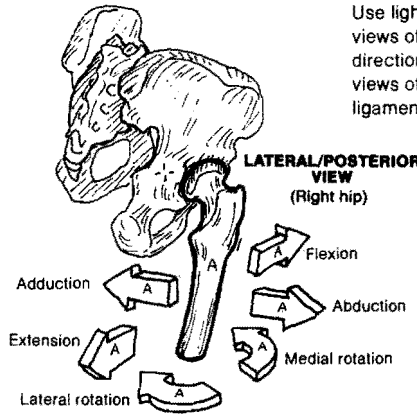
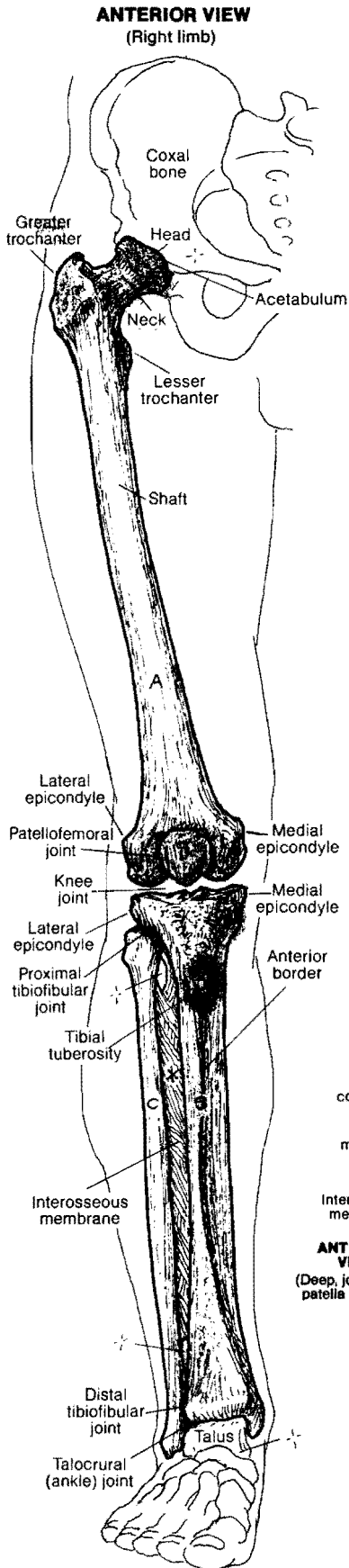


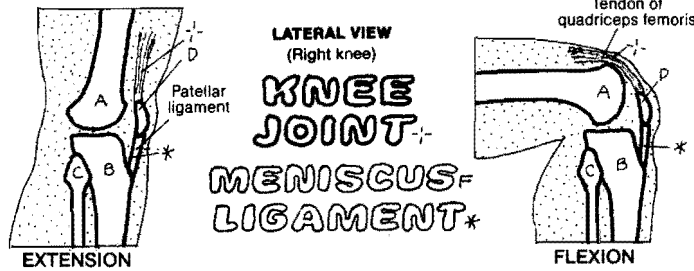
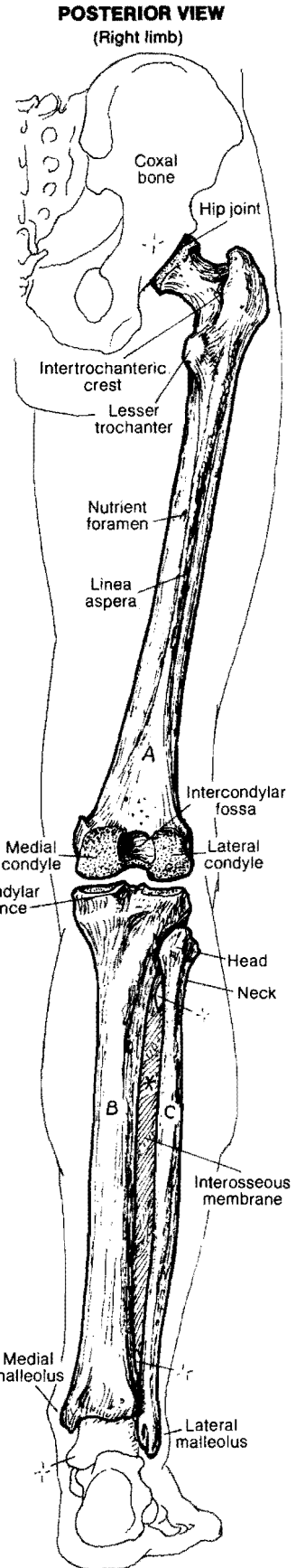
THIGH & LEG BONES

FEMUR^A TIBIA^B
 FIBULA^C PATELLA^D

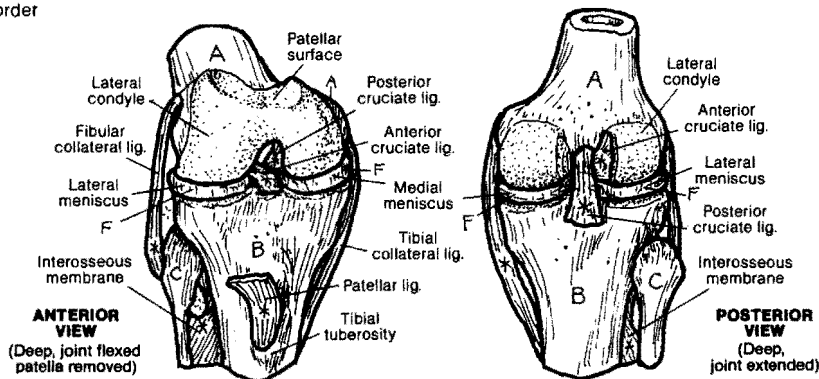
CN: Do not use the color used for the ilium on Plate 29. Use light colors and a bright color for F. (1) Color the two large views of the lower limb. (2) Next color the femur and the six directional arrows for the hip joint. (3) Color the extension/flexion views of the knee joint. (4) Color the two views of the major ligaments and the menisci of the knee joint.



The hip (coxal) joint (multiaxial, ball and socket synovial joint) is concerned with the transmission of considerable weightbearing forces; the head of the femur is particularly subject to pathologic changes with any significant alteration of blood supply (avascular necrosis). The greater trochanter is the site of attachment for several important muscles crossing the hip joint.



The knee (genual) joint consists of two condylar-type, synovial (tibiofemoral) joints between the condyles of the femur and the flat, plateau-like articular surfaces on the condyles of the tibia. The principal movements at these joints are flexion and extension. The knee joint includes the saddle-type synovial (patellofemoral) joint between the patella and femur. The deep surface of the patella is cartilaginous and exhibits medial and lateral facets (note patellar surface of the femur). Premature wear of the patellar cartilage is common (chondromalacia patellae). The patella is a sesamoid bone which develops in the tendon of the quadriceps femoris muscle; as such, it resists the stress imposed on that tendon during knee movements.



The stability of the knee joint comes from ligaments and the muscles crossing the joint. The collateral ligaments resist sideward displacement and rotation. The cruciate (crossing) ligaments resist hyperextension (anterior cruciate) and hyperflexion (posterior cruciate) of the joint. The C-shaped menisci (the medial larger than the lateral) deepen the articulating surfaces of the tibial condyles. Often torn by misuse of the knee joints (rotation and adduction/abduction with weightbearing), the menisci can often be repaired by arthroscopy.