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Walking

Is walking really a workout?

You may be surprised to learn that brisk walking can be almost as challenging as jogging. Here's why. When you walk at speeds faster than 3.1 mph, your stride length naturally increases (you don't necessarily want it to for efficiency but inevitably it happens). Lengthening your stride is inefficient because it requires additional energy to move your legs forward, which in turn requires more arm and torso movement, which leads to increased torso and hip rotation, which amounts to higher aerobic demands and more calorie-burning. This has been confirmed in the laboratory. The research shows that at maximal levels of exertion, oxygen consumption (the bottom line to cardiorespiratory fitness) is only slightly lower for racewalkers than it is for runners, and at submaximal or moderate-intense levels of exercise, oxygen consumption levels between race walkers and runners are almost equal. Racewalkers can reach speeds as high as 9 mph!

What are the biomechanics and types of foot strike?

Foot strike is the term used to describe the moment that your foot hits the ground when you're walking. The normal biomechanics of foot strike are that your heel lands first (heel strike), followed by midfoot strike and flattening of the arch to absorb impact (very important), then the forefoot strike (front of your foot), and finally the push-off to the next stride. Soft heel strikes with a smooth gait pattern and some flattening of the arch will reduce the impact on the foot and cause less stress in joints as high up as the hip (the ankle bone is indeed connected to the hip bone!). There are three types of foot strike:

1. **Pronated foot strike.** Pronation is the term to describe when your arch flattens on foot strike (for example, when you have flat feet) and causes your foot to invert, or roll in. Excessive pronation will cause your ankle and leg to twist and can lead to stress [fractures](#), [shin splints](#), and other lower-extremity injuries. You're probably a pronator if the inner edges of your shoes wear out.
2. **Supinated foot strike.** Supination is the term to describe high arches that don't flatten. This is a problem because if your arch doesn't flatten and your foot doesn't roll in at all, then you lose shock absorption on foot strike. Excessive supination can lead to [ankle sprains](#), Achilles [tendinitis](#), [plantar fasciitis](#), and iliotibial band syndrome. You're probably a supinator if the outer edges of your shoes wear out.

3. **Neutral foot strike.** An efficient amount of flattening of the arch is called "neutral" foot strike. This provides plenty of shock absorption and enough energy for you to have a powerful push-off.