

The Joints of the Lower Limb

**The Hip Joint** The hip joint is a synovial ball-and-socket joint, the femoral head functioning as a ball with the acetabular cavity or socket. The normal acetabulum is obliquely oriented, is inclined such that the outer margin of the roof is lateral to the outer margin of the floor.

**Articular Surfaces** 1. The transverse ligament passes between anterior horns of menisci. 7 LEC 9

**RADIOLOGICAL ANATOMY 2 ND YEAR** Plain radiographs of the knee joint The ligamentum patellae is made visible as its outlined subcutaneous and intraarticular fat (the infrapatellar fat pad). The suprapatellar bursa is best seen on radiographs when distended with fluid. 3 4 LEC 9

**RADIOLOGICAL ANATOMY 2 ND YEAR** The Knee Joint The knee joint is a hinge type synovial joint, which mainly allows for flexion and extension (and a small degree of medial and lateral rotation).

**S line** Shenton's line along the inferior margin of the femoral neck & along the inferior margin of superior pubic ramus should form a continuous arc; In assessment of radiographs of the adult hip, routine frontal radiographs allow the identification of six lines:

1. The acetabulum has a central non-articular area for a fat pad and the ligamentum teres & an inferior notch bridged by the transverse acetabular ligament. Anterior cruciate ligament arises from anterior part of intercondylar area of tibia and inserted into inner aspect of lateral femoral condyle. Posterior cruciate ligament arises from posterior part of intercondylar area of tibia and inserted into inner aspect of medial femoral condyle.
3. At the femoral neck it is attached to the trochanters and the intertrochanteric line anteriorly; posteriorly it is attached more proximally on the neck at the junction of its medial two-thirds and its lateral third.

**H line** (Hilgenreiner line), horizontal line between the unossified center of each acetabulum, that is, the Y-shaped cartilage between the pubis, ischium and ilium or the triradiate cartilage;

2. The continuation of the inferior margin of the superior pubic ramus superiorly to the upper outer margin of the acetabular roof forms the anterior wall of the acetabulum (line 1). The continuation of the inferior margin of the inferior pubic ramus superiorly to the upper outer margin of the acetabular roof forms the posterior wall of the acetabulum (line 2). Occasionally the joint cavity is also continuous with the bursa under the lateral head of the gastrocnemius muscle.

**Synovium** lines the capsule and its associated bursae. 2 3 LEC 9

**RADIOLOGICAL ANATOMY 2 ND YEAR** Plain radiographs In assessment of radiographs of the hip in infants, the following lines and angles are as described:

1. Articular Surfaces
1. Ligaments
1. 4. 5. 2. 3. 4. 5. 6. 2. 4. 5.