Running Form for Distance Runners

Running form is a touchy subject. Just look around at your next race. You will see long strides; short strides, choppy strides, smooth strides, high knees, low knees, heel landings, toe landings – well, you get the picture. There are an almost unlimited number of running styles.

Even among the elite, world-class runners, you will see many different running styles. Some with a shuffling, low to the ground style while others run powerfully, with a high knee lift. Michael Johnson, the great American sprinter, runs with a very upright style that many criticized as inefficient, today, however, his upright style in one of the most copied running forms.

Many runners, from beginners to world class, pay no attention to form. They believe that it doesn't matter how they get there, as long as they get there fast. The top runners that ignore form can get away with it for a while, relying upon natural gifts and abilities. These runners are cheating themselves. They simply cannot run their best without running as efficiently as possible. This means running with the best, most economical form possible.

It becomes especially important as runners age. As we age our maximum heart rate and VO2 max decreases. In order to maintain performance levels, we must improve our running economy. This means improving our form.

While there are many, many different running styles that work well, there are a number of specific running movements that are involved in all efficient and economical running forms. These specific movements are what will be discussed here.

POSTURE

The most efficient running posture is one that is mostly upright and relaxed, with a very slight forward lean. You should not lean excessively forward or backward. Your chest should be pushed out and your shoulders pulled back, but stay relaxed. Avoid all tension in your upper body.

Leaning too far forward will cause a braking action with each step. You will also put unnecessary stress on your knees and hips. Leaning backward will cause you to land on your heels which also will stress your knees, hips and back. A slight forward lean will help keep your momentum moving forward.

A visualization that may help is to imagine a line nearly perpendicular to the ground, passing through the top of your head, your ear and straight down through your hips. Imagine that line pulling you forward.

Keep your hips pressed forward and your butt tucked in. Visualize standing face first against a wall. Press your hips forward so the front of your hips touches the wall. Running with your hips pressed forward will keep all of your motion going forward instead of up and down. It will also allow you to drive your knees efficiently forward.

POSTURE FLAWS

Leaning Excessively Forward

When you lean too far forward you are fighting gravity with every step. This will slow you down and place excessive stress on your knees and hips. Leaning forward at the waist will also cause a shortening of your stride. Leaning forward at the waist will cause your hips to be pushed back. Remember that you want your hips pressed forward to maximize stride length and to keep all of your motion directed forward.

Sitting in the Bucket

This is a common form flaw, especially among beginning runners. The hips and butt being pushed back into a slight sitting position cause this flaw. "Sitting in the Bucket" causes your feet

to be in front of your body with a very weak push off. It causes your stride to be shortened and a bouncy, up and down motion, which wastes energy and decreases performance. Make sure you keep your hips pushed forward and your butt tucked in.

Tense Upper Body

Tense muscles in your upper body means you are diverting valuable energy to muscles that do not need it. Keep your body relaxed and erect. Your jaw and face should be relaxed and bouncy. Your shoulders and arms should be loose and floppy. Do not clench your fists. Keep your hands open and loose.

STRIDE MECHANICS

The two components of running speed are stride length and stride rate. Stride length must be maximized in order to run your best. But, you must accomplish this without over striding. You must find the stride length that works best for you. Many top runners actually run best with a shorter, quicker stride. But the important thing to remember is that they are running with the maximum stride length that works for them.

So how do you find your ideal stride length? You will simply fall into your best stride if you follow some stride key points.

There are three components to a running stride – Push off, flight and recovery.

Push off

The push off is the portion of the stride when you drive off of your rear foot. Most of the force generated from the push off comes from ankle joint extension. Your ankle joint is extending when you are pushing the front of your foot down.

Push off strongly with your rear foot and drive your lead knee powerfully forward. Push your hips forward, not your head and shoulders. This will keep all of the force you are generating, moving forward. If you push your head and shoulders forward, you will develop a forward lean at your waist. Your spine should have a very slight backward lean at the lumbar spine (lower back) so that your hips stay under your shoulders.

Your push off leg should not be totally straight at the end of the push off. Keep the push off leg slightly bent. This will help keep your body low to the ground and will maintain a forward direction to the force you are producing. A straight push off leg will result in a more up and down motion, which wastes energy and slows you down.

During the push off, the knee of your forward or swing leg should be driven powerfully forward. Do not try to lift the knee high. Concentrate on driving the knee forward. Your knee will be naturally driven higher as your speed increases. Let this happen naturally. Do not try to artificially drive your knee higher.

It is this combination of a powerful push off and a strong forward knee drive that will increase your stride length.

Your lower (calf) portion of your swing leg should fold up under your thigh. Think of your leg as a series of “levers”. With your lower leg flexed or folded under your thigh, your leg becomes a shorter lever and will move much more efficiently. Imagine if your leg did not bend at the knee, and you tried to run. It would become difficult to move the long lever of a straight leg with any efficiency.

Flight

During the flight phase, your body is totally in the air, with no support. At this point the lower leg and foot of your swing leg should begin to straighten and pull or “paw” back slightly so that at touch down your foot is directly under your center of gravity. Allow your forward momentum to "center" your body over your forward foot. If you attempt to reach out too far with that

forward foot, you will land heavily on your heel, initiating a "braking effect, which is overstriding.

It is at this point that both over striding and under striding can occur. As mentioned above, if you reach out too far in front of your body with the forward foot or do not allow the forward momentum of your body to "center" your body over your forward foot, your foot will touch down in front of your body. This is over striding. When you over stride, you are putting on the brakes with each step.

You can also under stride at this point. If you drop your forward foot too quickly you will have a short, choppy stride and will not generate much speed. Just allow all of your forward momentum to reamain in motion. Dropping your foot early will interupt this momentum you have built up.

Do not try to force your foot down nor try to extend it forward. Just run with a powerful push off, a strong forward knee drive and concentrate allowing your forward momentum to do its work and let your forward leg land naturally underneath your center of gravity. The full motion of the swing leg should be a strong forward knee drive; the lower leg folds under the thigh, the lower leg straightens, your bodies forward momentum centers itself over the forward foot and the leg prepares for the support and push off stage.

Support

The support phase begins when the foot touches down and the leg is flexed. At this point the muscles are preparing for the push off of the other leg. The touch down should be either flat footed or on the ball of the foot first, with the heel touching down immediately after. If the heel is striking first, some over striding is present. The foot will flex slightly. This action will slightly stretch the powerful Achilles tendon just above the heel. This action “loads” the Achilles and the calf muscles in preparation for another powerful push off.

Run Sneaky

Your stride should be light, quick and quiet. Try to run like you are sneaking up on someone. Your feet should be making little noise. A quiet stride means you are running efficiently and powerfully.

ARMS

Arm action is basically for balance and coordination. Keep your arms loose and floppy. Do not waste energy by clenching your fists or tightening muscles in your arms and shoulders. Let you shoulder swing freely.

Most top runners keep there arms bent approximately 90 degrees at the elbows. During the arm swing, most of the movement is behind the body. Try not to let your hands travel above the level of your chest. Don’t cross your arms in front of your body.

When distance running, keep arm action to a minimum. Only during sprinting does a powerful arm action come into play.