The musculature of the **posterior thigh** consists of three muscles: **semimembranosus**, **semitendinosus**, and **biceps femoris**. They are often referred to as the "**hamstrings**," the "ham" referring to the muscle/fat in the back of the porcine hindlimb, and the extraordinarily long (and vulnerable) related tendons ("strings").

Note the origins of these muscles. All three have at least one head that arise from the ischial tuberosity of the ilium. One of the muscles (biceps femoris) has a head that arises on the posterior thigh. See the illustration. Since these muscles cross the hip joint on the posterior aspect, they act on that joint by extending it. Check this on yourself.

Note that the tendons of these three muscles also cross the knee joint posterolaterally (biceps femoris) and posteromedially (semimembranosus and semitendinosus). The biceps inserts on the *lateral* aspect of the head of the fibula; the other two muscles insert on the posterior aspect of the medial tibial condyle and the medial aspect of the upper tibia. These muscles, therefore, flex the knee joint. The long tendons of the hamstrings can be palpated just above and behind the partially flexed knee on either side of the joint's midline. The knee joint is capable of a small degree of rotation. The semitendinosus and semimembranosus muscles can medially rotate the knee joint, and biceps femoris can laterally rotate it. The insertion of semitendinosus is intimately associated with the tendons of insertion of sartorius and gracilis (SGT). Part of this collection of tendons, shaped like a goose foot (*pes anserinus*), can be seen here on the medial aspect of the knee joint. (See also pages 61 and 62.)

Discomfort on stretching tight hamstrings can result from overuse to underuse (chronic couch potato syndrome). Test your own hamstrings from a standing posture. Bend forward without locking your knees; stop when you feel tension. It is written that most young people can touch their toes in this maneuver. Tight hamstrings, by their ischial origin, pull the posterior pelvis down, lengthening (stretching) the erector spinae muscles and flattening the lumbar lordosis, potentially contributing to limitation of lumbar movement and low back pain. Low back discomfort on stretching the hamstrings is common, and can usually be resolved simply by bending the knees, taking the tension off the tendons. Sharp low back pain radiating to the leg (below the knee) and/or foot while stretching the hamstrings can be something else again. Such pain suggests the sciatic nerve was stretched along with the tendons; in such a case, standing up and plantar flexing the ankle joint of the affected limb will often relieve the painful sensation.