

Core strengthening: More than just a crunch

From MayoClinic.com

When you walk or run, you're probably thinking more about putting one foot down in front of the other than you are about your core muscles. But did you know that your core is where all movement in your body originates? Not only that, but when you run — or walk, ride a bike or skip across a room — your core muscles are hard at work, keeping you upright, stabilizing your body as your weight shifts and absorbing impact from ground forces.

Your body's "core" — the area around your trunk and pelvis — is where your center of gravity is located. When you have good core stability, the muscles in your pelvis, lower back, hips and abdomen work in harmony. They provide support to your spine for just about any activity.

Over time, a weak core can make you susceptible to poor posture and injury. For instance, the weaker your core muscles, the more likely you are to experience lower back pain. Strong core muscles keep you protected from such injuries.

"The best brace you can give yourself is your muscle brace — the best corset is your muscle corset," says Edward Laskowski, M.D., a physical medicine and rehabilitation specialist and co-director of the Sports Medicine Center at Mayo Clinic, Rochester, Minn.

Learning how to identify and properly activate your core muscles is the first step. Then you can practice this technique while learning some basic exercises. By enhancing your core strength, you'll be on your way to greater fitness.

Understanding your core

Even if you have muscular arms and legs, if your core muscles are weak, you won't be able to move as efficiently — your muscles won't respond as readily to the task at hand. A strong core creates the stabilization necessary to carry your groceries or pick up your toddler — not to mention going the distance while playing tennis or jogging.

Core strengthening is about working your muscles from the inside out. The muscles targeted in core strengthening exercises are those in your trunk — they're layered, overlapping and connected to each other.

Rather than isolate each muscle group in your trunk, the best exercises for your core are those that get your whole system working together at the same time. Focus on the quality of your moves rather than the quantity. You'll gradually build up to a greater number of repetitions. When starting out, take it slow and learn how to properly execute each exercise.

"Body position and alignment are crucial with these exercises," notes Dr. Laskowski. "You can simulate doing these exercises halfway, but then they won't really do what you need them to do."

"Because technique is so important, it would be ideal if somebody — such as a fitness expert or physical therapist — could look at the way you're performing the exercises," suggests Dr. Laskowski. "Just to make sure you're on the right track."

Getting started

You don't need any equipment to get started. Charles Davis, a physical therapist at Mayo Clinic, Rochester, Minn., suggests that you have a rolled towel or small pillow on hand to support your head or lumbar spine in some of the exercises.

"When I first start people out on a core strengthening program, I suggest a lot of isometric core strengthening," says Davis.

When you perform isometric exercises, your muscle fibers neither shorten, as they do in weightlifting, nor lengthen, as they do in stretching. Instead they remain the same. The force you exert on your muscles is created by using your own weight and strength to create resistance. For example, try pressing your palms together in front of your body at chest level. The muscle contraction you feel in your chest is an isometric contraction.

The muscle most targeted in core strengthening is your transversus abdominis — the muscle deep in your abdomen that encircles your trunk like hoops on a barrel.

"To engage the transversus abdominis, the best cue I can give is to cough," explains Davis. "The muscle you feel contracting is the transversus abdominis. Then your next cue is to visualize pulling your bellybutton in toward your spine. These are small moves, but by learning the proper way to contract your transversus abdominis — and to keep it contracted — you'll gain the most benefit from these exercises."

The final thing to keep in mind is your breathing — breathe freely while doing each of the exercises in your core strengthening workout.

"For most people, the tendency is to want to hold their breath through these exercises," says Davis. "The ideal is to get into a sequence of contracting your muscles, holding that contraction, and then breathing through it all."

Focus your attention on diaphragmatic breathing. This means, for example, that as you inhale while lying on your back, your belly raises up toward the ceiling. Then you relax as you exhale. Place your hands on your abdomen as you take a breath. If you're breathing correctly, your hands will move with the rise and fall of your abdomen. This takes practice. You may need several sessions of practicing proper breathing before running through a series of exercises.

After you've mastered the proper breathing technique, start working on your core.

Rounding out your program

A fun alternative to your basic core fitness exercise regimen is to learn some exercises using a fitness ball. Balancing on these oversized, inflated balls requires that you use your core muscles alone for support.

Although a fitness ball conforms to many body sizes, it's best to use one that's the right size for you. The ball is the right size if your hip, knee and ankle line up at a 90-degree angle or slightly greater when you're sitting on the ball. Balls are sized according to their diameter, and the right size is based on your height. Most people do best with a slightly deflated 55-centimeter (cm) or

65-cm ball.

The softer the ball, the less difficult the exercise will be. If you're just starting out, consider using a larger, softer ball.

Stick with it

Try to do your core strengthening exercises at least three times a week. If you work your core muscles to fatigue during an exercise session, wait at least a day between workouts to allow the muscles to recover. Practicing good posture, however, by keeping your pelvis level and a normal curve in your spine, can be an everyday habit.

Remember that strengthening workouts — even core strengthening — are just one part of a complete fitness program. Include aerobic exercise and flexibility training to round out your regimen.

November 07, 2003