

Good for the Bones

Bone loss is a serious matter. Both men and women reach their maximum bone mass around age 30. After that, it's a matter of maintaining what you've got, and no one is immune from the inevitable decline. If you're a woman approaching midlife, you can lose up to 20 percent of your bone mass in the five to seven years after menopause, according to the National Osteoporosis Foundation.

Bones are living tissue. The body breaks them down and builds them up in a constant flux that affects bone mass or density. While some bone loss is natural with aging, it's possible to maintain a healthy equilibrium, a balance of bone destruction and reconstruction. But if there's much greater loss than gain, osteoporosis (bone deterioration) can ensue. Although men have it, too, when it comes to bone loss, women suffer more. Eighty percent of those with osteoporosis are women, and half of all women will have an osteoporosis-related fracture after age 50. Indeed, denial may seem like the only option for women seeing risk factors beyond their control, such as being thin and having a small build. But here's a wake-up call.

There are risk factors you can control, including diet and exercise. You can slow—and some studies suggest even reverse—bone loss by tackling it head-on, but it takes time and a concerted effort. And it turns out that yoga and a plant-based diet may be your strongest allies.

Bone Builders

The more we learn about bone health, the more it seems that yoga plus a largely plant-based diet creates a foundation for healthy bones. For starters, yoga is a weight-bearing exercise, meaning you hold the weight of your body up against gravity. Resisting gravity puts a mild stress on the bones. That stress forces bones into laying down new growth. In this way, yoga is no different from jogging, walking, or playing tennis.

But unlike some other weight-bearing activities, yoga won't damage cartilage or stress the joints. Instead, it lengthens muscles and holds them there, creating tension on the bone.

Consider, for example Virabhadrasana (Warrior Pose) I and II. In both poses, the legs are weight bearing because they support the body's weight. "But by bending the front knee to 90 degrees, you do more than simply bear weight in the front leg; you magnify the force on the femur bone," says Loren Fishman, MD, an assistant clinical professor at the Columbia College of Physicians and Surgeons in New York and the co-author of *Yoga for Osteoporosis*.

In Warrior II, you're also adding force to the shoulder joint. "Because you're holding your arms out away from your body, you're putting a lot more stress on the head of your humerus than you would if they were hanging at your sides." Yoga's effects are difficult to measure by conventional medical standards, but Fishman published a small pilot study on bone loss and yoga in 2009. He enrolled 18 people with osteoporosis or osteopenia. (The average age was 68.) Everyone had a baseline bone-density test at the start. While 7 people acted as the control group, 11 others learned a sequence that included 10 yoga postures, including Trikonasana (Triangle Pose), Adho Mukha Svanasana and Urdhva Mukha Svanasana (Downward- and Upward-Facing Dog poses), and Setu Bandha Sarvangasana (Bridge Pose). Participants stayed in each pose for 20 to 30 seconds. (Research suggests that roughly 10 seconds of stimulation is enough to trigger new bone growth.) The daily yoga routine took about 10 minutes.

Fishman charted both groups' progress and, two years later, asked everyone to get another bone scan. The results, published in the journal *Topics in Geriatric Rehabilitation*, were promising. While nearly every member of the control group either maintained or lost bone, roughly 85 percent of the yoga practitioners gained bone in both the spine and the hip. "I was shocked at the results," he says. "By putting tremendous pressure on the bones without harming the joints, yoga may be the answer to osteoporosis."

Move It or Lose It

If you want to prevent bone loss, any amount of yoga is likely to be better than no yoga. The people in Fishman's study got bone benefits with as little as 10 minutes of yoga a day. That said, more is probably better than less. If you are an experienced yogi and you are looking to either prevent or reverse early-stage bone loss, almost any yoga practice that involves a series of standing postures (flow or no) will do the trick.

But if you're a beginner with osteopenia or you have osteoporosis, take time to find an experienced teacher who is trained in a style of yoga that focuses on alignment and safety (stick to beginner offerings). Explain your situation before the class starts and make sure the teacher has some knowledge of yoga therapeutics or, at the very least, the contraindications for osteoporosis.

Yoga can be a bone saver, but it can also be detrimental if it isn't practiced correctly. For instance, in someone with osteoporosis, forward bending (flexion of the spine)—which is a big part of the average yoga class—can increase the likelihood of spinal fracture by excessively loading the front of the vertebrae compared with your back.

Twists are another potential danger zone because they can put the spine in a vulnerable position. Meeks prefers supine twists. That way, the spine is fully supported and elongated. But if you're still in prevention mode, all poses are up for grabs, including forward bends, backbends, twists, and inversions. And it's never too early to start saving bone. "If you build up the bones while you're young," says Fishman, "you can afford to lose a little bit as you age."

Good Eats

Packing your diet with alkaline-rich fruits and keeping acidic foods to a minimum will help keep your bones healthy and strong.

Fill up on these

Low-acid (alkaline) foods

Dried fruit

Vegetables (especially broccoli, cabbage, tomatoes, kale, and zucchini)

Fresh fruits (especially apples, pineapple, bananas, oranges, and peaches)

Limit these

High-acid foods

Cheese, Meat, Eggs & Fish

Bust a Move, Not a Bone**Strengthen your skeleton with these 7 poses.**

If you're in the early stages of bone loss, some research shows that you can slow and even reverse the condition with as little as 10 minutes of yoga a day. While it's always a good idea to seek out an experienced teacher, the poses below (recommended by Loren Fishman, Sara Meeks, and Carol Krucoff) are a great jumping-off point. The goal is to build strength and balance while maximizing stability and safety. These poses aren't designed as a series, but they can be incorporated into a home practice or used as substitutions in studio classes when everyone else is doing a deep twist or forward bend.

Vrksasana (Tree Pose)

Utkatasana (Chair Pose)

Bhujangasana with arms at the sides (Cobra Pose)

Setu Bandha Sarvangasana (Bridge Pose)

Virabhadrasana I (Warrior Pose I)

Virabhadrasana II (Warrior II)

Alternate arm and leg lifts (start on all fours, and lift and extend opposite arm and leg)

Sections taken from Catherine Guthrie, a health writer and yoga teacher in Bloomington, Indiana.