Football blades: a cause for concern

Sporting injuries have always contributed a significant proportion of the workload of the emergency department. The number is increasing considerably for several reasons. A burgeoning range of sporting activities combined with increased disposable income and leisure time has led to greater participation. Consequently research and development aimed at enhancing performance has escalated.

One such development is the use of "blades" instead of the more traditional studs on football boots. Unlike the traditional round peg-like studs, the new blades measure up to 3 cm long and are shaped to contour the foot (fig 1), providing enhanced stability to the standing foot when kicking. Since they were first endorsed by high profile figures such as David Beckham, the appeal to the younger generations has increased to the extent that many junior players use such footwear.

The traditional studs can cause a range of injuries, from minor lacerations (the most common) to more complex punched out soft tissue injuries. The cases described below highlight the potential severity of injuries sustained as a result of direct contact with a football blade.

The first case involved a 14 year old boy with a laceration to the medial aspect of the left knee sustained after a tackle. The laceration was 8 cm in length and extended down to muscle but had not involved the knee capsule (fig 2). The wound was thoroughly irrigated, debrided, and closed with sutures.

The second involved a 28 year old man who was involved in a tackle with a player wearing football blades; as a result of the tackle the leather uppers of the football boot were torn with a laceration measuring 5 cm over the dorsum of the foot. The laceration was irrigated, debrided, and sutured.

Sporting injuries presenting to the emergency department are common, and, over the last decade more interest has focused on prevention. One aspect of this is footwear design. Chan et al showed a direct correlation between footwear and both performance and rates of injury. A similar study showed that boots with a greater number of studs were associated with poorer performance compared with those with fewer, primarily because of inferior traction with the ground. A large proportion of football injuries are ligamentous and involve either the knee or the ankle, this shoe-surface traction is the specific variable most likely to correlate with injury incidence. These theories led directly to the development of the blade to replace the traditional stud on football boots to improve shoe-surface traction. For this reason a large number of professional footballers use blades, and as a result the appeal to amateur players of all ages is high. As the number of players using such footwear increases, the number of injuries resulting directly from blades is increasing also. Concerns are now being raised in the media as to the safety of such blades, especially in more junior grades of football.

In certain countries there are moves to ban such blades because of safety concerns. These cases highlight the severity of lacerations that can result from tackles with boots fitted with blades. In the second case report, the blade was actually sharp enough to penetrate the leather uppers of the boot before lacerating the skin. Although stud injuries have presented to the emergency department for many years, we should be increasingly aware of the potential dangers of this design of stud, especially in junior levels of competition.

References

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Recidivism in sports related injuries in primary care

Involvement in top sports challenges the body’s physical faculties to the limit. Surpassing these limits may cause sports related injuries. However, these injuries occur among participants of all sports at large. Once a sports related injury has manifested itself, subsequent recovery incorporates a real probability of future relapse.

The expansion of an aging population participating in non-organised sports is likely to produce an increase in the number of patients presenting to the family doctor with sports related injuries and possible relapses. To gain a better understanding of the concept of recidivism, a Medline literature search on relapses of sports related injuries in primary care was performed. This general search produced no references, but a sports specific search yielded two publications on relapse in sports related injuries. Sport related injuries are known to occur in equestrian sports and in soccer players (strains and sprains).

Information about the prevalence of recidivism was obtained from a randomised controlled trial conducted to study the care provided by family and sports doctors in 230 patients with non-acute sports related injuries to the lower extremity. This study took place in three northern regions in the Netherlands between September 2000 and May 2002 and involved the participation of 83 family doctors. A non-acute sports related injury was diagnosed as an injury that originated at least two weeks before consultation of the family doctor.

Data on all participating patients contained in the primary care data base were scrutinised to determine if these patients consulted the doctor again for a new or other sports related injury in the year after inclusion.

In 7.4%, a new sports related injury prompted patients to revisit their doctor in the year after inclusion. In 4.5% of the cases, the injury was related to the original one but not considered a relapse, which was found to occur in 2.2% of the cases. In this cohort, it
was found that relapses of non-acute sports related injuries to the lower extremity do not often occur.

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Charity runners should be warned of dangers of consuming alcohol after the race

A healthy 38 year old man finished the 2004 London marathon in just over five hours. During the evening celebrations, he had “two gins” and collapsed to the floor hitting his face on the pavement (fig 1). Despite regular fluids during the race and food afterwards, five hours of continuous exercise would have caused hypovolaemia, hypoglycaemia, and reactive insensitivity of the leg veins to the shifts in blood volume which occur on standing. These changes combined with the vasodilatory effects of alcohol would cause orthostatic intolerance. He fainted.

The London marathon attracts thousands of amateur runners who should be warned of the dangers of post-race celebrations.

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Low back disorders: evidence-based prevention and rehabilitation


There are many ways in which rehabilitative exercise, postural correction, ergonomics, as well as vast numbers of pain relieving techniques can assist in the prevention and treatment of low back pain. Research teams throughout the world are beginning to provide evidence for effective management strategies within their areas of expertise. This research often relies on development of valid and reliable measurement techniques. Some research teams focus on clinical trials, in which validated pain and disability measures are used to provide evidence for efficacy of a particular method of treatment. Other back pain research teams (as that of McGill) focus on the development of management approaches, based on an understanding of how muscles function to provide spinal stability and load transfer through the spine and pelvis. These management strategies have been developed through a focus on either biomechanical or neurophysiological models of muscle function. McGill has developed exercises for prevention and rehabilitation of low back pain based on biomechanical models.

The strength of McGill’s text lies in his anatomical and biomechanical research evidence on how injury develops in specific anatomical structures (including an excellent depth of understanding of “tissue creep”) and the methods through which tissue loading can be reduced to minimise the risk of injury. This important information can direct strategies for the prevention (and rehabilitation) of low back pain, which involve postural correction and adherence to sound ergonomic principles. We would highly recommend this text for these essential aspects of low back pain management.

However, the rehabilitative exercise regimen described by McGill in this text differs markedly from many other evidence based exercise programmes devised for the treatment and prevention of low back pain. Other approaches, which have been based more on neurophysiological research on the joint protection mechanisms, base their exercise treatment on a problem solving approach and, more importantly, on the impairments that develop in these mechanisms, in low back pain patients. These impairments are different in each patient, and depend on issues such as the specific location of the injury, lifestyle factors, and pain. The impairments in muscle recruitment patterns result in some muscles becoming less active or inhibited and others becoming more active, less fatigable, and tight. These factors are used to direct exercise treatment.

Thus McGill’s text is ideal for gaining an understanding of how to prevent and treat low back pain using some important principles of postural correction and ergonomic management. Future clinical trials will be required to estimate the efficacy of the rehabilitative exercise programme.

The book is targeted mainly at health practitioners dealing with ergonomics and occupational health.

The book definitely has a “feel good factor” and we would buy it. The only issues we found slightly irritating in the book were the rather simplistic explanations of theories of motor control.

Rating
- Presentation 15/20
- Comprehensiveness 15/20
- Readability 15/20
- Relevance 16/20
- Evidence basis 16/20
- Total 77/100