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In This Chapter

- ◆ Beginning a stretching program
- ◆ Stretching easy and breathing hard
- ◆ Learning how to stretch different muscles



Chapter 4

Revvng the Engine

Steve Ilg, a highly sought-after professional trainer and author of *The Winter Athlete* (Johnson Books, 1999), has been a nationally sponsored multisport athlete who has excelled in technical rock and ice climbing as well as Nordic skiing, cycling, and snowshoeing. He is also a yoga teacher and Joe Glickman's coach. Often when he's asked what the best way to stay flexible is, he replies, "Renounce your furniture. Learn the Asian squat and make use of it." It might sound absurd or amusing, but it makes sense. If you toss your chairs and tables, reduce the amount of desktop work you do, and eat your meals seated cross-legged on the floor, your lower back and hips will be far better off than the compressed lifestyle to which most of us are accustomed.

Although getting rid of your furniture might be good for your overall flexibility, it's likely to make your family and friends think you've either had a momentous religious experience or you're absconding with company funds and heading to Mexico. Assuming you keep your dining room set and La-Z-Boy lounge, you'll be well served to do the next best thing—embark on a regular stretching program.

"But I hate to stretch," you say. Sure, stretching can be tedious. Plus it hurts—at least when you first do it. And wine tastes like cough medicine the first dozen times you try it. However, the more you do it, the more limber your body becomes. Eventually, you'll get so accustomed and even fond of that self-lubricated sensation you'll crave it like a Frenchman does a fine Bordeaux.

If you're like the three of us—highly motivated fitness addicts leading busy lives—here's the way you probably think: *Time is precious, gotta get in and out of the gym as soon as possible.* However, let us assure you (and we're speaking from experience here), if you don't stretch

and continue to work out, your body will rebel. Again, to quote Mr. Ilg, “More than a fitness quality that allows you to gain something, kinesthetic training enables you to release something that is already within.” To borrow terminology from the martial arts: lifting weights is *hard* training; stretching is *soft*. Do both, and you’re armed and dangerous.

It might sound dramatic, but almost more than anything else we tell you in this book, warming up and stretching are crucial if you’re to stay healthy and achieve your fitness goals. Joe, who spends a lot of time crunching his 6-foot, 4-inch frame into a narrow, tippy kayak, suffered from a number of chronic, nagging injuries—the most pernicious being sciatica (a painful condition caused by compressing the sciatic nerve, which is located right behind the back pocket of your pants) in his left leg. Two weeks into his daily stretching routine, the pain virtually disappeared even though he continued paddling. Ditto for the achy feeling he experienced each morning in his lower back.

This chapter will guide you through the basics of warming up and stretching—the two most neglected aspects of the fitness game.

Warming Up: How Long Do I Stay on This Thing?

Years ago, runners and cyclists were taught to head out the door and hit the pavement at full stride—or at least to reach peak efficiency as fast as possible. (Hence the “no pain, no gain” theory.) This might work if you’re a Marine in boot camp, but it’s a great way to tweak cold muscles and ensure you’re on the disabled list faster than you can say “illiotibial band syndrome.” (IBS is a common running injury that affects the tissue that runs from the hip to the knee, often alleviated by stretching.) In time, virtually all aerobic athletes learned the virtue of a proper warm-up. And you should, too.

Warming up is the perfect catchall phrase for what you should do right after you enter the gym and change into your workout gear. Pick your favorite piece of aerobic equipment, and ease into an easy-to-maintain rhythm for approximately 10 minutes (although 5 minutes is better than nothing).

Here are our favorite machines to warm up on:

- ◆ **The Schwinn AirDyne.** This bicycle uses your arms as well as your legs.
- ◆ **The Concept II rowing machine.** This machine works your whole body.
- ◆ **The NordicTrack.** This machine simulates cross-country skiing. It’s gentle on the joints but works your entire body.
- ◆ **A treadmill.** Put it on an easy setting, and tread lightly.
- ◆ **Elliptical trainer.** A great, nonimpact way to get the blood flowing. Those machines that use your arms as well as your legs are even better for a warm-up.

How fast should you go? That depends on how fit you are. In other words, if you’re breathing heavily, you’re going too fast. If your pulse is the same as it is while you’re reading this book (unless you’re reading it as you ride the exercise bike), you’re going too slow. Your aim is to raise your body temperature as well as increase the blood flow to your muscles and joints. Just as you begin to sweat, it’s time to move on to the next crucial stage of working out: stretching.

Hey, Stretch!

When you’ve finished warming up, head to the stretching area. Typically, this is a small, quiet room littered with mats. You’ll know you’re in the right place when you hear the loud “whoosh” of people exhaling.

Again, we can't overstress the importance of stretching to the quality of your workout as well as the quality of your life. Here's where you'll stretch each major muscle group. If the mere thought fills you with dread, it's all the more reason to suck it up and face your tight hamstrings.

Kids are naturally as loose as Gumby, but age and our sedentary lifestyles shorten our muscles. Think about it: you sit for hours each day and lie virtually motionless in bed for 8 or so hours at a time. Riding a bike, running, and clicking the keyboard of a computer shortens your muscles over the course of a lifetime. Without stretching, the natural length of a muscle is changed, which can lead to weakness and muscle imbalances, which can in turn lead to structural changes as you get older. Just thinking about it conjures up images of the Hunchback of Notre Dame.

The way to counteract this process is to stretch. Simply put, stretching maintains the flexibility that's compromised as we age. Flexibility is important in both everyday activities like turning your head before you make a left-hand turn onto the highway or bending over and picking up your 2-year-old child, as well as in athletic endeavors such as fielding a ground ball or shushing down the ski slopes without pulling a muscle.

In her work as a physical therapist, Deidre sees countless injuries that are directly related to decreased flexibility. Not surprisingly, virtually every one of these injured people complained about lower back pain. Care to guess how flexible they were? If you said "not very," you win a tube of Ben Gay. Once they were given a comprehensive stretching routine, their symptoms usually disappeared.

Now while Deidre told her patients to stretch like there was no tomorrow, she lifted weights each day and diligently skipped stretching herself. The result? During her

powerlifting career she suffered from chronic lower back pain. When she was evaluated, she was told that the flexibility of her lower back musculature was that of a 75-year-old driving instructor. When she began to stretch on a regular basis, this nagging injury receded into the background.



Flex Facts

One of the best indicators of back pain and/or potential injury is the sit-and-reach test, in which a subject sits on the floor with straight legs and bends forward at the waist toward his or her toes. If your fingertips can't reach your toes, it's a sure sign you need to work on your hamstring and lower back flexibility. If you can't reach your knees, get to a yoga class.

Easy Does It

One of the reasons why motivated types like Jonathan and Joe postponed stretching for so long is that they viewed it as a cardio- or strength-training session. They saw it as a contest they waged with themselves (a particularly male condition known as *machismo*). This ability to try less hard is particularly irksome for these achievement types because they are so conditioned to believe that harder is better.

Here's where the *train hard, train soft* mindset must come in. The key words when it comes to flexibility training are *gradual* and *easy!* And as we discuss in a moment, the operative phrase is *belly breath*. Stretching consists of several fluid, graceful movements you do in concert with focused breathing. Done correctly, you should experience mild discomfort in one or more muscle groups, but not pain. If there is pain, there will not be gain.

Why? Inside your muscles are defense mechanisms called muscle spindles. The muscle spindles are quite sensitive to stretch. If your muscle stretches too far too fast, the muscle spindles pull back to shorten the muscle and prevent muscle or tendon damage. It's precisely because of this self-protective mechanism of the muscle spindles that it's so important to stretch correctly. Try too hard and you may actually end up with less flexibility rather than more.

To Do and Not to Do

Although most of us did it in high school gym class, bouncing while you stretch has gone the way of the beehive hairdo. It might have seemed like a good idea at the time, but we know much better these days.

If you bounce while stretching you're likely to engage those defensive mechanisms, or, worse yet, override them and pull a muscle. To state the obvious, don't bounce. It won't help your flexibility.

The three most important things to remember about basic stretching are ...

1. Stretch to the point where you feel a gentle tension in the muscle. That sounds like a contradiction in terms, but it's really another way of saying you should ease into a mild state of discomfort well short of pain.
2. Hold the stretch for 20 to 30 seconds.
3. As you hold the stretch, breathe deeply, stretching just a little farther with each exhalation.

It seems somewhat silly to mention, but it's crucial to remember to breathe while you stretch. Breathing helps deliver fresh blood to your muscles. Get into the habit of practicing this deep-belly breathing. It will help you immensely when you lift weights. However, it's common practice to hold your breath as you move deeper into a stretch. Be mindful of this—it's a sign you're pushing too hard or are resistant to the

task at hand—and return to your breath. Not only will this help you relax, it will allow you to stretch a little farther with each exhalation.

Deep breathing is not something we do naturally at rest. In fact, most of us breathe shallowly from the chest and don't use our *diaphragm*. Try this now: place one hand on your abdomen and one hand on your chest. Take a deep breath through your nose, and fill your abdomen with air (you should feel your hand rise with your abdomen). Complete the breath by filling your chest with air (you should feel your hand rise with your chest). Now exhale through your mouth, expelling air from your abdomen first, then your chest. Repeat this slowly 5 times. You may feel a little dizzy or light-headed, but that's normal because you're not used to such oxygenated air.

Of course, you're not going to place your hand on your abdomen or your chest while you stretch or lift weights. (It's challenging enough to lift with two hands, let alone one.) Instead, practice inhaling deeply through your nose and forcefully out through your mouth. Once you realize the positive effect this has on your stretching (not to mention your sense of well-being), it will be a standard part of your workout.

Now that we've convinced you of the importance of getting (and staying) limber, let's take a look at some of our favorite stretches. Starting a routine is a little like working your way into a great book. The first 50 pages may seem laborious, but once you get into it, you'll be hard pressed to put it down. Do the following for 2 weeks. You'll be surprised how grateful your stiff body feels.



Spot Me

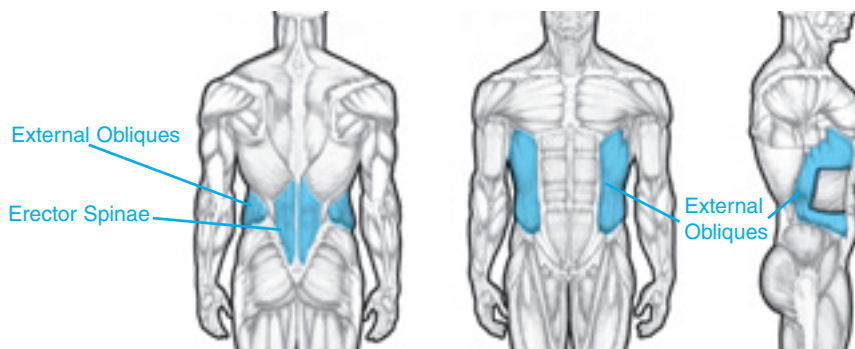
For people who have scoliosis (sideways curvature of the spine), the torso stretch is a good stretch for the opposite side of the curvature. For example, for a left-sided scoliosis, stretch the right side.

Torso Stretch

Improving and maintaining a flexible trunk (torso) is extremely important for obvious reasons. If you've ever seen an elderly person (or someone with a back injury) bend down to pick up a piece of paper, you'll know what we mean. If your torso becomes stiff, simple tasks such as turning and reaching are compromised. In fact, you often hear of people who say they *threw out* their backs lifting a pot of water. In fact, that was merely the straw that broke the camel's back.

Here is what you need to do to stretch your torso:

1. Stand with your feet shoulder-width apart and toes pointed straight ahead.
2. Keep your knees bent slightly.
3. Place one hand on your hip for support while you extend your other arm up and over your head toward the ceiling.
4. Now slowly bend at your waist to the side where your hand rests on your hip.
5. Move slowly, gracefully, and continue to breathe.
6. Hold the stretch for 20 to 30 seconds.
7. Repeat on the other side.



Torso stretch: muscles used.



Torso stretch.

Pec Stretch

Here is what you need to do to stretch your pectoral muscles, the muscles of your chest that pull your arms forward:

1. Stand up or sit on a bench, and interlace your fingers behind your back.
2. Lift your arms up behind you until you feel a stretch in your arms, shoulders, and chest.
3. Keep your chest out and chin in.

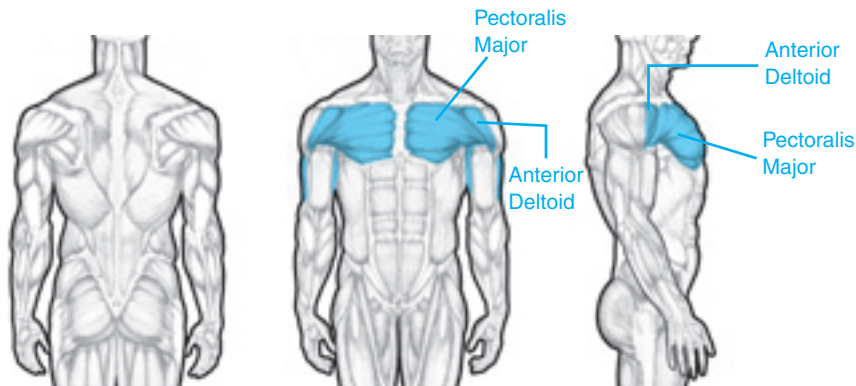


Spot Me

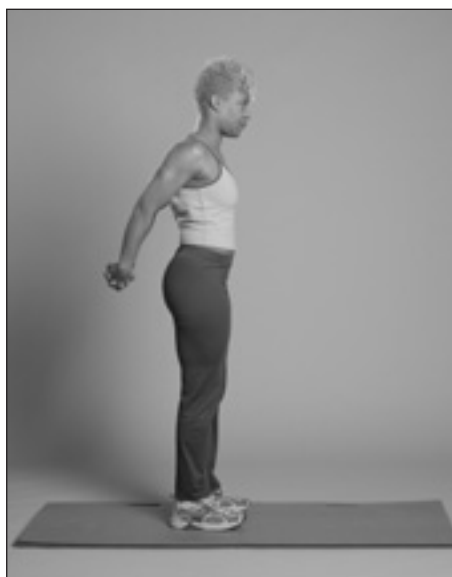
The pec stretch is a great stretch for people who suffer from asthma.

Asthmatics tend to take on a forward chest posture, probably from difficulty breathing. This stretch opens up the chest muscles, freeing the muscles used for breathing.

This is a good stretch to do at any time, especially if you're at a desk and find yourself slumping.



Pec stretch: Muscles used.

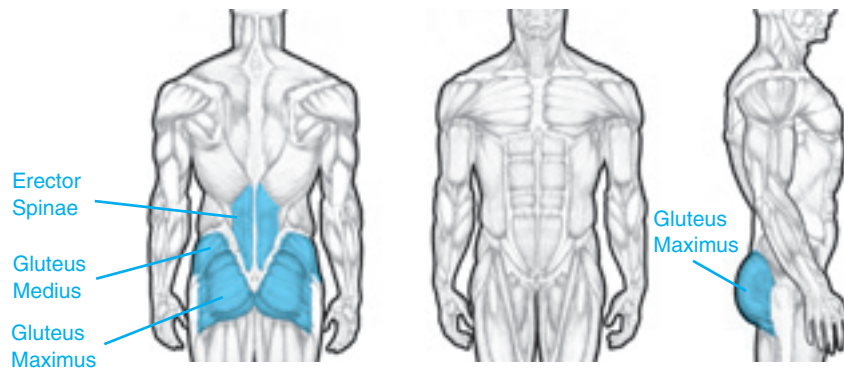


Pec stretch.

Spinal Twist

The spinal twist is great for limbering the muscles that align your spinal column. It also stretches the buttocks and hips. Here's how to do it:

1. Sit with your left leg straight on the floor.
2. Place your right foot flat on the floor over your outstretched left leg, and rest it to the outside of your left knee.
3. Place your left elbow on the outside of your upper right thigh just above your knee.
4. With your right hand resting behind you, slowly turn your head and look over your right shoulder. At the same time, rotate your upper body toward your right hand and arm.
5. During the stretch, use your left elbow to keep your right leg stationary with controlled pressure to the inside. As you turn your upper body, think of turning your hips in the same direction without lifting your hips off the floor. You should feel a stretch in your lower back and side of hip.
6. Hold for 20 to 30 seconds.
7. Breathe deeply. Repeat on the opposite side.



Spinal twist: muscles used.



Spinal twist.

Groin Stretch

Tight groin muscles are a common source of strains in sports with sudden stops, starts, and turns. The groin is defined as the depression between the thigh and the trunk and consists primarily of tendons from your *adductor* muscles.

Here is what you need to do to stretch your groin muscles:

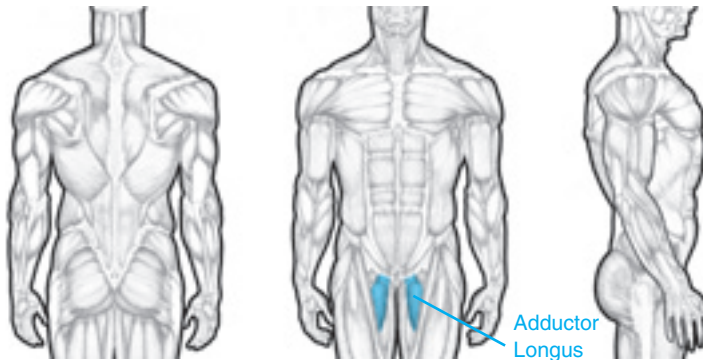
1. Sit with your spine straight.
2. Put the soles of your feet together, and grab your toes.

3. Bending from your hips, gently pull yourself forward until you feel a good stretch in your groin. Do not make the initial movement for the stretch from your head and shoulders; move from your hips. You may also feel a stretch in your lower back.
4. Hold for 20 to 30 seconds.



Bar Talk

The **adductor** muscles are the muscles that draw your leg in toward your body from an outward position.



Groin stretch: muscles used.



Groin stretch.

Quadriceps Stretch

The quadriceps (or “quads”) are a group of four individual muscles—rectus femoris, vastus medialis, vastus lateralis, and vastus intermedius, if you must know—that attract so much attention when you walk around in shorts. They work together to straighten the knee. The rectus femoris is the only muscle of the four that crosses the hip. Your quads are the workhorses in activities such as running, stair climbing, squatting, and lunging.

To stretch these large muscles, do the following:

1. Stand near a wall for support.
2. Bend your right knee, and hold the top of your right foot with your left hand, gently

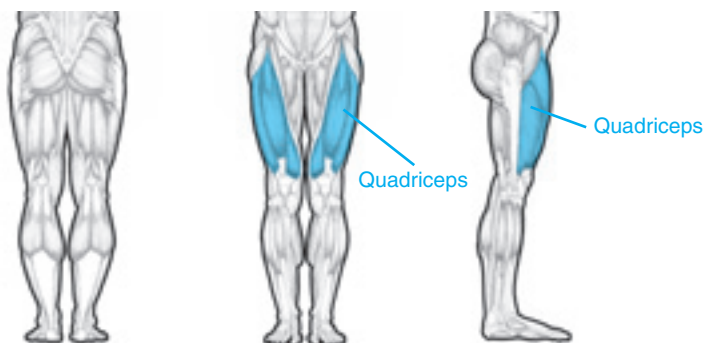
pulling your heel toward your buttocks. Be sure your knee is pointing down toward the floor.

3. Keep your hips and shoulders level.
4. Hold for 20 to 30 seconds.
5. Breathe deeply throughout the stretch and then switch to the other leg.

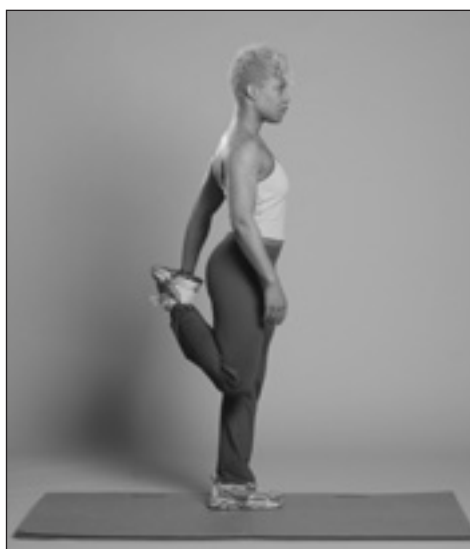


Spot Me

The reason you hold your foot with your opposite hand is because the natural angle of the patellofemoral joint is not straight as you bend it; it turns inward with end-range flexion.



Quadriceps stretch: muscles used.



Quadriceps stretch.

Hamstring Stretch

The hamstrings are three individual muscles that oppose the quads—the biceps femoris, semitendinosus, and semimembranosus, for those of you keeping score at home. They work as a group to bend the knee and to straighten the hip. Tight hamstrings, a condition so common it sounds like the official name, can often contribute to low back pain. Keep them loose, and you'll feel like a new person.

Here is what you need to do to stretch your hamstrings:

1. Sit and straighten your right leg.
2. Place the sole of your left foot against the inside of your right thigh.

3. Slowly bend forward from your hips toward the foot of your outstretched leg until you feel a gentle stretch.
4. Hold for 20 to 30 seconds.
5. Once the initial discomfort has diminished, bend forward a bit more.
6. Hold for another 20 to 30 seconds.

Again, when the stretch becomes more comfortable, lean forward for the last time for another 20 to 30 seconds. Repeat this three-part move on your other leg. Remember to relax and focus on your breathing.



Hamstring stretch: Muscles used.



Hamstring stretch.

Hip Flexor Stretch

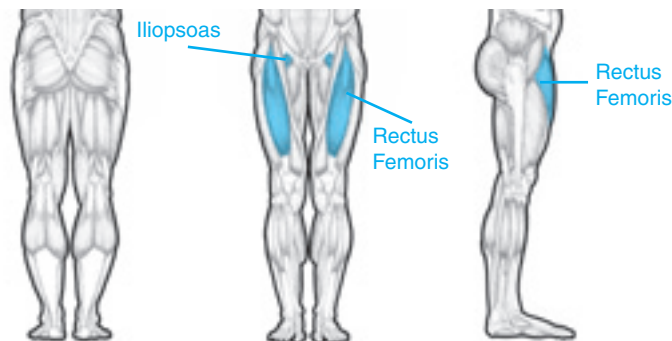
Next we have the hip flexor, as it is called in lay terms; to medical types it refers to the iliopsoas muscle, which flexes the hip. The hip flexors are instrumental in running, especially sprinting, as well as cycling and stair climbing.

Here is how you work your hip flexors:

1. Kneel on both knees.
2. Extend one leg forward so the knee of your forward leg forms a right angle directly over your ankle.
3. Gently lower the front of your hip downward so your back leg lies on the ground like an L.
4. Hold for 20 to 30 seconds.
5. Switch legs and work your other hip.

Be careful of this stretch if you have knee problems. Here's a fine alternative to that stretch:

1. Stand facing a support high enough that your hip and knee form a 90° angle.
2. Bend your left knee, and place your left foot on the support.
3. Your grounded foot should be pointed straight ahead.
4. Keeping your back straight, lean your hips forward until the heel of your standing foot lifts slightly from the floor.
5. You should feel a slight stretch in the front of your right hip. Hold for 20 to 30 seconds.
6. Repeat on your other leg.



Hip flexor stretch: muscles used.



Hip flexor stretch.

Calf Stretch

To stretch your gastrocnemius (the calf to you and me), do the following:

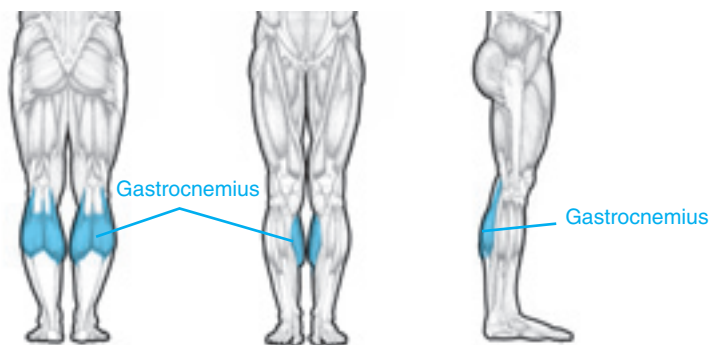
1. Stand on a solid support, and lean forward against a wall.
2. Place one bent leg forward, and extend the other leg with a straight knee behind.
3. Slowly move your hips forward, keeping your lower back flat.
4. Be sure to keep the heel of your straight leg on the ground with your toes pointed straight ahead.

5. Hold for 20 to 30 seconds.
6. Don't bounce, be sure you breathe, and repeat on the other side.

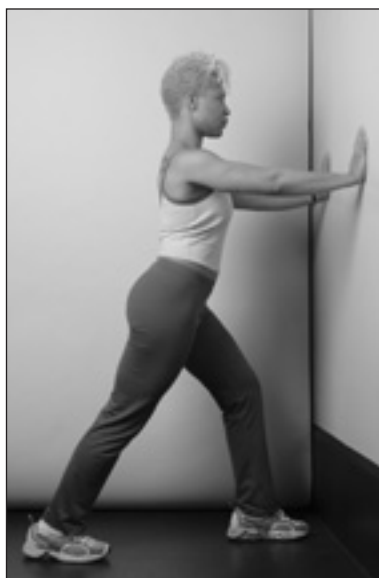


Weight a Minute

For any stretch in which you have to bend your knee, be absolutely certain your knee doesn't "overshoot" your toe. The knee should never be farther forward than your toes; otherwise, there's too much stress on your knee.



Gastrocnemius stretch: muscles used.



Gastrocnemius stretch.

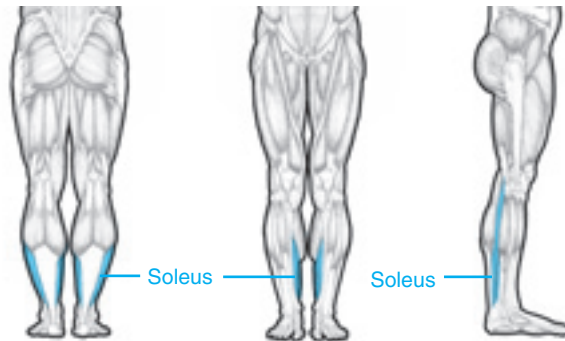
Here's a wrinkle to the gastrocnemius stretch to work the deeper calf muscle as well as the Achilles tendon:

1. Assume the position we just described for the gastrocnemius stretch, but lower your hips downward as you slightly bend your back knee and bring it forward just a touch.
2. Be sure to keep your back flat.
3. Try to keep the heel of your back foot down.
4. Hold for 20 to 30 seconds.
5. Switch legs and stretch the other side.

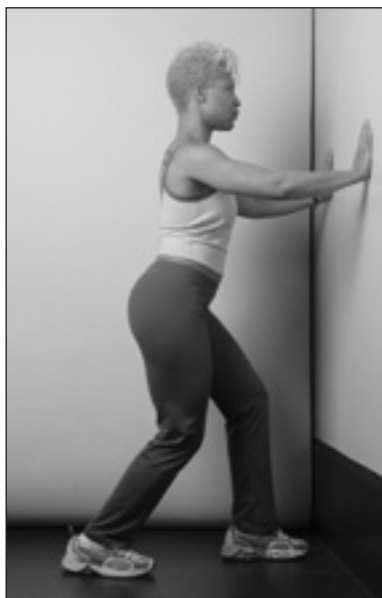


Spot Me

Tight hamstrings and tight calves (also called the gastrocnemius) can be the source of a knee condition called *patellofemoral syndrome*. Symptoms can include pain during prolonged sitting and walking down stairs. Getting these muscles flexible can help alleviate this problem.



Soleus stretch: muscles used.

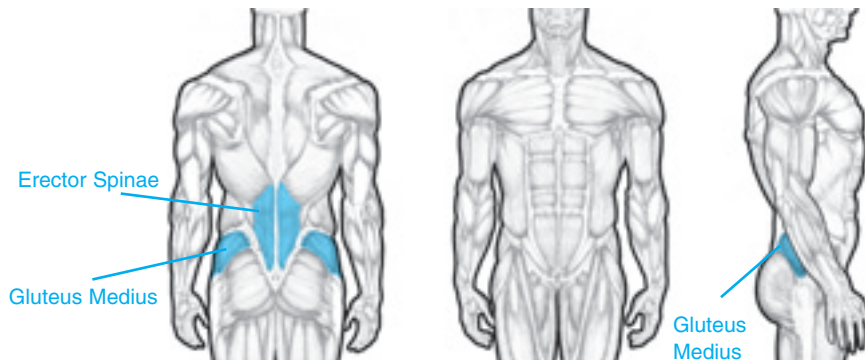


Soleus stretch.

Back and Hip Stretch

Here is what you need to do to stretch your lower back and the side of your hip:

1. Lie on your back, bend one knee at 90° and, with your opposite hand, pull that bent leg up and over your other leg, as shown in the following figure.
2. Turn your head to look toward the hand of the arm that's straight out with palm down (your head should be resting on the floor, not held up).
3. Placing the other hand on your thigh (just above your knee), pull your bent leg down toward the floor until you feel the right stretch feeling in your lower back and side of hip.
4. Keep your feet and ankles relaxed, and be sure the backs of your shoulders are flat on the floor.
5. Hold for 20 to 30 seconds, and repeat on the other side.



Back and hip stretch: muscles used.



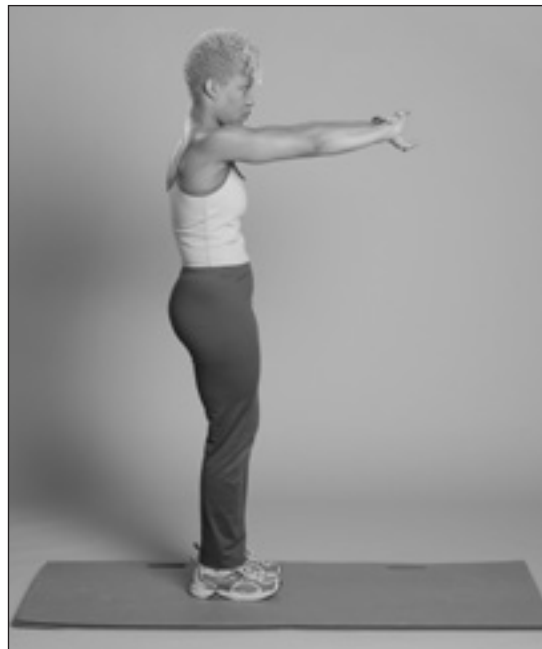
Lower back and side of hip stretch.

Here is what you need to do to stretch your middle back:

1. Stand and interlace your fingers out in front of you at shoulder height.
2. Turn your palms outward as you extend your arms forward as if pushing something away from you.
3. You should feel a stretch in your shoulders, middle of upper back, arms, hands, fingers, and wrists.
4. Hold for 20 to 30 seconds, and repeat twice.



Middle back stretch: muscles used.



Middle back stretch.

Advanced Techniques

Static stretching is the most proven and safe method to increase flexibility, but you may come across other techniques in the gym. As we mentioned earlier, bouncing or ballistic stretching can be unsafe and ineffective, so we never advocate it. In Active Isolated (AI) stretching, a technique developed by Jim and Phil Wharton, the exerciser moves through a full range of motion by contracting the opposing muscle while stretching. The stretch is held for only a few seconds and then repeated.

Proprioceptive Neuromuscular Facilitation (PNF) is a technique more commonly used in therapeutic settings, but it has gained popularity among some personal trainers as well. It temporarily fools your defense mechanisms as you strongly contract the muscle you plan to stretch immediately before you do so.

Both AI and PNF are viable ways to stretch but should be treated with respect. A class or session with a trainer who is versed in these techniques is advisable before trying them.

The Least You Need to Know

- ◆ Age and a sedentary lifestyle make stretching a necessity.
- ◆ Stretch to the point where you feel a gentle tension in the muscle.
- ◆ Hold your stretches for at least 20 seconds.
- ◆ As you hold the stretch, breathe deeply, stretching just a little farther with each exhalation.
- ◆ Whether you're hustling after a bus or trying out for the Bolshoi Ballet, you'll feel and perform far better if you're limber from the waist down.