.ubc.ca/>. **Progesterone** or **medroxyprogesterone** are the only currently available therapies that build “new” bone.

### **“G” AND “H” ARE FOR “GOOD HABITS”**

That means regular meals and sleep, not smoking and drinking no more than 2 caffeine-containing drinks a day (coffee or colas). Cigarettes, in addition to being addicting, cause estrogen loss, lower weight and bone loss. Caffeine causes calcium loss in the urine.

### **“I” MEANS “INHIBIT BONE RESORPTION”**

Bone is renovated by osteoclast cells. These remove old bone to make way for new. Osteoclasts cause bone loss that starts when periods become irregular. With a family history of osteoporosis or low bone density already, doing A through H may not be sufficient to prevent osteoporosis. Non-hormonal therapies to inhibit resorption are sometimes needed before menopause (a year from your last period). These include nasal calcitonin and many kinds of bisphosphonate medications (etidronate, alendronate, clodronate or risedronate). Only after menopause might estrogen or raloxifene become appropriate.

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