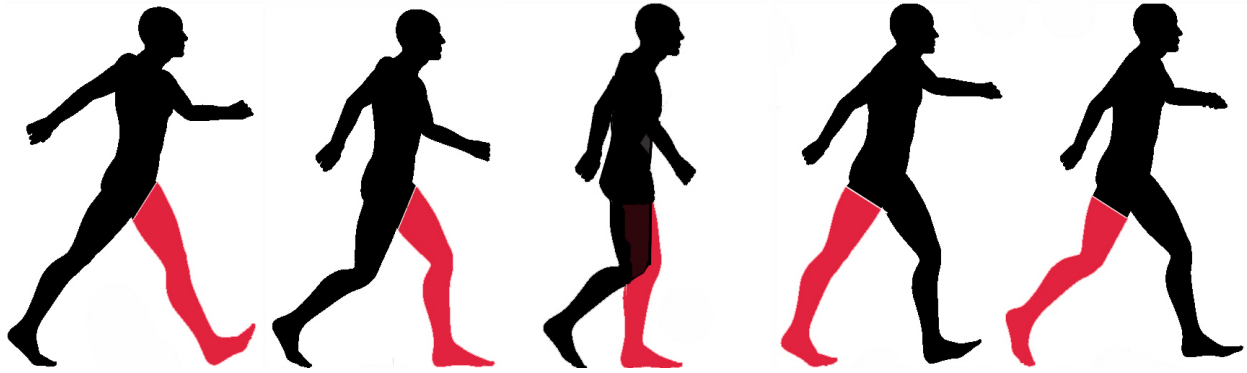


## The Way You Walk - Pronation and Supination



Pronation has been discussed as a potential risk factor for foot injuries yet it often goes unrecognized and untreated. Pronation is a medical term used to describe the up or down orientation of the foot. It can also be applied to the orientation and movement of the arm or hand. For example when the palm or forearm faces down, it's pronated as opposed to when the palm or forearm faces up in an action known as supination.

Pronation and supination in the foot are talked a lot about in Podiatric Medicine because they are terms used to describe the mechanics of how you stand, walk, and run. Ideally your feet shouldn't overly lean in (pronation) or out (supination). Excess pronation causes your foot to roll toward the inside and your arch tends to flatten out. Over pronation can cause pain and problems in your lower extremities ( arch, heel, ankle, shin, hip) and into your lower back. Over supination, also referred to as under pronation, can cause excess strain on your ankles. It may lead to shin splints, calluses, or bunions on the outer side of your foot, and pain in your heels and balls of your feet.

Structural abnormalities and inherited foot types can cause orientational movement problems but they often result or worsen

due to injury, overuse or underlying medical conditions. Problems can also arise when the timing, velocity or amounts of pronation or supination are off, creating an unstable foot, straining the supporting muscles, tendons, and ligaments.

Over-pronation is a very common foot problem experienced during pregnancy and obesity. The arch of the foot flattens out on weight bearing and the feet roll inward when walking creating stress or inflammation on the plantar fascia, the fibrous band of tissue that runs from the heel to the forefoot, making walking very painful and increasing strain on the calves and/or back. Podiatric treatment modalities can help control or modify causative factors to compensate for problems caused by foot imbalance to restore optimum ligament and functioning position.

Pronation and supination are normal and necessary to the gait cycle, the steps and strides taken to stabilize the foot to perform dynamic tasks. Allowing us to adjust and adapt to our environmental surfaces. Too little or too much of either can be a disadvantage in our daily activities, in sports and achieving our fitness goals. As soon as your foot hits the floor or makes contact with the ground, it accepts the weight of our bodies and there are many reasons why gait patterns vary. Like our fingerprints each gait pattern is unique to each individual.