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## Warming Up and Stretching: The Neglected Disciplines

If you don't warm up or stretch, you aren't optimizing your performance. Bill Starr explains.

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By Bill Starr

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S.Dy/CrossFit

Getting considerably stronger and staying that way is largely a matter of taking care of the details, such as training consistently, designing a program that fits your individual needs, eating wholesome foods, taking nutritional supplements, getting plenty of rest and so forth.

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***Warming up and stretching are two different things.  
Learn the difference!***

Most serious strength athletes take care of these tasks diligently, yet at the same time they're negligent when it comes to two other disciplines that are most important to success in the weight room: warming up and stretching.

### **Are You Lazy?**

I've watched athletes in a wide range of sports spend 20 minutes or more stretching out their muscles and doing various drills to warm up their bodies before a practice session or game. But when they walked into the weight room, they started lifting without doing anything to prepare themselves for the stress of moving heavy poundages in a wide range of exercises. And when they finished their sessions, they never bothered to stretch out those fatigued muscles. Rather, they picked up their gym bags and left.

Sound familiar? It should, because it happens in nearly every fitness facility in the country on a daily basis.

It's a mistake too many aspiring athletes make simply because they do not understand the importance of the two disciplines in terms of making steady gains and avoiding injuries. A proper warm-up will help anyone have a better session with the weights and greatly reduce the

risk of injury—which might be no more than a slight ding in the hamstrings, but even that curtails progress until it heals. Stretching the muscles and corresponding attachments after a strenuous session helps to improve overall flexibility, lessens muscle soreness and enhances recovery.

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In some cases, the two disciplines are skipped because the athlete has never been taught their value, and because no one else in the gym does any warm-ups or flexibility work, why should he—even though an abundance of evidence shows how beneficial stretching and warming up are to a hard-training athlete. However, it's my opinion that most who ignore doing any warm-up movements or stretching do so because they're lazy. There's nothing difficult about either of them. All it takes is a bit of time, and if someone is serious about his training, he will make the time to do both.

Then there is the confusion about how warm-ups and stretching benefit the athlete. Many are of the opinion that if they do some stretching prior to a workout, they have also warmed it up. Not true. Merely stretching out your hamstrings before squatting is not enough. It may be sufficient preparation if someone is about to walk or go on a slow jog, but not even close when a 400-lb. squat is on the agenda. Because a great many stretching and warming-up movements are closely related, it's often assumed that they do the same things for the body. Another misconception. While both are useful for every athlete, they're two different activities and provide very different benefits.

Warming up is just what the name implies: doing an exercise that helps to elevate your body's core temperature. This needs to be done before anyone proceeds to

more strenuous physical activities. An effective warm-up routine need not be complicated. Just the opposite, in fact: the simpler the better.

Warming up activates the enzymes responsible for the many chemical reactions that occur during physical exercise. The body's energy system depends on those enzymes and, until they're released, the energy system will not function properly. This is why an athlete feels sluggish at the beginning of a workout if he's failed to warm up properly. In addition, a warm-up routine helps the body deliver more oxygen to the muscles. Hemoglobin is responsible for transporting oxygen to the working muscles, and it's able to do the job more effectively when the muscle fibers are warm. The slightly higher temperature creates a positive pressure between the muscles and bloodstream, allowing more oxygen to go where it's needed. An elevated body temperature enhances the entire cardiovascular system by helping the arteries, veins and capillaries deliver nutrients and carry away waste products more expeditiously.

One of the real pluses of warming up that is frequently overlooked is that it also benefits the nervous system. Research has shown that a higher core temperature clears the way for the body to be able to read and receive nerve impulses. This is of particular importance to anyone doing high-skill exercises in his or her program, such as Olympic lifters and those who include power cleans, power snatches, high pulls or any other dynamic exercises in their weekly routines.

### Warming Up Properly

A complete warm-up involves two stages, and the second stage consists of two parts, so some contend that there are three stages. The first stage is basic. Do an activity that elevates the overall body temperature. Nothing complicated here. Calisthenics are good, as is riding a stationary bike or skipping rope. A number of the Olympic lifters at York Barbell preferred skipping rope because it not only elevated their body temperature but also helped them get their foot speed, coordination and timing tuned up for the coming workout.



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***Stretching before a workout or competition can help you achieve the range of motion critical for success. This can be key in sports like Olympic lifting, where flexibility is essential.***

How long should this first phase last? That depends on a number of factors, with the weather being the biggest one. In very warm or hot weather, the body doesn't need much in the way of warming up. In contrast, in severely cold weather the warm-up activity might take 15 minutes or longer before the body is ready for heavy lifting. And some days, it just takes longer than usual to get the body to respond. This may be due to a poor night's rest or because of an extra hard workout at the previous session. The rule of thumb I follow is when I start huffing and puffing from the exertion of the warm-ups, I'm ready to move to the next step.

But before I go into that, I'll lay out a warm-up routine that has served me well throughout the years and requires little in the way of equipment. I start out with 202 sit-ups, quickly followed by 50 back hyperextensions, and then I go to work with a stick. Usually, I found a broomstick in a closet and that was all I needed. I would place it behind my neck, bend over and do 100 twists, then raise it over my head with my arms straight and bend side to side for another 100 reps. By the time I was finished, I was breathing hard and I had not only elevated my body temperature, but I had also made sure that my core groups were ready for whatever was ahead.

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I think it's critical to have the abs and lower back primed and ready for an upcoming workout. Some people have criticized me on using sit-ups instead of crunches because sit-ups involve the legs to some extent. But that's exactly why I prefer them over crunches as a warm-up exercise. I want the legs to be part of the movement because I'm going to be working my legs very soon thereafter.

When I found myself in a situation where I was still not warm enough after this routine, as when it was in the teens in Fielder's Shed in the dead of winter, I would do jumping jacks until I started sweating. Only then did I move to Phase 2 of the warming-up process.



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***Some athletes don't believe in warm-ups, but the smart ones know proper prep improves performance.***

This part should be specific to the first exercise in the program. I'll give a few examples. Back squats come up first, so do 1 set of 20 reps on the adductor, leg-curl and leg-extension machines. If the gym is cold, do 2 sets. These will not tap into the leg strength but will get blood into those large muscles quite nicely. For any upper-body exercise, do a set of overhead presses, and lateral and frontal raises with dumbbells for 20 reps each. Still don't feel ready? Do another circuit.



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### *Can't rack it? Stretch it.*

For power cleans, full cleans, jerks and front squats, do the exercises I just mentioned to warm up your shoulders, then spend time stretching them out so you'll be able to rack the bar across your frontal deltoids without any difficulty. To do this, lock a bar in a power rack or load up a bar on a staircase squat rack with more weight than you can budge, then grip the bar with one hand and elevate your elbow as high as possible. Hold that top-most position for an 8-10 count. Do the other arm, and do as many sets as you need to feel the muscles start to relax. Now grip the bar with both hands and elevate them at the same time. Have someone assist you because that will help you lift your elbows higher than if you did the movement by yourself.

In this same vein of thought, spend a few moments stretching out your hamstrings before you move to the squat rack, and loosen your shoulders by grasping the upright of a power rack and twisting your torso away

from the upright. While you're doing the various forms of warm-ups, use that time to think ahead to the workout you plan to do. Picture yourself doing each set and what you must do to succeed with that final work set. Focus on the form points for the exercises you're about to do and you'll discover that you will be much more confident as you move through the session.

I also believe it's a smart idea to stretch out your hams and shoulders even if you're not going to be doing an exercise that directly involves them first in your program. During my vagabond period when I traveled around the country and stayed with friends in Hawaii, California, Texas, North Carolina and Maryland, I got to train in gyms with a lot of powerlifters. When the weather got colder, a large number of them would come to me complaining of severe pain in one or both of their shoulders. I would always ask, "Are you doing anything to warm them up?"

"Absolutely!" they would declare. "A good warm-up, extra sweatshirt and even some muscle rub." Then they would add, "But the funny thing is I don't feel any pain when I'm benching. It only hurts when I squat."

Eureka! A clue. I explained that their shoulders were very much a part of the squat, especially the way they did them with the bar set low on their backs. The shoulders were being placed under a tremendous amount of stress when they did those low-back squats with heavy weight. They were, of course, skeptical, but when they did as I suggested—spend 5-10 minutes warming up their shoulders with light dumbbells—the pain went away. Doing heavy squats without warm shoulders is much like doing a maximum isometric contraction on cold muscles. That's why it's a good idea to make certain all the major muscle groups are primed and ready for the work ahead.

### Starting Light

The final stage is really no more than an extension of the second one. It consists of using light weights for the first few sets of an exercise. This is no more than common sense and is built into most routines. The lighter poundages allow you to concentrate on your form and set up a tight pattern for when the weights get heavier, and they let the body get better prepared for the harder work just ahead. Yet I am amazed at how many people in gyms ignore this concept and try and start right out with weights that are close to their max. Their rationale? Doing all those light sets taps into their top-end strength. Let me state this, if an athlete is in such sad condition that he can't recover from 3 or 4 warm-up sets, he needs to do something about his endurance.



Staff/CrossFit Journal

*Start light and work up to heavy weight. Jumping right into the big numbers can have disastrous results.*



Staff/CrossFit Journal

***A broomstick or piece of PVC can be your best friend when loosening up for a workout or competition.***

How light should the first few sets be? It depends on the weather and on the individual. I once trained with a man in his mid-40s who had a history of shoulder problems. He would stay with the empty Olympic bar for as many sets as he deemed necessary before adding any weight to the bar. And he was pound for pound one of the strongest benchers I ever came across who never used steroids.

On the flip side, I've watched aspiring Olympic lifters use 132 on the clean and snatch for 8 or 9 sets. They told me it was to make sure they had the form down perfectly before

running the numbers up, but that's a bit much. While it's true that if you can't clean, snatch or jerk a light weight correctly, you're not going to be able to do any of those lifts correctly with heavier poundages unless you start moving up the ladder when you still have enough gas in the tank to handle some bigger weights.

Naturally, some lifters can jump from a very light weight to a very heavy one. Dave Sheppard could go from 135 to 315 in the snatch in a single bound. When we gave exhibitions at York, I watched Bill March press 225, jump to 315 and finish with 350 in quick order. And I saw Bob Bednarski do a warm-up with 225 and proceed to clean and jerk 425 on his next set. They learned how to do this because at an exhibition the audience didn't want to see a lot of warm-ups. They wanted to see the heavy stuff, and Bednarski and March always delivered.

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Of course, they were the exception. As a general rule, starting with a very light weight works best. The tried-and-true axiom in weight training is this: you can start too heavy, but you can never start too light.

I was working with Ken Patera at the 1970 World Championships in Columbus, Ohio, and watched to see how the Russian powerhouse Vasily Alekseyev warmed up for his attempts on platform. He always started with 135, even though it was as if he was playing with a child's set of weights. On his quest to be the first man to clean and jerk 500 lb. he still began with 135.

While you're working your way up on the sets of an exercise, stretch out the muscles that are involved in the movement in between sets. I discovered early on that if I stretched out my hamstrings right after I finished a set of front or back squats, the next set went much easier and I was better able to achieve my goal for that day because my leg biceps were not allowed to tighten up. While I was waiting for my

next turn at the squat station, I would put my foot up on a bench and do a hurdler's stretch for both legs. That little bit of extra stretching paid huge dividends, and I wasn't doing anything else during that rest period—except running my mouth, and that I could do while I stretched. The simple act of stretching a muscle that is being exercised vigorously is beneficial in that it helps to remove lactic acid and makes the muscle more prepared for the next set.

The same idea applies to benching, inclining, snatching, jerking and cleaning, or any exercises in the routine for that matter. Stretch out your triceps after a straight-arm pull-over and the next set will be easier. Some groups absolutely need to be stretched after every set. Such as the calves. Fail to stretch them well after a set and you will pay the price. If not right away, somewhere down the road.

### After the Lifting

After you finish your workout, you need to do yet more stretching. It helps alleviate muscle and attachment soreness and facilitate recovery, which is one of the keys

to making steady progress. With the muscles warm and flushed with blood, stretching right after the session is the ideal time for this discipline. But in real life, this seldom happens, primarily because most people are on a rather tight schedule and have ended up training longer than they had planned to, usually because they got to talking with friends or hitting on the opposite sex. Regardless of the reason, they just grab their gym bags and leave right after their last set.

I confess that I am also guilty of this, but I didn't forsake my stretching. I did it after I got home and showered or later on that night. The latter worked best for me. I would wait until I calmed down from the workout and had a few Millers to help relax, then I would start moving around: squatting, twisting, turning and bending to find what groups were tight. Once I identified them, I would stretch them out as best I could. I would do the stretching while watching TV or while taking a break from my reading or artwork, and in the course of a few hours, I might go through a stretching routine two or three times.



S.Dy/CrossFit

*The post-workout period is the best time to stretch.*





S.Dy/CrossFit

***Take care of your body, and it will take you to new records. Neglect it and your progress will be slowed by soreness and even injury.***

If I got lazy and didn't bother doing any stretching, I always had to spend a much longer time getting my body ready for the next workout. And even then, I wasn't nearly as sharp as I was when I took the time to stretch. Everyone has certain areas of their bodies that tighten more than others. For me, it has always been my hamstrings and calves. If I don't stretch them immediately after working them, they generally cramp during the night.

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I need to point out that even though someone stretches the various muscles in his body religiously, it doesn't mean he's doing it correctly. What every strength athlete needs to know is there are three types of stretching, and there is the stretch reflex. The three types of stretches are: passive, ballistic and static.

A stretch is passive when someone assists you with the stretching movement. For example, your training partner pushes against your back while you're sitting on the floor to stretch your back and hamstrings. Or he pushes up against your elbows while you're locked onto the bar to improve flexibility in your shoulders and elbows.

Ballistic stretching is a rhythmic, bouncing motion and shouldn't be done because it's potentially harmful. Static stretching is the way to go and consists of placing some body part in a stretched position and holding it there for a length of time. Some recommend holding a static stretch for 20 seconds, but I believe longer is much more productive: 45 seconds to a full minute. Static stretching is done gently and never forced.

That brings us to the stretch reflex. It's a built-in safeguard to keep you from doing harm to the muscles by overstretching them. Whenever someone forces a stretch, he activates the stretch reflex. If you experience pain during a stretch, that's the stretch reflex checking in and telling you to back off. Ease off a bit and allow the stretched muscle or muscles to relax, then continue to hold in that more comfortable position for the desired count. Stretching should not be painful. It should be soothing. If any of your stretches hurt, you're doing it wrong and need to change your approach to the discipline.

Those who have a large number of high-skill exercises in their routines need to pay closer attention to stretching regularly than those who only have a few, or none at all. For instance, an Olympic lifter needs to be much more flexible than a powerlifter, and both need to stretch more than a bodybuilder.

### Stretch for Performance

Of course, flexibility is a tremendous asset in every sport, from wrestling to volleyball to tennis to baseball. Here's something else to ponder: artery walls are made up of the same components—smooth muscle cells and connective tissue—as the muscles in your hips, back, legs, shoulders, chest and arms. So when you stretch out those groups, you're also making your arteries, veins and capillaries more pliant. A recent study has shown that adults who went through a systematic stretching routine significantly increased the flexibility of the walls of their carotid artery, the vessel that supplies blood to the brain. In addition, regular stretching helps soothe the nerves, and this is always a good thing.

Yet at the same time, you must stretch correctly and not go nuts over the discipline. Several studies have revealed that excessive stretching can actually loosen a joint too much, and when done improperly stretching can cause muscle damage, both of which will have an adverse affect on your performance level in the weight room.

Obtaining a fuller range of motion will aid you in having a more productive workout, reduce the risk of injury to your muscles and joints, and facilitate recovery. In a nutshell, warming up properly will help you have a better workout, and being more flexible allows you to do more lifts correctly and is important in the recuperation process. Both are free. All you have to do is supply time and energy.

I call that a good deal.



Jody Forster

### About the Author

*Bill Starr coached at the 1968 Olympics in Mexico City, the 1970 World Olympic Weightlifting World Championship in Columbus, Ohio, and the 1975 World Powerlifting Championships in Birmingham, England. He was selected as head coach of the 1969 team that competed in the Tournament of Americas in Mayaguez, Puerto Rico, where the United States won the team title, making him the first active lifter to be head coach of an international Olympic weightlifting team. Starr is the author of the books **The Strongest Shall Survive: Strength Training for Football** and **Defying Gravity**, which can be found at [The Aasgaard Company Bookstore](#).*