

Taking CONTROL

MAXIMUMPERFORM.COM

BONE HEALTH



Hormones

play a bigger

role than you

think!

Hormones and their specific levels play a crucial role in our body composition throughout our lives. When examining female hormones, we notice that many fluctuate at different life stages. We will focus on the roles of two hormones: estrogen and testosterone.

MAXIMUM
PERFORMANCE
PHYSICAL THERAPY & FITNESS



ESTROGEN has several major jobs regarding bone health:

1. Regulates bone growth and absorption.
2. Helps with longitudinal and width growth of a bone during puberty.
3. The deficiency of estrogen during menopause significantly contributes to osteopenia and osteoporosis in women who are experiencing age-related or medically induced menopause.

It may be surprising to learn that women also possess testosterone, although in much lower amounts than men.

FACTS ABOUT BONE DENSITY

• ESTROGEN & TESTERONE

TESTOSTERONE is essential for building muscle mass and maintaining bone density. Engaging in weight training stimulates the production of testosterone, which aids in the growth of lean muscle.

Women generally have lower bone density due to factors such as hormones, reduced lean muscle mass, and more substantial hormonal changes during the aging process. A sedentary lifestyle, engaging in exercises that do not positively influence bone density, and a lower likelihood of participating in physical labor and active hobbies can further affect bone density.

What are effective strategies to prevent bone density loss?

Start early! Bone growth occurs from birth to around age 30.

Encourage physical activity in children, especially daily activities like crawling, climbing, jumping, and running.

Advocate for children in schools, after-school programs, recess, and physical education for their physical development.

Many girls withdraw from sports during their teenage years due to various factors. While sports aren't the solution, young girls should learn the importance of movement for their body's development and be encouraged to engage in alternative physical activities.

Best Ways To Build Bone:

1. **Weight-bearing exercise is any activity where your hands or feet push your body away from the ground!**
2. **Resistance training: using bands, weights, kettle bells, manual labor, even children! The harder it is, the more bone growth will happen!**
3. **Activities such as jumping, climbing stairs, and hiking are beneficial. Any activity involving your body working against gravity will benefit you most!**

What types of exercise don't improve bone density?

1. **Seated or standing exercises with only body movement, this might be a place to start when you haven't been exercising, but it won't improve bone density.**
2. **Bicycling, nu step, elliptical machines, rowers: At low resistances, these machines won't improve bone density. They can be good for joint motion and cardiovascular conditioning, but only at higher resistance, as they don't make us**
3. **Swimming, water aerobics, water walking: water decreases the effects of gravity; these, again, are great ways for us to move our bodies, but specific to improving bone density, they are not the best choice.**

Continued on back

Taking CONTROL

MAXIMUMPERFORM.COM



Continues from front

How is bone density measured?

The most common test is a dual-energy absorptiometry, also known as a DXA scan. This test is non-invasive and only takes a few minutes. This test measures how much mineral, such as calcium, are in the bones.

After your testing is complete, your physician will have access to crucial data for assessing your osteoporosis and fracture risk.

1. Bone mineral density is measured as T-score and based on age, sex, height, and weight. The normal value is 0, with negative numbers indicating an increasing risk of fracture.

-1 to -2.5: Osteopenia
-2.5 or less: Osteoporosis

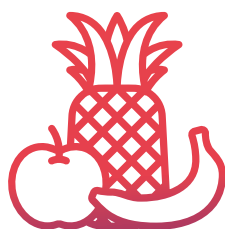
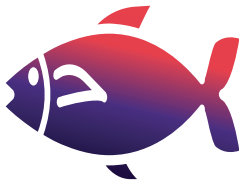
2. FRAX: This is a fracture risk calculator that is part of the DXA scan. It takes into account your bone density score, age, sex, height, weight, and responses to seven questions, estimating your risk of experiencing various types of fractures over the next 10 years. For more information visit fraxplus.org

Nutrition for Bone Health

Alissa Mick, MS, RDN, LD

When it comes to women's health, particularly in protecting bone density and increasing lean muscle mass, your dietary choices are crucial. The best foundation for this is consuming a sufficient amount of balanced, whole foods.

Women start losing muscle and bone strength in their 30s. Research shows that without the proper nutrition and exercise, women can lose 3% to 8% of their muscle every decade after turning 30. Not getting enough nutrients can weaken bones and raise the risk of osteoporosis. If you skip meals, you may not give your body enough fuel. This may lead to low protein, calcium, and other nutrients that help keep you strong. Eating too little can lower your estrogen levels, slow your metabolism, and weaken your bones over time.



Where do you start?

- **Eat Enough: Start with 3 meals a day. Skipping meals can lead to nutrient gaps and muscle loss.**
- **Prioritize Protein: Aim for 20-30g of high-quality protein per meal to support muscle repair and maintain lean muscle mass.**
- **Support Your Bones Daily: Eat calcium-rich and Vitamin D-rich foods like dairy products, fortified plant milks, almonds, tofu, fatty fish, egg yolks, fortified cereals, sesame seeds, and vegetables such as mushrooms, leafy greens like kale and bok choy**
- **Know Your Vitamin D Levels: Blood levels of vitamin D should be tested to determine whether supplementation is necessary. If deficient, a medically supervised intervention may be required.**
- **Move With Purpose: Strength training and weight-bearing activities are essential to build and maintain lean mass.**

Takeaway

You can't build strength without nourishment. Fuel up, stay consistent, and let nutrition work for you to build a strong foundation for stronger bones and long-term vitality.

About Alissa Mick, MS, RDN, LD

As a Registered Dietitian specializing in performance and sports nutrition, she is dedicated to helping individuals learn how to properly fuel their bodies and develop a healthier relationship with food and their bodies. Her mission is to provide evidence-based, holistic nutrition guidance to create sustainable and personalized nutrition plans to support her clients' unique goals and lifestyles.

Alissa holds a Master's degree in Nutrition, Dietetics, and Sensory Sciences, and a Bachelor of Science in Dietetics with a minor in Kinesiology.

Contact her at alissamick@protonmail.com

Make today a beginning!

Call Maximum Performance at 785.776.0670 and make an appointment with our staff to start on the path to bone health.

MAXIMUM
PERFORMANCE
PHYSICAL THERAPY & FITNESS

785.776.0670 | www.maximumperform.com | Manhattan, KS