



Pronation and Supination

What is Pronation?

In simple terms, pronation is the flattening out of the arch when the foot strikes the ground. Normally, the foot will pronate to absorb shock when the heel hits the ground, and to assist in balance during mid-stance. The ankle will 'tip' towards the inside.

Excessive pronation can be problematic because the shifting causes increased stress on the inside/ medial aspect of the foot. It pulls on the stabilizing muscles in the lower leg (posterior tibialis) and often causes the knee to shift to the inside. The excessive stress on the inner aspect of the knee can cause knee pain, or runner's knee.

The body can *overcompensate* for this pronation and shift the ankle towards the outside causing the ankle to roll over.

What is Supination?

Supination is the opposite motion of pronation. A foot is in supination when the ankle appears to be 'tipped' to the outside so you are standing on the outside border of the foot. Supination allows the foot to be a more stable, rigid structure for when we push off on our next step. The foot naturally supinates during the toe-off stage (when the heel first lift off the ground until the end of the step) to provide more leverage and to help 'roll' off the toes.

Excessive supination predisposes the ankle to injury because the stabilizing muscles on the outside of the lower leg (peroneals) are in a stretched position. It does not take much force to cause the ankle to roll over, potentially causing ligament damage.

Note: Every body pronates and supinates

It is the body's way to absorb shock and allow the foot to work as a lever. Excessive motion in either direction can be very problematic if not controlled.

Kyle Roberts, Certified Pedorthist * 262-968-3643 * www.footworksorthotics.com