



# Muscle Building for Athletes

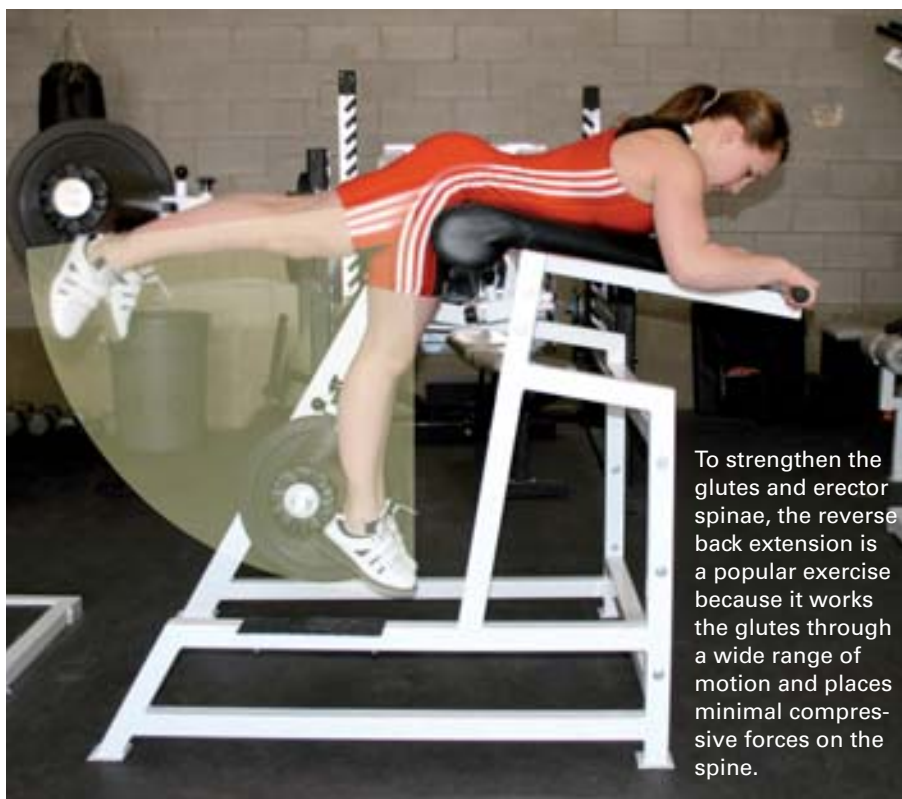
How to train the posterior chain muscles to run faster and jump higher

If you're a bodybuilder and your training time is very limited, chances are you will focus on the "showy" muscles on the front of the body, such as the chest and quads. These are the muscles that often make the most dramatic first impression. That may be fine for bodybuilders, but for other athletes it's not what's up front that counts but what's behind.

Running speed and jumping ability are critical in most sports, and the muscles that influence these qualities the most are those that are collectively referred to as the posterior chain: glutes, hamstrings and the erector spinae. In fact, it's estimated that 45 percent of the muscle power from jumping comes from just the strength of the gluteal muscles, compared to the quadriceps, which contribute less than 20 percent. The hamstrings are also important – just look at the hamstring development of world-class sprinters and you'll find that they are often on par with professional bodybuilders.

## Speed Anatomy 101

The largest gluteal muscle is the gluteus maximus, and its primary function in speed and jumping ability is extension of the hip. The erector spinae is not directly attached to the upper legs



To strengthen the glutes and erector spinae, the reverse back extension is a popular exercise because it works the glutes through a wide range of motion and places minimal compressive forces on the spine.

but assists with hip extension and plays a major role in stabilizing the trunk.

The hamstrings muscle group is actually composed of three separate muscles. The first is the biceps femoris, or short head. Its primary function is to flex the knee, but it also can help with turning the foot outward. The other two hamstrings muscles are the semimembranosus and the semitendinosus, collectively referred to as the long head. These

two muscles cross both the hip and the knee joint and are therefore involved in extending the hip *and* flexing the knee. They also are involved in turning the feet outward and inward. What this means is that workouts for the hamstrings should involve exercises for *both* the hip extension function and the knee flexor function.

Although there are countless exercises for the glutes, hamstrings and erector



spinae, let's explore the most popular auxiliary options for each.

For the glutes and erector spinae, the reverse back extension is a popular exercise because it works the glutes through a wide range of motion and places minimal compressive forces on the spine. In fact, the machine is often used in rehabilitation programs for those with lower back issues.

The glute-ham raise is a favorite because it involves hip extension and knee flexion and also requires stabilization of the trunk with the erector spinae. The glute-ham raise is performed on a specific bench called the glute-ham developer, which uses a curved hip pad that allows the knees to bend at the top of the movement.

BFS offers two major variations of glute-ham machines, the standard design and also one with a roller attachment that is much easier for beginners and a knee pad that ensures perfect form; we call this unit the beginner glute-ham developer. The glute-ham developer also comes in a version called the heavy duty Super Glute that is designed to accommodate the largest athletes.

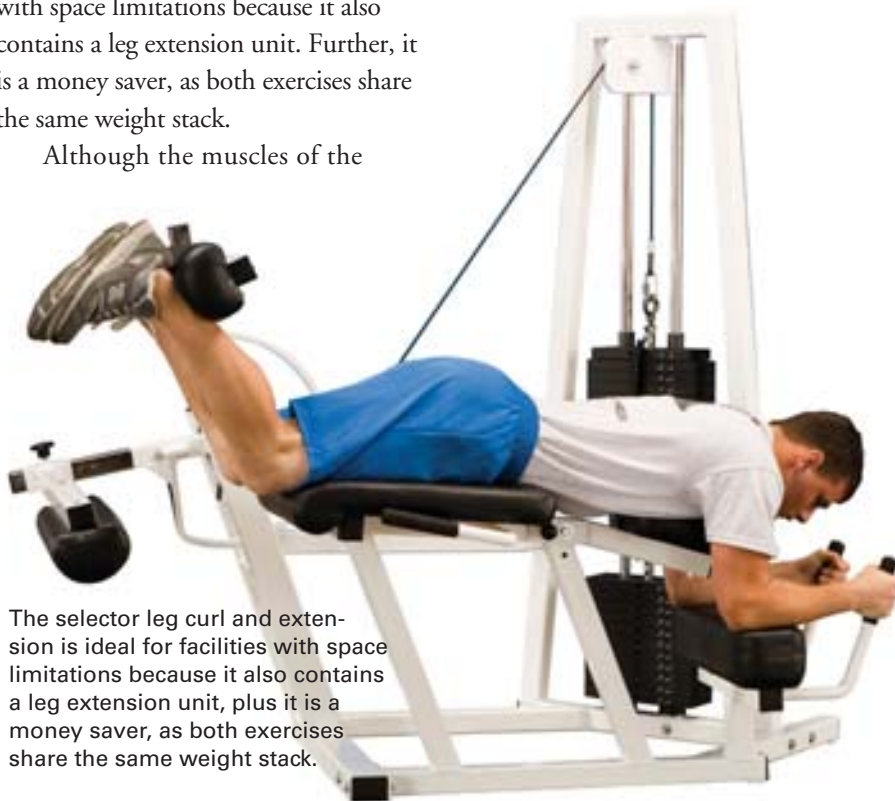
To work on knee flexion while focusing on the biceps femoris, prone leg curls are a favorite among athletes. To

prevent hyperextending the lower back, it's best to use a bench that is split into a V-shape.

BFS offers several versions of these machines, such as single-station units that are plate loaded (for those facilities on a limited budget) and a unit with a convenient selectorized weight stack. BFS also offers the selector leg curl and extension, which is ideal for facilities with space limitations because it also contains a leg extension unit. Further, it is a money saver, as both exercises share the same weight stack.

Although the muscles of the

posterior chain may not be as flashy as other muscle groups, athletes should pay special attention to them by doing auxiliary exercises such as glute-ham raises and leg curls. These posterior chain muscles might not gain you as many points as other muscles in a bodybuilding posedown, but when it comes to your sport, they will help you win! **BFS**





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