

Running, Bone Health and Osteoporosis
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- **Osteoporosis:** Loss of bone leading to increased risk for low trauma fractures.
- **Risk Factors:** Low body weight (<127 lbs for women, not established for men), low BMI (< 21), irregular or missed periods, early menopause, low calcium intake, history of stress fractures, family history, malabsorption syndrome, corticosteroid use, smoking, alcohol (>2-3 drinks/day), caffeine (> 4 cups coffee/day)
- **Low bone mass:** Runners may have lower bone mass than non runners
- **Overtraining,** amenorrhea (low estrogen), and inadequate calcium and vitamin D due to dieting/weight loss – risks to bone health and developing osteoporosis and stress fractures
- **Low hormones:** low estrogen or testosterone
- **Building Bone:** weight bearing high impact exercise good for bone health
- **Weight-bearing Exercise:** Running is an excellent, high impact, weight bearing exercise which helps to strengthen bones.
- **Excessive running** and bone loss: decreased BMI, inadequate nutrition, hormone changes
- **Menopause:** benefits to hip but not spine due to hormonal factors
- **Older Adults:** never too late, good for bone, balance, strength, cardiovascular
- **Core Strengthening:** important to prevent muscle imbalances, protect hips, knees, back, and neck, reduces stress incontinence, improves overall performance
- **Weight Training:** important to cross train



Useful Websites:

Running for Women: <http://www.running4women.com>

Running and Bone Health: <http://www.runningwarehouse.com/LearningCenter/health/BoneHealth.html>;

Running injuries: <http://orthopedics.about.com/cs/sportsmedicine/a/runninginjury.htm>;

Menopause and running: <http://www.pponline.co.uk/encyc/0884.htm> ;

Women, Osteoporosis and Running: <http://www.pponline.co.uk/encyc/1035.htm>;

Women and Running: <http://www.copacabanarunners.net/iwomen.html> (pregnancy, overtraining, amenorrhea, safety tips, benefits for women runners)

Osteoporosis Canada: <http://www.osteoporosis.ca>;

How to reduce your risk for osteoporosis for runners:

1. add weights to your workout 2x/week
 2. for women: if you stop your menstrual cycle for more than 2 months, see your doctor
 3. if you have a stress fracture you should be evaluated for risk factors for osteoporosis
 4. for men and women over 50 with a stress fracture, a bone density test is recommended
 5. limit alcoholic drinks to less than 3 per day
 6. limit coffee (or equivalent other caffeinated beverages) to less than 4 per day
 7. if you smoke, quit
 8. maintain a healthy body weight (not too heavy, not too thin) People with a BMI of 21 or less have a higher rate of bone loss than those who are heavier, and obese people have lower rates of bone loss than those who are ideal weight.
 9. avoid diets that emphasize one food group at the expense of others, eat a well balanced diet
 10. adequate protein intake
 11. avoid fast foods
 12. men and women 19-50 need 1000 mg Ca and 400 IU vitamin D
 13. men and women over 50 need 1500 mg Ca and 800 IU vitamin D
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