

- H. Pectineal line
- I. Linea aspera
- J. Medial condyle and epicondyle
- K. Lateral condyle and epicondyle
- L. Adductor tubercle
- M. Intercondylar fossa
- N. Patellar articular surface

VII. Tibia (Figures 12.3 and 12.4)

- O. Tibial tuberosity
- P. Medial condyle
- Q. Lateral condyle
- R. Intercondylar eminence
- S. Soleal line
- T. Medial malleolus
- U. Groove for tibialis posterior
- V. Fibular notch

VIII. Fibula (Figures 12.3 and 12.4)

- W. Head
- X. Shaft
- Y. Lateral malleolus

IX. Foot (Figures 12.5 and 12.6)

- A. Head
- B. Neck
- C. Greater trochanter
- D. Lesser trochanter
- E. Intertrochanteric crest (posterior)
- F. Intertrochanteric line (anterior)
- G. Gluteal tuberosity

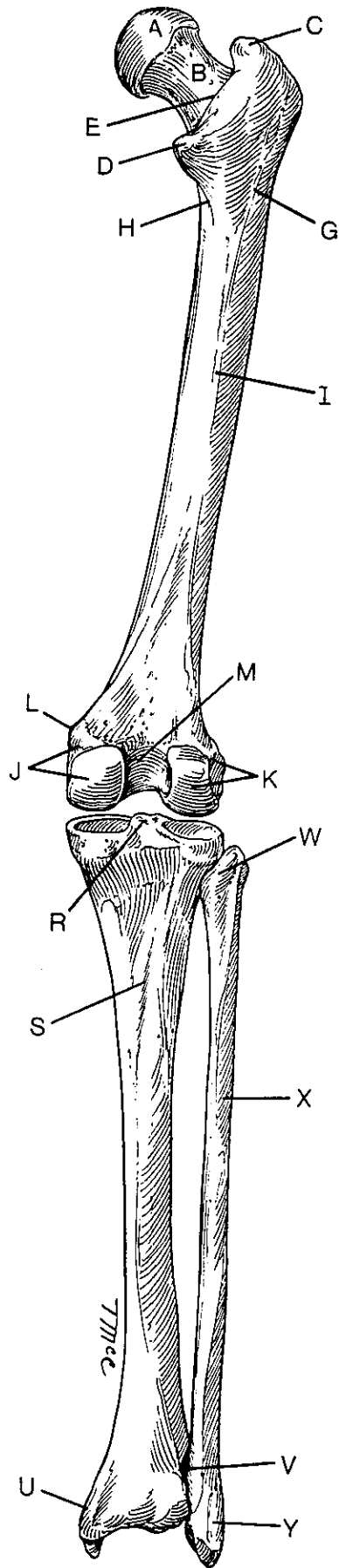


Fig. 12.3 Posterior Thigh and Leg

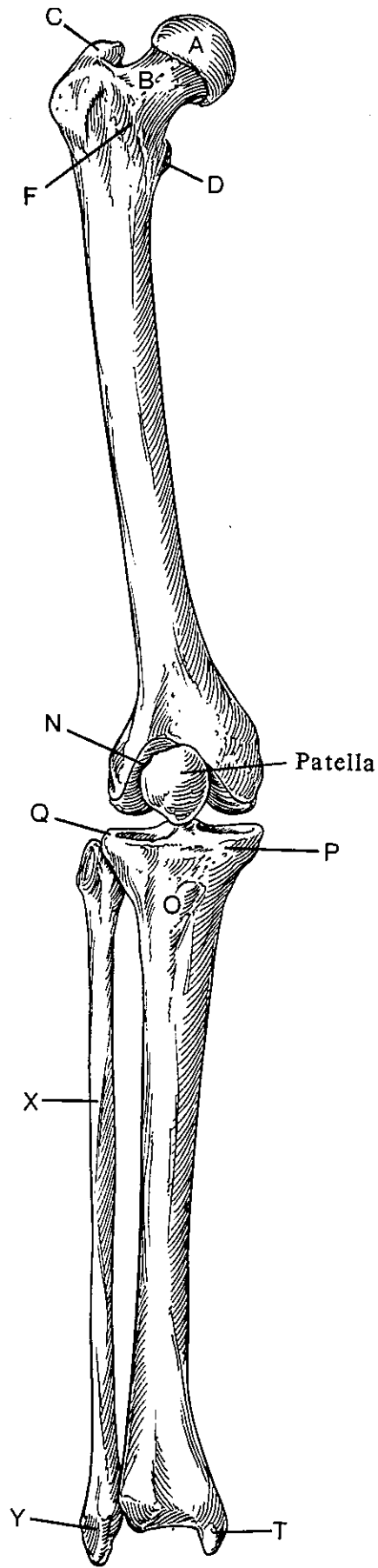


Fig. 12.4 Anterior Thigh and Leg

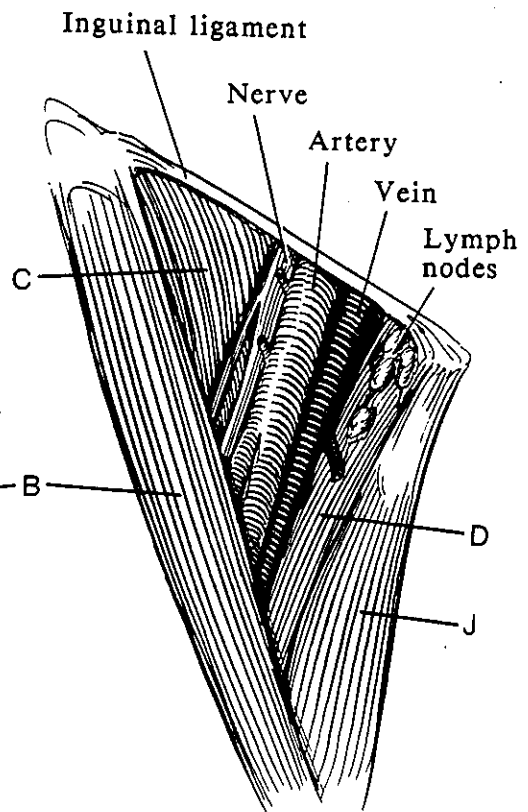
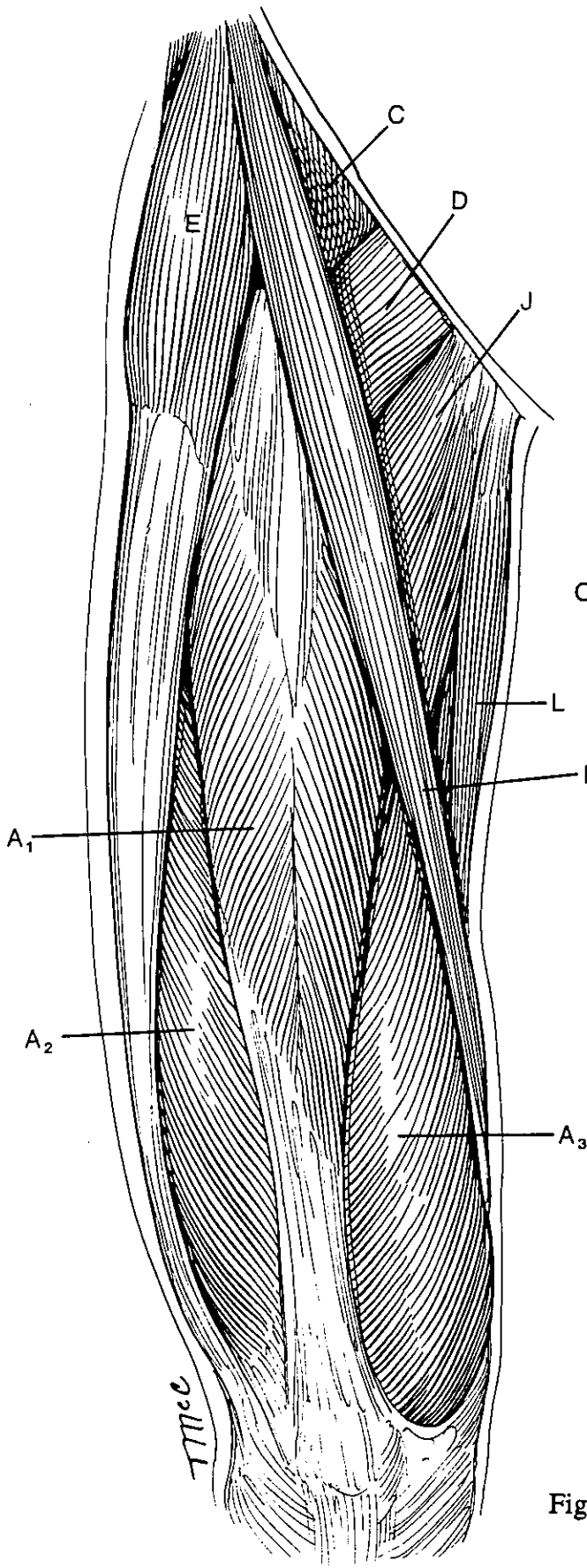


Fig. 14.1 Anterior Thigh

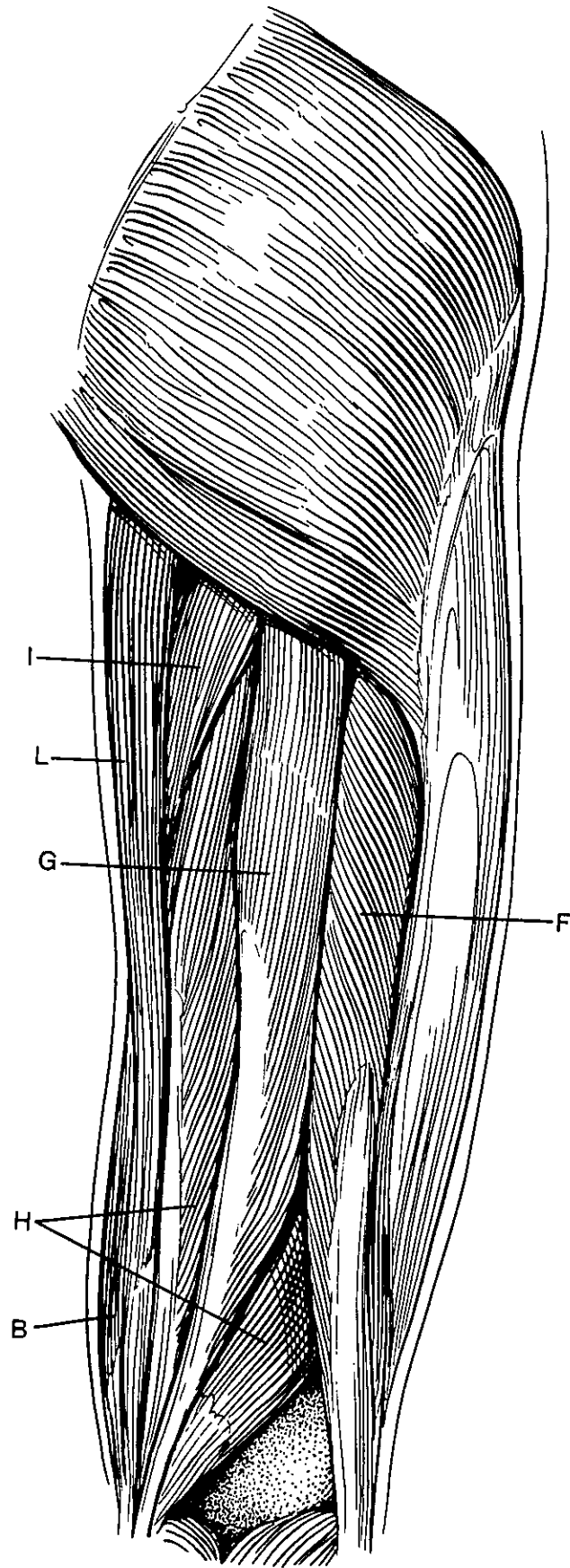


Fig. 14.3 Posterior Thigh

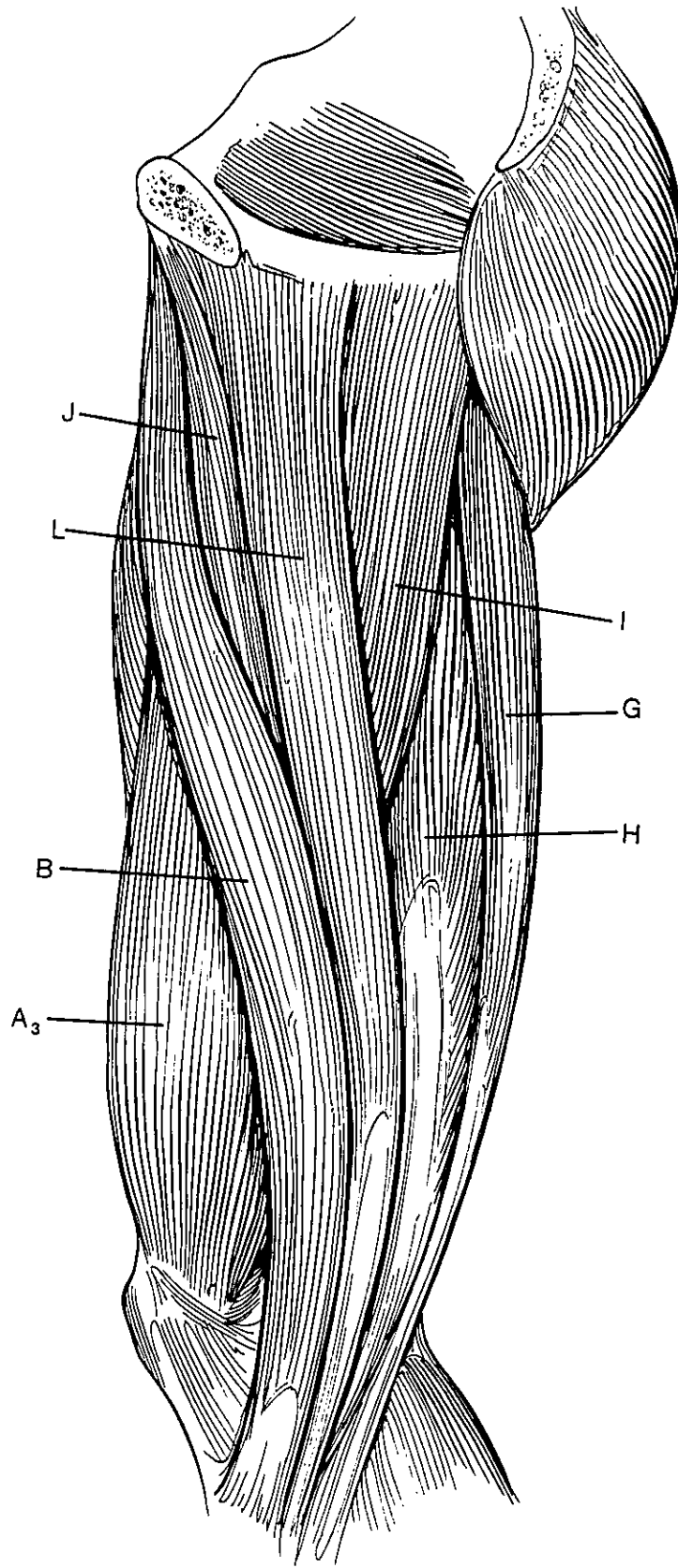


Fig. 14.4 Medial Thigh

IV. Course of the Femoral Artery and Vein

As these vessels leave the apex of the femoral triangle, they lie deep to the sartorius muscle and upon the anterior surface of the adductor magnus. This is known as the subsartorial or adductor canal (also called Hunter's canal). In their course through the canal, the vessels are accompanied by the saphenous nerve, a sensory branch of the femoral nerve. The canal ends at the adductor hiatus (a gap in the adductor magnus), through which the vessels pass to reach the popliteal fossa and become the popliteal vessels while the saphenous nerve passes superficially (Figures 14.5 and 14.6). (An outline of arterial and venous structures is presented on pp. 203-204.)

V. Knee Joint (Figures 14.7 and 14.8)

Skeletally the knee is quite unstable: two large, rounded femoral condyles sliding and rolling upon two shallow tibial condyles. Structurally, however, the knee is sound because of surrounding muscles, a strong articular capsule, and integrity of internal and external ligaments. When the quadriceps tendon and patella are removed and the joint is flexed, the anterior portion of the knee joint is exposed (Figure 14.7). Several structures may be seen clearly.

A. Medial meniscus

B. Lateral meniscus

The menisci are fibrocartilaginous pads that function to absorb shock and to slightly deepen the tibial articular surfaces for the femoral condyles. The menisci are held to the tibia by coronary ligaments.

C. Coronary ligament

D. Transverse genicular ligament - connecting the two menisci

E. Anterior cruciate ligament - passing from the medial surface of the lateral femoral condyle to the anterior portion of the intercondylar eminence of the tibia

F. Fibular collateral ligament

G. Tibial collateral ligament

The tibial collateral ligament has a physical attachment to the medial meniscus. The fibular collateral ligament has no such attachment to the lateral meniscus. Figure 14.8 shows the joint in an extended position and allows visualization of posterior structures.

H. Popliteus muscle ()

The proximal attachment of this muscle is the lateral condyle of the femur. What is its distal attachment?

DA -

The tendon of the popliteus intervenes between the fibular collateral ligament and the lateral meniscus, preventing their union.

- I. **Posterior cruciate ligament** - passing from the lateral surface of the medial femoral condyle to the posterior portion of the intercondylar eminence of the tibia.
- J. **Posterior menisiofemoral ligament** - passes from the posterior portion of the lateral meniscus to the lateral surface of the medial femoral condyle immediately posterior to the posterior cruciate.

The four major ligaments of the knee limit excessive movement (i.e., provide stability). The collateral ligaments limit lateral movement of the joint. The cruciate ligaments limit movement of the tibia in the direction of their name.

The tibial collateral ligament and medial meniscus are usually injured together because of their physical attachment. Often, in situations such as clipping in football, the anterior cruciate ligament is also damaged. This threesome is then referred to as the "terrible triad."

FOR REVIEW AND THOUGHT

Discuss the action of the popliteus muscle in a free limb vs. a limb bearing weight.

Think about and discuss further the significance of the pes anserine.

Review the structure of the knee, focusing your attention on the bones and ligaments involved in the joint. Discuss the factors leading to stability or instability of the joint.

The lower limb is adapted for support and the upper limb for mobility, yet they are similar in overall design. List below the similarities and differences you have found so far between the limbs.

Similarities:

Differences:

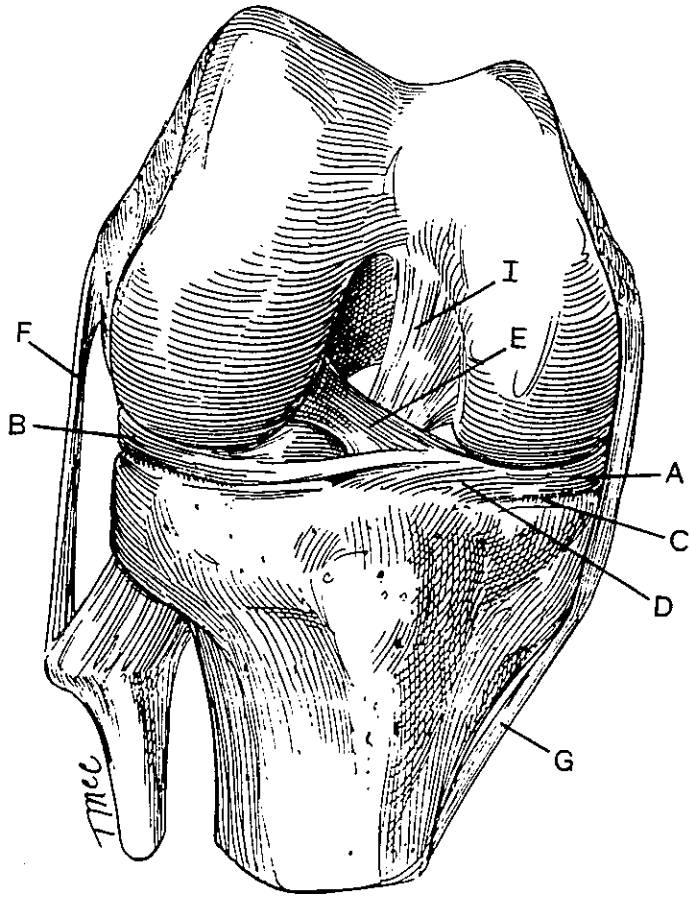


Fig. 14.7 Anterior Knee

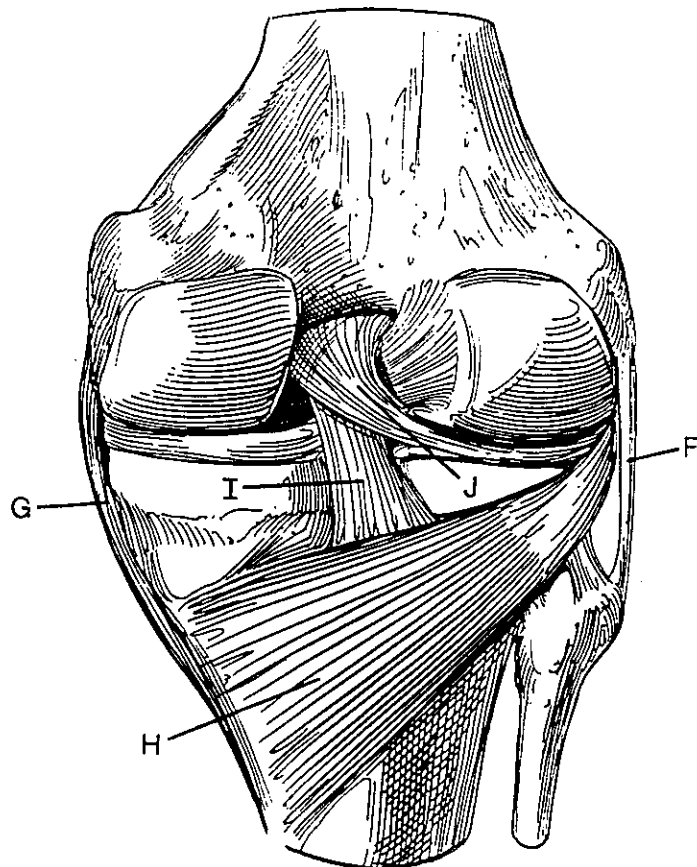


Fig. 14.8 Posterior Knee