INJURIES IN PROFESSIONAL FOOTBALLERS

D. S. MUCKLE, MS, FRCS

Medical Advisor FIFA, Consultant Orthopaedic Surgeon Middlesbrough FC, Research Associate, University of Durham

ABSTRACT

The incidence of injuries in footballers is described. Nearly half of footballer’s injuries involve the knee, with vertical tearing of the meniscus being common; surgical intervention may be required. Approximately one third of injuries involve the ankle, and will often require immobilisation. Other injuries include muscle damage, spondylosis of L4 or L5, concussion, and dislocations. The importance of prompt and correct treatment of injuries is emphasised.

Injuries in professional soccer players are relatively rare and occur in three to four players for every hundred hours of soccer played. Luckily, serious injuries happen infrequently in most major clubs, and there are usually no more than one fracture, two meniscal injuries, and two knee or ankle ligamentous injuries of major importance per season. However, serious injuries should always be excluded by diligent examination, and treatment should be immediate. Since the soft tissues are commonly affected, the immediate treatment is prevention of the complications of swelling and later fibrosis. The immediate treatment consists of the ICE rule (ice, compression, elevation) with anti-inflammatory agents. Certain acute injuries (such as tenosynovitis on the anterior aspect of the ankle) can be treated by local long-acting steroids such as “Depomedrone” (methylprednisolone acetate).

Almost one half of all soccer injuries involve the knee. Sprains affect the collateral ligaments, chiefly the medial, and are often due to a misdirected tackle against the inner aspect of the leg. Sprains of the medial compartment are a much more severe injury and are often associated with meniscal injuries. To test for lateral or medial instability the knee should be subjected to adduction or abduction forces and flexed to 30 degrees to relax the cruciate ligaments. Complete tears require surgical repair. Isolated tears of the anterior cruciate ligament are not common and often associated with damage to the collateral and posterior cruciate ligaments. Good quadriiceps tone can in some measure compensate for anterior cruciate weakness, but in the presence of marked laxity surgery may have to be carried out. If the posterior cruciate remains intact in the presence of other ligamentous tears then the tibia will rotate abnormally around the structure, and rotatory instability results. This type of soccer injury is very disabling and the players have to give up the game.

Vertical tearing of the meniscus is common in soccer players. It is produced characteristically when weight is taken on the semi-flexed knee and there is a superimposed twisting. In the earlier stages, a torn meniscus will produce little symptomaticity apart from an occasional dull ache and perhaps a few degrees of restricted movements. However when a large tear develops the torn piece may become displaced medially and cause locking. Clinical diagnosis is unreliable, but an arthrogram will demonstrate approximately 90% of tears, and arthroscopy is the most useful test because it confirms the diagnosis directly. Bucket-handle tears are treated by partial meniscectomy, the torn part is removed, and an investigation by the author over ten years has shown that partial meniscectomy gives much better long-term results than complete meniscectomy does. However, badly torn menisci require complete excision.

Approximately one third of soccer injuries occur around the ankle. Capsular strains of the ankle are common and often lead to numerous osteophytes (“footballer’s ankle”). A classical injury is inversion and internal rotation, which results in a sprain of the lateral ligament. This is particularly common during a sliding tackle or a clash of feet. There is local pain and swelling of the lateral aspect, and severe bruising may be
seen extending to the Achilles region and onto the
dorsum of the foot. Instability may be shown by stress
films or an arthrogram. Plaster of Paris immobilisation is
used for five to twenty-one days depending upon the
severity of the injury. In the case of chronic recurrent
instability, surgical repair may be required. In players
who have repeated ankle and Achilles tendon problems,
it is worth drawing their attention to the quality of the
football boots and pitch. Spikes or studs that give
excessive grip predispose to ankle problems.

Muscle injuries are caused usually by direct blows to
the thigh, or by pulls, tears or strains such as the chronic
groin strain or hamstring injury. Damage may occur
within the muscle so that the blood cannot escape (intra-
muscular), or the tear may extend to the periphery
(intermuscular). Intramuscular injuries may take two or
three times as long to resolve as intermuscular injuries
do. After two days of rest and anti-inflammatory tablets
physiotherapy is commenced, heat, massage, and ultra-
sound. Recovery from a muscle injury has not taken
place in a soccer player until there is full power, full
extensibility, and a full range of joint movements and
skill pattern. Tears of the musculotendinous or musculo-
periosteal junction result in pulled or strained muscles,
and loss of function is out of all proportion to the
clinical signs. Treatment of such pulled muscles relies
on rest, anti-inflammatory tablets, and local short-wave
diathermy. Mobilisation exercise should be gradual and
incorporate a flexibility programme, which may take
three to six weeks. When there is abdominal or upper
thigh discomfort associated with groin strain, an X-ray
of the pelvis may show osteitis pubis. Luckily this is a
self limiting condition but does require rest and physio-
therapy for two to four months.

Other conditions commonly found in footballers
include spondylosis of L4 or L5. This stress fracture
may be asymptomatic, but often the soccer player has
lower abdominal discomfort and upper posterior thigh
pain. When symptoms are disabling or a slipping of the
vertebral body is occurring, a fusion operation may have
to be carried out. As with all stress fractures, a bone
scan may be helpful in diagnosing the early lesion.

Concussion is not infrequent during a match, and as
a general rule the player should abandon the game and
not train for five days. As in the case of all head and
facial injuries, care must be taken to exclude damage to
the brain, cervical spine, and eye.

Dislocations of the acromioclavicular joint, shoulder,
and fingers require X-ray before reduction to ensure
that there is not an associated intra-articular fracture.

As a general rule, minor soccer injuries must not be
taken lightly or dismissed, or they can become the
precursor of chronic problems, which often defy
complete solution.

DISCUSSION

Mr. Grayson: Mr. Muckle, do you feel it would be a help to the medical profession in the prevention of sports injuries,
if they knew, and passed on to the offender, the knowledge that such activity is a breach of the laws of the game and
leaves the offender open to criminal prosecution?

Mr. Muckle: There have been no claims by professional soccer players, but there have been three damage claims in
amateur soccer. We do stress to referees how important their position is in the prevention of injuries, and we do talk to
players, stressing the importance of their approach. I don’t think a professional player, in the few seconds during which
these incidents occur, will remember anything he has been told in the dressing-room.

Mr. Damoush: Mr. Muckle, in your experience is partial meniscectomy better than total meniscectomy? I believe that
when the meniscus regenerates, the remnant of meniscus not removed is fibrous and weak, and I have seen cases of torn
meniscus again after the first partial meniscectomy.

Mr. Muckle: I’ve had no re-tears in the 21 partial meniscectomies I’ve followed for 10 years. It’s difficult to imagine
how you could get a tear in the body of this substance. When my diagnosis has been correct, and the meniscus has been
peripherally attached, I’ve just removed the bucket-handle, and had no trouble at all. I’m interested that you have.

Mr. Damoush: How long does it take to perform a partial meniscectomy through the arthroscope? It is done these days,
but I have no experience of it.

Mr. Muckle: I’ve not done it this way either. However, I’d just like to say that partial meniscectomy is only applicable
for a basket-handle tear, which has a good prognosis in terms of osteoarthrosis; peripheral detachment has a bad
prognosis.