

Gluteal, Groin and Hip Flexor Muscles

Learning Outcomes

After reading this chapter, you should be able to do the following:

- Apply trigger point release to the gluteal muscles and hip flexors.
- Use the forearms, fists or elbows as appropriate when applying massage to treat piriformis syndrome, groin strain and tight hip adductors.
- Apply soft tissue release strategies to the gluteal muscles and hip flexors.
- Use passive stretches to stretch the gluteal muscles, hip adductors and hip flexors.
- Explain which active stretches might be most appropriate for the gluteal muscles, hip adductors and hip flexors.

In this chapter, you will learn how to help clients with trigger points in the gluteal muscles, piriformis syndrome, groin strain, tight hip adductors and tight hip flexors using massage, trigger point release, soft tissue release (STR) and both active and passive stretching. In almost all cases, strengthening is valuable for assisting recovery, whether this is to regain strength in the muscle itself or to strengthen an opposing muscle group for reciprocal inhibition. People with an acute injury often compensate by overusing the opposite limb; people with a condition affecting their right hip, for example, commonly have pain in their left knee. Reducing the pain of a hip condition is therefore important because it can help a person to regain a proper gait pattern before compensation has a detrimental effect on the hip and knee joints. Chapter 7 contains examples of helpful exercises to strengthen the hip. Because hip conditions also affect the rest of the lower limb, you may discover that your client has issues in their knee or even their ankle, and chapters 4, 5 and 6 may also be helpful.

Trigger Points in the Gluteal Muscles

Trigger Point Release

Trigger points are found throughout all three gluteal muscles – in the gluteus maximus close to the lateral border of the sacrum, in the gluteus medius running inferior to the iliac crest and in the gluteus minimus. Trigger points in the gluteal muscles are aggravated by prolonged immobility, either when sitting or standing, and they are associated with trigger points in the quadratus lumborum muscle. Some of the gluteal trigger points are illustrated in figure 3.1 with white circles.

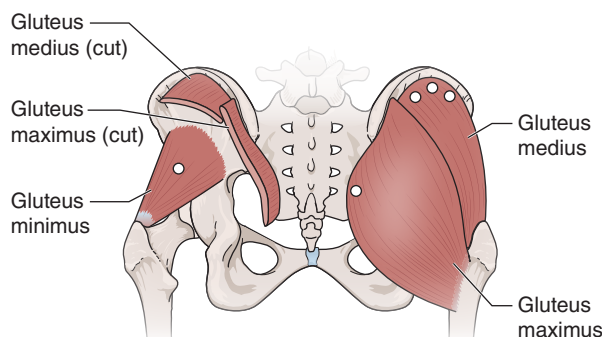


Figure 3.1 Trigger points in the gluteal muscles.

The gluteus maximus trigger point causes pain along the sacroiliac joint and into the base of the buttock on that side, and it is easy to identify when your client is in a side-lying position. The gluteus maximus is also associated with trigger points in the hamstrings and lumbar erector spinae; pain is perpetuated by prolonged sitting and activities that require hip and spine extension, such as repeated lifting of a heavy object.

The trigger points in the gluteus medius cause pain in the sacrum, sacroiliac joint and ipsilateral (same-side) buttock. Palpate for these triggers when your client is in either the side-lying or the prone position, sliding your fingers inferiorly off the iliac crest. Trigger points in the gluteus medius, perhaps more than in the other two gluteal muscles, are perpetuated by gait abnormalities, as might be caused by leg-length discrepancy or Morton foot (in which the second toe is longer than the big toe). They are also aggravated by prolonged sitting and prolonged hip flexion.

Trigger points are found throughout the upper portion of the gluteus minimus and cause pain in the buttock and lateral thigh and leg on that side. To palpate these trigger points, position your client supine, locate the tensor fasciae latae, and work your fingers posteriorly into the gluteus minimus. Because it is a deep muscle, you are unlikely to be able to identify specific triggers easily, but you may be able to reproduce mild tenderness when applying pressure here.

Onik and colleagues (2020) conducted an interesting study of myofascial trigger points in the gluteal region that they had identified using both palpation and thermal imaging. Their study involved 30 participants who were asked to rank pretreatment and posttreatment trigger point pain that was reproducible on palpation, using a numerical rating scale. Treatment consisted of simple progressive compression of a trigger point for

TRIGGER POINTS IN THE GLUTEAL MUSCLES

1 minute. All participants reported a significant reduction in posttreatment pain and had an initial increase in skin surface temperature, followed by a decrease. The researchers postulated that after compression of the trigger point, there was local occlusion of blood to the area, followed by vasodilation once the pressure was released. They were reluctant to speculate as to the reasons for this; however, their study provides a useful contribution to the understanding of trigger points.

TIP

Using Gentle Pressure to Release Trigger Points

A great way to alleviate tension in the gluteal area is simply to compress the tissues, focusing on areas of tightness. You can do this using your forearm or elbow. Start by working over the area consistently with your forearm, avoiding the use of your elbows. Figure 3.2 illustrates the procedure (the client shown in the figure is more side-lying than three-quarter lying; however, three-quarter lying will give you better access to the gluteal muscles). You can continue to treat the area in this way, or you can apply a little oil, place a towel over the area, and work through the towel. The oil will grip the towel, and you can use a twisting movement to stretch and compress the tissues. This is a nice alternative to treating the gluteal muscles in the prone position and can be combined with treatment to the lateral thigh of the limb and the tensor fasciae latae muscle on the same side.



Figure 3.2 Gentle pressure using the forearm to release trigger points.

TIP

A mistake some therapists make when treating gluteal muscles is to use too much pressure too soon in too precise an area. In the three-quarter lying position, the client will sense the pressure far more than when prone.

With the client positioned as for figure 3.2, use your elbows as a way to focus pressure to more defined areas. Start by leaning onto the client, using your forearm to gauge their sensitivity to pressure. Should the client require deeper pressure, slowly flex your elbow (figure 3.3). Remember that you need to flex your elbow only a few degrees for the client to experience a disproportionate rise in pressure. This technique is a great way to focus pressure to localised areas. However, this area is highly sensitive to pressure in many people, so apply this technique cautiously.

TRIGGER POINTS IN THE GLUTEAL MUSCLES



Figure 3.3 Gentle pressure using the elbow to release trigger points.

TIP

In whichever treatment position you are using (prone, side-lying or three-quarter lying), be aware of deep pressure to the piriformis muscle, because this can be painful. Note that discomfort does not necessarily indicate piriformis syndrome, as is believed by some therapists.

You can teach clients how to release trigger points themselves. To do this, have them stand with their back to a wall and place a ball between the buttock on one side and the wall (figure 3.4).



Figure 3.4 Positioning a ball to self-release trigger points in the gluteal muscles.

Stretching

Figure 3.5 (a, b) provides examples of active stretches that are useful after trigger point release. The passive stretch shown in figure 3.5c is useful but difficult to apply with a

TRIGGER POINTS IN THE GLUTEAL MUSCLES

client on a treatment couch because of the force needed to stretch the strong muscles of the buttock region. To perform the passive stretch, start with the client's hip and knee at a 90-degree angle, as shown, and move the lower limb towards the client in an attempt to stretch the gluteal region. Solicit feedback from the client to help determine the best position to hold the stretch. Some clients find this position uncomfortable when it compresses the rectus femoris tendon on the anterior of the hip.



Figure 3.5 (a, b) Active and (c) passive stretches for gluteal muscles after deactivation of trigger points.

Soft Tissue Release

Soft tissue release can be used successfully to release trigger points in the gluteal muscles too. It can be done with your client in the side-lying position or prone. Two methods are described here.

With experimentation, it is possible to locate the fibres of the gluteus minimus with your client in the side-lying position. Trigger points in this muscle can be more difficult to access when using STR in the prone position. You may find that you need to lower your treatment couch to make working with the side-lying client easier, because their body will be higher than when they rest prone or supine. When you begin, it is

TRIGGER POINTS IN THE GLUTEAL MUSCLES

challenging to keep a client balanced in the side-lying position whilst you focus your lock in the correct spot on the muscles. With practice, you will be able to identify triggers in the gluteus maximus and use STR in this position to deactivate them. With your client in the side-lying position and the hip in neutral, use your forearm (close to the elbow) to lock the gluteal muscles, directing your pressure towards the sacrum (figure 3.6a). Whilst maintaining your lock, ask your client to flex the hip, perhaps by asking them to take the knee to the chest (figure 3.6b). Repeat this action for a few minutes, varying the position of your lock and working on the area that feels most beneficial for the client.



Figure 3.6 (a) Locking the gluteal muscles close to the sacrum with the hip in a neutral position followed by (b) active hip flexion.

TIP

It is quite challenging to apply active assisted STR to the gluteal muscles, and it takes practice to focus your lock in the correct spot on the muscles. With experience, however, you will discover a small area that, when locked, provides for the greatest degree of stretch.

Another way to apply STR to the gluteal muscles is with your client in the prone position. Grasp the ankle of the leg closest to you and flex the knee. Gently lock the tissues using your elbow, fist or thumb. In figure 3.7a, the therapist has chosen to use the elbow to lock fibres of the gluteus medius. Maintaining your lock, rotate the femur by passively moving the ankle towards you or away from you, experimenting to determine where your client feels the stretch most (figure 3.7b).

TRIGGER POINTS IN THE GLUTEAL MUSCLES



Figure 3.7 (a) Gently locking the gluteal muscles with an elbow, then (b) passively rotating the femur whilst locking the tissues of the buttock to bring about a stretch.

One way for your client to perform STR on the gluteal muscles is to use a tennis ball (figure 3.8a), just as they did for simple trigger point release, but then to flex their hip (figure 3.8b). Because this technique requires standing on one leg as the hip is flexed, it can be difficult for people with poor balance.



Figure 3.8 (a) Static pressure to the gluteal muscles using a tennis ball followed by (b) active hip flexion brings about a stretch in the gluteal muscles.

TIP

To stretch the gluteus medius and minimus, the client could change their position so that their back is turned away from the wall or they are standing almost with the side of their body to the wall as they not only flex but adduct the hip. Try this for yourself. Notice how medial rotation of the hip can bring about a stretch in some parts of the gluteal muscles once you have locked them using a ball.

Piriformis Syndrome

Piriformis syndrome is the name given to pain in the buttocks and lower limb resulting from compression of the sciatic nerve in the region of the piriformis muscle, perhaps caused by the muscle itself. As the sciatic nerve runs from the sacrum and down the lower limb, it passes above, below or through the piriformis muscle. When piriformis syndrome results from compression of the nerve by the piriformis muscle, you have the opportunity to reduce symptoms. Some therapists erroneously believe that if they position the client into a side-lying pose and press the midregion of the buttock, the resulting pain indicates piriformis syndrome or trigger points. It is certainly possible to access the region of the piriformis muscle with the client in the side-lying position, but unsurprisingly, localised pressure here will be painful, as this is precisely how to access the sciatic nerve.

Clients with piriformis syndrome are likely to have a positive hip flexion, adduction and internal rotation sign, and this test can be helpful in determining treatment. Importantly, pain in this region can result from other conditions, such as spinal stenosis, and people with a poor response to treatment should be referred to a doctor.

Massage

It can be helpful to address trigger points in the surrounding muscles instead of attempting to massage the piriformis itself. As mentioned, the sciatic nerve is sensitive in many clients because of its proximity to the piriformis muscle, and if your pressure is too deep when massaging, clients will simply contract their muscles, defeating your efforts. The trick with massage to the region is to work the area within the client's pain threshold without causing spasm in the muscles.

Trigger Point Release

Trigger point release to the gluteal muscles using the techniques previously described is helpful at reducing tension in surrounding soft tissues.

Soft Tissue Release

Soft tissue release to the gluteal muscles as previously described is useful in reducing tension in the gluteal region.

Stretching

Both passive and active stretches are helpful to reduce pain from compression of the sciatic nerve in the piriformis region. The rationale for the use of stretching is twofold: to increase the resting length of the piriformis muscle and to reduce pressure on the sciatic nerve. The stretches shown in figure 3.5 are all appropriate. Unfortunately, whether performed actively or passively, the stretch initially tenses the muscle, and this in turn can compress the nerve, appearing to aggravate symptoms. Therefore, it is necessary to gradually build up the client's tolerance to stretching; otherwise, you risk turning them off to the use of this treatment.

Gulledge and colleagues (2014) conducted a study of the effectiveness of piriformis stretching among seven women diagnosed with piriformis syndrome. Three computed