

Football boots & orthoses, reducing injury and increasing performance.

The increased popularity of football has, not surprisingly, been accompanied by an increase in foot related injuries. For coaches, trainers, players, parents of young players and health care practitioners, it is helpful to understand what roles football boot construction and it will play in both causing and preventing injury, as well as how custom orthoses can be incorporated into an overall injury treatment or prevention program.

To accommodate the studs or blades the football boot is constructed with a flat footbed. This creates a lack of support for the mid foot along the longitudinal arch, allowing for excessive pronation (inward rotation and collapse of the arch) or supination (outward rotation and rising of the arch) and little or no cushioning to absorb shocks at heel strike. Excessive pronation or supination especially for players with these biomechanical problems outside of the football boot, and repetitive shock, can lead to injuries such as heel pain, plantar fasciitis, shin splints and patella femoral (knee) pain.

In addition to this football boots are 'low profile' meaning they have a lack of height at the heel counter and thus provide little support for the ankle and rearfoot. This results in an even greater likelihood of injury, primarily sprained or twisted ankles due to the twists and turns inherent in the sport.

High quality football boots are generally made from soft hides and less expensive versions made from synthetic materials. As leathers stretch and give substantially with wear the practice of purchasing shoes too small to ensure better fit in the long term is common place, this can increase the risk of injury from the very beginning, however players who extend this practice of buying 'too small' to synthetic football boots which do not stretch will experience footwear that is remain too tight. In addition to the stretching issue many players simply prefer tight fitting shoes, as they believe that this will give better response and help hold the boot on the foot during play.

A shoe worn too tight changes the functionally and biomechanics of the foot. The result can be devastating, hindering ball control during play and / or causing injury. Common problems from undersized footwear include sesamoiditis, metatarsalgia, black toe, Hallux rigidus, metatarsal stress fractures and bunions. Haglund's deformity and Achilles tendonitis can also result from the top line of the tight shoe cutting into the rear of the foot.

Conversely buying shoes too big can also cause problems. This has unfortunately become common practice by parents of young players who are trying to accommodate their children's rapidly growing feet and avoid having to buy costly replacements by extending the wear life of the shoe.

Buying larger shoes and filling the space with extra socks allows the foot to slop around inside the shoe, this leads to potential foot and ankle injuries and also results in blisters from shearing inside the shoe and loss of ball control and possible tripping.

Shoe fit affects the placement of the studs, which is very important for foot health. A well fit shoe will have studs behind and in front of the metatarsophalangeal (MTP) joint (the big toe joint). A shoe worn too big or too small will result in a stud being directly under the first MTP joint, affecting the joint as well as the sesamoids (the two small bones under the joint which protect it) the constant shocks and stress experienced during training or a game can result in serious injuries to this region.

The use of custom made orthoses in football boots can increase the comfort levels and the performance of the boot, reducing the likelihood of injury to the player, increasing ball control and reducing fatigue. It is not necessary for the orthoses to be corrective unless there is underlying pathologies in the foot, a semi rigid support will offer the best compromise as fully rigid supports are often not tolerated well by players.

Another area of fit that should be considered is the way the boots are laced, wrapping lacing under the foot to reduce heel slippage should not be required if the boot fits well in the first place, and the use of a tongue depressor pad will prove much more effective in reducing motion around the heel.

In conclusion football boots should be bought to fit the foot, the flex point should be matched to the foot and a shoe with a similar volume to the foot be selected. The use of fitting aids and semi rigid sports orthoses will increase performance and reduce the risk of injury.