

Hamstring Muscles, Functions and Exercises:



Anatomy of the Hamstring Muscles

The *Hamstrings* are actually comprised of three separate muscles: the *Biceps Femoris*, *Semitendinosus* and *Semimembranosus*.

These muscles originate just underneath the *Gluteus Maximus* on the pelvic bone and attach on the tibia.

The *Hamstrings* are primarily fast-twitch muscles, responding to low reps and powerful movements

Functions

The "commonly thought of" primary functions of the *Hamstrings* are knee flexion (bringing the heel towards the buttocks) and hip extension (moving the leg to the rear).

An example of knee flexion is the **leg curl** exercise and an example of hip extension is the stiff-legged deadlift exercise.

In movement, the hamstrings "primary" function is NOT knee flexion. In walking or running, for example, the primary function of the hamstring is to decelerate the lower leg in the saggital plane. Positionally, knee flexion in walking/running occurs as a result of hip flexion and plantarflexion, again positionally. When the body responds to gravity, function changes.

Exercises

- **Leg curls**
- Stiff-legged deadlifts
- Squats
- **Lunges**
- Standing leg curls
- Body leg curls

Leg Curls Exercise

The **Leg Curl** exercise is the most common hamstring (the muscles along the rear of your thighs) exercise you will see in the gym, though the hamstrings are actually one of the most neglected parts on the body (this may be because you can't see them in the mirror) even though they are extremely important for lower body strength and power!

Primary Muscles Worked:

- Biceps Femoris
- Semimembranosus
- Semitendinosus

Description:

Part of the hamstring muscle group that flexes the knee.

Elements of Hamstring Anatomy: the three wide muscles in the back of the thighs are called ischiocrural muscles and they include the bicep femoris biceps, the semitendinosus and the semimembranosus. The ischiocrurals work to stretch the hip and to bend the knee.

Secondary Muscles Worked:

Gastrocnemius

Description:

One of the muscles of the calf that crosses the knee joint, involving it in the knee flexion movement.

How to Do Leg Curls:

- Lie face down on a Leg Curl machine, chest flat on it and hands gripping on the handgrips.
- The back of your ankles should be against the pads and your knees should be in line with the rotating cam of the machine.
- Curl your legs up, keeping your hips down against the bench.
- Squeeze at the top then lower slowly back down.
- Do not use momentum to swing the weight up as this will reduce the effectiveness of the exercise
- Do not allow your hips to come up off the bench as you curl up. This takes tension off the hamstrings and can place it on the lower back and glutes.
- A good Leg Curl machine will not have a flat bench but will be angled slightly. You can accomplish this on a flat-benched machine by placing a towel under your hips.

Hamstring Training Notes: although these muscles are not voluminous, they greatly contribute to great performance in those sports where the legs play a fundamental role (tennis, soccer, basketball, running, cross-country skiing and many others). Additionally, if the hamstrings are not properly trained, they are often subject to sprain, therefore we recommend training this area of your legs as much as any other.