Summary

Iliotibial band syndrome was diagnosed in 48 of 1030 runners treated for lower extremity musculoskeletal complaints. Most athletes had been running 20 to 40 miles a week for one year or longer and had significantly changed their distance, speed, terrain, surface, and/or shoes before the onset of symptoms. Symptoms often persisted for 2 to 6 months. All runners were treated conservatively with rest, stretching, reduced distance, anti-inflammatory medications, local cortisone injections and/or orthoses.

Iliotibial band syndrome is an overuse syndrome seen primarily in distance runners (Sutker et al., 1981). The iliotibial band is a thickened strip of fascia lata that extends from the iliac crest to the lateral tibial tubercle and receives part of the insertion of the tensor fascia lata and gluteus maximus (Renne, 1975). At the knee joint, the band acts as a stabilising ligament between the lateral femoral condyle and the tibia. Evans (1979) believes that because the iliotibial band crosses 2 joints, its effects on the knee varies according to the position of the hip. To achieve maximum stability with minimum effort in standing, the iliotibial tract locks the knee into extension and contributes to the pelvic slouch by its action on the hip. Evans believes the iliotibial band enables us to rest while standing, and that it appeared phylogenetically with the development of upright posture.

In cadaver dissections of the region, Orava (1978) noticed a reddish brown bursal thickening under the iliotibial band. He concluded that it developed because of friction of the iliotibial band over the lateral femoral epicondyle (a prominent ridge just above the condyle) [Smillie, 1973]. Walking stiff-legged keeps the iliotibial band anterior to the epicondyle, and activities in which the knee is repeatedly flexed caused the band to pass posteriorly over the lateral femoral condyle and may lead to irritation (fig. 1).

Of 1030 runners seeking medical advice for lower extremity musculoskeletal problems during one year, we diagnosed 48 as having the iliotibial band syndrome. The clinical data, physical find-
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ings, and treatment in this group will be discussed in this article.

1. Clinical Data

Forty-eight runners (39 males and 9 females) were diagnosed as having iliotibial band syndrome. The average age of the study group was 31 years. Thirteen runners had bilateral involvement with the right knee being involved in 20 cases, and the left knee in 15. The syndrome was most common in ectomorphs and mesomorphs (table I). All runners wore shoes designed for distance running; 10 different brands of shoes were used.

Before the onset of lateral knee symptoms, 11 patients had been running less than one year, but most had been running 20 to 40 miles a week for at least 3 years. Eleven runners had competed in at least one marathon, and only one patient had never run further than 5 miles at one time (table II). 25 runners had adjusted their workouts because of the lateral knee pain, and 8 had voluntarily stopped running before seeking medical advice (table III).

All of the runners participated primarily in distance running, and 8 included a significant amount of interval training in their workouts. Most of the runners trained on a combination of surfaces including paved roads, sidewalks, dirt, grass, sand, and tracks, but most running was done on paved surfaces.

Symptoms often persisted for 2 to 6 months, but two runners’ symptoms remained unrelieved for 2 years. Once gone, the pain usually did not return if the runner avoided certain offending factors.

Fig. 1. The insertion of iliotibial band and gerdy’s tubercle relative to the lateral femoral epicondyle a) with straight leg b) with bent leg.