



ERGONOMICS

MARCH

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Topic of the month: **The Foot and Ankle; Minimize Strain**

The foot has 26 bones. The ankle bone and the ends of the two lower leg bones form our ankle joint, which is supported by three groups of ligaments. Muscles and tendons move the foot and ankle.

Consider this:

- Walking puts up to a minimum of 1.5 times and running can put up to 7 times your bodyweight on your foot. A weight gain of just 30 lbs impacts the foot when walking as if there was a weight gain of 45 lbs., jogging impact can be in excess of 210 lbs.
- Your feet cover about 1,000 miles in travel distance every year.
- Your feet cushion up to one million pounds of pressure during one hour of strenuous exercise

What are some of the most prevalent foot and ankle injuries?

Sprained Ankle

Sprained ankles are one of the most common injuries. The foot is likely to turn inward from a fall or jump and this stretches or tears ligaments; the result is an ankle sprain.

Achilles tendon

The strongest and largest tendon, the Achilles tendon connects muscles in the lower leg with the heel bone. Sports such as basketball, running and high-jumping can overstress this tendon and cause a strain

Overuse injury

Excessive training, such as running long distances without rest, places repeated stress on the foot and ankle causing stress fractures and muscle strains.

Shin splint

Pain in front of the shin bone usually is caused by a stress fracture, called shin splints. Overtraining or poor fitting shoes can put you at risk for this injury.

Bottom of the Foot

- To begin this stretch: Sit down and cross one leg over the other.
- To stretch: Place one hand on top of the foot near the toes and pull to hold. Then place the hand on the bottom of the foot near the toes and pull and hold again
- Repeat 3-4 times to stretch the bottom of the foot.



Ergonomic Principles

Work in neutral postures
 Reduce unnecessary force
 Keep things in easy reach
 Work at proper heights
 Reduce repetitive motions
Minimize Strain and Fatigue
 Minimize pressure points
 Provide clearance
 Move, exercise, and stretch
 Know your environment

How do YOU reduce the risk of foot and ankle injury?

- *Warm up before any activity*
- *Try a weight training program to build muscle strength*
- *Do stretching exercises everyday.*
- *Listen to your body; if you experience pain or discomfort investigate the cause and work to correct poor body motions.*
- *Shoes; replace as soon as the tread or heel wears out and invest in quality footwear.*
- *Quality insoles can reduce impact injuries to the foot and ankle.*