

What we have here in the **anterior muscles of the thigh** is a very powerful and fascinating group of muscles. They are all innervated by branches of the lumbar plexus (L1-4), most often in the form of the femoral nerve (L2, 3, 4) and its branches.

The **sartorius**, called the "tailor's muscle" for its role in enabling a crossed-legs sitting posture, one used for centuries to sit and be able to create a posture that takes up little room and so readily facilitates hand work, as in sewing, drawing, etc. The muscle arises from the anterior superior iliac spine, and crosses obliquely medially as it descends to insert on the superior medial surface of the tibia. It is a flexor and lateral rotator of the hip joint and a flexor of the knee joint, as you can infer from its illustrated attachments. It is innervated by the femoral nerve.

The **quadriceps femoris** muscle arises from four heads. The **rectus femoris** arises from the anterior inferior iliac spine. The **vastus medialis** and **lateralis** each arise from the linea aspera on the posterior aspect of the femur; the **vastus intermedius** arises from the anterior and lateral femoral shaft. The four tendons converge at the patella as the tendon of quadriceps femoris.

The **patella** is the largest sesamoid bone in the body. It developed as a cartilaginous body in the tendon of quadriceps femoris as it passed over the anterior inferior surface of the femur and anterior superior surface of the tibia. Absent the patella, the tendon of quadriceps femoris would be subjected to serious abrasive forces when the tendon is brought into contact with the femur over which it is passing during flexion and extension of the knee joint. The patella thus incorporates the tendon of quadriceps in its bony structure. At the inferior aspect (apex) of the patella, the tendinous fibers of quadriceps continue to the tibial tuberosity as the **patellar ligament**.

The rectus femoris, a strong hip joint flexor, is the only member of the quadriceps to cross the hip joint. The four heads of the quadriceps femoris are the only knee extensors. The significance of the role of quadriceps becomes clear to those having experienced a knee injury; the muscles tend to atrophy and weaken rapidly with disuse, and "quad" exercises are essential to maintain structural stability of the joint. The muscle also suffers from insufficient stretching, except by athletes who depend on it. A "tight quad" can be a real pain, not to mention subtracting from a fully functioning and powerful knee extensor.

The **iliopsoas** is the most powerful flexor of the hip, having a broad origin from the iliac fossa, iliac crest and the sacrum and sacroiliac ligaments (in the form of iliacus), as well as the narrow triangular psoas major and the much more slender psoas minor (see page 48). These muscles all attach at the lesser trochanter at the proximal end of the femoral shaft.