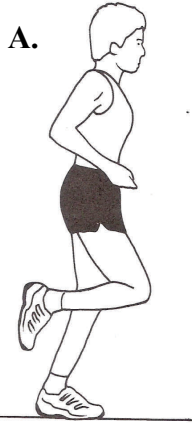


Performance Running

Are we all born with the ability to run correctly? Yes, most are when we are young. As we age and become less physically active we “forget” how to run. By age 20 or later we need to re-learn running form. Some of us will tinker with our running form, most think of it as an aerobic exercise that we naturally know how to do correctly. Wrong!! This is how most injuries occur causing people to use the phrase, “I used to run but, then my joints started to hurt.” Do you want to continue running and be physically active or end up in the “used to run” category?



Basics

- When running think about body posture, you should be able to draw a straight line from your ear, shoulder, and hip, with your head up and back straight, no slouching (Picture A).
- Keep pelvis tucked under. If your rear is poked out you will be slowed down and increase risk of lower back and neck pain from joint jamming.
- Hands, knees, and feet should be moving straight back and forth, not crossing the midline of the body, (example: knees knock or rub against each other).
- Relax your face and hands, feel at ease.

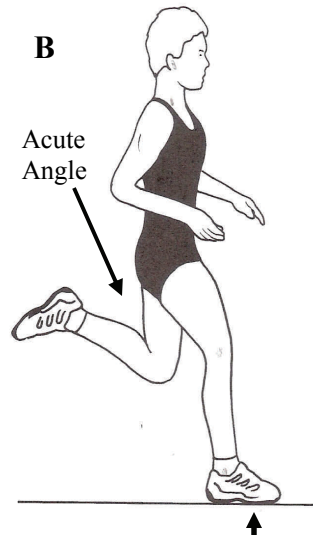
Do I Need Custom Arch Supports?



We can treat running injuries by correcting jammed joints and decreasing inflammation. Ask Dr. Gottlieb or Dr. Hamlin how treatment and possibly orthotics can help to maintain good foot joint position while retraining the foot, knee, hip, and back joints to function well together.

Step/Stride Rate: When running you should occasionally count your cadence (steps for given amount of time). This is done by counting how many times just the RIGHT foot hits the ground in 15 seconds. Your RIGHT foot should hit the ground 22-23 times per 15 sec.

Foot Movement and Stride Rate



Foot Landing: What makes one runner faster than others? **Answer:** amount of time the foot is in contact with the ground. Fast runners move their feet faster, this means less time in contact with ground. As time contacting the ground decreases, power (speed) increases = FASTER!! 90% Elite runners run on their forefoot and midfoot (Picture B), not their heel (Picture D). Landing on your heel means the foot is in front of the body's center of gravity, comparable to “hitting the brakes.”

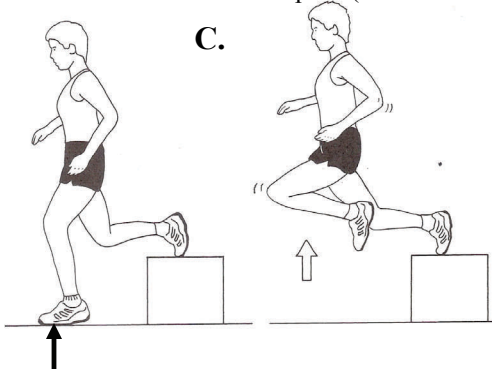
“Pose” Method: When running correctly you will feel as if your feet are just moving up and down, as if marching. This is accomplished by lifting the foot in the air towards the butt forming a small acute angle at the knee (picture B). Next, the knee starts moving forward and opening, now just put your foot down on the mid or fore front of your foot, NOT YOUR HEEL. This will help produce higher (22-23) step/stride rate and decrease FORCE on your joints. Vigorously swinging your feet back and forth is bad mechanics and WEARS on joints.

Heel Striking during running:

Heel strikers have an increased risk of joint damage because increased forces jam joints together and slows down momentum. Talk to Dr. Gottlieb or Dr. Hamlin about treatment of the foot to stop progressive injuries such as: Arthritis, Plantar Fascitis, Tarsal Tunnel syndrome, Morton's Neuroma, Knee, Hip and Spine joint jamming biomechanical problems.

Running Drills

- **Develop your running stride:** Practice Right foot hitting the ground 22-23 times in 15 seconds while running.
- **Hopping:** One foot (right) on box 15 inches high behind you while you assume correct running posture (left foot under you). Lift left foot towards butt and immediately back to original position on ground, landing on mid/fore foot. Try not to bounce. Repeat other side. Do 3 sets of 10 reps (Picture C)
- **Jump Rope:** Helps teach mid/fore foot striking.
- **Skipping:** On a soft surface, skip for 10 – 20 seconds, landing on your mid/fore foot. Repeat 3 – 8 times.
- **Mid/Fore Foot Landing:** Find grass, dirt or another soft surface that is level or slight down slope free of sharp objects, to run on barefoot at a faster pace (faster than 5k pace) for 1 ½ minutes. Practice mid/fore foot landing. Repeating 5 – 8 times.



Foot Pain Can Worsen Fast

- The foot needs to be treated for any stiffness **BEFORE** any PAIN symptoms to maintain status as a current runner and not fall into the, used to run category.
- In an 8 mile race, if a 150 pound runner's center of gravity rises and falls **2 inches** with every step, it is the same as lifting **84 TONS** 1 foot off the ground. Your car only weighs about 1.5 tons!!

