



Colorado Center for
BONE RESEARCH

EXERCISE FOR YOUR BONE HEALTH

Exercise Regularly

You know that your muscles get bigger and stronger when you use them. Your bones are similar! They get stronger and denser when you make them work. And “work” for the bones means handling impact, the weight of your body and more resistance.

Best Exercises for Your Bones

Currently, we know the most about two types of exercises that are important for building and maintaining bone density. These exercises are:

Weight-bearing exercises. These exercises include activities that make you move against gravity while being upright. They include both high-impact and low-impact activities. Examples of high-impact weight-bearing exercises are running, hiking and playing soccer.

If you can't do high-impact weight-bearing activities, try one of the lower-impact ones - for example, try walking or using an elliptical training machine.

Muscle-strengthening exercises. These exercises include activities where you move your body, a weight or some other resistance against gravity. This is sometimes called resistance exercise. These exercises include lifting weights, using elastic exercise bands, using weight machines or lifting your own body weight.

Biking, swimming and water aerobics have many benefits, but they don't have the impact your bones need to slow mineral loss. However, these activities can be useful in cases of extreme osteoporosis, during rehabilitation following a fracture or for only increasing aerobic capacity. If you like these activities, try to add other activities to your exercise routine that work your bones.

Flexibility exercises. Being able to move your joints through their full range of motion helps you maintain good balance and prevent muscle injury. Increased flexibility can also help improve your posture. When your joints are stiff, your abdominal and chest muscles become tight, pulling you forward and giving you a stooped posture.



Yoga and Pilates are also muscle-strengthening exercises. However, people with osteoporosis and low bone density need to avoid certain movements:

Movements to avoid. If you have osteoporosis, don't do the following types of exercises:

- **High-impact exercises, such as jumping, running or jogging.** These activities increase compression in your spine and lower extremities and can lead to fractures in weakened bones. Avoid jerky, rapid movements in general. Choose exercises with slow, controlled movements.
- **Exercises in which you bend forward and twist your waist, such as touching your toes, doing sit-ups or using a rowing machine.** These movements also put pressure on the bones in your spine, increasing your risk of compression fractures. Other activities that may require you to bend or twist forcefully at the waist are golf, tennis, and bowling.

If you haven't exercised regularly for a while, check with your healthcare provider before you begin a new program—particularly if you have health problems such as heart disease, diabetes or high blood pressure. Once you have your healthcare provider's approval, start slowly.

How Much Exercise Should I Do?

Weight-bearing, impact exercises should be done for a total of 30 minutes on most days of the week.

You can do 30 minutes at one time or break it up during the day. For example, 3 sessions of 10 minutes each will provide a similar bone benefit as on 30-minute session. If you can't fit 10 minutes in, spread your exercise throughout the day by taking the stairs or parking farther from the store or work.

Muscle-strengthening exercises should be done two or three days a week. You should aim for one exercise for each major muscle group for a total of 8 to 12 exercises.

You should do one or two sets of 8 to 10 repetitions for each exercise. If you lift a weight 10 times in a row and then stop, you have completed one set of 10 repetitions.



If you can't do 8 in a row, the weight is too heavy or resistance is too much. If you can do more than 10 in a row, you should probably increase the weight or resistance. If you have osteoporosis or are frail, it may be better to do 10 to 15 repetitions with a lighter weight.

If you don't have much time for muscle-strengthening, do small amounts at a time. You can do just one body part each day. For example do arms one day, legs the next and trunk the next. You can also spread these exercises out during your normal day.

As you get started, your muscles may feel sore for a day or two after you exercise. If the soreness lasts longer, you may be working too hard and need to ease up. Exercises should be done in a pain-free range of motion.

Seeing a Physical Therapist: If you've broken a bone or have osteoporosis, consider working with a physical therapist to choose the best exercises for you and to learn the correct form. Your doctor or healthcare provider should be able to provide you with a referral or prescription to see a physical therapist.

In addition to the exercises already mentioned, the following exercises are also good for people with low bone density and osteoporosis:

Balance Exercises: Exercises that strengthen your spine and challenge your balance, such as Tai Chi, can decrease your risk of falls.

Posture Exercises: exercises that improve your posture and reduce rounded or "sloping" shoulders can help you decrease your chance of breaking bones in the spine.

Functional Exercises: Exercises that improve how well you move can help you in everyday activities and decrease your risk of falls and broken bones. For example, if you have trouble getting up from a chair or climbing stairs, you should do functional exercises.

If you're not sure how healthy your bones are, talk to your doctor. Don't let fear of fractures keep you from having fun and being active.

Sources: National Osteoporosis Foundation, MayoClinic.com