DISCUSSION

THE ATHLETE'S UNSTABLE KNEE AND ANKLE

P. RENSTRÖM started the discussion on instability of the knee, the mechanism of stabilising ligaments and bones, and the necessity of ligament strength rather than muscle contraction to offset the stresses imposed by sport. Muscles are active stabilisers and protective to a certain extent and the ligaments are passive and thereby the main stabilisers. There are differences between active stability, depending upon quadriceps and hamstrings contraction, and passive stability depending upon ligaments. Johnson (1978) showed that reflex activation time was shorter for ligament than for muscle, the latter assisting in stabilisation after ligaments have borne the initial strain.

J. P. S. ENGLAND said that provided the cruciate and capsular ligaments are intact, however, the knee may appear stable functionally, despite collateral ligament damage.

J. G. P. WILLIAMS amplified this idea in assuming that the muscles were in a flaccid state when Johnson performed his experiments, but as muscle is a dynamic structure in the alert athlete it will be in tension before stress is applied. The trained athlete develops movement patterns that should enable muscles to react in time, provided training is adequate and undue fatique avoided. A sprinter may be able to run 100 M with a complete tear of the medial collateral ligaments, but be unable to make a sudden turn. For these rotational stresses a dynamic stabilisation such as a pes anserinus transplant, or a static one by ligament repair is necessary.

A Principal feature of instability of any joint is proprioceptive feedback, and failure of this interferes with the protective action of muscles, and leads to injury.

J. P. S. ENGLAND. A knee can be functionally stable even with a complete rupture of the anterior cruciate ligament.

P. RENSTRÖM mentioned Ljungqvist's (1979) series of about 80 athletes including many jumpers with partial rupture of the infrapatellar ligament often located to the posterior aspect of the ligament.

J. G. P. WILLIAMS noted that the histology of these lesions was identical with his own series of achilles tendon injuries.

T. DURKIN raised the possibility of cruciate repair or replacement with carbon fibre filaments, now being pioneered by Jenkins in Cardiff.

J. P. S. ENGLAND stated that this work was still in early stages, and doubted whether the technique had been perfected sufficiently for the stresses imposed by sport.

J. G. P. WILLIAMS discussed various techniques of cruciate ligament repair, including Erikson's operation for anterior cruciate tears, a modification of Lamb's operation.

J. P. S. ENGLAND commented that a problem in Britain, was the difficulty in getting suitable patients early enough, compared with the two or three weeks reported by Renström.

REFERENCES

Ljungqvist, R.: Personal communication. Under publication.

Pope, M. H., Johnson, R. J., Brown, D. W., Tighe, C.: The role of the musculature in injuries to the medial collateral ligament. The Journal of Bone and Joint Surgery, p. 398-402, April 1979.

DISCUSSION
ANKLE INSTABILITY

B. CORRIGAN compared knee instability with instability of the ankle, especially when the talo-fibular joint was damaged with resultant inhibition of the extrinsic muscles of the foot.

J. P. S. ENGLAND treats instabilities of the ankle at first by simple conservative measures such as anti-inflammatory drugs and rest. Occasional non-steroidal local injections are needed. Rarely surgical exploration is needed, and cartilaginous fragments have been excised from three patients.