Central States Orthopedic Specialists

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INJURY PREVENTION FOR THE TRACK ATHLETE

Foot Structure

Individual foot structure is just that, individual. Consequently, discussing foot structure and shoe selection with a Certified Athletic Trainer, Orthopedist, or Podiatrist is ideal towards obtaining a proper analysis of your feet, and getting you on your way towards successful and pain free exercise. However, here are a few general guidelines for evaluating your own individual foot structure.

First of all, look at your foot print. This can be easily done by taking few steps on a solid surface after getting your feet wet. Most individuals will usually see one of the following:

High Arch and/or Supinator:

This foot type is easily detectable by the narrowed presence of the arch area of the footprint. This foot print is common in individuals who either have an excessively high arch, a foot that rolls towards the outside (i.e. supinator), or possibly both.

Low Arch and/or Pronator:

This foot type is easily detectable by the widened presence of the arch area of the footprint. This foot print is common in individuals who either have an excessively low arch, a foot that rolls towards the inside (i.e. pronator), or possibly both.

Neutral Arch:

If the arch area of your footprint is neither widened nor narrowed, you most likely have a neutrally positioned arch.

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Selecting the Right Shoe

For athletes with the demands of such high mileage, the first item that should be examined is the shoe. A proper fitting shoe is your first line of defense for reducing the overall pounding force on the entire lower extremity and spine. Likewise, shoes are specifically designed to be supportive for specific individual variances in foot structure. Match the right shoe with the right foot, and you should have many fully supported miles ahead of you. Match the wrong shoe with the wrong foot, you will not only have many miles of frustration, but possibly a few injuries along the way.

General Shoe Recommendations:

*__Shoe Life Span:__ Shoes last approx. 350 miles. This range can be greater for those who are on softer surfaces (i.e. grass, turf, carpet, etc...) or shorter for those who compete on harder surfaces (i.e. track, concrete, trail, etc...).

*__Gender Specific:__ A men's shoe will usually have a much larger toe box than a women's shoe.

*__Time of Day:__ Throughout the day, most everyone's feet swell. Purchasing your shoes at the end of the day will ensure for the best fit.

*__Appropriate Socks:__ When purchasing shoes, wear the socks you plan on using with them to ensure for an optimum fit.

*__Toe Space:__ Athletes who regularly purchase shoes that limit toe movement are at a greater risk for ingrown toenails, blisters, and overall running discomfort. Be certain your toes can move freely in a pair of new shoes before purchasing them.

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Selecting the Right Shoe continued...

***Shoe Anatomy and Design:**

Generally speaking, a shoe consists of two major portions, the upper and the last. Now while a shoe can be divided into a variety of components, looking at the upper and the last can give you a good overall guide to determining what shoe is best for you.

Last to Upper Attachment Method:

Slip Lasted: The upper and the last are connected by a sewn seem that runs the entire perimeter of the shoe. This design is very flexible and giving for a person who has a higher arch and/or a supination of the foot.

Board Lasted: The upper and the last are connected by a ridged cardboard with glue. This design is very stiff for a person who has a lower arch and/or a pronation of the foot.

Last Curvature:

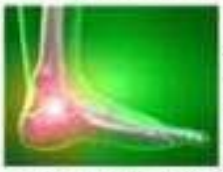
Curved: Best give for a higher arch and/or a supinator
Semi-Curved: Best for a neutral arch
Straight: Best rigidity for a lower arch and/or a pronator.

Medial Side Arch Support

Continuous:
Moderate arch support
Best for higher arches and/or supinators

Non-Continuous:
Contains a medial post
Which provides the best support for the lower arches and/or pronators.

Determining Foot Structure continued...



However, to determine whether or not a foot print, and therefore a foot type, is a result of any rotation of the foot or just the presence of a higher or lower arch, you can also examine the Achilles tendon located on the backside of the lower leg. When the foot is rolling one way or the other, the Achilles tendon will always reflect this position.

Furthermore, you can also determine the presence or absence of foot that rolls outward (i.e. supinator) or a foot that rolls inward (i.e. pronator) by looking at an older pair of shoes.

Typically speaking, the supinator whose foot continually rolls outward will wear off the outside of the sole of the shoe first. Thus, when viewing the shoes from behind, they will tilt slightly outward.

Likewise, the typical pronator whose foot continually rolls inward will predominantly wear off the inside of the sole of the shoe first. Thus, when examining these shoes from behind, they will tilt slightly inward.

Pictures Obtained from:

Malloy and Teyhen, *Multiple Factors Affect Running Shoe Selection*, Lower Extremity Review, Apr. 2010.

A Note to the Reader.....

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