

Soft Tissue Release Techniques

In this part of the book, you will find information on how to apply each of the three types of STR: passive (chapter 3), active-assisted (chapter 4) and active (chapter 5). Each of the three chapters in part II follows the same format: First is a step-by-step description of how to perform the technique. Next, detailed descriptions explain the direction in which to apply locks, how to focus the stretch to a particular area, the direction in which to apply pressure, how to take up slack in the skin and how to incorporate STR with oil massage. Chapter 5 additionally has a section on using active STR as part of a home care programme. Key holds, moves and stances are described, using plenty of examples involving different muscles. This section provides condensed instructions and photos showing the start and end positions of stretches for each muscle. It is important to safeguard yourself and your clients when working, and each chapter therefore contains useful safety guidelines specific to the type of STR being described and when that particular form of STR is indicated. Each chapter also contains a section describing how to use that form of STR to treat trigger points and one on how to become proficient in STR. At the very end of each chapter you will find a table of thumbnail photographs of each of the muscles for which STR has been described. You can use it when practicing the techniques, making notes as to what you have found easy and on which muscles and with which form of STR you need more practice.

When performing STR, remember that some muscles are not usually shortened during the application. This is because it would be technically difficult to lock them once they have been placed in a shortened position. Table 4.1 lists those muscles that are usually shortened and those that are not.

Reading through these chapters will provide you with a clear understanding of the differences among the three types of STR. You will then be ready to practice their application on different parts of the body, as described in chapters 6 to 8.

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Passive Soft Tissue Release

In this chapter you will discover how to perform passive STR by working through seven simple steps. To get you started with using this form of the technique, the chapter includes photographs and brief descriptions demonstrating key holds, moves and stances for a variety of muscles, an overview of which is presented in table 3.2 at the end of the chapter; you can also use the table as a checklist when practicing passive STR. Safety guidelines and a table (3.1) illustrate when passive STR may be indicated. Reading this chapter and answering the Quick Questions will give you a good understanding of how passive STR is applied.

Introduction to Passive Soft Tissue Release

Passive soft tissue release is an excellent method of stretching that may be used as a stand-alone technique through clothing or incorporated into a holistic massage. In this form of STR, the therapist shortens a muscle, locks it and then stretches it. The client remains passive throughout but of course may provide feedback regarding the intensity of the stretch.

How to Perform Passive STR

To perform passive STR, follow these steps:

1. *Identify the muscle to be stretched and the direction of the muscle fibres.*
2. *Ensure the muscle is in a neutral position.* Neutral means that the muscle is neither shortened too much nor stretched. Usually, it requires the therapist to passively shorten the muscle.

Some muscles (especially hamstrings) are prone to cramp when shortened. The likelihood of cramping increases after exercise. It is therefore sometimes a good idea to incorporate STR with oil massage, thus aiding the relaxation of muscle fibres, decreasing the likelihood of cramping when these muscles are shortened.

3. *Explain the procedure to the client.* Tell the client that you will be performing the stretch and all he or she needs to do is relax. The muscle on which you are working should be relaxed.

Gently shaking a limb encourages muscle relaxation and is useful when working with clients who find it difficult to 'switch off' and relax.

4. *Whilst keeping the muscle in the neutral position, gently lock the muscle to fix the fibres.* (See chapter 2 for a variety of locking methods.) Start proximally, nearest to the origin of the muscle. Examples in which locking does not need to begin at the proximal end of the muscle include cases where you can use STR to glide along the muscle distally to proximally, whilst passively moving the joint associated with that muscle. You can find more details about this less common but very useful application at the end of this chapter and in chapter four, and again in chapters seven and eight.

TIP Generally, the origin of the muscle is that part closest to the midline of the body and least movable. Usually, when a muscle contracts, the insertion moves closer to the origin.

5. *Whilst maintaining your lock, stretch the muscle.* Move the body part in such a way that the muscle goes from a shortened to a lengthened position. For example, if you needed to flex a joint to shorten the muscle, you will need to extend the joint to stretch it.
6. *Once the muscle has been stretched, release your lock and return the muscle to neutral.*
7. *Choose another point to fix the muscle, working proximally to distally.* Repeat steps 4 to 6 until you reach the distal tendons of the muscle.

To really focus your stretch on a particular area, place your locks close together, perhaps a centimeter (0.39 in.) apart, as you work from proximal to distal on a muscle. For a more general, less localised stretch, place your locks 3 to 4 centimetres (1.18-1.57 in.) apart.

Get feedback from your client. Some clients do not feel much of a stretch, simply the pressure of the lock. If you are applying the technique correctly, the stretch will increase as you work on the more distal aspects of the muscle. Stop if the client reports pain.

The Direction of Locks

You may be wondering, How do I know in which direction I should work on a muscle when using passive STR? If treating the calf, for example, do I work from knee to ankle or ankle to knee? Or across the belly of the muscle?

Chapter 1 stated that STR is applied by working proximally to distally on a muscle (figure 3.1a). This method is the easiest way for you to apply passive STR and the most comfortable for the client. When applying STR, the stretch will always feel more intense as you work proximally to distally unless you happen to have placed your lock over a trigger point. If you start distally (figure 3.1b), the stretch will already be intense, it is hard to apply STR when working in this direction and it can be quite uncomfortable for the client. This chapter introduces a variant of passive STR, a form of gliding STR. Strangely, when using gliding STR it is easiest to work distally to proximally (figure 3.1c). Gliding STR works in this manner because it does not involve a series of single, distinguishable locks. Instead, it is applied using a massage medium using a slow, single, firm glide as the joint associated with that muscle is moved. It is comfortable to receive and easy to apply.

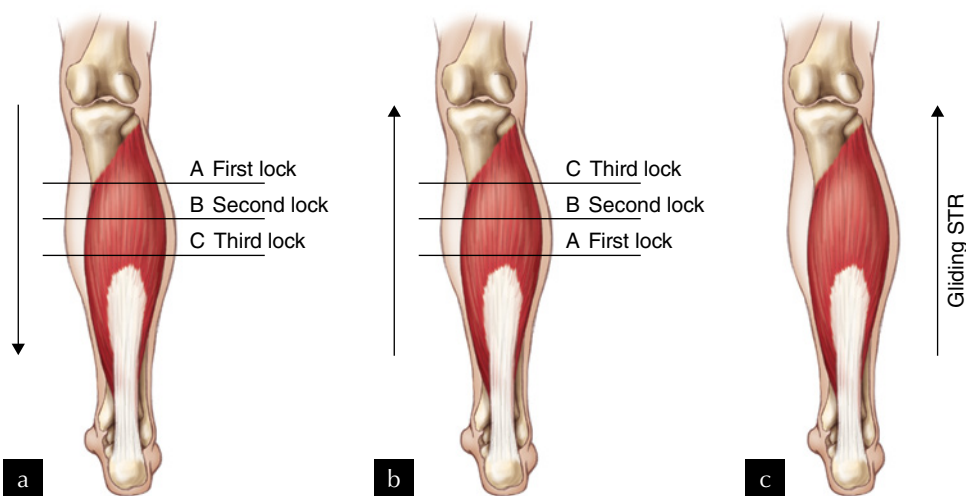


Figure 3.1 It is easiest to apply locks working from the origin to the insertion of a muscle (a), whereas it is more difficult to work from the insertion to the origin (b) unless gliding STR is used (c).

When working on long muscles such as the calf, hamstrings, biceps brachii, triceps and muscles of the forearm, you can apply STR by creating a series of separate locks performed one after the other as described in chapter 1, working proximally to distally or, by gliding along the muscle in a very slow, continuous movement working distally to proximally. However, when working muscles such as the rhomboids, pectoralis major or the gluteals, you may find that the area in which you need to lock is small or that the shape of the muscle prevents you working in either of these ways. In such cases you simply work over the area you have, getting feedback from your client as to which lock position provides the greatest stretch.

How to Focus the Stretch to One Area

In chapter 1, figures 1.5, 1.6 and 1.7 illustrate how, as you work proximally to distally down the length of a muscle, the sensation of stretch increases from least to greatest. Figure 3.2 illustrates this concept, showing the application of a broad lock first at point A, then at point B and last, at point C, using the forearm, for example. Compare it to figure 3.3, which illustrates the application of locks close together; they are not only together but would be applied using a more localised lock such as the thumb or elbow. Can you see how applying locks close together will create greater stretch to a localised area than applying locks that are spread across the length of the muscle?

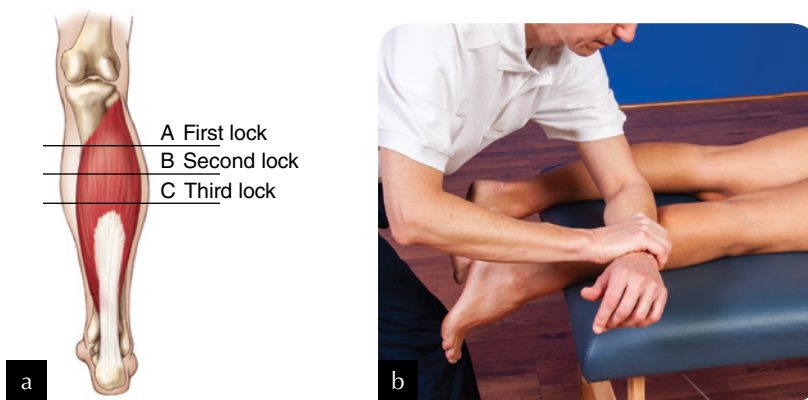


Figure 3.2 Creating broad locks spanning the width of the muscle (*a*) which, when applied, (*b*) create a stretch that increases in intensity from point A to point C.

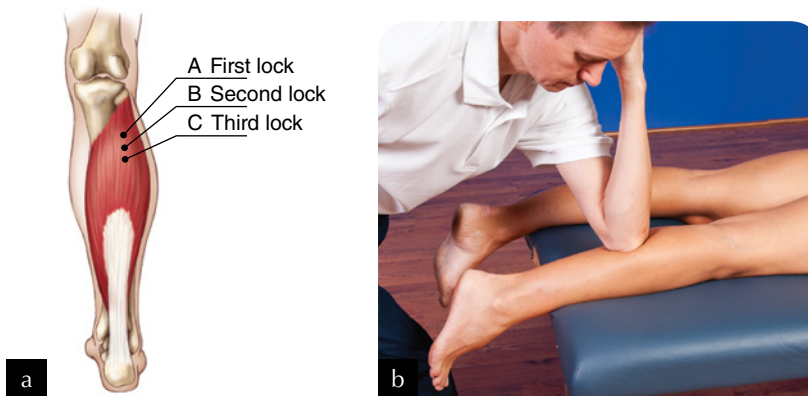


Figure 3.3 Placing locks close together (*a*) helps focus the stretch to one particular area of muscle (*b*).

Be aware that whilst it is possible to use STR to focus the stretch to one specific area of muscle, and many therapists use it for this purpose, it is important to always soothe the area with effleurage after using the technique in this way. This approach reduces the likelihood of any soreness.

The Direction of Pressure

The direction to which you apply pressure when placing your lock makes a difference to where your client senses the stretch, the effectiveness of the stretch and how easy it is for you to apply the stretch. Subtle changes in the direction of pressure can make a difference to the effect of this technique. With practice, you will discover that as you passively stretch a client's muscle, the part of your body that you are using to apply the lock gets 'dragged' in a particular direction. It is therefore necessary to counter this movement by applying pressure *opposite* to the direction of drag.



Figure 3.4 The direction of drag is towards the foot when working on the calf, so pressure needs to be directed towards the knee.

For example, when using STR on the calf the direction of drag is towards the foot, so you need to apply pressure towards the knee (figure 3.4). When using STR on the hamstrings, the direction of drag is towards the knee, so you need to apply pressure towards the buttock (figure 3.5).



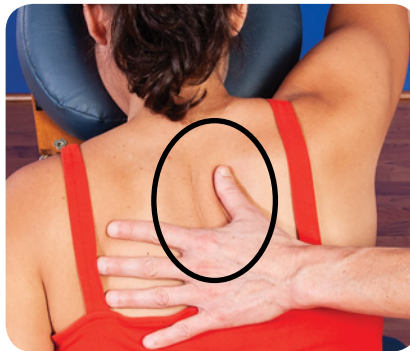
Figure 3.5 Working on the hamstrings the direction of drag towards the knee is countered by directing pressure toward the buttock.

TIP To understand how the direction of pressure affects the application of passive STR, try this exercise: Select a muscle such as the calf, apply your lock pressure perpendicular to the calf and then apply the stretch. Compare it to what happens when you take up some slack in the skin, applying pressure towards the knee. Finally, compare what happens when you apply pressure by pulling the skin of the calf slightly towards you. You (and your client) should sense that the strongest stretch occurs when pressure is directed towards the knee.

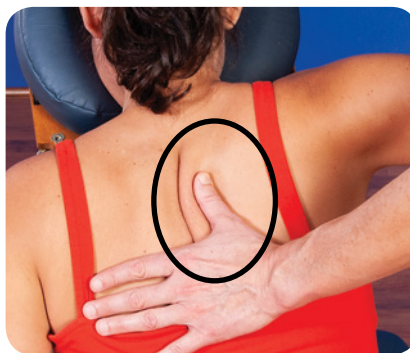
Each of the photographs in the section of this chapter called Key Holds, Moves and Stances for Passive Soft Tissue Release have an arrow showing the direction in which you should attempt to direct your pressure.

Taking Up Slack in the Skin

One reason for applying pressure in a particular direction is to take up slack in the skin prior to performing the stretch, as it makes the stretch more effective. Whilst this can readily be felt, it is difficult to illustrate. However, you may get some idea of what is meant by 'take up the slack' from these photographs showing how a therapist might use a thumb to gently push away the skin overlying the lower portion of the trapezius muscle and the rhomboids.



Preparing to take up slack in the skin overlying the rhomboids.

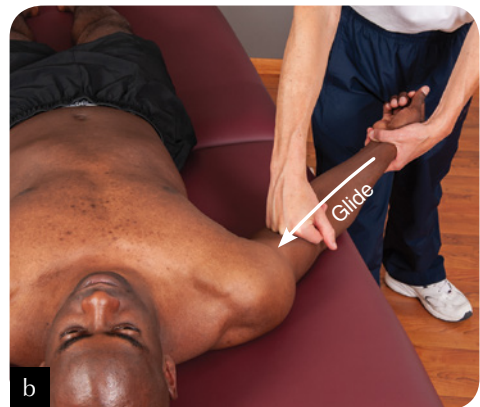


Taking up slack in the skin overlying the rhomboids.

Incorporating STR With Oil Massage

STR is easy to incorporate with oil massage. After the application of oil or massage wax, put a thin towel or facecloth over the area and apply STR through it. Be aware that working this way provides a much stronger lock than working through clothing or on bare skin because the fronds of the fabric grip the massage medium. Remove the towel, clear the area with more massage and repeat. You will discover that if you do this three times (i.e., massage, STR; massage, STR; massage, STR), on your third application of STR, your client will sense less of a stretch (and you will sense less resistance in tissues) because there will be a decrease in tone in the soft tissues after your first two applications.

Another way to incorporate STR with oil or another massage medium is to modify the technique into a gliding technique. For example, when gliding on the calf (a), passively flex and extend the client's ankle; when working on the biceps brachii (b), passively flex and extend the elbow; when treating the wrist and finger extensors (c), passively flex and extend the wrist.



Key Holds, Moves and Stances for Passive STR

This section illustrates these nine areas of the body that lend themselves to passive STR: the calf, hamstrings, gluteals, rhomboids, triceps, biceps, wrist and finger flexors and extensors, and pectorals. Remember that for each of the examples provided here, you need to maintain the gentle pressure of your lock as you passively stretch the tissues. Each photograph includes an arrow showing the direction to which you apply pressure and take up slack in the skin. You can find detailed instructions for these stretches in chapters 6 to 8, where you can compare them to the instructions for active-assisted and active techniques.

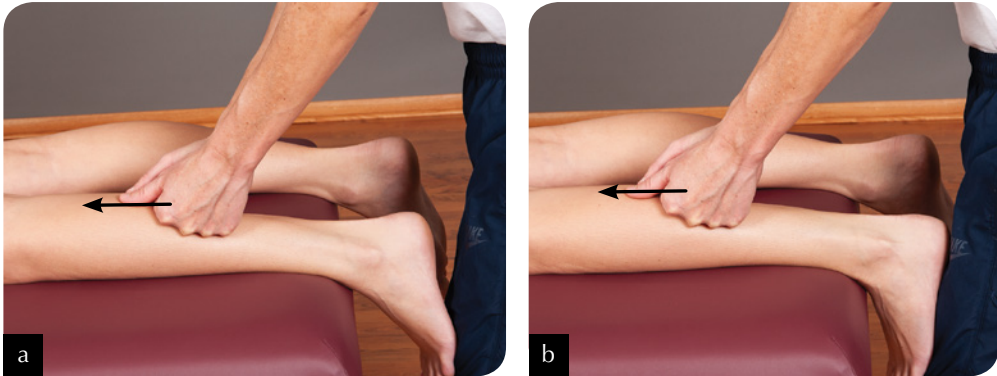
Calf

Stand at the end of the couch with your client in the prone position. Lock the client's calf using reinforced thumbs, just distal to the knee joint, perhaps in the centre of the calf. Each time you lock the fibres in this stretch, direct your pressure towards the knee rather than perpendicularly. Never press directly into the popliteal space at the back of the knee. Whilst maintaining your lock, use your thigh to dorsiflex the client's ankle. Note that in this position, it is doubtful whether pressure applied by the therapist is deep enough to affect soleus. STR to soleus would be performed with your client in a side-lying position.



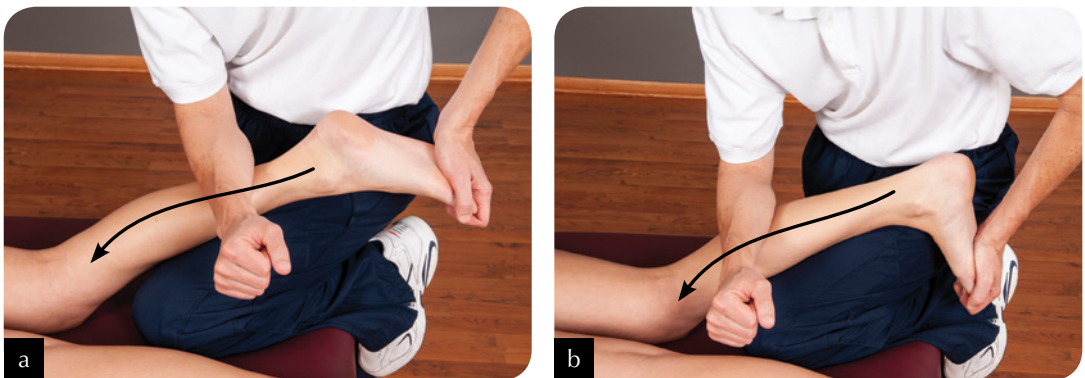
TIP Take care when using your thumbs. The calf muscles are strong and powerful. If you find that using your thumbs here to apply passive STR causes you discomfort, switch to a different method.

Another method of applying passive STR to the calf is to use your fists to apply the lock.



Applying a fist lock (a) and stretching the calf (b).

A slightly different method of using passive STR on the calf is to position your client prone, his or her knee flexed and his or her leg resting on your thigh. In this position you can glide your forearm along the length of the calf, using oil, as you dorsiflex the foot and ankle. This is an example of working distally to proximally. The client will sense more of a stretch just above the Achilles tendon and into the belly of the calf compared to when you glide closer to the knee. Another reason for the stretch to be felt more intensely is that with the knee flexed, gastrocnemius is relaxed, facilitating a stretch of the underlying soleus.



Applying a forearm lock to the calf (a) and gliding along the muscle (b).

Similarly, can you see how you could modify the use of fists so that instead of working your way from the knee to the ankle using static locks each time you dorsiflex the foot and ankle, you could begin close to the Achilles tendon and simply glide your fists up the length of the calf, with oil, as you passively dorsiflex-and-relax, and dorsiflex-and-relax the client's foot and ankle?



Using fists to apply gliding STR to the calf.

Hamstrings

With your client in the prone position, passively shorten the hamstring muscles by flexing the client's knee. Lock the muscle close to the origin at the ischium. Each time you lock the fibres in this stretch, direct your pressure towards the ischium rather than perpendicularly. Whilst maintaining your lock, gently stretch the muscle by extending the knee.



Using a soft fist to lock (a) and stretch (b) the hamstrings.

TIP If you are working with a client with long legs, or who has a stature taller than yours, and it is difficult for you to apply locks close to the ischium or the upper part of the hamstring, then choose to focus only on the lower part of the muscle, or select a different method of STR, rather than strain your back in an attempt to lean across the massage couch to reach your client.

Gluteals

You can apply passive STR to the gluteal muscles using the elbow. Due to the shape of these muscles, it is not possible to work along the length of the fibres as you might when working on a longitudinal area of soft tissue such as the hamstrings or biceps brachii. In the case of the gluteal muscles you simply work over the area, changing the position of your lock until you and your client sense a stretch has occurred. To achieve the stretch, you will need to passively rotate the client's femur; an easy way to do so is simply to move the foot of the limb on which you are working towards or away from you.



Rhomboids

There are two methods of applying STR to rhomboids. The first is with your client prone on a treatment couch, and the second is with your client seated. When treating the client in prone, position your client on the treatment couch so that he or she is able to flex at the shoulder. Whilst holding the client's arm to keep the rhomboids passively shortened, gently lock them, directing your pressure towards the spine. Maintain your lock and gently lower the arm into flexion so that the scapula protracts around the rib cage, stretching the rhomboids.



Alternatively, with your client comfortably seated, gently hold the arm to passively retract the scapula, which shortens the rhomboids. Take up the slack in the skin, directing your pressure towards the spine. Whilst maintaining your lock, take the arm into flexion, passively protracting the scapula.



Using the thumb in this way requires little force, as the skin is fairly loose when the scapula is retracted in this position. However, if using your thumb to create the lock causes you discomfort, you should opt for a different method.

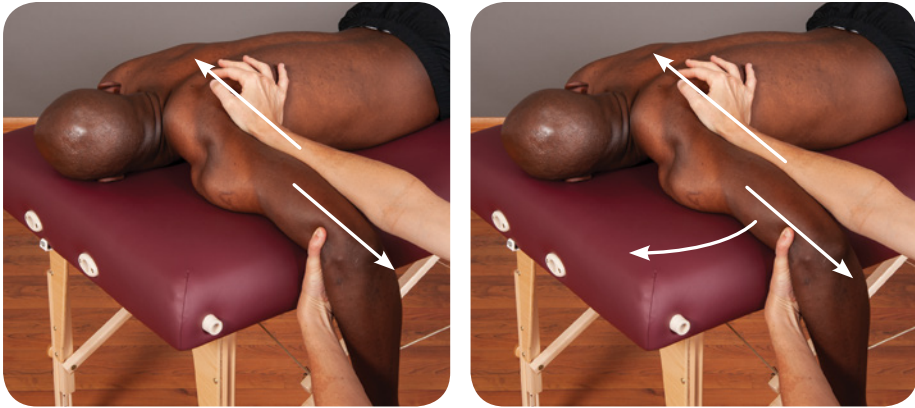
Triceps

Position your client in the prone position, and make sure he or she is able to flex the arm at the elbow. Take care not to squash the cubital fossa against the couch as you work from the shoulder to the elbow. Passively extend your client's elbow to shorten the muscle. Place your lock close to the origin, directing your pressure towards the shoulder. Whilst maintaining your lock, gently flex the elbow. In this example, the therapist has chosen to grip the triceps gently as the client is of slender frame and a firm grip or different lock is not needed in this instance. If you wanted to use your fist or thumb to apply the lock, pressure would need to be directed towards the armpit. When working with a client with long arms, you cannot apply STR all the way towards the distal end of the triceps muscle, because you may find that the client's arm is not supported on the couch.



Shoulder Adductors

With your client prone and his or her elbow comfortably relaxed and flexed, it is possible to apply passive STR to the inferior portion of the shoulder without damaging structures of the armpit. This stretch requires you to press gently into the soft tissues, creating a lock with one hand, then using your other hand to gently traction the shoulder joint. Whilst retaining both the lock and traction, you then gently abduct your client's arm.



Biceps Brachii

With your client in supine and his or her elbow passively flexed, lock in gently to the biceps brachii, taking up slack in the skin as you direct pressure towards the armpit. Gently extend the elbow whilst maintaining your lock. In the example, the therapist is standing closer to the couch than normal so that you can see the position of the lock he has created with his left thumb. If he were to apply pressure in this position it would be slightly uncomfortable for his thumb. In practice, he would move away from the couch slightly, blocking the view of his hand, so that pressure was applied down the length of his forearm, wrist and thumb, with his joints in a 'stacked' position.



As when working on the calf muscle, you can modify STR so that, with oil, you glide along the biceps brachii muscle, working from the elbow to the shoulder. When working this way simply begin with a flexed elbow and as you glide your first, for example, along the muscle, gently flex–extend and flex–extend the client’s elbow.

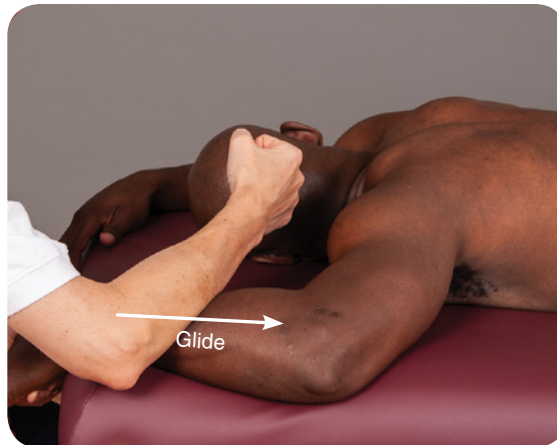


Wrist and Finger Extensors

To apply passive STR to the wrist and finger extensor muscles, gently extend your client’s wrist, then lock into the bellies of the extensors on the lateral aspect of the forearm. Direct your pressure towards the elbow. Whilst maintaining your lock, gently flex the wrist.



If you wanted to modify the technique to incorporate with massage when your client was in the prone position, simply position your client with the shoulder abducted, the forearm resting on the couch and the hand off the end of the couch. You can then glide from the wrist to the elbow whilst passively flexing-and-extending and flexing-and-extending the wrist.



Wrist and Finger Flexors

Ask your client to flex the elbow. Gently lock into the common flexor origin. Gently extend the client's wrist whilst maintaining your lock.



Pectorals

With your client in the supine position, take the arm into horizontal flexion and fix the tissues with a soft fist, directing your pressure towards the sternum rather than into the underlying ribs. Whilst maintaining your lock, gently take your client's arm from horizontal flexion into a more neutral position.



Notice that in the preceding photos, the therapist is choosing to use his left fist to lock the tissues, and with his right hand passively extends the client's shoulder. In the following photo, the therapist is working on a different client and has chosen to use his right fist to lock the tissues and his left to move the arm. In both cases the therapist is working on the client's right pectoral muscles. It does not matter which hand you use to lock tissues and which to move the arm. You may find that you have a preference or that you need to use different hands when working with different clients.



Using the right fist to lock the pectorals.

Safety Guidelines for Passive STR

Passive STR is safe and effective. However, it is useful to be aware of the following cautions before practising this technique.

- When applying STR to the calf with your client in the prone position, make sure there are no locking clips on your treatment couch that may injure the dorsal surface of your client's foot during dorsiflexion.
- When working with your client in prone to apply STR to the calf or hamstrings, avoid pressing into the popliteal space at the back of the knee.
- When working rhomboids in prone, be careful not to place your client's entire body to the side of the treatment couch. It is safer and more stable to have your client lie diagonally across the couch.
- Whilst working the biceps brachii, avoid putting pressure into the cubital fossa.
- Similarly, when working on triceps with your client prone, be careful not to squash the cubital fossa as you flex the elbow.
- When applying STR, protect your thumbs. If you find your client does not experience a sensation of stretch and needs a firmer lock, use an alternate lock. If you find that using a different lock places stress on your own body, consider using active-assisted STR, which often enables you to apply greater pressure and alter your stance to a safer working position.
- When integrating STR with oil massage, remember that it is much easier to provide a lock when working through a towel than when working through clothing or on dry skin. For this reason, apply your locks cautiously until you gain feedback from the client as to the appropriateness of your pressure.
- When using passive STR, always get feedback from your client and stop if the client reports pain.
- When applying passive STR, all the usual massage contraindications apply. For example, do not apply STR to areas with varicose veins, broken skin, recent injuries or decreased sensitivity.
- Passive STR to the shoulder adductors requires gentle traction of the shoulder joint so would be contraindicated in a client prone to shoulder subluxation.

When Is Passive STR Indicated?

Passive STR may be used directly through clothing all over the body as part of a general stretching routine, or it may be incorporated into a holistic massage treatment. It is useful when used briskly before exercise with the aim of increasing joint range of motion and overcoming cramps. It is used after exercise to help realign muscle fibres and overcome cramps. However, in both pre- and post-exercise settings, it should not be applied too deeply. It is also a useful tool for assessing muscle pliability.

Table 3.1 provides suggestions for when treatment for particular muscles can be useful.

Table 3.1 Situations in Which Passive STR Can Help

Muscle	Situation
Calf	<ul style="list-style-type: none"> ■ To treat calf muscle cramps ■ For clients with tight calves ■ For clients engaged in physical activity involving the lower limbs, such as running, tennis or basketball ■ To treat clients who have been standing or walking for long periods ■ To increase range of motion at the ankle or knee ■ To treat clients who require increased ankle dorsiflexion (e.g., clients previously bedridden now required to stand) ■ To stretch out the calf muscles of clients who wear high-heeled footwear (which results in excessive plantar flexion and possible shortening of these muscles)
Hamstrings	<ul style="list-style-type: none"> ■ For clients with tight hamstrings ■ For clients who sit for long periods, such as drivers or typists ■ For clients engaged in physical activity involving the lower limbs, such as running or basketball ■ To increase range of motion at the knee ■ For clients with excessive lumbar lordosis
Rhomboids	<ul style="list-style-type: none"> ■ For clients engaged in physical activity involving the upper limbs, such as swimming, racquet sports or rowing
Triceps	<ul style="list-style-type: none"> ■ For clients whose physical activities involve prolonged or repetitive extension of the elbow, such as in racquet sports ■ For massage therapists ■ For treatment after immobilization of the elbow or shoulder ■ To increase elbow flexion
Biceps brachii	<ul style="list-style-type: none"> ■ For clients whose physical activities involve prolonged or repetitive elbow flexion, such as rowing, digging or carrying ■ For treatment after immobilization of the elbow or shoulder ■ To increase range of movement at the elbow, particularly elbow extension
Wrist and finger extensors and flexors	<ul style="list-style-type: none"> ■ For musicians such as guitarists, pianists, flautists or trumpet players ■ In the treatment of lateral epicondylitis (extensors) ■ In the treatment of medial epicondylitis (flexors) ■ For clients who perform repeated or prolonged flexion, such as typists, drivers or people carrying heavy bags ■ For clients whose sport requires gripping, such as in rock climbing or rowing ■ For massage therapists ■ For treatment after immobilization of the wrist or elbow
Pectorals	<ul style="list-style-type: none"> ■ For clients with kyphotic postures ■ For clients who sit for long periods of time, such as drivers or typists ■ For bodybuilders, who may develop excessively tight pectorals relative to posterior trunk muscles ■ For clients who use the pectoralis major as part of their job, hobby or sport, such as trumpet players, tennis players or golfers

Using Passive STR to Treat Trigger Points

When using passive STR to treat trigger points, you will need to use either your thumb or your elbow. If you are not familiar with treating trigger points, using your thumb will be easiest. Instead of working down the muscle, creating new locks, you remain in one position, your thumb (or elbow) over the trigger point. Use these steps as a guide:

1. Shorten the muscle you intend to work on.
2. Palpate the area to locate a trigger point, using feedback from the client to guide you.
3. Place your thumb gently over the point, and apply pressure. Get feedback from your client: pressure should feel slightly uncomfortable but not painful. Remember, pain causes muscles to tense and so is counterproductive to STR stretching.
4. Maintaining your lock, gently lengthen the muscle, stretching the fibres.
5. Release your lock, and soothe the area.
6. Feel for the trigger point again, and again get feedback from your client as you repeat the technique a total of four or five times.

How will you know if you have successfully treated a trigger point? First, the point should feel less firm to touch, and the client should report less discomfort (if any) when the point is pressed. Symptoms associated with the trigger may reduce, although in most cases it is likely to take more than one session for this reduction to occur. To elicit the same level of discomfort, you are likely to need to press deeper into the muscle. When triggers are first touched, very little pressure is needed to elicit discomfort. So it is a handy, rough guide as to how effective your passive STR has been in reducing a trigger point.

How to Become Proficient in the Use of Passive STR

As described in chapter 2, the three types of STR are passive, active-assisted and active. One way you could become proficient in the application of passive STR is to use table 3.2, making notes for yourself as you practise on each of the muscles, using various locks. Here are some ideas to help you get the most out of your practice sessions:


- Practise on each of the muscles, using the techniques shown, at least two times.
- Determine whether you prefer using your thumbs, fist or forearm to create a lock, and on which muscles they work best for you. It is unlikely that you will want to use your thumbs to apply STR to each of the muscles discussed in this chapter, for example, and more likely that you will develop a preference for using a particular lock when working on a particular muscle, using a variety of different locks in your overall practice.

- You need to get feedback from the person on whom you are practising. Just because one person reports preferring to receive passive STR when you use your fist on their biceps brachii, for example, doesn't mean that all recipients will prefer this method of locking. Therefore, practising different locks can be advantageous in order to meet the preferences of different clients.
- For each muscle you work on, experiment with changing from using your right hand to create the lock to using your left hand to create the lock.
- Think about how your body feels as you practise. Are you comfortable? Raising or lowering your treatment couch can make a big difference to how comfortable you feel whilst working.

Quick Questions

1. What does it mean to say that a muscle is in a neutral position?
2. In passive STR, who performs the stretch—the client or the therapist?
3. Is a lock maintained whilst the muscle is being stretched?
4. Where is the client most likely to feel the stretch—at the proximal or the distal end of the muscle?
5. Why should you be cautious when first integrating passive STR with oil massage?

Table 3.2 Overview of Passive STR Applications

Calf			
<p>Prone Reinforced thumbs</p> 	<p>Prone Fists</p> 	<p>Prone Forearm to apply gliding technique</p> 	<p>Prone Fists to apply gliding technique</p> 
Hamstrings	Gluteals	Rhomboids	
<p>Prone Fists</p> 	<p>Prone Elbow</p> 	<p>Prone Fists</p> 	<p>Seated Thumb</p> 
Triceps	Shoulder adductors	Biceps	
<p>Prone Grip</p> 	<p>Prone Palm combined with gentle shoulder traction</p> 	<p>Supine Thumb</p> 	<p>Supine Fist to apply gliding technique</p> 
Wrist and finger extensors		Wrist and finger flexors	Pectorals
<p>Supine Thumb</p> 	<p>Prone Forearm to apply gliding technique</p> 	<p>Supine Thumb</p> 	<p>Supine Fist</p> 

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Active-Assisted Soft Tissue Release

This chapter will help you understand how to perform active-assisted STR. Safety guidelines and a table (4.2) will help you decide when active-assisted STR may be indicated for your clients. Table 4.3 provides an overview of all of the application examples provided in this chapter; you can use it when practising on each muscle. Test whether you have understood the principles by answering the Quick Questions at the end of the chapter.

Introduction to Active-Assisted Soft Tissue Release

Unlike passive STR (where tissues are shortened and locked by the therapist) or active STR (where the client performs the technique), active-assisted STR combines the efforts of both client and therapist. It is useful for working with clients who find it difficult to relax during treatment and also for those who like to be engaged with their treatment. It also enables the practitioner to apply more pressure when locking tissues, as might occur when treating clients who do not feel the stretch of passive STR. Active-assisted STR enables the therapist to use both hands if necessary to apply a firmer lock, which is helpful when treating large, bulky muscles such as hamstrings and quadriceps. Ability to reinforce a lock also enables you to safeguard your wrists, fingers and thumbs.

Active-assisted STR is particularly useful as part of the rehabilitation process after joint immobilization. Not only does it facilitate an increased range of motion in the joint, it also contributes to improving strength in the associated muscles. This strengthening occurs because the client is actively engaged in using the muscle being treated or the opposing muscle. It is a valuable rehabilitation technique

and may be a safer post-surgery application than passive STR, because clients are encouraged to work within their pain-free range. With permission from medical personnel, it may be used early in the rehabilitation process to help keep joints lubricated, and active movement may encourage a better alignment of collagen fibres than might otherwise occur if the joint were left immobile.

The biggest difference between active-assisted and passive STR is that in passive STR, the therapist is stretching a relaxed muscle. In active-assisted STR, the muscle being stretched might be contracting eccentrically as the client uses it to move the associated joint.

How to Perform Active-Assisted STR

To perform active-assisted STR, follow these steps:

1. *Identify the muscle to be stretched and the direction of the fibres.*
2. *Ensure the muscle is in a neutral or shortened position.* Neutral means that the muscle is neither shortened too much nor stretched; it is the position you need your client to hold when you lock the tissues.
3. *Explain the procedure to the client.* Demonstrate the movement you want your client to perform once you have locked the tissues. If, for example, you want to shorten the hamstrings, you could simply say, 'Please bend your knee', and most clients would understand this instruction. However, when treating fibularis (formerly known as peroneals) and wrist flexors and extensors, for example, you need to be much more specific and demonstrate the action you want the client to perform (see sidebar). Many clients would not understand the command to evert the foot (needed for treating fibularis muscles) and would need to be shown what to do when asked to flex or extend the wrist.
4. *In the neutral or contracted position, lock the muscle to fix the fibres.* Where possible, start proximally, nearest to the origin of the muscle.
5. *Whilst maintaining your lock, ask your client to move in such a way that he or she feels a stretch in the muscle.* How the client moves will vary depending on which muscle you are working. (See chapters 6 to 8 for photographs, tips and additional descriptions of the movements for each muscle.)
6. *Once the muscle has been stretched, release your lock.* Then, either let the muscle return to neutral or ask your client to contract the muscle again.
7. *Choose another point to fix the muscle.* Work proximally to distally until you reach the distal tendons of the muscle.

Take a look at table 4.1. It compares muscles that are normally treated by starting with them in the neutral position with muscles that are shortened prior to STR. Neutral positions are used when treating the calf, foot, upper fibres of the

Ankle and Wrist Movements Clients Need to Perform During Active-Assisted STR



Ankle inversion



Ankle eversion



Wrist flexion



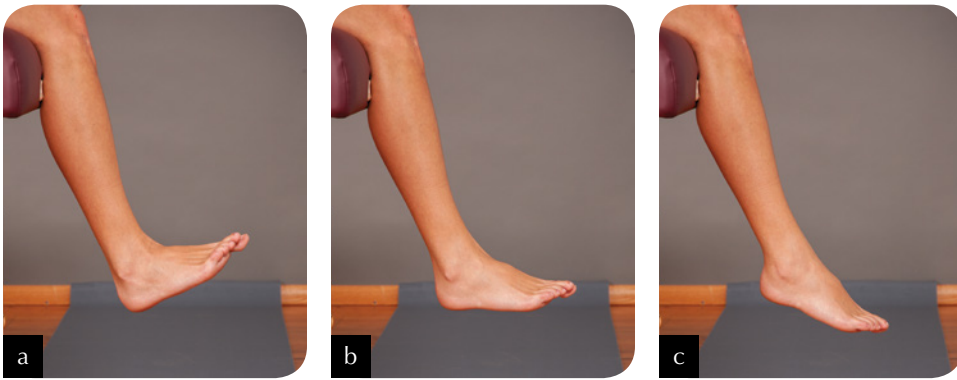
Wrist extension

trapezius, scalenes, levator scapulae, erector spinae, gluteal muscles and the ilio-tibial band (ITB). When a muscle needs to be shortened—as with the hamstrings, iliacus, tibialis anterior, peroneals, quadriceps, pectorals, biceps brachii, triceps and the wrist flexors and extensors—this shortening is performed by the client actively contracting the muscle in question.

The advantage of starting with a muscle in a shortened position is that it provides the possibility of the associated joint being moved through the entire joint range whereas when you begin with the muscle in a neutral position, there is less joint range to move through. Take a look at figure 4.1, which shows the ankle joint in these various positions: dorsiflexed (*a*), neutral (*b*) and plantarflexed (*c*).

Table 4.1 Comparing Start Positions

Neutral	Shortened
Calf	Hamstrings
Foot	Iliacus
Upper fibres of trapezius	Tibialis anterior
Scalenes	Fibularis (peroneals)
Levator scapulae	Quadriceps
Erector spinae	Pectorals
Gluteals	Biceps brachii
Iliotibial band (ITB)	Triceps
	Wrist flexors
	Wrist extensors

**Figure 4.1** The ankle joint in dorsiflexed (a), neutral (b) and plantar flexed (c) positions.

Compare figure 4.2 with figure 4.3. Can you see how, if you begin with the ankle in plantar flexion it moves through a greater range (figure 4.2) than when you begin with it in neutral (figure 4.3)?

Another advantage of beginning with a muscle in a shortened position is that it is more effortful for a client to contract a muscle in order to take a joint through the entire range than it is for you to begin with a muscle in neutral, where no activation is required by the client at that time. This might be helpful where strengthening of that muscle is one of the treatment goals. Conversely, the constant repetition of starting with a muscle in a shortened position can be fatiguing for some clients. You can easily test this idea for yourself by contracting your tibialis muscle, fully dorsiflexing your foot and ankle as shown in figure 4.1.a. Weaker than its plantar flexed counterpart, gastrocnemius, you only need to practise strong dorsiflexion three or four times to notice that the muscle starts to ache.

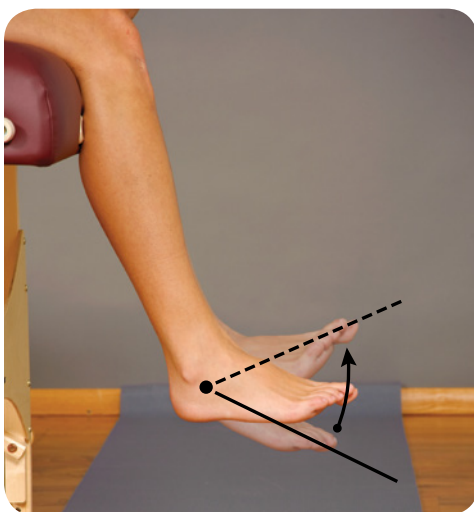


Figure 4.2 Moving through the entire ankle range from plantar flexion to dorsiflexion.



Figure 4.3 Moving through a partial ankle range, from neutral position to dorsiflexion.

Selecting Passive or Active-Assisted STR

You may be asking yourself, ‘How do I know whether to begin with a muscle in a shortened position or a neutral position?’ The answer is that you begin with some muscles in a neutral position because it would be difficult to either apply the lock or to take up slack in the skin if that same muscle were in a shortened position.

When treating clients, avoid swapping between passive STR and active STR initially. If you use both methods, you may find that clients get confused and forget whether they are supposed to be taking part in the stretch or relaxing and letting you move the associated joint. However, many clients soon learn what it is they are required to do for active-assisted STR, especially if they are receiving regular treatment from you. In subsequent treatments, you may find that you instinctively know which form of STR works best for which client; it is likely to vary depending on which muscle you are treating.

Remember that some clients never want to be actively engaged in their treatment, so active-assisted STR will never be appropriate, even in situations when you would view it as being beneficial. Some clients will always prefer the technique to be applied passively.

The Direction of Locks

As with passive STR, where possible you place your first lock at the proximal end of the muscle and work proximally to distally, as shown in figure 4.4.

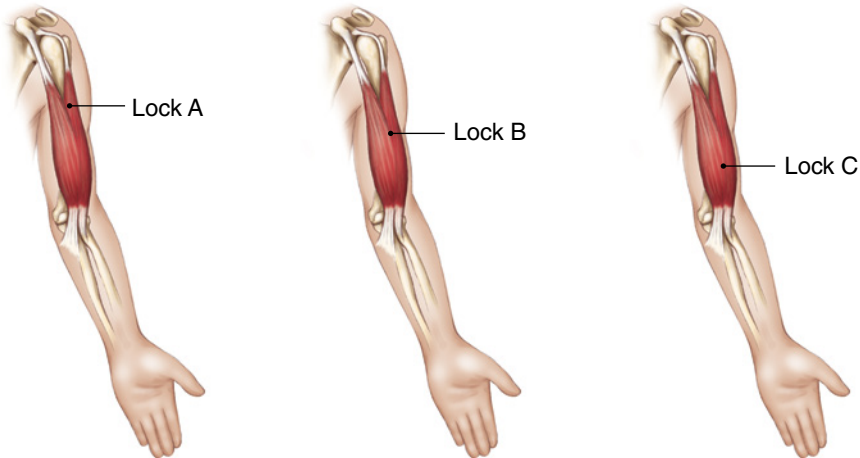


Figure 4.4 Direction in which locks are placed goes from lock A to lock B to lock C.

How to Focus the Stretch to One Area

This goal is achieved in exactly the same way as when using passive STR. Instead of using broad locks (figure 4.5) using a forearm, use your thumb or elbow to lock tissues successively in a smaller area (figure 4.6)

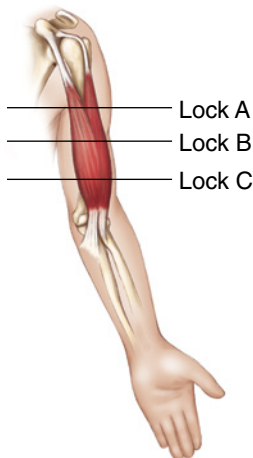


Figure 4.5 Applying broad, general locks.

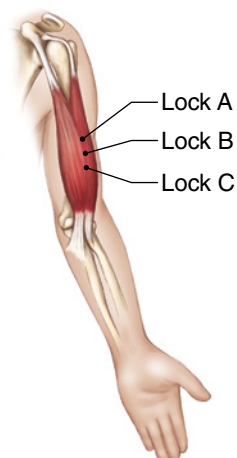


Figure 4.6 Applying specific, localized locks.

The Direction of Pressure

When working on a limb, usually you press tissues away from you. In chapter 3 you learned that when applying passive STR it is necessary to counter the direction of drag that occurs when soft tissues lengthen. The same is true when applying active-assisted STR. For example, when working on levator scapulae and the upper fibres of trapezius it is necessary to apply gentle pressure downwards towards the scapula as you lock tissues (figure 4.7), and when working on the erector spinae to counter the drag in tissues caused by neck flexion, press gently downwards once you have locked the skin (figure 4.8).



Figure 4.7 The direction of drag and direction of counterpressure when applying STR to levator scapulae.

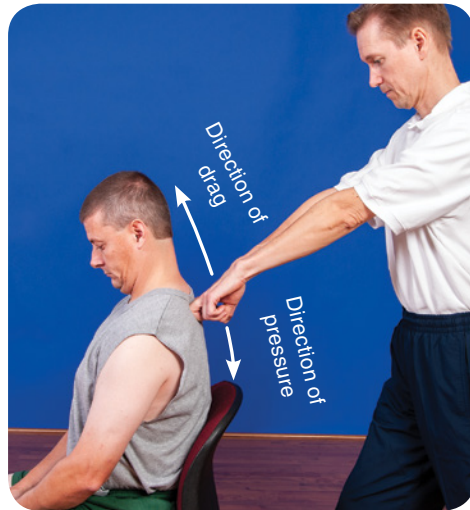


Figure 4.8 The direction of drag and direction of counterpressure when applying STR to erector spinae.

In the section titled Key Holds, Moves and Stances for Active-Assisted STR later in this chapter, arrows have been added to the photographs indicating the direction of pressure.

Taking Up Slack in the Skin

Compare figure 4.9 with the corresponding photograph for passive STR from chapter 3. Can you see how, in both cases, the therapist has gently taken up some slack in the skin as the tissues have been locked, making it a more effective stretch?

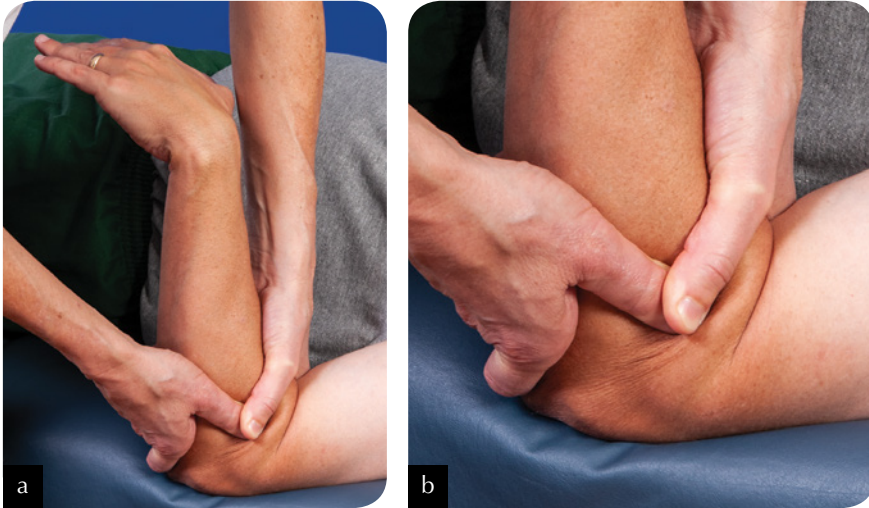


Figure 4.9 Taking up slack in the skin.

Incorporating Active-Assisted STR With Oil Massage

The easiest way to incorporate active-assisted STR with an oil massage is to keep a facecloth or very small towel to hand and, at the time when you are ready to apply STR, cover the area with the facecloth and apply your locks through it, adjusting it if necessary as you move along the muscle. The facecloth helps provide grip to the tissues. Without a cloth, tissues cannot be locked if a massage medium has been applied. Once you have finished applying STR, remove the cloth and continue to massage the area.

An alternative is to use gliding STR. Figures 4.10 through 4.12 illustrate three examples of when gliding might be used with active-assisted STR. Active-assisted STR gliding requires the client to dorsiflex and plantar flex repeatedly as you glide along the tibialis anterior muscle from ankle to knee.



Figure 4.10 Using gliding STR on tibialis anterior.

Similarly, to work on the medial aspect of the calf when the client is in a side-lying position, glide gently from ankle to knee as the client dorsiflexes and plantarflexes. In the photograph the therapist has chosen to keep the client's foot and ankle on the couch, but other therapists encounter less resistance if either the foot is or foot and ankle are off the couch, providing the leg itself is supported.

In this third example, the therapist is using gliding active-assisted STR whilst running a cupped fist along the ITB from knee to hip as the client repeatedly flexes and extends the knee. As you can see, when gliding is used on the ITB the client needs to be in a comfortable side-lying position, the knee able to flex and extend, taking the leg off and onto the couch.



Figure 4.11 Applying gliding STR to the medial side of the calf.

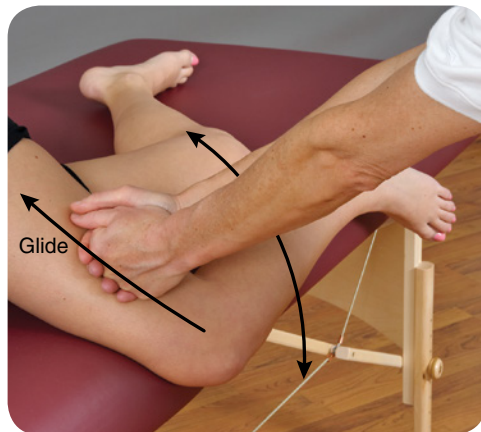
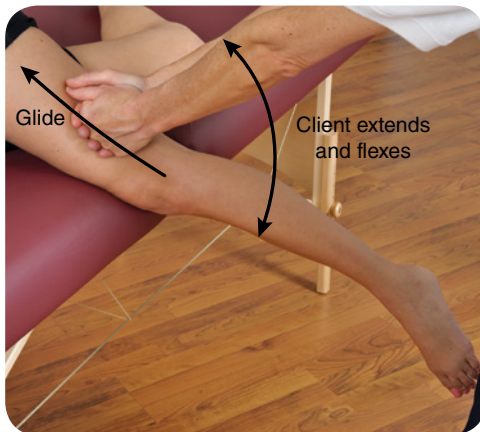


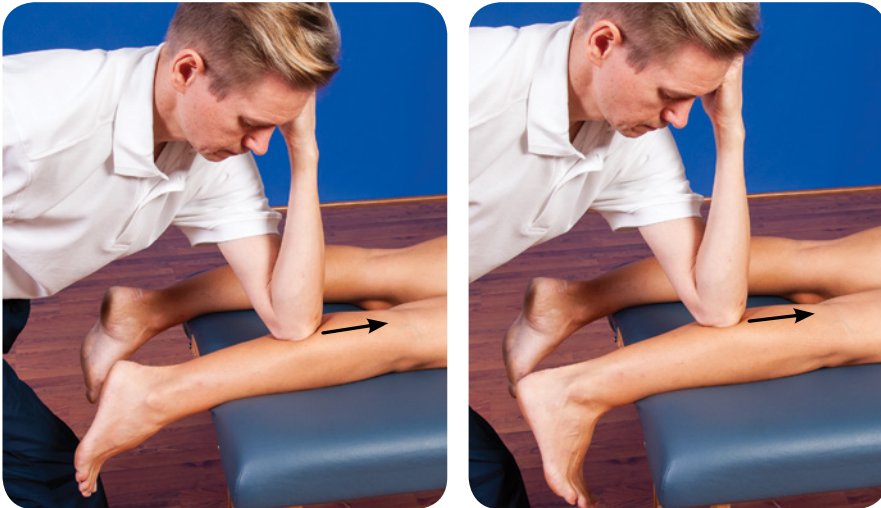
Figure 4.12 Applying gliding STR to the iliotibial band (ITB).

Key Holds, Moves and Stances for Active-Assisted STR

Illustrated here are 16 areas of the body that lend themselves to active-assisted STR: the calf, foot, hamstrings, iliacus, tibialis anterior, fibularis (peroneals), gluteals, quadriceps and ITB of the lower limbs; the upper trapezius, scalenes, levator scapulae, erector spinae and pectorals of the trunk; the wrist and finger extensors and flexors; and infraspinatus, biceps brachii and triceps. You can find detailed instructions for these stretches in chapters 6 through 8, where you can compare them to the passive and active techniques.

Calf

Lock the calf muscle just inferior to the knee joint, taking care not to press into the popliteal space at the back of the knee. Use your elbow, thumbs or forearm. Whilst maintaining your lock, ask your client to pull up his or her toes, thus dorsiflexing the foot and ankle. Next, remove your lock and move to a new position.



TIP On bulky calves it can be tricky to lock the tissues so use your other hand to cup your elbow for stability.



If you wish to create a specific lock but are finding it difficult to use your elbow, try locking the tissues using your thumbs.



Alternatively, use your forearm if you wish to create a broad lock.



An adaptation of active-assisted STR is to grip the calf muscle as your client dorsiflexes and plantar flexes the foot and ankle.



Foot

Position your client with his or her feet off the couch as shown; with the ankle in a neutral position, apply a gentle lock using a massage tool. Ask your client to pull up the toes, thus dorsiflexing the ankle and extending the toes. Work over the sole of each foot for a few minutes only.



TIP If your client is ticklish when you work on the foot this way, simply work through a towel. You will need to apply a little massage medium first so that the fronds of the towel have something to grip. It also means you can apply less pressure, which can be helpful when working with clients with sensitive feet.

When working with a client in the supine position, the foot does not need to be off the couch because the client can obviously dorsiflex the ankle and extend the toes comfortably without the couch being in the way.



Hamstrings

Whilst your client is in a prone position, ask him or her to flex the knee. Lock the hamstrings close to the ischium. Direct your pressure towards the buttock to take up some of the slack in soft tissues before the stretch. Whilst maintaining your lock, ask your client to lower the leg back to the couch. Release your lock, and ask the client to flex the knee again.



Practicing active-assisted STR is a good opportunity to experiment with swapping between using your right and left forearm. Notice that in the preceding photographs the therapist has chosen to apply STR to a client's right hamstring using the therapist's right forearm. Compare this sequence to the following photograph showing the therapist using the left forearm on the client's right hamstrings.



Using your elbow on the hamstrings creates a much more specific lock but is necessary when working with some clients who do not feel the stretch when you use other types of locks.



Iliacus

With your client positioned side lying with hip flexed, lock into the iliacus (on the anterior surface of the ilium). If you are not sure where to locate the muscle, identify the iliac crest and then slide your fingers over it, into the region of the iliac fossa. Whilst maintaining your lock, ask your client to straighten his leg and extend his hip. This application is more invasive than in all of the other examples in this book, so be certain that your client understands where you need to place the lock and has given consent to so.



TIP When applying the lock to the iliacus, it is necessary to pull your fingertips towards you; in so doing, this action can rock the client backwards. Placing a cushion between your client and yourself helps provide stability and can help make clients feel more comfortable.

Tibialis Anterior

Whilst your client's ankle is in dorsiflexion, lock the tibialis anterior muscle using, for example, your elbow. Maintain your lock, and ask your client to point her toes. Then release your lock and choose a new position, slightly more distal, for your second lock. In the photo example, the therapist has chosen to apply STR with the client in a side-lying position, the leg supported on a bolster. You may prefer to use a bolster but find it best if the client's ankle is supported but her foot is not, thus facilitating dorsiflexion and plantar flexion.



TIP When working on the tibialis anterior with your client in the side-lying position, take care at the proximal end of the muscle that you do not stray over to the head of the fibula, around which the common fibular nerve runs.

As an alternative, try using gliding STR.



Fibularis (Peroneals)

With your client positioned in side lying, ask him or her to evert the foot. Lock the muscle, which is now in a shortened position. Whilst maintaining your lock, ask the client to invert the foot. Work in a single line down the muscle, from proximal to distal, so that the client feels the stretch and it remains comfortable. As when working on the tibialis anterior muscle with your client in the side-lying position, take care not to press into the area close to the head of the fibula as the common fibular nerve is located here.



TIP With your client in the side-lying position, place his or her leg on a bolster to make it easier to invert the foot and ankle, which would otherwise be restricted by the couch.

CLIENT TALK

STR was used on the lateral side of the leg to stretch the fibulari muscles in a client who complained of aching in this part of the leg. The client had started a new job that involved a walking commute of 40 minutes, twice a day, prior to which she had experienced no symptoms. Assessments revealed that the client was particularly flatfooted and experienced a pulling sensation on active inversion of the foot. After treatment there was no discomfort on ankle inversion. Active-assisted STR was particularly useful as the client found difficulty stretching the lateral side of her leg.

Gluteals

With your client in the side-lying position, hip in neutral, use your forearm close to the elbow to lock the gluteals, directing your pressure towards the sacrum. Whilst maintaining your lock, ask your client to flex the hip. Repeat this action for a few minutes, working on the area that feels most beneficial for the client.



Quadriceps

With your client sitting, ask him or her to straighten the leg, which extends the knee. Once the muscle is actively shortened in this way, lock the quadriceps, taking up slack in soft tissues by easing them towards the hip. Whilst maintaining your lock, ask your client to flex the knee. Once the knee is flexed, release your lock and repeat, placing a new lock slightly more distal to the first. Work your way down the quadriceps from hip to knee. Notice that in the photograph the therapist has positioned the client so that not all of the thigh is supported on the couch. This positioning facilitates knee flexion but means that the therapist will not be able to apply locks close to the knee itself, at the distal end of the quadriceps muscles, as there will be no support from the couch. If you want to work on the distal end

of the quadriceps, you will need to position your client so that the whole thigh is supported. However, you will need to compromise a little, as you client will only be able to flex the knee to around 90 degrees.



TIP To access the lateral side of the thigh, ask your client to lean away from you, transferring his or her weight onto the opposite buttock. The advantage to this position is that the lateral aspect of the thigh is then uppermost, but the disadvantage is that it can be tricky to find a suitable position in which to stand to avoid the client's foot touching you when flexing and extending the knee.

Iliotibial Band (ITB)

Position your client comfortably in a side-lying position. Ask him or her to straighten the leg, extending the knee. Starting just above the knee, lock the tissues, taking up slack where there is some by pressing tissues towards the hip. Retaining your lock, ask your client to bend the leg, flexing the knee. Repeat, using a series of locks as you work from the knee to the hip.



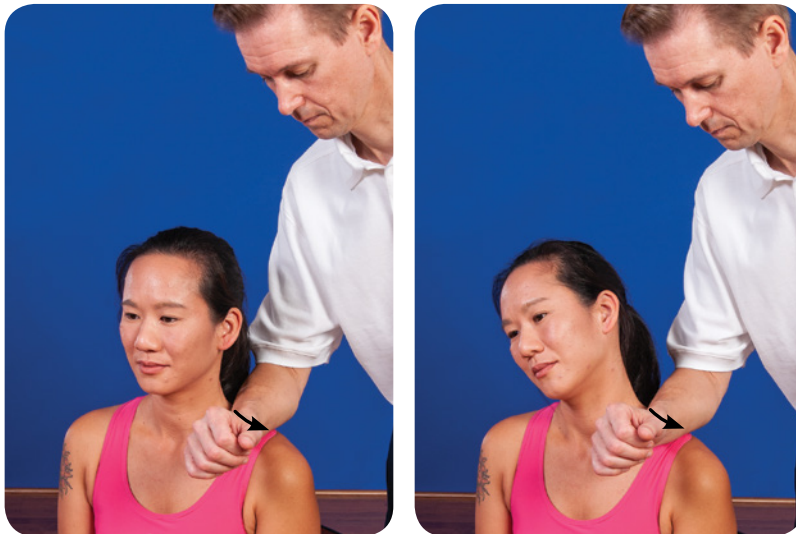
TIP Some clients find it much more comfortable if a sponge or small towel is placed between the knee and the couch of the leg on which they are resting.

CLIENT TALK

A recreational runner came for treatment because he felt that the lateral side of his left thigh was tight and pulling on his knee. He had tried using a foam roller but found this method extremely painful, and had difficulty getting into the correct position on the floor in order to rest on the roller. Although the client was advised to consider myofascial release as an effective treatment for this part of the thigh, his impression was that he required 'deep work'. The area was warmed thoroughly with massage and then active-assisted STR applied through a towel, using a combination of fists and palms. The client enjoyed this method, as he felt a deep stretch sensation, which he believed would be beneficial at alleviating his symptoms.

Upper Trapezius

With your client sitting, lock the upper fibres of the trapezius. Whilst maintaining your lock, ask your client to flex his or her neck laterally until he or she feels a comfortable stretch. Repeat the action three times, then repeat on the opposite side of the body. Notice how your lock gets dragged towards the ear slightly as your client laterally flexes the neck. To counter this movement, you need to direct your pressure gently away from the ear, toward the top of the shoulder, without pressing into the acromion, which would be uncomfortable for the client.



Another option is to use your thumbs, a massage tool or a tennis ball to lock into the upper fibres of the trapezius whilst your client is in the supine position. Once locked, ask your client to laterally flex the head and neck. For example, when locking the right trapezius you might ask the client to take the left ear to the left shoulder.



Scalenes

With your client sitting, gently lock the scalenes using your fingers. Ask your client to rotate his or her head away from you until he or she feels a comfortable stretch in the tissues. Perform the action three times on both the left and right sides. Notice how your fingers are drawn away from the clavicle as your client turns the head away from you. Counter this movement with very gentle pressure, taking care not to press too deeply.



This technique is also effective when treating a client in the supine position.



Levator Scapulae

Locate and lock the levator scapulae. Whilst maintaining your lock, ask your client to rotate the head to about 45 degrees and then lower the chin to look to the floor. Ask your client to repeat this stretch three times; then use the same stretch on the opposite side of the body. Notice how your elbow is drawn up towards the head as the client stretches. Counter this movement with gentle pressure in the opposite direction, towards the top of the scapula.



Erector Spinae (Spinalis)

With your client sitting, lock the tissues just below the neck. Whilst maintaining your lock, ask your client to flex the neck. Release and repeat, placing your lock slightly superior to the first one. To counter the drag of soft tissues into the neck, direct your lock into the tissues and to the floor at the same time. One of the challenges of applying active-assisted STR to erector spinae with a client seated is that there is a tendency to push the client forwards as you press into the tissues in an attempt to create a lock. One way to counter this movement is to have the client straddle the chair, with a pillow between his or her chest and the back of the chair.



Pectorals

Ask your client to take his or her arm across the body, actively shortening pectoralis major. Using soft fists, lock the muscle, directing your pressure towards the sternum. Whilst maintaining your lock, ask your client to move the arm so that he or she feels a stretch in the pectorals.



Wrist and Finger Extensors

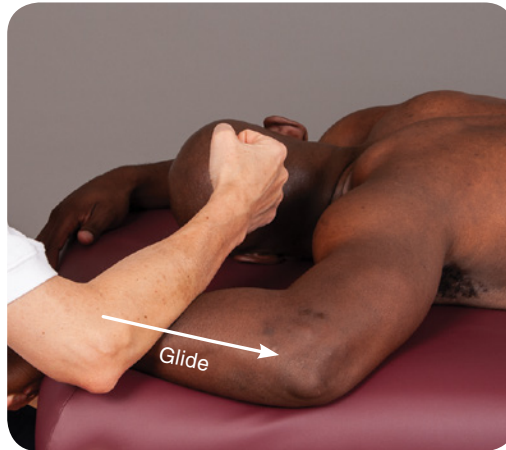
Locate the bellies of the wrist and finger extensors by asking your client to extend the wrist. Lock the tissues, taking up slack in the skin by pressing gently towards the elbow. Whilst maintaining your lock, ask your client to flex the wrist. Repeat over the lateral aspect of the elbow where the muscle bellies are located.



An effective way to apply active-assisted STR to the wrist extensors is with your client seated, his or her arm resting on the massage couch, the wrist able to flex freely over the end of the couch.



Notice how you could modify active-assisted STR to the wrist extensors by turning it into a gliding technique. With your client prone, his or her hand off the massage couch, begin at the wrist and using a massage medium, glide gently towards the elbow as your client flexes and extends the wrist.



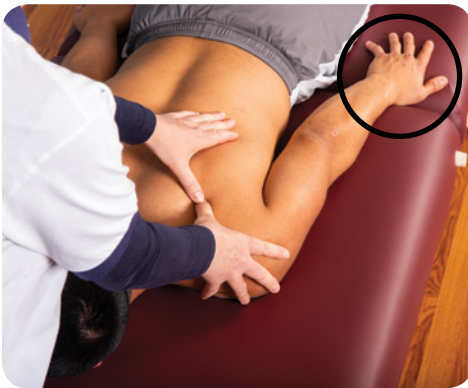
Wrist and Finger Flexors

Identify the muscles by asking the client to flex his or her wrist. Lock the tissues over the muscle bellies, directing your pressure gently towards the elbow. Whilst maintaining your lock, ask your client to extend the wrist. Repeat this lock, stretch, lock, stretch sequence over the muscle bellies.



Infraspinatus

Active-assisted STR to infraspinatus is performed with your client in the prone position. It is important that you ask your client to rest with the arms by the sides, the palms touching the couch, at the start. In this position the infraspinatus is contracted. Use gentle pressure to apply a lock and, whilst maintaining the lock, ask your client to change the position of the arms by turning the hands so that the back of the hands are against the couch. There is no need to take up slack in the skin when applying a lock to this muscle.



TIP There is a trigger point in the middle of the infraspinatus muscle that, in most people, feels tender when pressed. Using active-assisted STR on this very trigger point is useful in reducing tension in the shoulder.

Biceps Brachii

With your client in the supine position, ask him or her to flex the elbow. Then create a lock using either the back of your fingers, a soft knuckle or your thumb, taking up slack in the tissues as you press gently towards the shoulder. Maintaining your lock, ask your client to slowly extend the elbow.



Triceps

You can use active-assisted STR to stretch the triceps in this manner: Gently abduct your client's arm whilst he or she is in the prone position, then ask him or her to extend the elbow. Lock the tissues gently at the proximal end of the muscle, taking up slack towards the shoulder. Maintaining this position, ask your client to flex his or her elbow. As with passive STR to triceps in this position, it is not always possible to stretch the distal end of the muscle when working with a client with long arms; when abducted, this part of the arm is not supported by the couch and you therefore have no resistance to the pressure of your lock.



Safety Guidelines for Active-Assisted STR

The following guidelines will help keep active-assisted STR safe for you and your clients:

- Your usual massage contraindications apply. For example, do not apply active-assisted STR to the calf if your client has varicose veins.
- When treating the calf and hamstring muscles, avoid pressing into the popliteal space behind the knee.
- When working, be aware of your posture and guard your back. For example, avoid unsupported spinal flexion when treating the calf.
- When working with a client with an injury to the tibialis anterior, avoid applying active-assisted STR to the calf. In this case, constant dorsiflexion will fatigue the tibialis anterior. An exception may be when a client has a dropped foot due to weakness in the tibialis anterior; in this case, active-assisted STR to the calf may actually be beneficial as part of a programme to increase strength in the ankle dorsiflexors.
- When working along the tibia and fibula, ensure that the client's knee is fully supported if he or she is in side lying position. If you are applying your elbows to access these strap-like muscles, work cautiously to avoid bruising the tissues against the underlying bones. Take care not to press onto or close by the head of the fibula where the common fibular nerve runs.

- When stretching the quadriceps of clients with anterior knee pain, recognize that you may not be able to work to as distal a point as usual. This limitation is because the closer to the knee you place your lock, the greater the stretch and the greater the pressure on the patella. Whilst it may be beneficial in the long term in overcoming patellofemoral pain due to tight quadriceps, it could be painful during the stretch itself.
- When working the scalenes, take care not to press too deeply. Be sure to get feedback from the client.
- Avoid using STR on the feet when a client has diabetes, unless you are certain they have full sensation in their feet and can feed back to you any discomfort.
- Avoid using STR to levator scapulae or trapezius in the seated position with clients with low back problems; pressure through the body this way can aggravate symptoms.

When Is Active-Assisted STR Indicated?

Overall, active-assisted STR is useful in these situations:

- When working with clients who find it difficult to relax during treatment
- When treating clients who like to be engaged with their treatment
- When it is necessary to apply more pressure to lock tissues
- When treating clients who do not feel the stretch of passive STR
- When treating large, bulky muscles such as hamstrings and quadriceps
- When it is essential for you to safeguard your wrists, fingers and thumbs
- When muscle strengthening is required, perhaps after immobilization of a joint

Table 4.2 provides suggestions for when active-assisted treatment to particular muscles may be useful.

Using Active-Assisted STR to Treat Trigger Points

When using active-assisted STR to treat trigger points, instead of working down the muscle, creating new locks, remain in one position, using your thumb over the trigger point as your client moves the joint in order to stretch the muscle you are working on. Because you do not need to move any part of the client's body, it is tempting to use both hands to apply pressure to a point, but it is unnecessary. Only light pressure is required. Use these steps as a guide:

1. Shorten the muscle you intend to work on.
2. Palpate the area to locate a trigger point, using feedback from the client to guide you.

Table 4.2 Situations in Which Active-Assisted STR Can Help

Muscle	Situation
Calf	<ul style="list-style-type: none"> ■ For clients with tight calves ■ For clients engaged in physical activity involving the lower limbs, such as running, tennis or basketball ■ To treat clients who have been standing or walking for long periods ■ To increase range of motion at the ankle or knee ■ To treat clients who require increased ankle dorsiflexion (e.g., clients previously bedridden now required to stand) ■ To stretch out the calf muscles of clients who wear high-heeled footwear (which results in excessive plantar flexion and possible shortening of these muscles) ■ For use as part of a programme to help strengthen the tibialis anterior
Foot	<ul style="list-style-type: none"> ■ For clients with plantar fasciitis ■ For clients with Achilles tendon problems
Hamstrings	<ul style="list-style-type: none"> ■ For clients with tight hamstrings ■ For clients who sit for long periods, such as drivers or typists ■ For clients engaged in physical activity involving the lower limbs, such as cycling, running or basketball ■ To increase range of motion at the knee ■ For clients with excessive lumbar lordosis ■ With medical permission, after knee surgery or immobilization of the knee
Iliacus	<ul style="list-style-type: none"> ■ For clients with tight hip flexors ■ For clients engaged in physical activity that requires repetitive or prolonged hip flexion, such as running, rowing, cycling or jockeying ■ For clients who sit for long periods, such as drivers ■ To increase hip extension ■ For clients engaged in riding motorcycles for long periods
Tibialis anterior	<ul style="list-style-type: none"> ■ For clients with tight tibialis anterior muscles ■ For clients engaged in sporting activities that require repeated or prolonged dorsiflexion, such as running or tennis ■ After walking uphill for long periods ■ After standing for long periods ■ To help increase plantar flexion, should that be required, after ankle joint immobilization
Peroneals	<ul style="list-style-type: none"> ■ For clients with tight peroneals, often those with flat feet ■ To help increase inversion after immobilization of the ankle joint ■ For clients engaged in physical activity that uses the leg muscles ■ For clients who are prone to repetitive eversion of the ankle, such as horse riders
Gluteals	<ul style="list-style-type: none"> ■ For clients engaged in physical activity that requires repetitive or prolonged hip extension or abduction, such as running, jumping or ice skating

(continued)

Muscle	Situation
Quadriceps	<ul style="list-style-type: none"> ■ For clients with tight quadriceps ■ For clients engaged in physical activity involving the lower limbs, such as cycling, running or jumping ■ To increase range of motion at the knee ■ To increase knee flexion
Upper trapezius, scalenes, levator scapulae, erector spinae (spinalis)	<ul style="list-style-type: none"> ■ For clients with tight neck muscles ■ For clients who spend long periods sitting, such as writers, drivers or typists ■ For singers ■ To increase range of motion in the neck ■ For treatment after immobilization of the neck ■ During seated chair massage routines by therapists working in this capacity ■ For clients who suffer headaches induced by increased muscle tension ■ For clients needing treatment after immobilization of the scapula or as part of the rehabilitation process after injury to the shoulder, especially for the upper trapezius and levator scapulae ■ For anyone who performs repetitive or prolonged shoulder activities, especially those involving overarm movements, such as tennis, swimming or overarm bowling ■ For clients who hold static postures for prolonged periods, such as painters, artists or models
Pectorals	<ul style="list-style-type: none"> ■ For clients with tight pectorals ■ For clients with kyphotic postures ■ To increase horizontal extension at the shoulder ■ For treatment after immobilization of the shoulder joint (when the client has been in a sling, for example) ■ For clients who perform repeated or prolonged movements of the shoulder, especially those activities requiring adduction, forward flexion and horizontal flexion of the shoulder, such as rock climbing, racquet sports or swimming ■ For clients who maintain prolonged forward flexion at the shoulder, such as cyclists or drivers
Wrist and finger extensors and flexors	<ul style="list-style-type: none"> ■ For musicians whose performance requires repeated finger movements, such as guitarists, pianists, flautists or trumpet players ■ In the treatment of lateral epicondylitis (extensors) ■ In the treatment of medial epicondylitis (flexors) ■ For clients who perform repeated or prolonged flexion, such as typists, drivers or people who carry heavy bags ■ For clients whose sport requires gripping, such as rock climbing or rowing ■ For massage therapists ■ For treatment after immobilization of the wrist or elbow

3. Place your thumb gently over the point, and apply pressure. Get feedback from your client: pressure should feel slightly uncomfortable but not painful. Remember, pain causes muscles to tense and so is counterproductive to STR stretching.
4. Maintaining your lock, gently lengthen the muscle, stretching the fibres.
5. Release your lock, and soothe the area.
6. Feel for the trigger point again, and again get feedback from your client as you repeat the technique a total of four or five times.

As the trigger point dissipates, it will feel less firm to touch; the client should report less discomfort (if any) when the point is pressed. It usually takes more than one treatment session for all symptoms associated with the trigger to resolve.

How to Become Proficient in the Use of Active-Assisted STR












Use table 4.3 as you practise active-assisted STR on each of the muscles shown in this chapter, experimenting with different locks. To get the most out of your practice sessions you might wish to try the following:

- Practise changing your posture by raising or lowering your treatment couch.
- Alternate between using your right and left hands to create the lock. On which muscles do you need to reinforce the lock and use both hands?
- Practise with using gliding STR.
- Ask your client which locks he or she prefers the feel of and which provide the strongest or most comfortable stretch. Do any locks feel uncomfortable or not seem to work for either you or your client?
- Practise at least two times on each of the muscles.













Quick Questions

1. Who performs the stretch in active-assisted STR—the client, the therapist or both?
2. For which sort of client might active-assisted STR be useful?
3. Why is this form of STR useful for rehabilitation after joint immobilization?
4. What is the biggest difference between passive and active-assisted STR?
5. Why should you avoid swapping between passive and active-assisted STR when working with a client for the first time?






Table 4.3 Overview of Active-Assisted STR Applications

Calf			
Prone Elbow 	Prone Forearm 	Prone Double thumbs 	Prone Squeeze 
Foot		Hamstrings	
Prone Tool 	Supine Tool 	Prone Forearm 	Prone Elbow 
Iliacus	Tibialis anterior		Fibularis
Side lying Fingers 	Side lying Elbow 	Prone Fist, gliding 	Side lying Thumbs 

(continued)

Gluteals	Quadriceps	Scalenes	
Side lying Forearm/elbow 	Seated Forearm 	Seated Fingers 	Supine Fingers 
Iliotibial band (ITB)		Upper trapezius	
Side lying Fists 	Seated Forearm 	Supine Tool 	Supine Tennis ball 
Levator scapulae	Erector spinae	Pectorals	Infraspinatus
Seated Elbow 	Seated Knuckles 	Supine Soft fist 	Prone Fingers 

(continued)

Wrist extensors		Wrist flexors	
Supine Thumbs	Seated Thumbs	Prone Forearm to apply gliding technique	Supine Thumbs
			
Biceps brachii		Triceps	
Supine Soft fist	Prone Thumbs		
			

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Active Soft Tissue Release

Passive and active-assisted STR are techniques used when treating clients. In this chapter, you will discover how to perform active STR, a technique you might use on yourself or teach to your clients to use as part of a home care programme. Included are brief descriptions of the key holds, moves and stances used for treating 13 muscles, with accompanying photographs, along with safety guidelines and a table (5.1) illustrating when active STR may be indicated. As with the previous two chapters, this chapter provides an overview table (5.2) too. Answering the Quick Questions at the end of the chapter will help test your understanding of how active STR is applied.

Introduction to Active Soft Tissue Release

It is possible to perform active soft tissue release on many of the muscles in the body. To do so, you apply a lock to yourself and perform the stretch yourself, with no assistance from a therapist. Unlike passive soft tissue release, the muscle involved will be actively rather than passively shortened. In other words, you will lock into a contracted rather than a relaxed muscle. Nevertheless, the technique seems to be effective at releasing tension in the muscle and is useful as a quick fix when a therapist is unavailable. Active STR is invaluable as a method for treating trigger points.

How to Perform Active STR

To perform active STR, follow these steps:

1. *Identify the muscle to be stretched and the direction of the fibres.*
2. *Shorten the muscle.* In other words, concentrically contract it; how you contract it will depend on which muscle you are working. To contract your hamstrings, for example, flex your knee; to contract your triceps, extend your elbow. In some cases you do not need to contract the muscle in order to take a joint through its full range. In fact, doing so can make STR impossible. For example, if you contracted biceps to fully flex your elbow, you would not be able to lock the muscle because you would have no space to apply a lock.
3. *With the muscle gently shortened, lock the fibres.* Start proximally, nearest the origin of the muscle.
4. *Once the fibres are locked, actively lengthen the muscle.* Maintain your lock throughout the movement.
5. *Once the muscle is lengthened, remove your lock.*
6. *Shorten the muscle again.*
7. *Choose a new place to lock, slightly more distal to your first position.* Repeat the action.

Stop when you reach the distal tendons of the muscle. If you have performed STR correctly, you should feel the stretch increase as you work from proximal to distal on the muscle.

TIP To be really good at performing STR, you need to know your muscles and the actions they bring about. For reference, keep an anatomy text close at hand whilst working through this book and practising STR.

The Direction of Locks

When locking a muscle, the intensity of the subsequent stretch increases as you work from the proximal end of the muscle to the distal end. In figure 5.1, lock C produces a stretch of greater intensity than lock A because there is less soft tissue to stretch when locking the distal end of the muscle.

However, depending on the shape of the muscle and how you lock the tissues, it may not be possible to follow this guideline. For example, in figure 5.2 the subject has a large, bulky biceps muscle. Using a gripping lock, it is not possible to work from the proximal end to the distal end. Biceps brachii is a good example of where active STR may not be as effective as passive or active-assisted STR.

How to Focus the Stretch to One Area

Placing locks close together (figure 5.4) focuses a stretch to one area of tissue more accurately than when locks are placed farther apart (figure 5.3). In many cases,

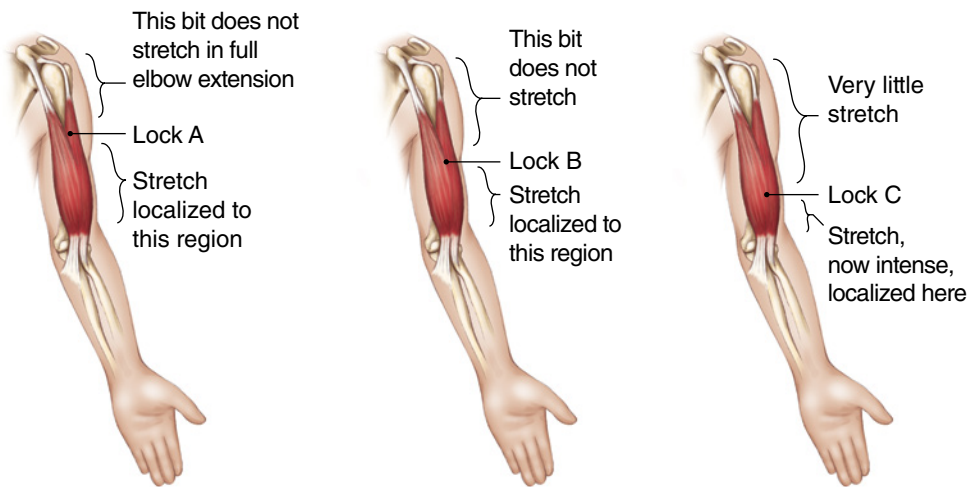


Figure 5.1 Locks placed proximally to distally increases the intensity of a stretch.



Figure 5.2 Using a grip lock to a bulky biceps muscle.

active STR works best when a tennis ball is used to create the lock. Be careful to avoid overworking any one area. The risk of overworking an area is slightly greater when using active STR compared to passive or active-assisted STR because when applying passive or active-assisted STR, these methods may already be incorporated into a massage routine, during which muscles are soothed following the application of locks. If prescribing active STR as a useful stretching method for your clients, ask them to self-massage the area wherever possible if they have localized a stretch to one particular muscle.

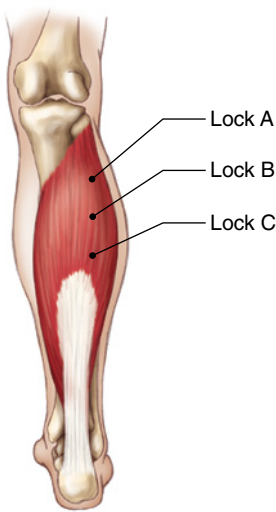


Figure 5.3 Specific locks spread across the length of the muscle.



Figure 5.4 Specific locks placed close together.

The Direction of Pressure

Usually when applying STR, pressure is directed towards the proximal end of the muscle. For example, when treating the wrist extensors (figure 5.5a) or flexors (figure 5.5b), you can use the thumb to direct pressure towards the elbow.



Figure 5.5 Direction of pressure when treating wrist extensors (a) and flexors (b).

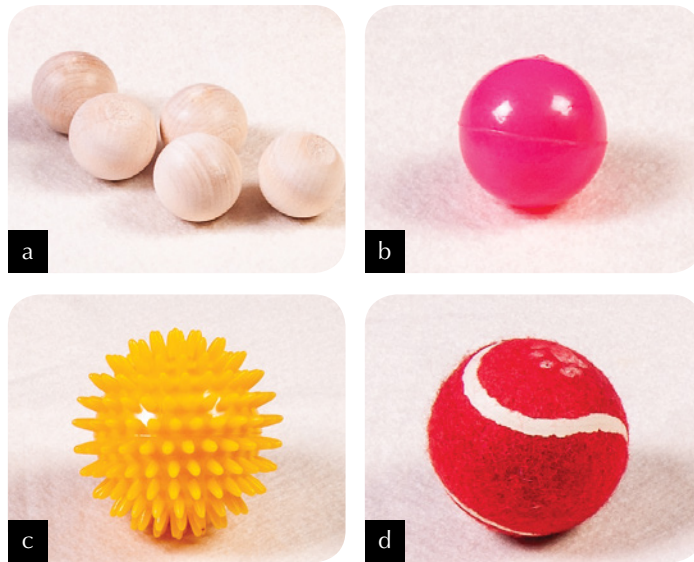


Figure 5.6 Balls used to direct pressure to soft tissues include golf-type balls (a), high-bounce balls (b), spikey therapy balls (c) or simple tennis-type balls (d).

However, for many muscles using the thumb in this manner is not possible, so you may apply pressure to these muscle perpendicularly using a massage tool. In most cases this method is effective. Many tools are available to help create a lock. The easiest to use is a ball, such as a small golf-type ball or hard, high-bounce ball, a spikey therapy ball or simple tennis balls (see figure 5.6). Tennis balls have a tendency to split when pressed hard, so a good alternative is to use one of the tennis-type balls that are available as dog toys. They look like tennis balls but are much more firm and more durable.

One of the best tools to use for active STR is a dog ball on a rope (figure 5.7). The advantage of this tool will become apparent once you start to employ it to create locks when practicing active STR. Holding the rope prevents the ball dropping to the floor when using active STR in a standing position, for example.



Figure 5.7 Dog ball on a rope.

Taking Up Slack in the Skin

Taking up slack in the skin prior to stretching results in a more effective stretch than when simply pressing into tissues. Unfortunately, taking up slack in the skin is only possible when applying active STR using thumbs; even then, it can be difficult to lock tissues sufficiently. The advantage of using active STR is that a client can use it independently every day. The advantage of passive and active-assisted STR is that slack can easily be taken up, creating a very effective stretch. It is often necessary to weigh up the advantages and disadvantages of each method of application and consider these factors in designing your treatment plan.

Incorporating Active-Assisted STR With Oil Massage

Incorporating STR with massage is most easily delivered by a therapist. Encourage clients to soothe an area after treatment with gentle rubbing, with or without a massage medium.

Active STR as Part of a Home Care Programme

Active STR is a useful technique to share with clients as part of their home care programme, and it is valuable as an adjunct to treatment. For example, if you are seeing a client once a week to try and resolve tension in the upper back and trapezius, passive or active-assisted STR can be highly beneficial. However, the client still has another 6 days during which to manage the condition. Many clients experience a relief from symptoms in the days following treatment, but by the end of the week symptoms have returned, especially if any aggravating factors have not been addressed. Working at a computer or driving for long periods of time where a static posture is maintained is a good example of how retention of a static posture might perpetuate symptoms. Providing clients with tips on applying STR on their own may help address the underlying condition and keep them engaged with their rehabilitation. In addition, many therapists find it useful to apply STR to their own forearms, which, even with good practice, often become excessively tight and develop trigger points.

Key Holds, Moves and Stances for Active STR

Illustrated here are 13 areas of the body that lend themselves to active STR: the plantar fascia on the sole of the foot, hamstrings, quadriceps, calf, gluteals, wrist and finger extensors and flexors, biceps brachii, trapezius, triceps, scalenes, rhomboids and pectorals. You can find detailed instructions for these stretches in chapters 6 through 8, where you can compare active STR to the passive and active-assisted techniques.

Foot

Sit down and place your foot on a tennis ball or spikey therapy ball with your ankle in neutral. Gently extend your toes, keeping your ankle in dorsiflexion. Work



over the sole, moving the ball to discover which aspect of the fascia is tight and would benefit most from the stretch.

If giving this stretch as part of aftercare advice for a client, remember that it is not appropriate for people with diabetes, for example, who may have reduced sensation in the foot.

Hamstrings

Lie on your back, shorten the muscle by flexing your knee, and place a tennis ball over part of your hamstring muscles. Whilst holding the tennis ball as shown, gently extend your knee. Place your first lock (using the ball) near the ischium, and gradually work down towards your knee with subsequent locks.



You can also apply active STR to the hamstrings in a seated position using a small ball placed between the thigh and a chair. With the ball in place, slowly extend the knee.



TIP For an interesting observation, use the straight-leg raise to test the length of the hamstrings, apply active STR either supine or seated, and then retest the length of the hamstrings. If active STR has been effective in reducing tension and lengthening tissues, you would expect the straight-leg raise to have changed and for there to be a greater degree of hip flexion.

Quadriceps

Whilst resting facedown, practise positioning the ball on various parts of your thigh; notice where you feel the most stretch. Position the ball first near your hip and work towards your knee with subsequent locks. For a slightly broader lock, you could use a roller like the one shown in figure 5.8.



Calf

Resting on the floor with your legs straight in front of you, place your calf on a ball as shown in the photo. Gently dorsiflex your ankle to bring about the stretch. Again, for a slightly broader lock you could utilise a wooden roller (figure 5.8).



You could try this stretch in a seated position, resting your calf on a chair with the ball between your calf and the chair. However, you need to ensure that your leg is almost at the same height as the chair on which you are sitting in order to be able to apply STR over all of the calf.

TIP Before providing active STR to the calf for a client to do at home, remember to screen the client for contraindications such as varicose veins.

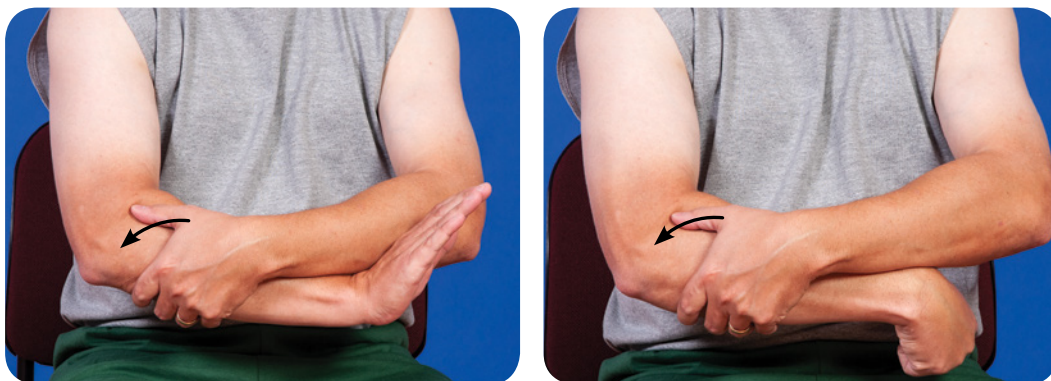
Gluteals

Although sitting on a tennis ball seems like a rational way to apply active STR to the gluteals, using the weight of the body can result in too much pressure being applied to one specific area. An alternative is to stand with your back to a wall, the ball between your buttock and the wall, then simply flex your hip.



Wrist and Finger Extensors

Locate the bellies of your wrist and finger extensor muscles. Gently lock into the tissues with your wrist in extension. Take up the slack in soft tissues by pressing gently towards the elbow. Whilst maintaining your lock, gently flex your wrist. Work all over your wrist extensors from proximal (near the elbow) to distal (near the wrist).



TIP You can more easily take up slack and achieve a lock if you apply a small amount of massage medium to the forearm, place a facecloth over the area you wish to treat, and press through the facecloth. The fronds in the cloth help provide grip, and the result is that you need less pressure to achieve the lock.

Another way to apply STR to the wrist extensors is to rest your forearms on a table with the palms facing upwards and use a small roller (figure 5.8) beneath the wrist extensors and the table. You may find that you need to use the hand of the forearm you are not treating to help stabilize the other forearm.



Figure 5.8 Wooden rollers can be useful for active STR.



Wrist and Finger Flexors

Identify the bellies of your wrist and finger flexors. With your wrist in flexion, gently lock into this area, pulling the tissues gently towards the elbow. Whilst maintaining your lock, gently extend your wrist. Work your way from elbow to wrist. If providing this stretch for a client to use at home, remind the client that he or she does not need to press deeply into the wrist itself but can focus on the muscle bellies in the upper part of the forearm.



TIP As with active STR to the wrist extensors, working through a facecloth can make it easier to apply a lock.

Biceps Brachii

With your arm in flexion, gently grip your biceps muscle. Extend your elbow whilst maintaining your grip.



Triceps

To apply active STR to triceps, extend your arm and grip the muscle. Whilst maintaining your grip, gently flex your elbow.



CLIENT TALK

A client sought treatment for pain in both upper arms, the right more than the left, which she experienced mostly whilst at work. She had full range of movement at the shoulder and elbow, but her triceps and biceps felt tender to touch. Her job was to manually polish furniture in a stately home, and she did so by resting on one hand, the elbow extended, and polishing vigorously using a cloth in the other hand. She was taught how to apply active STR to her own triceps and encouraged to do this at the end of the day to alleviate tension in this muscle.

Trapezius

It is possible to apply active STR to the trapezius by placing a ball between the upper back and a wall. However, tension in this muscle is often in the upper fibres, which are difficult to access when using a ball placed between you and a wall. An alternative approach is to create a lock by hooking into the upper fibres of trapezius using the end of a curved-handled umbrella.



Scalenes

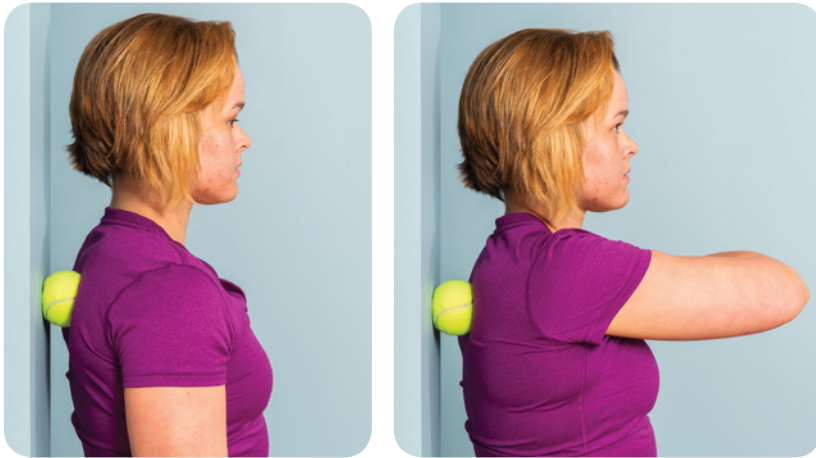
You can stretch the scalenes effectively using active STR. Using a finger only, apply gentle pressure just above the clavicle as you turn your head to the opposite direction. To treat the right scalenes, use the forefinger of your left hand and turn your head to the left. To treat the left scalenes, use the forefinger of your right hand and turn your head to the right. When teaching this technique to clients, instruct them to avoid pressing deeply into the front of the neck.



TIP Notice how you can achieve a greater stretch if you look up to the ceiling in addition to turning your head, and that you can move the jaw to enhance the stretch.

Rhomboids

To apply active STR to the rhomboid muscles it is necessary to place a ball between the rhomboids on one side of your back and the wall. Start with your hands by your sides, then bring about a stretch by flexing your shoulder and protracting your scapula. Repeat on the other side if necessary.

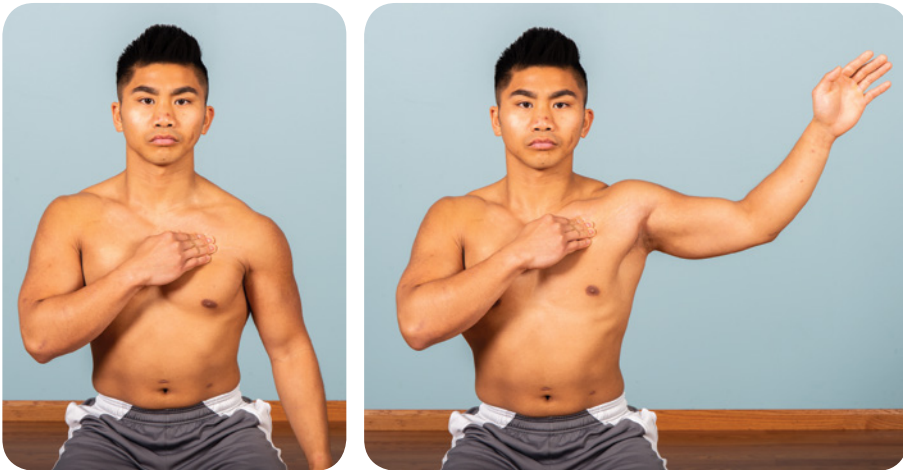


TIP As you move, the ball frequently drops to the floor unless you maintain pressure against the wall. One way to prevent the ball from dropping is to hold it inside a sock slung over your shoulder. Alternatively, you could use a ball on a rope.



Pectorals

To apply active STR to pectorals, begin with your arm by your side. With the other hand, gently take up slack in the skin, drawing it towards the sternum; maintaining this lock, abduct your arm. The more you abduct, the greater the degree of stretch you achieve.



CLIENT TALK

A client's job involved manually unloading medium-sized parcels, which meant that he was constantly lifting parcels from pallets, carrying them short distances and re-stacking them onto shelves. Postural assessment revealed he had protracted scapulae and marginal kyphosis. He was advised to perform active STR for the pectoralis major at the end of his shift and to combine it with active chest stretches. He also received advice on the use of upper back strengthening exercises for postural correction.

Safety Guidelines for Active STR

Active STR is safe and effective. However, it is useful to be aware of certain cautions before practising this technique, especially because in some cases there may be quite a lot of pressure to body tissues.

- Avoid active STR if you have had a recent injury or if you bruise easily.
- When applying STR to the plantar fascia, do not transfer your whole body weight onto the tennis or therapy ball, and never try to stand on the ball as this could cause you to lose balance and fall.
- If you are using STR to self-treat plantar fasciitis or golfer's or tennis elbow, proceed with caution. Apply the technique gently for a maximum of 3 minutes. Most people will find active STR alleviates some of the discomfort of these conditions. However, if your condition seems aggravated within 12 hours of application, do not repeat STR. Avoid the use of active STR if you lack sensitivity in the area being treated.
- Do not use active STR to the sole of the foot if you have reduced sensation in the foot.
- Do not use active STR to the calf if you have varicose veins.
- Do not use active STR to the hamstrings if you have varicose veins in the back of the thigh.
- Active STR should not be used where osteoporosis is known or suspected.
- Be careful not to overwork any one area. Although soft tissue release is a great way to stretch muscles, stop after you have applied STR two or three times to one area. See how that area feels the next day. If it feels sore, do not repeat STR.
- Be careful when using STR to help lengthen the tissues acting on a joint that has been immobilized. Skin integrity may be compromised at this time. The skin may be particularly fragile if you have been in a plaster cast, for example.
- Avoid active deep STR before a sporting event. Whilst it may be tempting to use the technique to stretch out hamstrings before a race, for example, deep stretching should be avoided because it may decrease muscle power.
- Be careful when using your thumbs to lock into tissues, as in treating the wrist flexors and extensors. These muscles are relatively small, and little pressure is required to fix them during the stretch. If you discover that applying STR in this way starts to hurt your thumbs, have passive STR done for you or find an alternative method to lock the tissues.

When Is Active STR Indicated?

Active STR may be used directly through clothing all over the body as part of a general stretching routine. It is also useful for addressing trigger points; you may place a ball or massage tool over the point and apply pressure before the stretch.

Table 5.1 provides suggestions for when active treatment to particular muscles may be useful.

Table 5.1 Situations in Which Active STR Can Help

Muscle	Situation
Plantar fascia	<ul style="list-style-type: none"> ■ To treat plantar fasciitis ■ After standing for long periods ■ After exercise, such as running or walking ■ To treat foot muscle cramps ■ To help regain flexibility in the plantar fascia after an injury such as an ankle sprain ■ To help regain flexibility in foot muscles after immobilization in a cast, such as with a ruptured Achilles tendon
Hamstrings	<ul style="list-style-type: none"> ■ To treat tight hamstrings ■ After sitting for long periods ■ To increase knee extension after immobilization of the knee joint
Quadriceps	<ul style="list-style-type: none"> ■ After exercise involving the quadriceps, such as walking, running or stepping ■ After standing for long periods
Calf	<ul style="list-style-type: none"> ■ After exercise that uses the calf muscles a lot, such as tennis, running or basketball ■ After immobilization of the ankle
Wrist and finger extensors and flexors	<ul style="list-style-type: none"> ■ For typists ■ For tennis players (extensors), golfers (flexors) and drivers (flexors) ■ After carrying heavy bags ■ For sports that require gripping, such as rock climbing or rowing ■ For massage therapists ■ After immobilization of the wrist or elbow
Biceps brachii	<ul style="list-style-type: none"> ■ For any activity with prolonged or repetitive elbow flexion, such as rowing, digging or carrying ■ After immobilization of the elbow or shoulder
Triceps	<ul style="list-style-type: none"> ■ For any activity involving prolonged or repetitive extension of the elbow, such as tennis ■ For massage therapists ■ After immobilization of the elbow or shoulder

Using Active STR to Treat Trigger Points

Active STR is an effective way to treat trigger points. One reason is that it is likely to be used more frequently than passive or active-assisted STR, which might otherwise only be delivered as part of a weekly treatment. Even where a client is not familiar with the concept of trigger points, most quickly learn how to identify them. When teaching a client how to identify trigger points, it is important to stress that pressure to the point should elicit slight discomfort but should not be painful. Because most clients are unlikely to have the same level of anatomical understanding as you do, advise them not to press into joints or onto bones or veins. It is also useful to explain that pressing a trigger point to the point of pain is counterproductive to the relaxation of muscles and that there is no place for the 'no-pain-no-gain' approach. Obviously, clients who are unwell or with injuries should avoid active STR unless they are themselves therapists and can identify contraindications.

When explaining to clients how to use active STR to treat trigger points, use these steps:

1. Shorten the muscle you intend to work on. Demonstrate this concept to the client using the muscle he or she plans to treat.
2. Show the client how to palpate the area to locate a trigger point. Self-palpation is not possible when working on the back of the body, so use a ball instead. When the client presses on the ball, moving his or her body over it, he or she should be able to locate trigger points.
3. Press gently over the point. It should feel slightly uncomfortable but not painful.
4. Maintaining the lock, gently lengthen the muscle, stretching the fibres.
5. Release your lock and soothe the area.
6. Feel for the trigger point again, and repeat the technique a total of three or four times.

Wherever possible, use passive or active-assisted STR on a trigger point so that your client has an understanding of the sensation and the process involved. Explain to your client that as the trigger point dissipates it will become more difficult to locate and feel less (if at all) uncomfortable when pressed. Trigger points rarely disappear with a single treatment session but will resolve with time. Importantly, a client should keep a mental or written note about his or her experiences of using active STR to treat trigger points. That way, you can help address any errors and identify why active STR is or is not working in deactivation of trigger points.

How to Become Proficient in the Use of Active STR


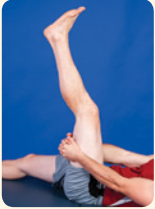












See table 5.2 for an overview of active STR applications. The following points will help you to get the most out of your practice sessions:

- Practise using different tools to lock tissues. Compare using a tennis ball to using a dog ball, for example.
- Identify which parts of your body are hard to access even when using a tool and which may therefore benefit from passive or active-assisted STR.
- Practise applying a massage medium. Use oil or wax, placing a facecloth over the area, then creating a lock. This works especially well on wrist extensors.
- Identify any locks that feel uncomfortable, and ask yourself why it might be so. Is it the position you need to adopt, or is it the method of locking that causes discomfort?
- Practise at least two times on each of the muscles.

Quick Questions

1. How do I shorten the muscle I want to work on?
2. Do I contract first and then lock, or lock and then contract?
3. How do I know which way to work along the muscle?
4. Can I use STR if I bruise easily?
5. For how long can I apply active STR to one muscle?

Table 5.2 Overview of Active STR Applications

Foot	Hamstrings		Quadriceps
Seated Ball 	Supine Ball 	Seated Ball 	Prone Ball 
Calf	Gluteals	Wrist and finger extensors	
Supine Ball 	Standing Ball 	Seated Thumb 	Seated Roller 
Wrist and finger flexors	Biceps brachii	Triceps	Upper trapezius
Seated Thumb 	Seated Grip 	Seated Grip 	Seated Curved handle of umbrella 
Scalenes	Rhomboids	Pectorals	
Supine Fingertips 	Standing Ball 	Seated Fingertips 