

# FOOTCARE FOR THE FOOTBALLER

In today's society image is everything, a fact not lost on the manufacturers of sporting footwear. It is thus unsurprising that many footballers may spend hours in sports shops selecting their football boots and training shoes upon the basis of appearance. Mike Healy, Chartered Physiotherapist, discusses the practical grounds of comfort, fit and function.

The more fortunate of footballers may be contracted to wear a certain manufacturer's boots. However, these boots may not be the best choice for their feet. To make them wearable they may need to have orthotics (foot supports) inserted into their boots to correct any perceived 'biomechanical imbalances'. Despite insuring their feet for huge sums of money, many footballers pay very little attention to their feet, often hiding them away until they begin to hurt. Yet, a few minutes' care now may mean avoiding days, weeks, or even months lost through injury later on. In a full career a footballer can cover over 300,000km on the training ground and football pitch. Through the appropriate selection of footwear and by having high personal standards of foot hygiene, the player can prevent injury and maximise his/her playing time.

## THE ANATOMY OF THE FOOT

The human foot is a complicated structure comprised of twenty-six bones, a wealth of ligaments covering an expanse of joints, four intrinsic 'layers' of muscles, and twelve major muscles which originate in the lower leg and whose tendons descend into the foot. In order for the footballer to achieve his/her best, all these components must work together with synchronised precision to perform several important functions. The foot must act as a

shock absorber, a rigid lever for propulsion, and withstand the effect of a physically demanding and punishing daily workload. If it is to accommodate these operations, and remain free from complaint, the foot must be respected.

## FOOT HYGIENE AND SKIN CARE

The skin on the sole of the foot is highly specialised and adapted to perform a number of important functions. To protect the foot against the stresses of standing, walking, running, twisting, turning, and landing from a height, the skin is much thicker on the sole of the foot than on any other part of the body. This thicker skin provides resilience against friction and localised trauma, and is relatively impermeable to water. The foot also has to receive many incoming sensory signals that help us to move and balance over a wide variety of surfaces, hard and soft, wet and dry. It is beneath the superficial outer layer of skin (the epidermis) and within the deeper layer (the dermis), that the vital blood and nerve

supplies, hair follicles and sweat glands are found. It should be apparent that in order to perform the player must take great care of the skin overlying the deeper structures of his feet.

Within a man's foot are some 250,000 sweat glands producing around about 50 millilitres of sweat a day. Foot odour occurs when this perspiration from the feet intermingles with the bacteria within the football boots/training shoes. The resulting mix, if not challenged, can lead to skin and nail complaints. It is recommended that the following procedures are adopted by all players:

- The use of nylon football socks should be discouraged, alternatively cotton socks should be worn underneath football socks to absorb sweat, reduce friction and improve the fit and comfort of the footwear.
- Clean socks should be used daily for every training session/match.
- Non-slip shower 'sandals' should be worn in 'wet areas'.
- The feet should be washed daily with soap



(washing should be performed carefully and quickly, no soaking) and rinsed thoroughly thereafter.

- The skin should be dried gently and thoroughly (particularly the web spaces between the toes).
- Foot powder may be applied.
- Delaying for a few minutes before putting shoes back on can be beneficial.
- Try to avoid wearing the same footwear every day (it can take over 24 hours for the shoes to dry out).
- The sharing of towels with other players should be discouraged.

## COMMON FOOT COMPLAINTS - PREVENTION AND TREATMENT

### Blisters

Blisters may occur at any site of friction between the skin and an external source. Typically it is ill-fitting shoes, inappropriate footwear for the task being performed, or poorly applied plasters/strapping/bandage that are the main offenders. Blisters develop when superficial layers of skin separate and fill with serious fluid (sometimes blood); these may burst, leaving a painful, raw exposed area and create a risk of infection.

To help prevent/reduce the incidence of blister formation the following strategies may help:

- Socks should be inspected for rough, worn, damaged areas.
- Footwear of the correct 'last', width and length fitting must be worn.
- Check the inner sole is intact and lift it up to check that the stud fixation within the sole is not sharp.
- Studs should be of even height (level on a flat surface).
- Laces must be tied with the appropriate amount of tension (the foot must not slide around inside the boot and impair stopping, starting and stability).
- New footwear must be introduced progressively (starting at 20 minutes).
- Boots should be worn in training before trying them out in a game.
- Protective tape, skin-care pads ('Second

Skin'), or Vaseline (smear over the sock) may be applied to potential sites of friction prior to training/playing.

- The most appropriate boot for the prevailing surfaces/conditions must be worn.

All players should be encouraged to report areas of redness that appear post-training. Should a blister be sustained its management is very much governed by whether or not the skin is 'broken'. If the skin is unbroken the area may be cleansed with an antiseptic solution. For training and match situations, a zinc oxide tape, a skin-care pad, or the application of a cotton-backed tape, followed by a foam pad with a hole cut to the size of the blister, may be applied. Fluid-filled blisters may be punctured and drained via hypodermic needle and syringe, prior to the application of a protective dressing. If the skin is broken the risk of infection will be heightened. The wound will need to be managed with the use of antiseptics and sterile dressings and monitored carefully. In all instances players are advised to consult a qualified Medical Practitioner. Players should be advised that no clinical proof exists as to the effectiveness of soaking the feet in 'skin hardening' substances, eg potassium permanganate.

### Calluses and Corns

Calluses are formed as a result of excessive friction and pressure creating areas of hard skin. Ill-fitting footwear, structural abnormalities within the foot, or biomechanical abnormalities,

may predispose a player to this skin thickening. Typically, a callus has a thick, yellowish, oval appearance and is found underneath the forefoot and on the tips and tops of the toes, usually causing only mild discomfort.

Treatment involves identification and modification of the cause of the excessive friction and pressure. Hard skin may be treated by the use of moisturisers such as lanolin, or medicated discs and plasters, which can be purchased from a chemist. Trimming, or paring, of the skin by a Chiropodist may be necessary. Should there be a biomechanical problem the player should seek the assistance of a Physiotherapist, or a Podiatrist who may need to construct an orthosis to alleviate the problem.

Corns, the most common problem affecting the feet, are formed in similar ways to calluses, and have a very similar appearance. The essential difference is that a corn has a well-defined, rounded appearance with a central core of hard skin, which often causes significant discomfort and is more tender to touch when pinched.

Once again, it is important to recognise, and address, what has led to the problem. Ointments, solutions, medicated plasters and pads can be used to help 'dissolve' the corn. Alternatively, protective foam, felt or gel pads with a hole cut in them similar to the size of the corn can be used. In severe instances, surgical removal may be performed by a qualified Chiropodist/Podiatrist.

### Verruca (Plantar Warts)

A verruca is a wart usually found on the sole of foot. Verruca are caused by the papovavirus, are highly contagious, and are contracted by foot contact with the floors in 'wet areas' such as communal showers or swimming pools. They have a slightly raised, brown or white cauliflower-shaped head that may have small black dots in the centre, can occur singly or in groups, and may be painful on weight-bearing.

Verruca are self-limiting, in other words they will eventually disappear when the body's own immune system addresses the problem (usually 4-5 months). However, if they are painful they



can be tackled by medications from the chemist, or be removed by a Chiropodist through laser therapy, cryosurgery (freezing) or electrosurgery. To avoid contaminating any fellow players, verruca should always be covered up. To avoid contracting a Verruca, players are advised not to walk around shower areas in bare feet, but to wear non-slip shower 'sandals'. The sharing of bath towels is also to be avoided.

### Athlete's Foot

Have the feet of an athlete, not athlete's foot. The condition 'Athlete's foot'/'Hong Kong Foot' (Tinea Pedis) is a fungal infection of the outer layer of the skin. The infection thrives in a warm, damp environment such as is found in training shoes or football boots. Harmless, it is usually only a minor irritation to the skin on the bottom and sides of the foot and between the toes. But it can become itchy and uncomfortable and cause large areas of the skin to become white, soggy, blistered, cracked and to peel. If untreated, the infection can be transmitted to other players in the team, particularly if they walk barefoot on contaminated floors in 'wet areas'.

Players should consult a qualified Medical Practitioner for advice. Treatment typically involves the use of anti-fungal preparations which come in spray, powder or cream form. Signs and symptoms will often disappear within three days. However, treatment should continue for a full 21 days to completely eradicate the infection. The training shoes, football boots, and socks also need to be treated to ensure the fungus is eradicated and the foot is not re-infected. The wearing of well-ventilated footwear when not playing or training is advisable. To prevent the condition from occurring good personal hygiene is required (see above).

### Problem Toenails

The most common complaints involving the toenails are the ingrown toenail (onychocryptosis) and 'runner's toe'/'black nail' (subungual haematoma).

The 'ingrown toenail' occurs as a result of one,



or a combination, of the following - poor nail cutting, abnormal nail growth, trauma to the nail, or abnormal shoe pressure. The sharp, ragged edge of the growing nail, usually the first toe, pierces the adjacent skin causing acute pain, redness, swelling, a possible discharge between the side of the nail and the skin (infection), and tenderness on gentle palpation. To avoid this problem toenails should not be cut too short, or rounded. On a regular basis toenails should be cut square, or with very slight rounding following the contour of the toe and left long enough to cover the nail pulp. Consideration should also be given to selection of footwear of an appropriate size, as directed above. A player may need to seek the help of a Podiatrist/Chiropodist. For infected cases, antibiotics may be required. In instances of recurring injury and infection, removal of the nail may be indicated.

'Runner's toe' is a condition where shearing of the nail causes bleeding under the toenail and usually results in the nail turning black. It occurs when a shoe/boot is too tight, or where the foot slides forward in a shoe and jams the end of the toenail against the end of the shoe (particularly on artificial surfaces). Alternatively, a direct blow or crushing of the toe may cause an immediate bruise beneath the nail; this may be painful due to the increased pressure in the area. This pressure may be relieved by perforating the nail, but this procedure should only be performed by a Medical Practitioner. The nail may eventually die, grow out and drop off, however it should be preserved for as long as possible to serve as a 'biological dressing' to protect the new nail growing underneath.

It is important to note that with any infection of the feet there may be an associated pain and tenderness in the inguinal region. This is due to the lymphatic drainage system within the limb and the lymph nodes that are situated in this area.

### Conclusion

Clearly, to maximise participation in football-related activities a player must take care of his/her feet. By adopting simple strategies when selecting footwear, and by paying attention to issues of personal hygiene, many of the problems affecting the foot can be avoided. Players should be aware of potential problems that may arise through changing to a different brand of boot and, where problems are recurring, that there may be an underlying biomechanical component. It is important that the most appropriate boot is worn for the surface upon which training or playing is taking place. Minimal disruption to participation will be achieved if players are encouraged to report any symptoms or signs that develop around the feet at the first opportunity. It is prudent for every player, particularly youth players, to have a regular (six-monthly) examination of their feet. A proactive, pre-season presentation from a Podiatrist or Physiotherapist may have considerable benefits for the football club's playing personnel and those who would ultimately have to manage the foot problems.

**IMPORTANT SAFETY NOTICE:** This article is for general information only and should not be used as a basis for diagnosis or treatment. Whilst anyone in the vicinity is considered to be a potential first-aider, medical care should be delivered by a qualified healthcare professional.

For further information on courses applicable to football you should access the [TheFA.com/FA](http://TheFA.com/FA) Learning Website, or alternatively contact your County FA.

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