



Quadriceps femoris (Latin for "four-headed [muscle] of the femur")

also called simply the quadriceps, quadriceps extensor, quads, is a large muscle group that includes the four prevailing muscles on the front of the thigh. It is the great extensor muscle of the knee, forming a large fleshy mass which covers the front and sides of the femur. It is the strongest and leanest muscle in the human body.

Function:All four quadriceps are powerful extensors of the knee joint. They are crucial in walking, running, jumping and squatting. Because rectus femoris attaches to the ilium, it is also a flexor of the hip. This action is also crucial to walking or running as it swings the leg forward into the ensuing step.

Hamstring

refers to one of the three posterior thigh muscles, or to the tendons that make up the borders of the space behind the knee. In modern anatomical contexts, however, they usually refer to the posterior thigh muscles, or the tendons of the semitendinosus, the semimembranosus and the biceps femoris. In quadrupeds, it refers to the single large tendon found behind the knee or comparable area.

Function: The hamstrings cross and act upon two joints - the hip and the knee.

Semitendinosus and semimembranosus extend the hip when the trunk is fixed or extend the trunk when the hip is fixed; they also flex the knee and medially (inwardly) rotate the lower leg when the knee is bent.

The long head of the biceps femoris extends the hip as when beginning to walk; both short and long heads flex the knee and laterally (outwardly) rotate the lower leg when the knee is bent.

The hamstrings play a crucial role in many daily activities, such as, walking, running, jumping, and controlling some movement in the trunk. In walking, they are most important as an antagonist to the quadriceps in the deceleration of knee ext

Gluteal

muscles are the three muscles that make up the buttocks: the gluteus maximus, gluteus medius and gluteus minimus.

Function:

Gastrocnemius

(muscle is a very powerful superficial muscle that is in the back part of the lower leg and also called the calf. It runs from its two heads just above the knee to the heel.

Function: is involved in standing, walking, running and jumping. Along with the soleus muscle it forms the calf muscle

tibialis anterior

is a muscle that originates in the upper two-thirds of the lateral surface of the tibia and inserts into the medial cuneiform and first metatarsal bones of the foot. Its acts to invert the foot.

It is situated on the lateral side of the tibia; it is thick and fleshy above, tendinous below.

This muscle overlaps the anterior tibial vessels and deep peroneal nerve in the upper part of the leg.

Function: The tibialis anterior muscle is the most medial muscle of the anterior compartment of the leg. It functions to stabilise the ankle as the foot hits the ground during the contact phase of walking (eccentric contraction) and acts later to pull the foot clear of the ground during the swing phase (concentric contraction). It also functions to 'lock' the ankle, as in toe-kicking a ball, when held in an isometric contraction.

Antagonists are plantar-flexors of the posterior compartment such as soleus and gastrocnemius.

Essentially, the movements of tibialis anterior are dorsiflexion and inversion of the ankle. However, actions of tibialis anterior are dependent on whether the foot is weight bearing or not (closed or open kinetic chain). When the foot is on the ground the muscle helps to balance the leg and talus on the other tarsal bones so that the leg is kept vertical even when walking on uneven ground.

Leg Stretching Exercises

Many people suffer from symptoms of tight leg muscles. A very common cause of leg tightness is due to the amount of time we spend sitting throughout the work day. As our knees are bent in this position, the muscles that flex the knee joint become used to being in this shortened position.

Tight leg muscles can predispose one to injury during daily and recreational activities as well as contribute to the development of back pain. To prevent this, it is important to perform leg stretching exercises to loosen tight muscles.

Performing daily leg stretches is one activity that should be incorporated into your daily routine.