

The Hamstring Muscles

Origin of the Hamstring Muscles	Insertion of the Hamstring Muscles
<p>BICEPS FEMORIS: The biceps femoris arises from the lateral and posterior aspects of the femur.^{16,32} The muscle has 2 heads of origin (see Figures 9-3A and B).</p> <p>THE LONG HEAD originates from the ischial tuberosity in conjunction with the semitendinosus. The long head of the bicep femoris will also arise from portions of the sacrotuberous ligament. This part of the muscle crosses the hip joint.</p> <p>THE SHORT HEAD originates from the lateral lip of the linea aspera on the femur above the knee and the lateral intermuscular septum (see Figure 9-3B).^{16,34}</p>	<p>The lateral head traverses obliquely downward to merge with fibers of the short head and together they arrive at the top of the fibular head where biceps femoris inserts (see Figure 9-3B).³³ A small part of the muscle also attaches to the lateral tibial condyle. An important point here is that the common fibular nerve will course on the medial side of the biceps femoris tendon as it curves around the fibular head (see Figure 9-3B).^{16,34} The long head receives innervation from the tibial portion of the sciatic nerve and the short head is innervated by the common fibular nerve.</p>
<p>SEMITENDINOSUS: This muscle has a very long tendon that is palpable superficially on the posterior and medial aspects of the thigh.¹⁶ The semitendinosus will arise from the ischial tuberosity on the inferomedial aspect^{16,34} and joins the common hamstring tendon along with biceps femoris (see Figure 9-3B).</p>	<p>The muscle fibers end in about the middle of the thigh^{16,33} and then the long tendon is formed. The tendon courses around the medial side of the tibial condyle and curves over the tibial collateral ligament to insert on the proximal portion of the tibia at the pes anserine insertion point along with sartorius and gracilis (see Figure 9-3B).^{4,16,33}</p>
<p>SEMIMEMBRANOSUS: The semimembranosus is situated just deep to semitendinosus on the medial and posterior portion of the femur, but is easily palpable due to its wide tendon. Semimembranosus arises from the lateral and upper portions of the ischial tuberosity. The tendon attachment is wide and lies just medial to the common tendons for the bicep femoris and the semitendinosus (see Figure 9-3B).^{4,16}</p>	<p>The muscle inserts into the medial tibial condyle but will have expanded fibrous insertions also attach laterally to the oblique popliteal ligament.¹⁶ The tendon also has connections to the medial meniscus and will support the medial side of the knee joint.^{4,16}</p>
<p>ACTION OF THE HAMSTRING MUSCLES</p>	
<p>The hamstrings as a collective group are needed to extend the thigh at the hip and flex the knee.^{4,5}</p>	

Pathomechanics of Common Injuries

There are many common injuries that can occur at the knee, but we will focus our attention on the quadriceps and hamstrings, respectively. The quadriceps as we discussed are composed of 4 muscles that will fill up the anterior compartment of the thigh. Common injuries that can occur to the quadriceps include **tendinitis of the patellar tendon** (jumper's knee),³⁵ and even **tendinitis that is proximal to the patella**.³⁵ In some cases, a person