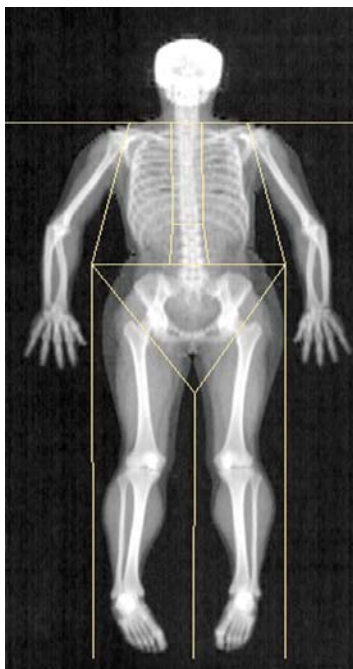


The Skinny on Bone Density

The one down side of significant weight loss - your bones can get weaker! The restrictive nature of bariatric surgery limits the amount of key nutrients, like calcium and vitamin D, you can consume. Some procedures, like the gastric bypass and sleeve gastrectomy, also bypass parts of the gut where these nutrients are typically absorbed. You can minimize bone loss by eating a healthy diet, taking your vitamins/mineral supplements as directed, and participating in regular exercise.

Bones

Bones are an important part of the human body. They are responsible for movement, body support and protection of vital organs. Bones are lightweight but are extremely strong when healthy. They are made of important minerals we get from our diet such calcium and are constructed in a honeycomb fashion for strength.



Mineral Supplements

Dietary calcium is poorly absorbed following bariatric surgery and dietary sources of vitamin D are scarce so supplementation is critical. The goal is to take 1800-2000 mg elemental calcium from calcium citrate with Vitamin D (eg: Citracal), in divided doses. One dose is typically 2 pills and you will need to take your calcium at least 3-4 times a day. Take 2 pills at breakfast, lunch and dinner. Get annual blood work done to check your vitamin D levels and talk to your doctor about a DEXA scan to check your bone density.

Monitoring Bone Health

Excessive bone loss can lead to fractures and bone disease, such as osteoporosis. The best way to evaluate your bone density is with a DEXA scan. We're happy to refer you to MUSC's Center for Osteoporosis and Bone Health for evaluation.
www.mushealth.com/osteoporosis

MUSC Bariatric Surgery Program

For more information on healthy eating and supplementation after bariatric surgery, visit our website:
www.mushealth.com/weightlossurgery

Resistance Training

Any training that uses a resistance to the force of muscular contraction. When force is applied to the bone it causes the bone to adapt and harden to prevent future. Stress on the bone is the important factor for stimulating growth.

Weight training doesn't have to come in the form of bench-pressing monster trucks. What's important is that you do some kind of weight-bearing, resistance exercise. That is, your body pushes and pulls against some kind of resistance

Adding Resistance

Can't afford a gym or equipment? Use your own body weight for resistance or make homemade weights by using soup cans or bottles of water (a one liter bottle of water weighs 2.2 pounds!) Focus on controlling the eccentric or downward motion of the exercise. The rate at of motion is what creates the resistance in the exercise.

If you have a gym membership, try free weights. Ensure proper technique to prevent injury. Machines can also be help increase bone mass. When using machines continue a controlled motion and avoid letting the weights hit each other, this will keep constant tension on the muscle and increase bone density to a greater extent.

Hard Work

In general, the greater the intensity the more density you will achieve. However, research has shown that both moderate and intense resistance training can be significantly helpful in increasing bone density.

When starting a new resistance program always start at a moderate level and increase intensity slowly to avoid injury. Start by using a weight that you can lift for 12 repetitions through a full range of motion. Gradually increase until you can complete 15 repetitions easily and then increase the weight.

Resistance Exercises

Body weight exercises

- Push-ups
- Wall squats
- Lunges

Cardiovascular resistance

- Walking or Jogging
- Cycling with resistance
- Stair climb

Machines/ free weights

- Shoulder press
- Knee extension
- Bicep curls
- Triceps extension

In the pool

- Use resistance paddles on your hands to create resistance

At home

- Simple but important, get up from your chair without using your hands