

# Yoga for Runners



## Stay Loose!

**Incorporate stretching routine into your workouts to reduce muscle soreness and prevent injury.**

**We are always able to squeeze in many hours of running every week but we just don't seem to have the time to stretch for five or ten minutes after. Find the time!!**

Sure, it's not as fun as hitting the road, and the benefits may not be as immediately obvious. But a good and consistent stretching program can save you a lot of trouble and keep you running when you might otherwise become injured. Along with training gently and choosing the right shoes, stretching is the most important thing you can do to protect your body from the rigors of the road. You'll also find that the benefits of stretching include reduced muscle soreness after running and even better athletic performance.

That said, you should be careful about how you stretch. If not done properly, stretching can actually cause injury rather than prevent it.

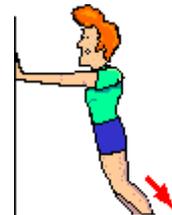
- Rule number one in stretching: do not bounce. It's a common mistake, but bouncing risks pulling or tearing the muscle you're trying to stretch and relax. Muscles must be stretched gradually. If a stretch is applied too quickly, the muscle responds with a strong contraction, increasing tension. If the stretch is applied slowly, however, this contraction reflex is avoided, muscle tension falls, and you may stretch the muscle further. The lesson here: stretch slowly and hold the stretch for 30 to 40 seconds.
- Do not stretch beyond the point where you begin to feel tightness in the muscle. Do not push through muscle resistance, and never stretch to the point of discomfort or pain.
- Build stretching into your regular schedule after your daily run.

For a model stretching program, try out the 12 stretches recommended below. If you must abbreviate the routine, at least do the three types of wall push up, the hamstring stretch, the heel-to-buttock stretch, and the groin stretch.

Repeat each stretch two or three times:

#### 1. Wall Push up #1

Stand about three feet from a wall, feet at shoulder width and flat on the ground. Put your hands on the wall with your arms straight for support. Lean your hips forward and bend your knees slightly to stretch your calves.



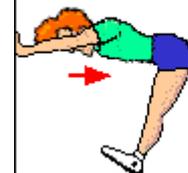
#### 2. Wall Push up #2

From the previous position, bend forward to lower your body to waist height. Bring one foot forward with your knee slightly bent. Lift the toes of the front foot to stretch the muscle under the calf. Stretch both legs.



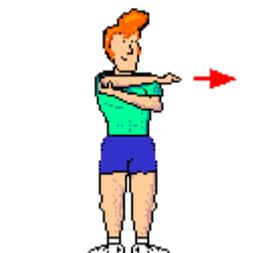
#### 3. Wall Push up #3

Put your feet together, rocking back on your heels with your hands on the wall and your arms straight to form a jackknife with your body. This stretches your hips, shoulders, and lower back.



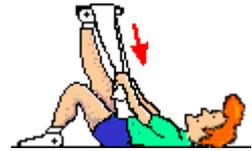
#### 4. Back Scratch

Grab your elbow with the opposite hand and gently push the elbow up and across your body until your hand reaches down to "scratch" your back. Gently push on your elbow to guide your hand down your back as far as it will comfortably go, stretching your triceps and shoulders. Stretch both arms.



### 5. Hamstring Stretch

Lie down with one leg straight up in the air, the other bent with foot flat on the ground. Loop a towel over the arch of the lifted foot, and gently pull on the towel as you push against it with your foot. Push only to the point where your muscles contract. Stretch both legs.



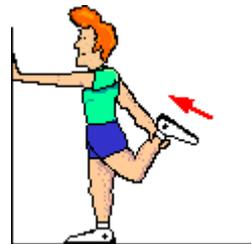
### 6. Quadriceps Stretch

Kneel on your knees (without resting back on your heels). Lean back with your body erect and your arms to the side. Hold for 15 seconds.



### 7. Heel To Buttock

Stand on one foot, with one hand on a wall for balance. Hold the other foot with the opposite hand and raise the heel of the lifted foot to the buttocks (or as close as comfortably possible), stretching your quadriceps. Keep your body upright throughout. Change legs and repeat.



### 8. Spinal Twists

Sit on the ground with your legs crossed. Lift your right leg and cross it over the left, which should remain bent. Hug the right leg to your chest and twist the trunk of your body to look over your right shoulder. Change legs and repeat (i.e. looking over your left shoulder).



### 9. Hamstring & Back Stretch

Lie on your back with your knees bent. Hug your shins to your chest to stretch your hamstrings and lower back.



### 10. Bridge

Lie on your back and, with your feet flat on the ground, lift your hips up until your body forms a flat plane. Repeat this one ten times for 30 seconds each to stretch your quads and lower back.



### 11. Groin Stretch

Seated, put the soles of your feet together. With your elbows on the inside of your knees, gradually lean forward and gently press your knees toward the ground.



## 12. Downward Facing Dog

**If you only have time to do one yoga pose or stretch each day, this is your pose! This is one of the key postures!!**



Hands shoulder distant apart. Legs hips distant apart.

Spread your fingers, try to relax the back of your legs and heels toward the floor (even if you don't reach the floor!). Try to relax your shoulders away from your ears, chest and arm pits toward your legs. Hips really high to extend your spine. Neck and head completely relaxed. You should have the same separation between legs and hands as when you do plank position. Don't try to bring your feet so closer to your hands. You can start the position from plank (lifting the hips) or from all fours.

### **Yoga and Flexibility:**

According to Michael Alter, author of *Science of Flexibility* (Human Kinetics, 1998), current research demonstrates that individual muscle fibers can be stretched to approximately 150 percent of their resting length before tearing. This extensibility enables muscles to move through a wide range of motion, sufficient for most stretches—even the most difficult asanas.

If your muscle fibers don't limit your ability to stretch, what does?

There are two major schools of scientific thought on what actually most limits flexibility and what should be done to improve it. The first school focuses not on stretching muscle fiber itself but on increasing the elasticity of connective tissues, the cells that bind muscle fibers together, encapsulate them, and network them with other organs; the second addresses the "stretch reflex" and other functions of the autonomic (involuntary) nervous system.

**(Yoga works on both. That's why it's such an effective method for increasing flexibility)!!!**

### **Health Benefits of Downward Facing Dog Pose:**

- Inverted poses are extremely important because they reverse the action of gravity on the body and get the blood and lymph flowing in opposite directions.
- On an emotional level downward facing dog helps turn everything on its head and helps us see things from a different angle.
- It helps boost self-confidence.
- Takes pressure off the heart, which has to work less to get blood flowing to the brain.
- Strengthens and tones the arms and legs
- Because of the weight bearing nature of the posture on the arms and legs it helps strengthen the bones and prevent osteoporosis.
- Lengthens and straightens the spine, helping to relieve pain in the upper, middle and lower back.

- The body gets a 360-degree stretch in just one pose.
- Although this pose is technically a resting pose, it strengthens the muscles in your arms, shoulders, sides, chest and upper back, while stretching the muscles in your ankles, calves, thighs and lower back.
- The compression of the stomach and the intestines experienced while practicing Downward Dog, helps to improve digestion,
- This pose can alleviate the symptoms of menopause, and when practicing the supported variation of Downward Dog, can help relieve menstrual discomfort.
- If you are feeling anxious, sad or upset, relaxing into Downward Dog can help calm your mind while alleviating mild depression and stress.

### **Benefits of Backbends:**

- Backbends stretches the front of the abdomen, hips, thighs, shoulders and chest
- By activating the abdomen, they stimulate the kidneys, reproductive, and digestive system.
- The backward bending postures energize, refresh and invigorate the body- opening the chest, and encouraging proper breathing
- On an anatomical level, this action stretches and releases the muscles of the chest allowing circulation to flow freely to the heart and lungs.
- During the back-bend the thymus is pressured, and then released, this stimulation can aid immune function. The nervous system is stimulated, building heat and stimulating metabolism
- The abdominal muscles receive a stretch, as does the digestive system
- Backbends bring heat and energy to the spine. The Nervous system benefits, as Cerebral-Spinal fluids are pumped (since the body is usually in a forward bend)
- Backbends realign the spine, counteracting and re-teaching the body's poor habits and making daily movement more comfortable, lending poise and grace
- Integrity of the spine creates integrity of the mind, combating depression and lethargy
- By opening the chest, backbends also work with the heart center, encouraging complete expansion of the lungs. This brings vitality.

### **More Physical Benefits:**

- Stimulates the sympathetic nervous system and prepares the body for action.
- Helps counteract damage of bad posture.
- Relieves back pain, bronchial distress, scoliotic deformities, tennis elbow, frozen shoulder.
- Realigns the spine.
- Promotes proper kidney function.
- Helps with digestive function, eliminating constipation and flatulence.

### **Energetic Benefits:**

- Stimulates all the chakras, primarily creating opening in the fourth (heart) chakra.

### **Emotional Benefits:**

- Helps to break through insecurity and fear.
- Relieves stress and tedium.
- Opening the lower back helps to free you from insecurity and taking yourself too seriously.
- Helps to build confidence and self-esteem .
- If you are feeling tired, this pose can help you to feel more energized.

#### **Benefits of Forward bends:**

- The forward bend postures have a massaging action on the organs in the upper body. Forward bends open up your back, promote total exhalation of air from the lungs by compressing the chest and also help to calm down your mind.
- The forward bending postures bend the back to the shape it was when the body was in the womb that is also called the primary curve. This makes some space between the spinal vertebrae that improves the circulation around it and has overall beneficial effects on the body.
- The nerves from all the different organs in the body pass through the spinal cord and the improved circulation benefits all of them in a great way.



- The forward bend poses give an internal massage as well as improve the circulation to the various organs like the abdomen, pancreas, liver, intestines and kidneys.
- They also help to lengthen and strengthen the hamstrings, muscles of the inner leg, make the muscles of the back more supple and boost the strength of the legs and the knees.

#### **More Benefits:**

- Stretches the hips, hamstrings, and calves
- Strengthens the thighs and knees
- Keeps your spine strong and flexible
- Reduces stress, anxiety, depression, and fatigue
- Calms the mind and soothes the nerves
- Relieves tension in the spine, neck, and back
- Activates the abdominal muscles
- Eases symptoms of menopause, asthma, headaches, and insomnia
- Stimulates the kidneys, liver, spleen
- Improves digestion

### **Why is not recommended to bounce while we work in flexibility:**

#### **The Stretch Reflex**

According to physiologists who view the nervous system as the major obstacle to increased flexibility, the key to overcoming one's limitations lies in another built-in feature of our neurology: the stretch reflex. Scientists who study flexibility think that the small, progressive steps that allow us to go a little deeper during the course of one session—and that dramatically improve our flexibility over a life of yoga practice—are in large part the result of retraining this reflex.

To get an understanding of the stretch reflex, picture yourself walking in a winter landscape. Suddenly you step on a patch of ice, and your feet start to splay apart. Immediately your muscles fire into action, tensing to draw your legs back together and regain control. What just happened in your nerves and muscles?

Every muscle fiber has a network of sensors called muscle spindles. They run perpendicular to the muscle fibers, sensing how far and fast the fibers are elongating. As muscle fibers extend, stress on these muscle spindles increases.

When this stress comes too fast, or goes too far, muscle spindles fire an urgent neurological "SOS," activating a reflex loop that triggers an immediate, protective contraction.

That's what happens when the doctor thumps with a small rubber mallet on the tendon just below your kneecap, stretching your quadriceps abruptly. This rapid stretch stimulates the muscle

spindles in your quadriceps, signaling the spinal cord. An instant later the neurological loop ends with a brief contraction of your quadriceps, producing the well known "knee jerk reaction."

**That's how the stretch reflex protects your muscles. And that's why most experts caution against bouncing while stretching. Bouncing in and out of a stretch causes the rapid stimulation of muscle spindles that triggers reflexive tightening, and can increase your chances of injury.**

## **Flexibility and Your Internal Knitting:**

### **Muscles, tendons, ligaments and muscle fascia**

Connective tissues include a variety of cell groups that specialize in binding our anatomy into a cohesive whole. It is the most abundant tissue in the body, forming an intricate mesh that connects all our body parts and compartmentalizes them into discrete bundles of anatomical structure—bones, muscles, organs, etc.

Almost every yoga asana exercises and improves the cellular quality of this varied and vital tissue, which transmits movement and provides our muscles with lubricants and healing agents. The three types of connective tissue more important for flexibility are: tendons, ligaments, and muscle fascia.

**Tendons** transmit force by connecting bones to muscle. They are relatively stiff. If they weren't, fine motor coordination like playing piano or performing eye surgery would be impossible.

While tendons have enormous tensile strength, they have very little tolerance to stretching. Beyond a 4 percent stretch, tendons can tear or lengthen beyond their ability to recoil, leaving us with lax and less responsive muscle-to-bone connections.

**Ligaments** can safely stretch a bit more than tendons—but not much. Ligaments bind bone to bone inside joint capsules. They play a useful role in limiting flexibility, and it is generally recommended that you avoid stretching them. Stretching ligaments can destabilize joints, compromising their efficiency and increasing your likelihood of injury.

**Muscle fascia** is the third connective tissue that affects flexibility, and by far the most important. Fascia makes up as much as 30 percent of a muscle's total mass, and, according to studies cited in *Science of Flexibility*, it accounts for approximately 41 percent of a muscle's total resistance to movement. Fascia is the stuff that separates individual muscle fibers and bundles them into working units, providing structure and transmitting force.

Many of the benefits derived from stretching—joint lubrication, improved healing, better circulation, and enhanced mobility—are related to the healthy stimulation of fascia. Of all the structural components of your body which limit your flexibility, it is the only one that you can stretch safely. Anatomist David Coulter, author of *Anatomy of Hatha Yoga*, reflects this in his description of the asanas as "a careful tending to your internal knitting."

**For that reason is so important to don't push you to stretch further but allowing you to go deeper into the posture at your own pace. You're getting to know the posture and getting comfortable with it. Perhaps you even feel like a timelessly serene statue as you hold the posture for several minutes.**

**In this kind of practice, you're maintaining the posture long enough to affect the plastic quality of your connective tissues. Prolonged stretches like this can produce healthful, permanent changes in the quality of the fascia that binds your muscles.**

Stretches should be held 90 to 120 seconds to change the "ground substance" of connective tissue. Ground substance is the nonfibrous, gel-like binding agent in which fibrous connective tissues like collagen and elastin are embedded. Ground substance stabilizes and lubricates connective tissue. And it is commonly believed that restrictions in this substance can limit flexibility, especially as we age.

**References:**

- Josh Clark (coolrunning.com)
- Yoga Journal Magazine
- Claudia Gutierrez
- <http://www.yogafitness.ie/blog.html>