

Stretching for Runners

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Do runners need to stretch at all? Yes, probably. Stretching before we run can help loosen up our joints so we run more easily. Stretching after we run can help us deal with post-run stiffness. Stretching daily can help us deal with those pesky issues related to genetics, an old injury, or just plain old bad habits. But with each of those occasions, we are actually trying to accomplish something quite different from a physiological perspective, and not surprisingly, the type of stretch we do for each should be different too.

Dynamic Stretching – Oiling the Hinges Before We Run

What: Moving your joints through their full range of motion

When: Before every run

Every 4-5 miles during long runs

Why: To get your joints moving freely to optimize your biomechanics

After Grandma sits for a few hours, she has a little trouble standing up and getting moving. Her joints feel stiff at first. This happens to all of us to a lesser extent. Modern life keeps us primarily in a forward bent position – sitting at our desks, loading the dishwasher, driving our cars, picking up our babies, etc. So we have a little trouble fully straightening up and getting our legs behind us to run our best. Our biomechanics are just a bit off until we get our joints loosened up. Our joints become a bit like rusty hinges.

What do we do to a rusty hinge to get it working again? We squirt some WD-40 on it and then work it back and forth. After several repetitions it starts moving a little more freely. Fortunately, our body has its own WD-40. Synovial fluid bathes our joints. So all we have to do is move our joints through their full range of motion to loosen them up before we run. For this we use **DYNAMIC STRETCHING**, moving our joints through their full range of motion.

Google “dynamic stretches” and you will find plenty of options. Pretty much all of them are good. The goal is to hit every major joint, upper body and lower body. Running is as much an upper body activity as a lower body one. The arms work to counterbalance what the legs are doing and vice versa. When the right arm goes forwards, the left leg goes forwards, and we rotate the spine in the process. So when dynamic stretching, we need to hit not only our legs, but also our shoulders and spines.

Sample Dynamic Stretching Routine:

Do each stretch 5-10 repetitions, just enough to feel loose.

Arm circles: Stand tall. Make big circles with your arms, forwards then backwards.

Arm huggers: Stand tall, arms straight out to your sides. Cross your arms in front of your body then open them out again.

Helicopters: Stand tall, arms out to your sides, feet shoulder width apart. Rotate your head, arms, and upper body to look behind you to one side, then the other. Don’t keep your feet planted solid; allow them to rotate a bit as well.

- Marching: March in place, lifting one knee then the other, being mindful that your hands travel from “cheek” (face) to “cheek” (hip) and don’t cross the middle of your body.
 Rag doll: Stand tall with your feet together. Reach up with your hands as high as you can, going up on your toes. Keeping your legs straight, bend over forwards and hang. Then squat down with your head tucked. Straighten your legs again while still hanging forwards, then roll up one vertebra at a time back to standing.
 Ankle circles: Make circles with your feet in both directions.

Another really good time to do dynamic stretches is during long runs. As we start to fatigue our muscles stiffen. Loosening them up can help reduce that feeling of fatigue and help us run farther. Even compressing the routine to 2-3 repetitions of each and doing them every 4 to 5 miles can help significantly.

Short-Hold Static Stretching – Relieving Post-Run Tightness

- What: A stretch you hold for 20-30 seconds
 When: After runs
 Why: To relieve discomfort in stiff muscles after runs

As we run, our muscles contract and relax over and over – shortening, lengthening, shortening, lengthening. While this may seem counterintuitive, muscles actually need energy and some specific electrolytes not only to contract, but also to relax. Towards the end of long runs and speed work in particular, these things can be in short supply. The end result is that *tired, overworked muscles have trouble relaxing*. We feel stiff. With time, rest, refueling, and going about our normal activities, this stiffness will correct itself. But to feel more comfortable in the short-term, **SHORT-HOLD STATIC STRETCHING** can help.

Short-Hold Static Stretches:

You only need to do the stretches for the areas that feel uncomfortable. Hold each stretch 20-30 seconds.

- Flamingo: (*For quadriceps*) Stand on one leg. Bend the other leg, grabbing that foot behind your tush. Your knees should be less than 6 inches apart.
 Warrior Pose: (*For hip flexors*) Stand with your feet together. Step one foot forwards about 3 feet. Tuck your tush under (the opposite of arching your back and sticking your tush out) and then try to straighten your back leg. You should feel a slight pull in the front of your back leg. To deepen the stretch, raise your arms over your head. Unlike the yoga version of this stretch, the back foot should be pointed straight ahead.
 Forward Bend: (*For hamstrings and back*) Bend forwards at the waist and reach towards your toes. To deepen the stretch, try to drop your belly button downwards.
 Walk the Dog: (*For calves*) From forward bend position, place hands on ground and walk them forwards about 2.5-3 feet to “downward dog” position (hands, feet, and tush form a triangle). Push one heel towards the ground with your knee straight, while bending the other knee. Hold 5-10 seconds then switch.
 Cobra: (*For core*) From downward dog position, drop your belly towards the ground so your back is arched.

- Butterfly: (*For inner hips*) Sit on the ground with your feet together, knees open. If you cannot sit up relatively straight, push your feet further away from your body. Bend forwards at the waist.
- Knee Hugger: (*For outer hips*) Sit on the ground with your legs straight out. Bend one knee up towards your chest, with the foot near the opposite hip, and give your bent leg a good hug with both arms.

Many, many runners suffer from tight calves and/or hamstrings after they run. Remember in the beginning we said *tired, overworked muscles have trouble relaxing*. So why are the calves and hamstrings overworked? The big muscles on your backside – the glutes – are supposed to have the starring role in moving you forwards when you run. The calves and hamstrings just have small supporting roles. However, when the glutes fail to do their job, because they are either weak or lazy, the calves and hamstrings have to pick up the slack. They can do the job, but they overwork themselves in the process. *Chronic tightness in the calves and hamstrings after runs is a strong indication you need to focus more on strengthening and using your glutes.*

Long-Hold Static Stretching (and Other Techniques) – Addressing those Problem Areas

What: A stretch you hold for 3-5 minutes

When: 2-3 times every day when the body is warm (ideally after a shower or run)

Why: To address significant inflexibilities caused by genetics or old injuries

Bodies are bodies. Some of us are flexible; some of us are so very not. Most of us, however, are a combination of the two, tight in some areas, flexible in others. Throwing in an old injury or two only complicates the matter. As it turns out, being symmetrical in your flexibility (whatever that is) – left to right and front to back – is more important than being flexible. For example, your left side should be as flexible as your right. The muscles on the front of your hip should be as flexible as the muscles on the back of your hip. Running should be a very symmetrical activity. Without this symmetry, your biomechanics suffer.

Unfortunately, genetic tightness is very hard to change. Doing so requires a significant amount of time and commitment. Few non-professionals have time to spend all day stretching. So how much flexibility do you really need to run your best, and in what muscles?

Non-negotiable: You must have enough flexibility to get your leg behind you while you are standing on it! (Dicharry, 2012)

When we don't have this flexibility, strange things – none of them good – start happening to our biomechanics. One common cheat for not having enough flexibility in the hip is to tip the pelvis forwards, but doing so turns off the core muscles we plank so hard to get. Another common cheat is to rotate the hip back, which puts weird forces on the knee and lower leg during push off. Runners with calves that are too tight often make whipping motions with their feet, which also puts weird forces on the lower legs and feet.

Being able to get your leg behind you while you are standing on it takes flexibility in three places: the hip flexor, the calves, and the plantar fascia of the foot. The hip flexor is the muscle on the front of the hip. Because we sit around all day with the hip flexor in a short position, 80% of runners don't have enough flexibility here. The plantar fascia is that piece of connective tissue on the bottom of the foot that gives many, many runners so much grief.

Hip Flexor Stretch – The Warrior Pose:

Stand with your feet together. Step one foot forwards about 3 feet. Tuck your tush under and then try to straighten your back leg. You should feel a slight pull in the front of your back leg. To deepen the stretch, raise your arms over your head. Hold this stretch for 3-5 minutes, 2-3 times a day. Yes, 3-5 minutes. Really. A 20 to 30 second hold isn't going to do it.

Google "hip flexor stretch" and you will find plenty of other options for stretching the hip flexor. Pretty much all of these stretches will work, provided you do two things: (1) make sure the back knee and foot are pointed straight ahead, not out to the side, and (2) tuck your tush under (the opposite of arching your back and sticking your tush out).

Fixing the Calf – Tissue Flossing:

Sit on a chair with your ankle crossed over your knee. Dig the ends of both thumbs into your calf muscle. Point and flex your foot. Work on one spot for 5 or so ankle pumps then move to another spot. Focus on areas that are tender or feel sore. Spend 3-5 minutes per calf daily. Foam rolling focusing on sore and tender spots also works well. Google can show you how.

Fixing the Calf – Edge of Step Stretch:

After tissue flossing, stand with feet together and heels off the edge of a step. Lower your heels below the level of the step and hold this position 3-5 minutes. Do one set with the knees straight and one set with the knees slightly bent.

Please stop doing the runner's stretch. You think you know how to do it correctly – you probably don't. The correct technique for this stretch is pretty specific and few runners actually get it right.

Fixing the Plantar Fascia – Tissue Flossing:

Sit as you did for tissue flossing for the calf. This time dig the ends of your thumbs into the bottom of your foot and move your big toe back and forth. Again, move around to spots that are tender or feel lumpy. Spend 3-5 minutes per foot daily.

Pro Tip – If you seem to be prone to plantar fasciitis, tissue flossing is one of the best things you can do for yourself. Tissue flossing helps keep the plantar fascia pliable and increases blood flow to the area, which not only helps it heal, but also helps keep it from ripping further. Ideally you want to do it for 3-5 minutes before you ever step out of bed, and before you stand after sitting for more than a few minutes.

With all of these stretches and techniques, focus first on the side that is the tightest. The first goal is to be symmetrical.

Changing Your Life Habits

The mobility you have is the result of the genetic card you drew, maybe an old injury, combined with your life habits. Sit in a chair all day and you will likely have tight hip flexors and have trouble getting your leg behind you to run your best. Wear 4 inch heels all day and chances are higher than average that you will have tight calves. You cannot change your genetics or wish away that old injury, but you can change your life habits. Doing so can significantly speed up the process of gaining more

flexibility in your hips, calves, and plantar fascia. Think about it. What you do all day, every day will be far more effective than that 5-15 minutes you spend stretching.

Good Habits:

- (1) Stand often throughout your day.
- (2) Even better, stand and put one leg slightly behind you. Switch it up to stay even.
- (3) If you must sit, sit on the edge of your chair and drop one foot back and under the chair. This not only opens up the hip and stretches the calf, but also engages the postural muscles as an added bonus.
- (4) Wear flat shoes or go barefoot often.
- (5) Tissue floss your calves and feet under the desk or conference table.
- (6) Find ways to stretch throughout your day.

When Not to Stretch

Knowing when not to stretch can be as important as knowing when to stretch. Dynamic stretching is pretty much always good. Static stretching – both short and long hold – however, can sometimes be problematic.

Do not static stretch for the first 2 weeks after a muscle pull.

To heal, the body must first build scaffolding between the two ends of broken tissue to hold it together. Obviously, yanking on both ends with static stretching is going to make bridging the gap more difficult. In fact, the body sends signals to the muscle fibers surrounding the tear to tighten down to help hold the broken ends together while the scaffolding is being built. This is the tightness you feel after a muscle pull – the body's protective response to help the muscle heal. You can, however, do very, very gentle dynamic stretches during this period.

Do not static stretch within 2 hours of a run.

Research shows that muscles are actually weaker for up to 2 hours after static stretching. You do not want to go out for a run on muscles that aren't fully functional.

What to Do When That Mid-Race Cramp Strikes

We've all experienced it, that muscle that suddenly and violently seizes up on the way to the finish line. Most likely, the cause is a muscle running out of fuel, electrolytes, and/or water (remember, a tired, overworked muscle has trouble relaxing), so find all three as soon as possible. But in the meantime, *be gentle*. Putting weight through the leg, massage, or jiggling the muscle between both palms is preferred to vigorous static stretching. The muscle is already pulling really hard on its tendons. Don't risk injury by adding more stress to these relatively fragile tendon-muscle and tendon-bone junctions.

Few runners have the time to have elaborate stretching routines. We have jobs, families, and other interests. This doesn't mean we shouldn't stretch however. Stretching can help in the quest to run our best. Being mindful to match the right stretch to the purpose helps ensure we get the job done in the most efficient manner, and have more time to do what we love most, run.

Dicharry, Jay. *Anatomy for Runners: Unlocking Your Athletic Potential for Health, Speed, and Injury Prevention*. New York: Skyhorse Pub., 2012.

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