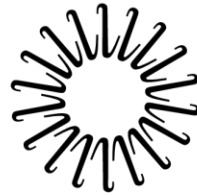


Osteoporosis and Posture



Lifespan Cardiovascular Institute

**Rhode Island Hospital • The Miriam Hospital
Newport Hospital**

Delivering health with care.®

Center For Cardiac Fitness
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The Miriam Hospital

What is Osteoporosis?

- Osteoporosis is a metabolic bone disease that effects the strength of bone making it weak and brittle
- Normal bone has cells that build up the bone and cells that break down or “Remodel” the bone. Osteoporosis results when there is an imbalance between these cell types

Normal Bone

- Osteoblasts build up bone
- Osteoclasts break down the bone
- We build up bone mass primarily in the first 3 decades of our life
- Bones need resistance or weight bearing to form properly

Risk Factors for Osteoporosis

- Gender female>male
- Race/family history: Caucasian, Asian, Hispanic heritage more prevalent. Family history of low weight or slight build
- Age: lower estrogen in women, lower testosterone in males
- Medications: Main consideration for People with pulmonary disease: Prednisone/steroid use

Risk factors-continued

- Other diagnoses: hyperthyroid, DM, RA, Celiac or Crohn's Disease
- Smoking: generates free radicals in the body that attack the immune system, upsets hormone levels that can affect osteoblasts (bone building cells)
- Sedentary lifestyle: bone need some weight bearing to form properly.

Nutritional risk factors

- Lack of Calcium/Vit D
- Excessive alcohol: blocks absorption of calcium and interferes with Vit D production
- High Sodium diet: research shows that people with high sodium diet tend to lose more Ca^{+}
- High Soda intake: phosphoric acid in the soda tends to increase excretion of Ca^{+} in the urine
- High caffeine intake: leaches calcium from the bone

Which types of exercise are best?

- Weight bearing exercises are most important
 - Walking
 - Stair climbing
 - Using weights or rubber bands for exercise
 - Core strengthening
 - Abdominal exercises
 - Back exercises
 - Stretches that promote good posture!
- Swimming is a great way to exercise, but does not promote strong bones-if you enjoy swimming-add some weight training on opposite days