All About Glutes

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Are You Training Your Glutes the Wrong Way?

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These days, the glutes get a lot of attention, and it's well deserved. When you build and strengthen your glutes in the right way, they not only make your body look better, but they also increase your performance and can diminish knee pain. The problem is most people aren't taking the best approach to training for the highest level of glute development.

Anatomy of the Glutes

Let's start with a little anatomy. When we say "glutes" we're referring to three separate muscles: gluteus maximus, gluteus medius, and gluteus minimus.

The gluteus maximus is, by far, the largest of the three, and it mostly determines the overall shape of your butt. In fact, gluteus maximus earned its name by being the largest muscle in the body.

The gluteus medius is significantly smaller and lies underneath the gluteus maximus.

Finally, gluteus minimus is the smallest of the three (hence the name), and it lies deep below the gluteus medius.

Functions of the Glutes at the Hip

To develop the most effective training plan for a muscle group, it's imperative to understand all the primary functions muscle can perform.

The gluteus maximus can perform three functions at the hip: extension, abduction, and external rotation.

The primary function of the gluteus medius is hip abduction and the posterior part of the muscle can assist in hip extension and external rotation.

The gluteus minimus works with the gluteus medius to perform hip abduction.

Since the glutes perform three actions at the hips, it's clear that if you train only one, or even two, of those movements, your results will suffer. This means your clients will lack the overall glute strength they need, which can cause knee pain.

The Shortcoming of Most Training Programs

Variations of the squat, deadlift, lunge, and glute bridge are all good choices for any strength program. However, those popular exercises strengthen only one function of the glutes: hip extension.

By doing nothing but hip extension exercises, you're neglecting the gluteus medius, gluteus minimus, as well as two other potential functions of the gluteus maximus (i.e., abduction and external rotation), as shown in the table below.

Muscle	Primary Actions at the Hip
gluteus maximus	extension, abduction, external rotation
gluteus medius	abduction (some extension and external rotation)
gluteus minimus	abduction

But making a point to start training the glute muscle fibers that perform abduction and external rotation goes beyond muscle development. Building strength in those movement patterns is essential to knee health and performance[1].

You can begin to help clients improve the strength of all three gluteal muscles by including the side plank clam into their program:

Modified Side Plank Clamshell with Band

By adding this exercise, your client will benefit in three ways:

Less knee pain: The strength of the glutes, especially for producing abduction and external rotation, are correlated with knee health[2, 3].

Better performance: High levels of glute strength, in all three planes of movement, are beneficial for improving your client's performance when running, jumping, and quickly changing directions on the playing field[4].

Better glute strength: For the glutes to have optimal strength, all three of their potential actions need development[1]. Simply adding the side plank clam into your client's program will develop hip abduction and external rotation strength. The third action—hip extension—develops through traditional exercises such as squats, deadlifts, and lunges.

How to do it: Start with two sets of a 30-second hold on each side, every day. Increase the duration of the hold by five seconds every 2-3 days, or whenever possible, until you reach 60 seconds. At that point, switch to a band that has more tension and repeat the progression from 30-60 seconds over the course of a few weeks.

Progression and Preventing Knee Valgus

When you watch people land from a jump, or squat a challenging weight, you've inevitably seen one or both of their knees buckle inward. This faulty movement compensation is knee valgus and it occurs from a combination of hip adduction and internal rotation.

Knee valgus is not only detriment to performance due to the lack of control at the hip, but it can also contribute to dysfunction of the knee joint [2, 5, 6].

Furthermore, dynamic knee valgus is associated with various knee injuries, including anterior cruciate ligament (ACL) tears [3].

Simple Solution

The good news is there's an easy way to ensure all three gluteal muscles are strengthened when your clients perform squats or deadlifts: simply place a mini-band above their knees and cue them to keep their knees directly above the feet in the "knee neutral" position.

Stretching the band kicks in the gluteal fibers that perform hip abduction and external rotation, which are the areas that most people lack strength.

Once you've used the side plank clamshell exercise to isolate and build strength in the glutes, your client will have a solid muscular foundation to start working on those ever-popular squats and deadlifts with a band above the knees.

Now you have a simple program to help your clients build glutes that not only perform better but also reduce stress to the knees. You can't beat that combination.

Interested in strength and want to do more? Sign up for the ISSA's Strength and Conditioning online course!

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How to Identify and Correct Tight Hip Flexors

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"Tight hip flexors" is a buzzing term in gyms around the country. People in yoga studios are stretching out their hip flexors, runners are blaming a short stride and injuries on these muscles, and your clients are probably asking you about their own tight hips.

It's important to understand exactly what it means to have tight hip flexors so you can help your clients. They may genuinely have tight muscles in the hips that need stretching, but they may also need to strengthen the hip flexors or related muscles, like the glutes or core.

Tackle the issue with information so you can determine if your clients really do have tight hips or if there is another problem. With a few new stretches and exercises, you can help those with tight hip flexors loosen them up, get better mobility with less pain, and avoid injuries.

What Exactly Are Tight Hip Flexors?

First, help your clients understand what the hip flexors are, what they do, and how you know when they're tight. The term hip flexors refers to a group of muscles in and around the hips that help move the legs and the trunk together, as when you lift your leg up, bending at the hip.

The Hip Flexor Muscle Group

The muscles of the hip flexor include the following:

- Iliopsoas, which is actually two muscles, the psoas and the iliacus
- Tensor fasciae latae
- Rectus femoris
- Sartorius

Together these muscles produce flexion, the movement and tightening of muscles that allows for flexing of the hip joint. They also help to stabilize the spine.

Strengthening the core is important to supporting the hip flexors, but are sit-ups the best way to work your abs? Head to the ISSA blog for the answer.

Signs You Have Tight Hip Flexors

The obvious sign, of course, is that these muscles just feel tight. You try to stretch them and they don't move much. But there are other signs too. Tight hip flexor muscles can affect several other areas of your body, so you might have:

- Tightness or an ache in your lower back, especially when standing.
- Poor posture and difficulty standing up straight.
- Neck tightness and pain.
- Pain in the glutes.

You can also do a test to evaluate tightness. Lying on your back on a table or bench, pull one knee up toward your chest and hold it there. Let the other leg relax downward over the edge of the table. It helps here to have someone hold that leg for you so you can do it slowly.

If your hip flexors are fine you should be able to fully extend the thigh so its parallel to the floor and bend the knee to 90 degrees without the thigh rising. Any difficulty with these movements indicates tight hip flexor muscles.

What Causes Hip Tightness?

For most people, the biggest cause of tightness is what we do all day long: sitting for too long is a major culprit in tightening the hip flexors. When you sit all day at a desk, the iliopsoas shortens, making the flexors tight.

Some athletes are also more prone to tightness. Runners use the hip flexors, especially the iliopsoas, to lift the leg up with each stride. This repeated shortening of the muscle isn't compensated for by a lengthening movement. Runners often end up with tight hip flexors for this reason.

Having a weak core can also be an issue that contributes to tight hip flexors. Because these muscles connect to and stabilize the spine, they often take over when the core is not strong. This can lead to tightening and pain.

Stretches to Loosen up Tight Hip Flexors

Having tight hip flexors can cause injuries, pain, and restricted mobility, so it's worth taking a few minutes per day to stretch them out if you have tightness. Here are stretches to try, for you or your clients:

- **Foam roll.** A foam roller can be useful in stretching and loosening hip muscles. Get into a forearm plank position on the ground with the roller under the front of one hip. Let the other leg stay out to the side, off the roller. Roll up and down for about 30 seconds, focusing on points that feel especially tight.

- **Pigeon pose.** Borrow this move from yoga to stretch out the flexors. On your hands and knees, pull the right knee forward. Bend it under your chest and stretch out the left leg behind you. Lay down on top of your bent knee as much as you can. With tight muscles, it may take some time before you can do this fully, so take it slowly.
- **Butterfly stretch.** Sit on the floor with the bottoms of your feet pressed together. Let the knees fall outward to stretch the hips. For an extra stretch, gently push down on your knees.
- **Low lunge.** Perform a deep lunge with the right leg forward. Gently let the left knee rest on the ground and straighten that leg as much as possible. Put your palms flat on each side of the right foot, then raise the left arm up above your head and lean to the right. Hold a few seconds and repeat on the other side.

Exercises to Strengthen Hip Flexors

Moves that strengthen the hip muscles, the glutes, and the core will all be useful in preventing tightness in the hip flexors as well as injuries. These moves can improve strength and give a good stretch at the same time:

- **Glute bridges.** This move will work your hips, core, and glutes. Lying on your back with knees bent, lift the hips up as high as possible and squeeze the glutes. To make it more difficult, cross one leg over the opposite knee and lift one side at a time.
- **Single-leg squat.** To really focus on one area at a time, try a single leg skating squat. Lower into a typical squat and lift one leg up and back as you rise back up to standing position. Stretch the opposite leg out straight to lengthen hip flexors while also working the glutes.
- **Mountain climbers.** In plank position on your hands, alternate bringing each knee forward, toward your chest. You can use sliders for this and do it either fast or slow to work both hips and abs.

Hip flexor tightness can be a real pain but working certain muscles and doing the right stretches provide easy fixes. Help your clients be more aware of their hips and diagnose any issues so you can correct them before they suffer injuries.

If you're interested in the fine details of movement and form and helping people avoid or recover from injuries, check out the ISSA's Corrective Exercise Specialist certification course.

Pain in the Buttocks When Sitting? Tips to Prevent and Manage Piriformis Syndrome

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If you (or your client) has ever had sensations like sharp pain, numbness, or tingling in your lower back and buttocks (glute) region that travels down the back of your leg, you're not alone. And, a muscle called the piriformis could be to blame.

This small muscle plays a key role in keeping lower body movements smooth and balanced, particularly during extension, abduction, and external hip rotation. And, when you know how it affects movement and pain, you can help clients avoid what's called piriformis syndrome. Simple mobility and flexibility exercises can help you alleviate the symptoms and stay pain free.

What is Piriformis Syndrome?

The piriformis is a small, flat, band-like muscle that originates on the anterior surface of the sacrum and connects the most inferior part of the vertebrae to the upper part of your leg. A simple reference point for this muscle is the back of the hip because it sits on top of the hip joint.

The sciatic nerve, on the other hand, runs alongside or through the piriformis muscle, traveling down the back of the leg and branching into smaller nerves that end in the feet. Much of that pain your clients experience is from the interaction between the piriformis muscle and the sciatic nerve.

When people have symptoms of piriformis syndrome, some assume it to be a herniated disc. But, an alternative cause, proposed by Freiberg and Vinke and developed by Robinson who coined the term "piriformis syndrome," is compression of the sciatic nerve from a tight piriformis muscle.

How Does Piriformis Syndrome Happen?

Reciprocal inhibition is a common phenomenon that happens when muscles on one side of a joint contract and opposing muscles on the other side of the joint relax. This allows movement to take place.

So, tight hip flexors will cause the gluteus maximus to become inhibited, or "silent." This doesn't mean movement at the joint can't occur. Instead, another muscle must pick up the slack and in this instance it's the piriformis.

Since the piriformis is small and not intended to do all this work, it can get overactive and spasm easily in these cases. When this happens, it can compress the sciatic nerve, leading to pain, numbness, and tingling sensations. Because it's an overactive muscle, spasming from too much work, it just needs a break. By doing

hip flexor and piriformis flexibility exercises, these symptoms of tightness and pain subside, restoring normal movement and function.

The pain from piriformis syndrome can occur during many movements since this muscle is so integral in lower body mechanics. But when it's over-activated, and nerve compression is happening, you or your client might feel pain just sitting at a desk, in the car, or even while standing.

Clients who are extremely active and prone to developing this condition include soccer players, track and field athletes, runners, and triathletes. This is due to the constant lifting and rotation of the thigh away from the body. Including piriformis syndrome stretches into their exercise programming is essential.

Special Considerations with Clients

According to Harvard Health, it is also important to have a full health history on your clients, as other medical issues will also accelerate the pain associated with piriformis syndrome. Some of these conditions include:

- Previous injury
- Abnormal development of sciatic nerve or muscle
- Postural deviations
- Leg length discrepancy
- Unusually vigorous exercise
- Excessive bouts of sitting
- Previous foot issues

Prevention and Pain Management

Piriformis syndrome doesn't have to sideline your clients' goals and successes. Simple mobility exercises will help keep this tiny muscle from tightening and causing pain and dysfunction. Keeping the body's strength work balanced will help to avoid overcompensation issues and including strengthening work specifically on the hip adductors is essential.

Check (and share!) out this great resource of the best ways to deal with pain in the buttocks- piriformis syndrome. And, if you want to be an expert at working with clients who have these types of symptoms (and so, so much more) then you should be a Corrective Exercise Specialist. Get this advanced certification and bring even more value to the clients you work with.

Lindsay Kent

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How Do I Build the Perfect Glutes?

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Everyone wants to be strong and fit. But let's face it, they also want a perfect butt, glutes, or backside. It's one of the most common things clients ask for. You've figured out how to correct overactive and underactive muscles involving the glutes, and now it's time to get into the specifics.

First, circle back to the key muscles involved. Those that give the nice, curvy bottom include the gluteus maximus, gluteus medius, and gluteus minimus.

A lot of our daily movements, like walking or running, involve these muscles, and yet, most people never train them specifically.

When you do train your gluteus muscles, it's possible to achieve hypertrophy, or growth in the size of the muscles. The secret is to target each of the glute muscles and to progressively overload them with high intensity.

You can achieve this within any range of reps, but you get the best muscle hypertrophy results from a rep range of six to twelve and with a heavy resistance.

Check out our Bodybuilding Certification or our Certified Fitness Trainer program to get the latest on hypertrophy gains.

Can't I Just Squat and Lunge?

From a lot of people who haven't done their research, you'll hear: "Just squat more! And dead lift more!"

Squats, deadlifts, and lunges definitely hit the glutes, but they also target a lot of other muscles, like the quads, hamstrings, abs, and others.

Although some people may build a beautiful derriere from just squatting, deadlifting, and lunging, one size does not fit all, and this approach may not work for everyone. For those who need a little extra help, or don't want to spend all their time in the squat rack, hit those glutes directly.

If you want to really build an impressive tush, you need exercises that cause the highest percentage of muscle activation from the three gluteus muscles.

The glutes are most activated when the hips are near full extension, so focus on exercises that target the glutes and achieve this full range of motion.

Your Best Bets to Target the Glutes

Now, let's get specific. What exactly are the best exercises for seeing growth in the glute muscles?

- Side plank abductions
- Single-leg squats
- Hip bridges
- Kettlebell swings (with an emphasis on hip thrust with glute contraction)
- Hip external rotations
- Single-leg elevated hip thrusts

Most of these exercises achieve a 70% or greater maximal voluntary muscle contraction (MVIC). The higher that percentage, the more you're working those glutes and the faster you're moving toward bigger muscles.

Side plank abductions come out on top with 103% MVIC, and single-leg squats are the next best with 82% MVIC.

Don't Forget the Legs

Impressive results in glute muscle development also come with an added glute-intensive workout day.
But you should also include your legs because they are all related.

On Monday, dedicate your workout to leg exercises that also hit the glutes:

- Heavy barbell squats
- Split lunges
- Hamstring curls
- Leg extensions

On Friday or Saturday, workout to strictly "booty building" and put your glutes through the ringer.

The progressive overload principle, which is the "gradual increase of stress placed upon the body during exercise training," is the key to your progress here.

This is the most important principle in strength training, and it gives you the best results in muscle growth and strength.

This is because muscles increase in strength and size when they are forced to contract at tensions closest to their maximum.

To achieve this, you can:

- Perform more reps with the same amount of weight.
- Increase the resistance load and perform the same amount of reps.
- Add more sets of “work” to a specific muscle group.

Train the Glutes SPECIFICALLY

The takeaway lesson here is squats and deadlifts are not a sure guarantee. You cannot simply squat and deadlift your way to a firm and curvy backside.

It’s a pretty simple principle: If you want to grow big, strong biceps, you have to train your biceps, not your triceps.

So, if your client wants to build bigger, stronger glutes? Train the heck out of the glutes, not just the other surrounding muscles in the legs.

What if your client says: “I’m happy with my quad and hamstring development, but my glutes are not up to par. I want to build my glutes up more but keep my quads and hamstrings the same size.”

A tough goal to achieve for sure, but totally possible. Most of the women who say this will likely report they squat, deadlift, and lunge just as much as the guys.

This is exactly why their glutes are lagging behind the development of their quads and hamstrings—most of those exercises are compound movements. The other muscles of the leg take over during the movement instead of giving the glutes their highest percent of muscle activation.

Most importantly, remind your clients who want bigger butts: Adding squats and lunges alone may not do the trick. They must add specific, targeted glute exercises and workouts at least once a week.

Ready to begin a new career helping clients improve their form and overall fitness? Sign up for the ISSA’s personal trainer course online so you can begin changing lives!

Beverly Paquin

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