

# RumbleRoller® Certification Manual

## The Alexander Method of SMR



### Fundamental SMR Techniques - Level 1

Group SMR Programming - Level 2

Extended SMR Techniques - Level 3

Advanced SMR Programming - Level 4

*A reference for anatomical location and proper execution of the 23 Fundamental self-myofascial release techniques, a list of recommended passive & active stretches and functional movements, and complimentary self-care therapies to bring about improved functional movement and reduce dysfunctional compensations.*



# SMR

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RumbleRoller® Certification Manual, Fundamental SMR Techniques-Level 1,  
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*Warning: The exercises and stretches contained in this book are neither meant to diagnose, nor to treat any specific medical condition. Consult your doctor before practicing any of the enclosed exercises. All exercises are for educational purposes only, and are not intended to replace the advice of any licensed therapist.*



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## Chapter 1 -- Background, Origins & References

The following pages in this chapter explore the origins of SMR as a concept of self-care as well as the Alexander Method of SMR and some supportive references that can help you get the most out of your efforts both practicing and instructing SMR.

Of primary importance is to remember that SMR is a self-guided process. The individual that is practicing a particular technique must be able to tune in and feel their muscles relaxing while they perform that given technique. If that individual has trouble relaxing while using a particular tool because it is too firm or the technique is too intense, complicated, or awkward then the very beginning of that person's journey into self-care is flawed and there is little chance of them achieving success in their SMR efforts.



An individual should avoid SMR for a particular area of their body if they have nerve damage and lack tactile sensation in that area, or if they are on medication that numbs their pain response, or have some other condition that would otherwise limit their ability to feel the difference between mild pressure, a slight pinch, or a sharp pinch of pain.

No one should ever feel or perform worse after practicing any SMR technique, functional movement, or stretch. If anyone ever feels some slight spot tenderness in an area after using an SMR tool there, that is normal but should lessen in intensity and the recovery time should shorten after future sessions as the individual continues to stretch, massage, and relax their tight muscles through SMR and the related complimentary techniques. If a person feels more tenderness in a particular area the next time they are attempting to use the same SMR tool there, they likely need a day or two to allow the muscles and other soft tissues time to recover following the work they did to themselves.

If someone finds it more difficult to move a particular joint after practicing SMR on the muscles attached to that joint, or if spot tenderness persists beyond one or two days, they should make an appointment with a licensed bodywork specialist or other healthcare professional to rule out any issue that is beyond the scope of self-care through SMR. Not every problem can be fixed using some balls and rollers, so exercising good judgment is recommended.

When practiced regularly with the right level of intensity, SMR techniques and complimentary modalities can aid the individual in becoming more familiar with their own bodies and achieve a better understanding how to remedy the normal aches & pains of daily life.



## Jeff Alexander

- Director, Rumble Roller Certifications
- Creator, Alexander Method of SMR
- Founder, Network Fitness, LLC
- Personal trainer certifications from CrossFit, the National Academy of Sports Medicine (NASM), and the International Sports Sciences Association (ISSA)
- Specialty certifications in performance nutrition from ISSA, functional assessment from Functional Movement Systems (FMS), and corrective exercise from NASM
- Continuing Education provider through SMR Clinics

I teach functional anatomy to athletes, trainers, and the average person so they can perform and live better. My specialty is self-myofascial release (SMR), a technique likened

to “self-massage” that releases excess muscle tension, and may break up scar tissue & adhesions while relieving contraction knots & trigger points to restore or maintain proper biomechanics. This evolving field of fitness combines the functional movement concept with the self-therapy that so many athletes need so they can compete tomorrow at the same level of intensity that they do today.

I hope to bridge the gap between therapist and trainer by empowering individuals to take better care of themselves. This will also help the therapist by providing them with a more educated patient who (hopefully) will be more compliant with their recovery “homework.”

My wife and I own and manage a personal training and fitness consulting business called Network Fitness that has been based in the Irvine/Newport Beach/Costa Mesa area of Southern California since 1998. We oversee or personally conduct personal training, group workouts, and SMR presentations/workshops for athletes, trainers, groups and businesses throughout the USA and other countries.

I bring to the table a wide range of accomplishments and education accumulated through my experiences in Africa and the South Pacific with the United States Marine Corps, electrical engineering studies at McNeese State University in Louisiana, academic and hands-on lessons learned in personal training and fitness therapy techniques from respected fitness or therapy individuals and institutions.



## Chapter 1 -- Section 2 -- Intro to SMR



Hot Stone Neck SMR

For years athletes have done some form of stretching whether dynamic movement drills or holding a certain physical position for an extended period of time to bring about a release of tension and increase/restore range of motion. The release that comes from static stretching is called autogenic inhibition. The release associated with dynamic stretching is called reciprocal inhibition. A recent area of interest is self-myofascial release (SMR) which is a specialized method for achieving autogenic inhibition, the exact same response static stretching provides. It is not necessary to be able to repeat these terms to experience the benefits of SMR, but you do need to understand the general concepts of activation and release of the muscles.

SMR is the process of applying pressure to muscular knots with implements such as balls and rollers to bring about a release of tension, essentially the same release one gets from static stretching. It can be likened to self-massage. With the right instruction and caution, it can be an extremely effective skill set to have in your recovery 'tool box.' SMR allows an athlete to effectively deal with some of the knots that develop during the course of their conditioning without needing to wait until their therapist is available for an appointment. When the athlete does eventually make an appointment with a massage therapist, their therapist can go to work on the really deep knots that quite simply were impossible to get to before because of all the other tension in the muscles.

Let's get technical for just a few minutes. Autogenic inhibition occurs when just enough tension is held in a tendon just long enough to set off a sensor called the golgi tendon organ (the 'off switch' for the muscles). This sensor sends a signal to the brain to release the muscle activators, called muscle spindles (the 'on switch' for the muscles), so that the tendons, bones and muscles are not damaged. When the right amount of tension is held for 20 seconds or longer, some of the muscular knots are released. By repeating this process and gradually increasing levels of tension in the tendons, one can open up more and more of the overly tight muscle tissue that inhibits proper range of motion and limits power output.

How quickly the muscles will relax is controlled by the muscle spindles (the 'on switch'). They have a protective response called the stretch-reflex. If the muscle fibers are stretched too fast, the muscle spindles will tighten the muscle fibers to protect them from injury. At the doctor's office you know this reflex as the knee-jerk test. During stretching or SMR we sense this reflex as the muscle beginning to cramp.

When muscles work at extreme loads or for extremely long periods of time, the smallest functional parts of the muscles, called sarcomeres, can tighten up and develop what's called an ischemic condition or oxygen deprivation. When this happens the muscle is in an energy crisis and tends to tighten up even more, furthering the shortage of proper blood flow and further decreasing oxygen supply to that area of muscle. Without oxygen the muscle fibers go completely anaerobic, exhaust all available sugars and begin to fail. As one muscle strand locks up, it pulls on the neighboring strands. The neighboring strands now have an increased demand placed upon them, and the cycle repeats for each strand moving away from the original area of energy crisis. If the muscle is continually overloaded and nothing is done to achieve proper recovery, function will become inhibited and



Lats Test -- See a Difference?



## Chapter 1 -- Section 2 -- Intro to SMR



All Smiles Working the Quads

proper movement compromised.

Stretching afterwards helps to open up much of the compromised muscle. However, since the parts within the muscle fibers can stretch to more than one and a half times their resting length and the tendons for each muscle have a slight bit of stretch as well, some of the knots in the muscle may not ever produce enough tension in the tendons to bring about the nervous release they need. This keeps blood flow through that area of muscle tissue to a minimum and not enough nutrients get delivered to support full recovery.

A massage therapist can help the athlete relieve their tight muscles to improve blood flow, which increases recovery,

function, and performance. Having a good massage therapist in your rolodex is an absolute necessity. However, because there are literally millions of sarcomeres in each muscle, the massage therapist's work is cut out for them. If you consider the 20 second minimum for achieving the nervous release for each tight muscle, it becomes obvious why many of us can get a massage for an hour and still have some uncomfortable muscular knots.

Even with regular massages, the athlete will need to correct any faults in their biomechanics that lend toward excessive loading. This is where a well-trained coach with a good eye for proper movement can help an athlete perform better and better with fewer injuries. Having a good coach is also a necessity.

So through SMR you can address tight muscles that inhibit proper movement on a daily basis. If you restore full range of motion to your body on a daily basis, then you can potentially avoid the pitfalls of non-impact injuries caused by poor biomechanics. The wear and tear in the knees, hips or shoulders are good examples of poor mechanics leading to an injury that very simply would not have occurred with proper joint movement.

When the knees shift inwards on a squat or during the landing of a jump, excessive stress is placed on the ankles, knees, hips, and lower back. Many people will attack the lateral rotators and extensors of the hip such as the piriformis and glutes, thinking that these muscles are too weak. While they may indeed need strengthening, the true culprits are likely overly tight adductor muscles (the adductor magnus, longus, and brevis), and a tiny but very strong muscle close to the groin called the pectineus. Loosen the muscles on the inside of the thigh and the lateral rotators can better stabilize the hip and properly align the thighs.

Prior to the development of SMR concepts, an athlete needed a therapist with a significant knowledge of anatomy and very strong hands to address the deep knots of the adductors and other thigh muscles that contribute to this internal rotation or bowing of the knees. Now you can simply lie on a roller or ball with the inside of your thigh and slowly work from your knee to your pubic bone and you can find the knots that need a little added pressure to properly release them.

Whether you use a roller or ball, the key is to apply only enough pressure to trigger the release and not so much pressure that the muscles cramp up. This can be tricky, especially for the deep knots, since you might need to apply a fair bit of pressure to get through the



The Adductors Can Be Especially Tight

## Chapter 1 -- Section 2 -- Intro to SMR

outer layers of tissue. With regular practice the process works more quickly and your muscles will cramp less often.

Can SMR replace the massage therapist, physical therapist or chiropractor? No.

You need qualified assistance to diagnose and treat conditions other than tight muscles. Do you need the dentist to brush and floss your teeth every day? No. There are some things you should be able to do for yourself. SMR is one method of taking more responsibility for your physical health and well-being.

SMR is a growing concept of self-care that enables the individual to not only feel better by relieving some of the tension in their tight muscles, but it also helps to reduce dysfunctional compensations by restoring proper range of motion. As an added benefit, it encourages education about anatomy by simply causing people to wonder, 'what muscle is that, anyway?'

At any level, the individual should examine their interest in self-care. If they are participating in a competitive training schedule, they will need regular massages as well as to practice SMR. It is not a question of 'if' the muscles will develop an ischemic condition, but 'when' and 'how much' of the muscle will lock up. SMR helps the athlete to continue to pursue their competitive goals longer, and with fewer injuries by the very nature of improving blood flow and biomechanical function.

Take your time when implementing SMR into your program, and learn the limits of your self-care knowledge. You can overdo SMR or damage yourself if you press too hard, too fast. When you are not sure what to do, you need to call upon a qualified professional to assist you.

Finally, remember that SMR is a slow process. If you rush it you will stimulate the 'on switches' in the muscles and increase circulation without necessarily releasing any knots. We are much better at turning muscles on than turning them off.

Written by Jeff Alexander, founder of Network Fitness LLC

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Learn more about SMR at: <http://www.smrtips.com>



## Chapter 1 -- Section 3 -- Helpful Tips

### SMR Techniques

The following six techniques are applied individually or in combination to specific areas of the body to bring about autogenic inhibition and break up adhesions. You should apply pressure to an area of high muscular tension using the following techniques for 20 seconds or more, but typically not more than two minutes. Many of the SMR exercises in this manual have titles that specify a recommended technique, but many of the following techniques will work for any area of the body. Use the technique that affords you the quickest and most lasting relief.

- **Stroke**: smooth rolling motion typically done with a cylinder. Usual stroke length is most of the entire limb. Rolling action is normally steady pressure both directions in a somewhat quick, stimulating fashion. This method is a preparatory technique that activates muscle fibers more so than releases tension within them. It is good for “warming up” an area to minimize any discomfort when applying targeted pressure later.
- **Roll**: smooth rolling motion typically done with a cylinder but can be done with a ball. Usual stroke length is one to three inches. Rolling action is normally toward the heart with heavy pressure and away from the heart with light pressure.
- **Rock**: this is similar to the roll technique except the motion is a pivoting action back and forth or left and right over one specific one to three inch area with either a cylinder, ball or stone. Using this technique in combination with the rolling technique allows one to more deeply address their trouble areas within the larger muscle or region.
- **See-Saw**: this is similar to the rock technique except the position on the cylinder, ball or stone is held steady and the body or limb being addressed is tilted up and down like a see saw on its fulcrum. This technique is good for addressing very dense, strong tissue like the deep calve muscles or the deep quadriceps muscle.
- **Flex**: this is similar to the rock technique except the position on the cylinder, ball or stone is held steady and the joint for the limb being addressed is slowly flexed and extended. This technique stretches the muscle being addressed while the limb is flexed, and allows the SMR tool to dig in deeper into the tight muscle when the limb is relaxed and extended.
- **Press**: this is a stationary technique done with a ball or stone. The action involves lifting and lowering one’s body or limb to apply more pressure and then less pressure. This technique also can be done by holding the ball or stone in one’s hand.
- **Knead**: this is similar to the press technique done with a ball or stone in which one holds the SMR tool in one or both hands and makes a clockwise or counter clockwise pivoting motion while applying pressure, then relaxing while lessening the pressure on the tool. This is an exceptionally good technique for really troublesome areas that don’t release through the use of the other techniques.



## Chapter 1 -- Section 3 -- Helpful Tips



Quads Roll



Adductors Roll



Lats Roll

### The Primary SMR Techniques

1. Quads Roll
2. Adductors Roll
3. Lats Roll

1. **Quads Roll** -- Use this SMR movement to open up the most influential muscle in your thighs: the rectus femoris. Since many athletes are 'quad dominant,' their performance is greatly hindered as the rectus femoris and the other three quads lock up. In addition to stretching daily, this form of self massage can unlock the muscles that keep you from squatting deeper, flexing your knee, and generally moving your legs faster. Get them supple again and watch out!
2. **Adductors Roll** -- This is an SMR exercise that compliments the first one. At the knee the primary focus is the vastus medialis, the internal quad. As you work the roller towards the groin, the focus shifts from the medial quad to the adductors...all of them. You have a large amount of muscle mass that pulls your knees together. This is good.

However, since most of us do not stretch nearly enough to keep these muscles properly extensible, the knees tend to buckle inward as we land on a jump or lower our hips in a squat. Stretch and practice SMR on these muscles as often as possible, and your hips & lower back will thank you!

3. **Lats Roll** -- Lastly, the primary focus of the Lats Roll is the path of the latissimus dorsi, a muscle that attaches to your upper arm, the lower tip of your shoulder blade, some of your ribs, most of your spine, and the top of the back side of your hip bone. There are A LOT of other muscles that you will address as you work your side from your armpit to your hip. Feel free to come back to the areas with lots of tension, as they will need more help loosening up. Make sure you work the roller from your armpit to your hip bone for the entire side of your body before working the other side.

Practice these three techniques at least once every week and your hips & shoulders will move MUCH better

Get more info on the web at: [smrtips.com](http://smrtips.com)



## Chapter 1 -- Section 3 -- Helpful Tips

### Strategies for implementation

There are slightly different strategies for utilizing the SMR techniques in a group setting or for an individual, and also differences in how you use the SMR techniques before or after a workout. You will notice on our website or in our written instructions that the SMR techniques are categorized as “Primary,” “Secondary,” or “Extended.”

Below is a description of how to utilize each category of the SMR exercises:

- **The 3 Primary SMR techniques** are to address the largest muscle mass regions of the body that have the greatest impact on functional movement. Practice these 3 techniques at least once every week (more often is recommended). A group should do at least one of the 3 techniques during their warmup about 10-20 minutes prior to a workout. These are also the techniques that a group or individual should typically do within 10-20 minutes following a workout.
- **The 20 Secondary SMR techniques** build on the release you get from the 3 primary SMR techniques. Practice all of these techniques at least once every two weeks. The Primaries and Secondaries are known as the *Fundamental techniques* because every active person, regardless of activity or background, will need to address these 23 areas at least once every two weeks to maintain proper functional movement.

Because these movements are more specific to certain areas of the body, most of them are meant for an individual to do 10-20 minutes after a workout, when the muscles (and joints) start to feel tight and restricted. Only if someone is extremely tight and proper functional movement is compromised would they do any of these techniques just prior to a workout.

- **The 47 Extended SMR techniques** are more specific regions of the body or scaled versions of the Primary & Secondary techniques that an individual would use to improve their specific functional movement needs. For example, if you have tight rotator cuff muscles then you should use several of the Extended shoulder and neck techniques daily along with two or three of the pertinent Primary & Secondary techniques to achieve a quicker release of tension in the muscles that are limiting proper shoulder function.

Most of the Extended SMR techniques should rarely be done in the gym, but rather once the individual gets home and has more time to focus on their specific issue and their body's response to the techniques. Some of these techniques are good “scaled-down” versions of the Primaries or Secondaries that are less intense and may allow the individual to more often address their “trouble area” to achieve faster overall results.

Download each technique (and videos) online at: [smrtips.com](http://smrtips.com)

Good luck, and train hard. 3-2-1-GO!!!

## Chapter 1 -- Section 3 -- Helpful Tips

### Technical concepts that can help you understand SMR & your body

In order to make the most of the exercises in this course it is important for you to understand several concepts and how they work together (*The first four are the most important to understand*):

- **Davis's Law:** soft tissue models along lines of stress; tight stays tight, weak stays weak (shortened stays shortened, overstretched stays overstretched). A person with rounded shoulders exhibits this...the pecs are shortened and tight while the rhomboids are overstretched and weak. (*although not immediately apparent, this is the most influential factor controlling your ability to move properly*)
- **Autogenic Inhibition (AI):** is a process whereby a sensor in the tendon (golgi tendon organ or GTO) sends a signal to the brain to release the sensor in the attached muscle (muscle spindles). The GTO is triggered by a constant level of just the right amount of tension for just the right amount of time. For most people, this period of time is at least 20 seconds, but can be substantially longer. Static stretching and self-myofascial release both elicit this response.
- **Stretch-Reflex:** the knee-jerk response your thigh does when the doctor whacks your knee. The muscle spindles are "hard-wired" to your spinal cord to react to muscle fibers being stretched too quickly. This is also the reason your muscle will cramp when you apply too much pressure too quickly to a knot when doing SMR.
- **Arndt-Shultz Law:** relax and take it slowly; weak stimuli activate physiological responses, while very strong stimuli inhibit physiological responses. Doing deep tissue work on yourself slowly and gently using leverage, gravity, and torque is more effective than using force.
- **Law of Facilitation:** the path of least resistance; when a nerve impulse has passed through a certain set of neurons, it will tend to use that same path in the future. Each time the signal passes this same path the resistance is less. This is why old injuries tend to get re-aggravated with less stimulus. It is also why the more often you get massaged, the easier it is to relax.
- **Reciprocal Inhibition (RI):** the process of one muscle activating (agonist) and causing the opposite muscle (antagonist) to release. Dynamic flexibility elicits this response.
- **Rolling Out:** the informal term for the process of using implements such as balls or rollers to elicit AI by applying pressure to the tight muscles of the body and finding the tightest knot of tension by rolling or shifting the muscle across the ball or roller.
- **Relative Flexibility:** using a combination of joints to accomplish a movement goal when one or more joints lack full functional range of motion. (e.g., allowing your heels to rise off the ground and your chest to face down during a deep squat due to poor soleus and psoas flexibility; raising your hips to reach something overhead because you can't raise your arms completely up to your ears, etc.)
- **Murphy's Law:** if something can go wrong, it will! Be aware of your limitations and progress (or lack thereof). If you aren't getting positive results of increased range of motion and functional movement, you just might need the help of a professional to overcome your issue.

*When in doubt pick up the phone & call your local massage or physical therapist and ask for that help!*

## Chapter 1 -- Section 4 -- Joint Tables

The following pages in this section address the complexity of the muscles attached to or passing through each major action joint in your body. In order to make it a little easier to know which muscles may need some TLC we've organized the joints in tables.

Each table lists acronyms of the muscles found in the front of a given joint, the back of it, above or below it. By using these lists and the glossary in the back of the manual to verify what each acronym stands for you can easily find the next step you may need to take in overcoming your achy or stiff joints.

These tables are meant as a reference guide that you will use as you are learning which muscles having the greatest impact on your dysfunction. Take your time when addressing each muscle to determine if it has a minor or major impact on your movements. The more patient and diligent you are the more quickly you will understand what your key areas are for relief of your issues.

There are very few, if any, "quick fixes" when dealing with movement and joint dysfunctions. The classic hip roller for the piriformis muscle (pictured above) is merely one of dozens of techniques you may need to finally find relief from tightness in the hips.

If you need any assistance be sure to check out our online resources at "SMR" on FaceBook or [smrtips.com](http://smrtips.com) on the web.



## Section 1.4.1 & 1.4.2 -- Joint Tables -- Ankle & Knee

Got ankle or knee pain? Use the following tables as a road map.

The following tables list the specific muscles attached to your ankle or knee. You may need a combination of professional treatment and self care to completely overcome a medically diagnosed condition. SMR can be an effective component of the healing process.

*Do your homework and when in doubt, get it checked out!*

<b>Ankle</b>	<b>Above the Joint</b>	<b>Below the Joint</b>	<b>Common Issues</b>
<b>Front of the Body</b>	AT EHL EDL PT	EDB EHB	Shin Splints
<b>Back of the Body</b>	Soleus Gastroc FHL FDL Post Tib PL PB	AbH AbDM FDB QP Lumbricals FHB AdH FDMB Interossei	Plantar Fasciitis

<b>Knee</b>	<b>Above the Joint</b>	<b>Below the Joint</b>	<b>Common Issues</b>
<b>Front of the Body</b>	RF VMO VLO VI Sartorius Gracilis AddMag AddLong AddBrev Pectineus ST SM BF	EDB EHB	Chondro-Malacia Patella Syndrome IT Band Syndrome
<b>Back of the Body</b>	AddMag SemiTendi SemiMembr BF	Gastroc Plantaris Popliteus	Baker's Cyst

## Section 1.4.3 & 1.4.4 -- Joint Tables -- Hip & Lower Back

Got hip or lower back pain? Use the following tables as a road map.

The following tables list the specific muscles attached to your hip or lower back. You may need a combination of professional treatment and self care to completely overcome a medically diagnosed condition. SMR can be an effective component of the healing process.

*Do your homework and when in doubt, get it checked out!*

<b>Hip</b>	<b>Above the Joint</b>	<b>Below the Joint</b>	<b>Common Issues</b>
<b>Front of the Body</b>	TFL Psoas Iliacus	RF	Anterior Pelvic Tilt Hip “clicks”
<b>Back of the Body</b>	Glute Max Glute Med Glute Minimus Piriformis Superior Gem Obturator Int Inferior Gem Obturator Ext QF	SemiTendi SemiMembi BF	Sciatica SI Joint Issues IT Band Syndrome

<b>Lower Back</b>	<b>Above the Joint</b>	<b>Below the Joint</b>	<b>Common Issues</b>
<b>Front of the Body</b>	Psoas	Iliacus RF	L4-L5 Issues Lordosis Lower Back Pain
<b>Back of the Body</b>	Lats SPI Erectors Ext Obliques Int Obliques QL	Glutes	Lordosis Lower Back Pain SI Joint Issues Scoliosis

## Section 1.4.5 & 1.4.6 -- Joint Tables -- Shoulder & Neck

Got shoulder, upper back or neck pain? Use the following tables as a road map.

The following tables list the specific muscles attached to your shoulder, upper back or neck. You may need a combination of professional treatment and self care to completely overcome a medically diagnosed condition. SMR can be an effective component of the healing process.

*Do your homework and when in doubt, get it checked out!*

<b>Shoulder</b>	<b>Above the Joint</b>	<b>Below the Joint</b>	<b>Common Issues</b>
<b>Front of the Body</b>	Traps Medial Delts Anterior Delts	Pec Major Pec Minor Coracobrachialis Anterior Delts Subclavius Serratus Anterior Subscap Triceps	Impingement Frozen Shoulder Thoracic Outlet Syndrome Winged Scapulae
<b>Back of the Body</b>	Traps Medial Delts Posterior Delts	Traps Supraspinatus Infraspinatus Teres Major Teres Minor Lats Rhomboids SPS	Rotator Cuff Issues Scoliosis

<b>Neck</b>	<b>Above the Joint</b>	<b>Below the Joint</b>	<b>Common Issues</b>
<b>Front of the Body</b>	SCM Ant Scalene Med Scalene	SCM	Migraines Tension Headaches Kyphosis
<b>Back of the Body</b>	Occipitalis Traps LS Splenius Capitis Splenius Cervicis Cervical Erectors Post Scalene	Traps LS Splenius Capitis Splenius Cervicis Rhomboids SPS Cervical Erectors	Migraines Tension Headaches General Neck Pain Kyphosis Scoliosis



## Section 1.4.7 & 1.4.8 -- Joint Tables -- Elbow & Wrist

Got arm, elbow or wrist pain? Use the following tables as a road map.

The following tables list the specific muscles attached to your elbow, wrist or hand. You may need a combination of professional treatment and self care to completely overcome a medically diagnosed condition. SMR can be an effective component of the healing process.

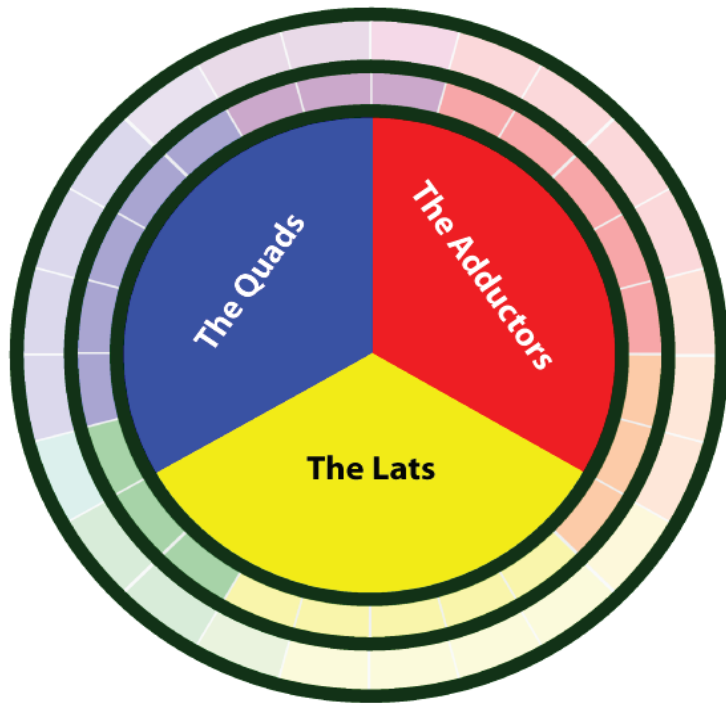
*Do your homework and when in doubt, get it checked out!*

<b>Elbow</b>	<b>Above the Joint</b>	<b>Below the Joint</b>	<b>Common Issues</b>
<b>Front of the Body</b>	Biceps Brachialis Brachioradialis	Brachioradialis Palmaris FDS FDP FCU FCR FPL ProTer ProQuad	Golfer's Elbow
<b>Back of the Body</b>	Triceps	Brachioradialis ECRL ECRB ED ECU Anconeus APL EPB EPL EI EDM Supinator	Tennis Elbow

<b>Wrist</b>	<b>Above the Joint</b>	<b>Below the Joint</b>	<b>Common Issues</b>
<b>Front of the Body</b>	Do the same as below the elbow		Carpal Tunnel Syndrome Trigger Finger
<b>Back of the Body</b>	Do the same as below the elbow		Carpal Tunnel Syndrome Trigger Finger



## Chapter 2 -- The Primary Regions



In art there are three colors from which all other colors can be made. They are known as the primary colors.

In SMR, there are three regions that impact all other areas of the body. We call them the three primary regions.

If there are significant muscular dysfunctions in these three large regions then all other functional movements will be compromised. You should always start with these three large regions of the body when determining if a physical ache or athletic limitation has a muscular root. If you always address the symptom of muscular dysfunction (such as an achy lower back) without addressing the

underlying cause (such as tight hip flexors) then lasting relief of your issue will never be possible.

The three primary regions are:

- The Quads
- The Adductors
- The Lats

Each of these regions needs attention a minimum of once per week. You will likely need to address at least one of these regions multiple times per week, so don't be hesitant to pull out your roller every day. Remember that the more often you massage your muscles the less sensitive they tend to be (so it'll hurt less if you do it daily). You will also achieve a quicker release of any muscular knots if you frequently apply gentle yet increasing levels of pressure to your tight muscles (Law of Facilitation & Arndt-Shultz Law).

The best time to do SMR is following a moderate soak in a hot tub or bath (5-10-minutes). You will need less pressure applied to your knots because of vasodilation brought on by the warm water which means a more relaxed body overall and less likelihood of muscular trauma from SMR.

Chapter note: You should do these three movements at least once every week. For your best results work your quads every other day and alternate between the adductor roll and the lats roll, so you do each of them two or three times a week. Also address the tightest of the three sections within each region prior to any workout that uses that muscle group.

## Chapter 2 -- The Primary Regions

### Quads Roll

If you stand or walk with the top of your hip tilted forward (anterior pelvic tilt), then do this exercise daily.

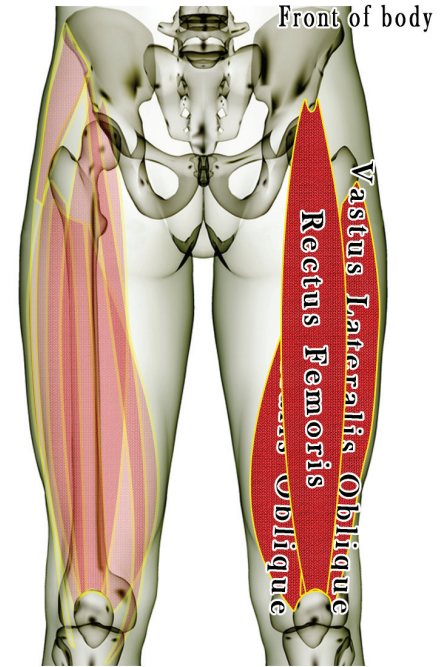
If, due to severe discomfort, it takes more than two minutes to gently roll from knee to hip in short 2 inch strokes, get off the roller about 1/3 or 1/2 way up your thigh and take a moment for everything to relax. Return to where you left off and continue the short rolling motion up your thigh.

The following therapeutic exercise releases the knots in your center thigh muscles (RF & VI), and allows you to move your hip and knee more freely and functionally.

You'll need a long or medium-length roller, (5-6 inch diameter) and some floor space. You can do both legs at the same time if you have a longer roller.

1. Lie down on your stomach with a roller under your thighs just above your knees (see pic "Quads Roll 1a"). Be sure your body is completely relaxed and you are not supporting yourself on your arms with your thighs on the roller. If you hold your core off the floor and support yourself on your hands or forearms you will likely keep your hip flexors active when performing this technique. If your rectus femoris quadriceps is active during this technique then you will not be able to adequately address the deepest of your quads, the Vastus Intermedius. It's okay to do a couple long strokes from knees to hips if you wish, but then relax and lie down to perform the rest of this technique.

2. Begin by drawing in a deep breath and as you slowly exhale rotate both thighs to the left as far as possible while still maintaining contact between both thighs and the roller (see pic "Quads Roll 1b").



Quads Roll 1a



Quads Roll 1b

3. Draw in another deep breath and slowly rotate to the right as far as possible while exhaling slowly and possibly taking several slow breaths while you rotate to the right (see pic "Quads Roll 1c").

4. Repeat steps 2 and 3 at least 3 times or about 30-60 seconds.

5. After 3 or more rotations at the same level of your thighs recenter your legs on the roller (see pic "Quads Roll 1a") and gently push your body 2-3 inches toward the roller so the roller moves a couple inches up your thighs toward your hips.

6. Repeat steps 4 and 5 at the new higher level of your thighs.

7. After 3 or more rotations along each two inch segment or your quads recenter your thighs and move a couple inches up toward your hips. Working from your knees to your hips should take about 2-5 minutes. Working faster than this is counterproductive as it stimulates your muscles to "turn on" rather than to "turn off." Working slowly gets you faster relief from tight muscular knots.

8. After you've completely rolled through your center thighs, skip to step 13.

## Chapter 2 -- The Primary Regions

### Quads Roll

9. If you find it is taking you more than 5 minutes to work your way from your knees to your hips, then take a break and walk around to get some circulation through your tight muscles and come back to where you left off. (Lying on top of the roller for too long actually creates more knots from the pressure of your thighs against the roller interfering with proper circulation so don't spend all day in one tight spot!)

10. You might find your thighs are quite sensitive in certain areas between your knees and hips. **If you experience discomfort above a 6-8 level of intensity on a 10-point pain scale then hold off on the left and right rotations in that particular area.** Simply center your thighs (see pic "Quads Roll 1a") and breathe deeply for 3 or more breaths (at least 20 seconds). When you are ready push your body a couple inches toward the roller so that it moves up your thighs a couple inches toward your hips and repeat the deep breathing while allowing the new area of your quads to relax and wrap around the roller. Eventually you can try the rotations to see if you are less sensitive.

11. **You may wish to practice slowly flexing and extending your knee while holding pressure against a particular spot in your thigh** (see pic "Quads Roll 1d"). This is a less intense method than the left and right rotations to address your tight (and sensitive) muscles. As your muscles get more pliable it will also be less sensitive. Healthy, supple muscle is not sensitive when you apply pressure equal to your body weight or less. As you are less sensitive you will more comfortably be able to practice the rotations and better address all of your quads as you work from your knees to your hips in 2-3 inch segments.

12. If it takes longer than two minutes to roll through less than half the distance from your knee to hip, take a momentary break.

13. **Get off the roller by rolling onto your back.** While lying on your back, **move your thighs around in the air** to get some circulation through them. **Get up on your knees and walk in place on your knees for a few seconds, then stand and walk around the room to use your muscle with a light load.**

14. If you haven't finished working from your knees to your hip, return to the roller and continue where you left off.

15. **Do a few slow air squats**, gently trying to squat a little deeper with each movement. Note ROM.

16. **You should practice this technique at least once a week**, but more often is likely to be better. If you still have knots in your thigh muscles, repeat the rocking and rolling technique every day until you have no discomfort at any point between your knee and hip. If you are noticeably more sensitive on the second day of rolling, take a break for that day and see if you are better the following day. If tension or discomfort within your thigh worsens with repeated rolling, call a proper therapist (massage or physical therapist) to enlist their assistance.



Quads Roll 1c



Quads Roll 1d



Quads Roll 1e

If you are using a smaller roller and can't fit both legs on it at the same time, **pull your opposite leg up to the side like a "figure 4"** (see pic "Quads Roll 1e") so that leverage can hold your leg in place instead of you using your muscles to hold your position. You will not be able to rotate as far left or right with your thigh that is on the roller, but you won't activate it as much if your bones are holding you in place. The key is to relax as much as possible while practicing any SMR technique.



## Chapter 2 -- The Primary Regions

### Adductors Roll

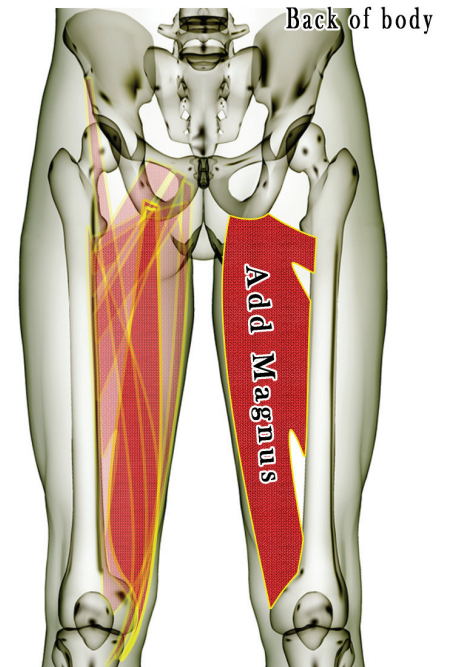
**If your knees drop inward during squats or the landing of a jump, then do this exercise daily.**

If the seven muscles on the inside of your thigh do not work properly, they can cause improper hip tracking and not only wreck your hip but your knee and back, too.

Many of us have tight muscles high on the inside thigh that just never let go. Take your time in the high-thigh region, and work deeply to address the many layers of strong muscle tissue. The largest artery in your leg is here (along with many other blood vessels and nerves). If you aren't sure if you are doing it right, call a therapist to get qualified assistance.

The following therapeutic exercise releases the knots in your inner thigh muscles, and allows you to move your hip and knee more freely and functionally.

You'll need a long or medium-length roller, (5-6 inch diameter) and some floor space.



Adductors Roll 1a

You have 6 muscles that overlap near the inside of your knee (see pic "Adductors Roll 1a"). Our initial interest is in freeing any adhesions between these muscles to allow them to perform individually near or across your knee joint. If they are stuck to each other then all movements of the knee are compromised because you get the lowest common denominator of movement possible with the muscles that are stuck to each other. This means your inner hamstrings (semitendinosus and semimembranosus) fight your quads while your adductors and other inner thigh muscles are overstimulated with any leg activity leading to premature fatigue and excessive wear and tear on your knee joint. Additionally, we want to allow your thighs to more easily open on the hip joint so you can keep your knees out on movements like squats & jumps. Many of us can see dramatic improvements in squat mechanics by loosening overly tight muscles along the inside of the thigh.

1. **Lie face-down on your stomach**, with your right leg out to the side like a figure four or a sniper.
2. **Place the roller under your right knee very near the kneecap** so that it is pressing against the adductor magnus, vastus medialis oblique (VMO), and the knee joint at the same time (see pic "Adductors Roll 1b"). The VMO is a bit unique in that it is attached to the patella both on top and on the side. It is best addressed at the kneecap by rotating your whole thigh so that the roller presses against the inside and then the front of your thigh. It can get stuck to the adductor magnus so we roll across it near the knee to ensure it moves freely separate from the other muscles in the area.
3. **Rotate your right leg so that the inside of your thigh rotates on the roller until the front of your VMO and rectus femoris are pressing against the roller and your foot points downward.** This technique works better if you walk your arms and shoulders away from the roller as you rotate your foot downward (see pic "Adductors Roll 1c"). While you rotate your leg allow your knee to straighten but do not forcefully extend your knee.
4. **Slowly rotate back to your starting position with your knee bent, the roller under your knee and your foot pointing sideways** as you take in a slow, deep breath (see pic "Adductors Roll 1b"). If you walk your arms and shoulders closer



Adductors Roll 1b



## Chapter 2 -- The Primary Regions

### Adductors Roll

to the roller as you rotate toward the inside of your thigh on the roller this process is a bit easier to manage.

5. **Repeat this rotation of your thigh at least three times across the muscle tissue close to your knee.** You do not continue to rotate sideways across the muscles of your thigh all the way up your leg, only at the area just above your kneecap.
6. Once you've addressed the inside and front of your thigh near your knee for a minute or two, **keep your foot parallel to the ground with your knee slightly bent** (more open than 90 degrees, less 180 degrees) and take in a deep breath (see pic "Adductors Roll 1b").
7. **Exhale as you rotate your hips to roll up your thigh two to three inches with the roller** so that it applies pressure to the lowest few inches of your Adductor Magnus (see pic "Adductors Roll 1d").
8. **Rotate your hips to draw your leg back to where you started as you inhale** (see pic "Adductors Roll 1e").
9. **Repeat steps 7 & 8 at least three times in the same area.**
10. Without lifting your leg, shift your body closer to the roller and **repeat steps 7 - 9 for the next three inch area a little closer to your groin.**
11. **Repeat steps 7 - 10 all the way up as close to your pubic bone as you are comfortable.** Your adductors attach to your pubic bone so eventually you need to address the muscles all the way up. Take your time and try to relax and allow your muscles to wrap around the roller, rather than force the tissue into submission.
12. Once you've completed rolling your thigh from knee to groin, lie or sit and move your knee and thigh around until you feel ready to walk. Do a few slow, deep squats to check ROM. Try to pull your knees W-I-D-E as you squat, like a Sumo squat. Press out with your elbows against the inside of your thighs or knees. You might feel a slight bit of spot tenderness if you rolled through some areas of exceptional tightness. If you notice any negative or odd results, contact a health professional for assistance.
13. Now do the other leg.
14. Repeat every-other day until you find no tension in the muscles on the inside of your thigh. Practice this exercise once each week as an assessment.



Adductors Roll 1c



Adductors Roll 1d



Adductors Roll 1e

## Chapter 2 -- The Primary Regions

### Lats Roll

**If you have trouble reaching overhead, then do this exercise daily.**

Your latissimus dorsi muscle (which attaches to the hip, spine, ribs, shoulder blades and arms) keeps your arms at your sides and shortens the distance between your ribs and your hips when it's tight.

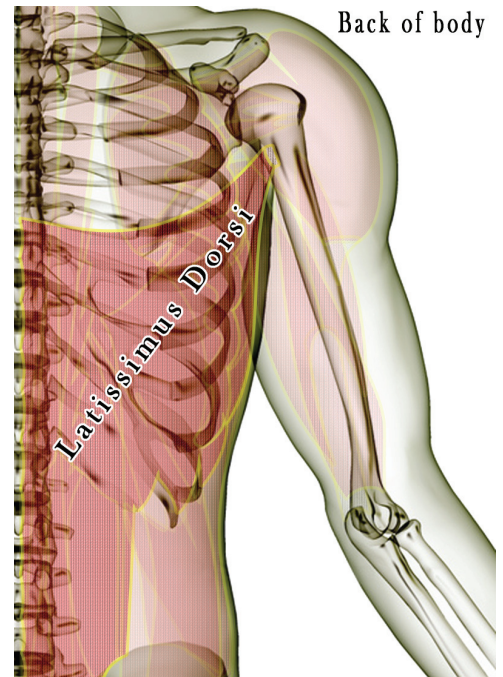
When it lengthens, you can raise your arms more easily and the lower back is not asked to stretch farther than it can, so your lower back feels better too! Although this exercise focuses on the path of the lats, you are also addressing at least 13 other muscles between your hip, spine, and shoulder. Note any specific areas of tension or discomfort as you roll through them and address them individually as needed.

The following therapeutic exercise releases knots in your back muscles and allows you to move your arm, shoulder, middle back, lower back, and hip more freely and functionally.

You'll need a long or medium-length roller, (5-6 inch diameter) and some floor space. A longer roller is better for addressing your whole back at one time when you roll from one side to the other.

Begin this exercise with the roller at the top of your armpit against your shoulder blade and work your way past your ribs to the top of the backside of your hip.

**1. Lie down on your right side with a roller under the back of your arm and shoulder** at the attachment to your body (see pic "Lats Roll 1a"). Breathe slow, deep breaths.



Lats Roll 1a



Lats Roll 1b



Lats Roll 1c

**2. Take a deep breath and rotate your chest toward the floor** on your right (see pic "Lats Roll 1b"), applying pressure against the roller with the muscles that attach in the upper-shoulder blade area, rear delts and the triceps muscle in your upper arm.

**3. Return to your starting position in step 1** while applying pressure against the roller with the muscles in your upper back and shoulder blade area. Maintain controlled, slow, deep breathing. Some of your shoulder and back muscles can be extremely sensitive and it can take your breath away when you apply pressure to them. **Use your opposite arm and legs to control your movements so that you can relax your right arm and shoulder** as much as possible.

**4. Repeat steps 2 and 3 at least 3 times or about 1-2 minutes** while breathing slowly and deeply with each rotation.

**5. While maintaining contact between your back and the roller use your legs to push your body an inch or two toward the roller so that it moves down your back about 1-2 inches. Repeat steps 2-4** for the new, lower portion of your back then roll another inch or two down your back and repeat steps 2-4 for that area.

**6. When you reach the area of your ribs below your shoulder blade** (see pic "Lats Roll 1c"), **rotate a little farther back toward your spine** than you may have been doing near your shoulder

**7. As you slowly exhale rotate toward your side** but keep pressure against your lats with the roller (see pic "Lats Roll 1d"). Your lats fan out across your ribs below your shoulder blades and you need to address all of the muscle mass in them.

**8. After 3 or more rotations at the one area of your ribs, keep your body in contact with the roller and roll 1-2 inches down toward your hips and repeat steps 6 & 7** for the next lower portion of your ribs.

## Chapter 2 -- The Primary Regions

### Lats Roll

9. Continue breathing slow, deep breaths. **Repeat steps 6 - 8 all the way down your ribs until the roller is pressing against your lower back just below your lowest rib.** Be EXTREMELY CAREFUL with the amount of pressure you apply against your lower ribs. The firmer the roller, the better it's ability to drive the knots out of tight muscles. But too firm of a roller can do more damage than good if you apply too much pressure too quickly (especially against the lower "floating" ribs). If you cannot comfortably rotate toward your side (a discomfort level of 6-8 on a 10-point pain scale) then stay mostly on your back and practice a shorter rotation until your back muscles begin to loosen up a bit. It may take a few days or a couple weeks for this to happen. Move methodically with gradually increasing and decreasing pressure when working on your side or back in the ribs area.



Lats Roll 1d

10. As you roll past the bottom of your ribs and you get to your lower back muscles allow your hips to raise up off the ground and let your shoulders rest on the floor (see pic "Lats Roll 1e"). As you work into your lower back with the roller it is important that you relax your lower back muscles. If you are holding your shoulders off the ground you have to activate your lower back to stabilize your core (so lie down).



Lats Roll 1e

11. **Rotate toward your side like in step 7** while you maintain contact between the roller and your lats (see pic "Lats Roll 1f").

12. **Return to your starting position in step 10.**

13. **Repeat the same process as in steps 6 - 9 for your lower back.**

14. Once you have worked through your lower back and the roller is under your hip bones (supported corpse position), **remove the roller and lie flat on your back.** Breathe slowly and deeply to let your head clear. **Once your head clears, stand up and walk around while you slowly roll your shoulders and check your ROM.** Raise your arms away from your sides to as high overhead as possible. Try to get your biceps as close to your ears as you can. You might even notice less discomfort in your lower back region when raising your arms. Also raise your arms to the front to see how high you can get your them. Note ROM possible.



Lats Roll 1f

15. It may take you as long as 10 minutes to work your entire one side & back from shoulder to hips. Along the way **you will find you have the most tension (and maybe discomfort) in one of the three major areas of your back: 1) near your shoulder; 2) under your shoulder blade along your ribs; or 3) your lower back.** The tightest of these three areas is your "trouble area." **You should address this area prior to and following any workout or physically challenging activity.** You may wish to repeatedly roll your entire back in one giant stroke from shoulders to lower back while lying flat on your back on the roller. This is a nice preparatory technique to activate all of the muscles of your back, but you will get far better range of motion benefits at the shoulder and improvements in posture and stabilization throughout your back by practicing the rotational technique described above.

16. **Now do the other side.**

17. If you aren't seeing improvements yet your side or back is quite sensitive as you roll through the area, contact a professional for assistance (massage therapist, physical therapist, chiropractor, etc.).

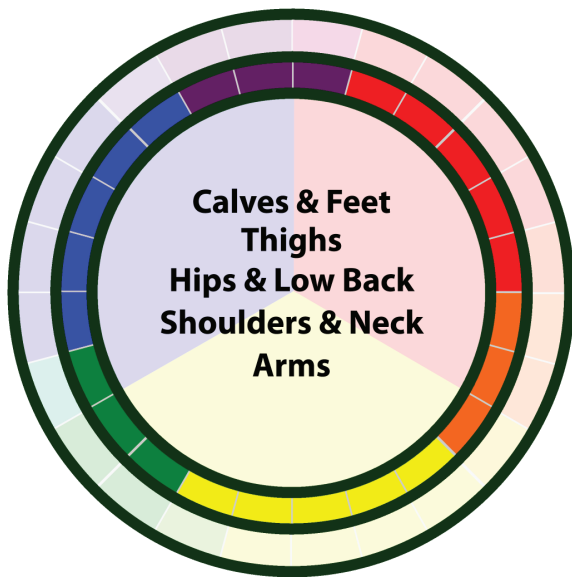
18. You should practice this technique at least once a week from shoulder to hip, but address your trouble area as often as is possible (maybe multiple times a day).







## Chapter 3 -- The Secondary Regions



In art there are three colors made by equal combinations of the three primary colors. They are known as the secondary colors. Together with the primaries they make up six fundamental colors we all see every day. As a group we call the primary and secondary SMR regions the Fundamentals.

After the primary regions there are 20 muscles or muscle groups that significantly influence full range functional movement. We call them the secondary regions. If there are muscular dysfunctions in these areas then full range functional movements will be compromised.

After the three primary regions, you should address the secondary regions as often as necessary to remedy your 'trouble areas.' Practicing the following techniques at least once every two weeks is recommended, but more often may be necessary from time to time. With just 5- 15 minutes a day you can maintain these muscles and avoid many debilitating overuse injuries.

The 20 secondary regions are muscles or areas in the following 5 major regions of the body:

- The Calves & Feet
- The Thighs
- The Hips & Lower Back
- The Shoulders & Neck
- The Arms

Each of these regions needs attention at least once every two weeks. You will likely need to address one or more of these regions multiple times per week, so don't hesitate to pull out your SMR tools every day. Remember that the more often you massage your muscles the less sensitive they tend to be (so it'll hurt less if you do it daily). You will also achieve a quicker release of any muscular knots if you frequently apply gentle yet increasing levels of pressure to your tight muscles (Law of Facilitation & Arndt-Shultz Law).

If you have a basalt massage stone, use it! You can heat it in hot water and use it just like you would a ball...except with the basalt stone the heat penetrates your tight muscles and helps increase circulation while you do SMR. This means faster results with stubborn knots.

Chapter note: You should do all 20 of these exercises at least once every two weeks. For your best results, do two or more of the exercises every day. Practice techniques from each of the five areas at least once over the course of five days, but more often may be necessary. Always do at least one SMR exercise for your trouble area each day until your issue is gone.

## Chapter 3 -- The Secondary Regions -- Section 1 -- Calves & Feet



The calves are true beasts of burden in our bodies. We take for granted the 13 muscles between the knee and the ankle. It's even worse for the 11 muscles that begin and end in the foot.

The problems we take for granted as just “part of life” (shin splints, hammer toes, flat feet, bunions, plantar fasciitis, etc.) are mostly overuse, or rather, under-therapy issues.

Work through the tight soleus muscle, and notice how much lighter your foot feels as you walk around afterward. Roll through the 4 layers of muscle tissue in the bottom of your foot and notice how your balance improves and how comfortable walking barefoot can be.

If you are experiencing foot or lower leg discomfort, you **MUST** spend some time **EVERY WEEK** working on our feet and lower legs!

As you continue to do SMR over the course of time you should notice that you have less discomfort when you apply the same level of pressure that formerly was very uncomfortable. You should also begin to notice that you recover faster from any physical work you do. As time goes on, if you do develop knots in your trouble areas again, you will find that they are **MUCH** easier to relieve as you continue using the various tools at your disposal.

In the following chapter there are only 2 SMR exercises. These 2 regions are extremely influential on the entire lower leg and foot. Be sure you work these two regions before spending your time on smaller, more specific regions such as the peroneals or the anterior tibialis. If you find minimal relief after practicing the following two SMR exercises, then proceed to Section 1 in Chapter 4 to more specifically address your issue.

If you need deeper work to clear an issue here, pick at least two of the extended SMR exercises and work the muscles that attach to that specific area. Start with the biggest muscles (here's a hint: they're in your calves), and work the muscles in the bottom of the foot by using a small roller, ball, or other tool. As the surface layers of muscle relax and open up, begin to use a little more pressure to address the deeper knots that tend to be a little more stubborn.

If you have lots of “junk” in your calves or feet then you will likely need to practice full range stretches after each SMR technique to lengthen some of your muscles that have literally grown too short over the years. Wearing poor-fitting footwear or practicing faulty movement patterns can lead some muscles to develop in an imbalanced pattern around a joint. You must correct this length-tension imbalance if you are to achieve lasting relief from your foot or lower leg issues.

If you start doing the extended SMR exercises, be sure you keep the SMR exercises in this section as part of your daily routine until your issue is gone. Once you've returned your muscles to their healthy balanced state you should continue to do the exercises in this section every couple weeks for maintenance.

Section note: You should do these two movements at least once every couple weeks. For your best results do both of the above exercises any time you do a workout that includes dynamic motion of your ankles such as running, jumping, or any explosive movements with the legs (Olympic lifting, fast squats, etc.).

# Chapter 3 -- The Secondary Regions -- Section 1 -- Calves & Feet

## Calves Roll

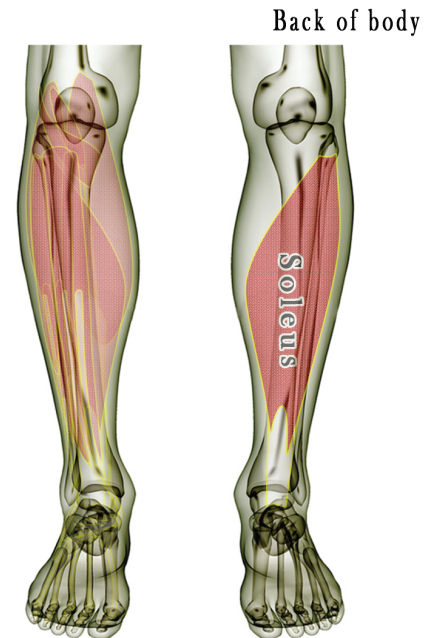
**If you have trouble keeping your heels down or your toes turn outward when you squat, then do this exercise daily.**

Your soleus muscle does not attach to the knee itself, but if it is knotted up it can bind the ankle and lower leg so that proper ankle ROM is compromised, leading to increased ankle, knee, hip & back stress.

A tight soleus restricts dorsiflexion, so as you squat your heels are more likely to come off the ground and your feet are more likely to rotate outward. This leads to dysfunctional patterns of movement as you compensate for the inability of your lower leg muscles to compress or stretch.

The following therapeutic exercise releases knots in your soleus, along with three other deep lower leg muscles, and allows you to move your foot and toes more freely and functionally.

You'll need a large or medium sized bumpy roller (about 5-6 diameter) for the following exercise.



**1. Sit down on a level surface with the middle of your lower legs resting on top of a large bumpy roller.** The roller should be just below the point where the gastroc attaches to the achilles tendon (see pic “Calves Roll 1a”).

**2. While maintaining pressure against the roller with both legs, slowly rotate your legs to the right** (see pic “Calves Roll 1b”), noting the pressure and sensitivity along the center of each calf.



Calves Roll 1a



Calves Roll 1b

**3. While maintaining pressure against the roller with both legs, slowly rotate your legs to the left** (see pic “Calves Roll 1c”), noting the pressure and sensitivity along the center and sides of each calf. **Rotate back to the area with the most tension** (and probably the most sensitivity) and gently dorsiflex and plantarflex your ankle (flex your foot forward and backward).

**4. Maintain gentle pressure against the tightest knot in your calf or calves and relax your ankle completely.** Exhale deeply as you lean forward (see pic “Calves Roll 1d”). Inhale as you lean back and return to your starting position from step 1. **Lean back and forth several times while keeping your hips in contact with the ground.** (If you lift your hips off the ground when working on your calves you minimize the effectiveness of this technique. Holding your hips off the ground levers your weight into your knees as you support yourself on your hands and calves. This means your calf muscles are more active, and therefore you will not be able to get into the deeper areas of muscle that may be at the root of your lower leg dysfunction.)

**5. Slowly repeat steps two & three at least 3 times, or for about 1 minute.**

**6. Repeat steps four & five at least 3 times, or for about 2-3 minutes.** Work the area with the highest level of tension each time you address the back of your lower leg.



# Chapter 3 -- The Secondary Regions -- Section 1 -- Calves & Feet

## Calves Roll

7. After addressing the tightest areas of the central region of your lower leg, **gently rub your lower leg with your hands, rotate your ankle in clockwise and counterclockwise circles to assess function and range of motion.**

8. When your leg feels like it can handle your weight, get up on your feet and **take 5 - 10 steps around the room.** You should notice each of your feet feels like it “floats” off the ground and that you seem to be able to press into the ground more firmly.

9. If tension or discomfort within your lower leg worsens with repeated rolling discontinue this SMR exercises and call a proper therapist (massage or physical therapist, chiro, etc.) to enlist their assistance.

10. **Repeat for both legs every few days, or daily as needed until you no longer have knots here,** then practice this exercise once every two weeks as an assessment. Since the soleus muscle runs the length of the Fibula bone from the heel to just below the knee, you’ll want to check each area by applying gentle pressure to find any knots. It’s a good idea to start with the central region of the lower leg because that is where many of your calf muscles are the thickest so you get the most relief the quickest by addressing this area. You just might be surprised how many tight areas you find as you work your way up or down your calves! Take your time and address the knots by starting with the most tense area first. Work each 1-2 inch area by rotating left & right and doing a short stroke for that area. Spend 2 or more minutes addressing one area, walk around to assess any improvements in function, then work another area



Calves Roll 1c



Calves Roll 1d

**For added pressure, place one leg on top of the other** (see pic “Calves Roll 1e”). If your calf begins to cramp with the added pressure of the other leg on top of it, then remove your other leg and proceed without the additional pressure of your opposite leg. As your muscle tissue gets healthier and more supple the additional pressure of your other leg will no longer lead to cramping.

Instead of leaning forward and back you can **bend & straighten your knee to stroke the tight muscles in your calf** or calves (see pic “Calves Roll 1f”). If you prefer this technique then be sure you inhale and apply light pressure to your leg as you bend your knee, then apply more pressure as you exhale and allow your leg to straighten. Try not to forcefully straighten your knee but instead allow it to slowly open. If you use force to straighten your leg you will only address the outermost layers of tissue since all the muscles that cross your knee will be more active, and your gastrocnemius muscle in the upper portion of your calf is one of those muscles. Remember that the more you relax the less pressure it will take to address the deeper layers of tissue (and the less damage you do to all of the layers which means faster recovery from the SMR techniques).



Calves Roll 1e



Calves Roll 1f

# Chapter 3 -- The Secondary Regions -- Section 1 -- Calves & Feet

## Foot Roll

If you experience foot or toe cramps, have hammer toes, claw toes, bunions, foot or toe arthritis, or other foot or toe issues, then do this exercise daily.

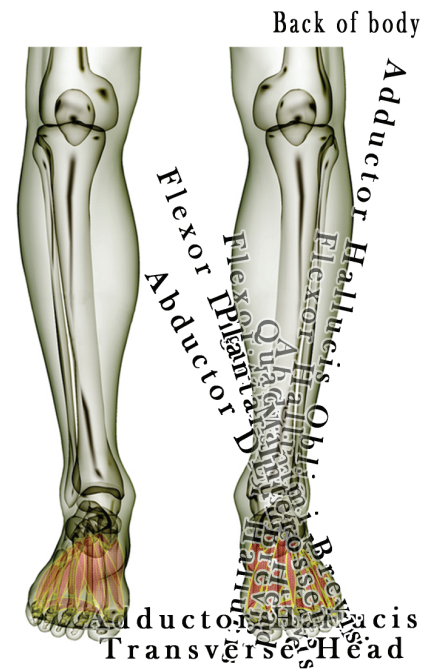
This exercise is a good step toward ridding yourself of foot cramps, hammer toes, arch issues, bunions, toes that cross under each other, plantar fasciitis, numbness in the feet, and many other foot and toe dysfunctions.

Most of these issues can be reduced or even completely eliminated by focusing a few minutes here every day to loosen overly tight muscles that are shortened or stuck to each other. Always work in steady, methodical steps when working the 8 muscles in the bottom of your foot.

The following therapeutic exercise releases knots in the 8 muscles in the bottom of your foot, and allows you to move your toes more freely and functionally.

You'll need a large or medium sized bumpy roller (about 5-6 inch diameter) for the next exercise. The best time to do the following exercise is after a long soak (about 10 minutes) in a hot bath or hot tub.

1. While holding onto a secure object for support, place one or both feet on top of a bumpy roller (see pic "Feet Roll 1a"). Be extremely careful! If you lack the balance to safely stand on the roller with both feet then do one foot at a time!
2. While breathing in slow, deliberate, deep breaths shift your weight to your left foot so that the bumps press deeper into your tight foot muscles. Concentrate on relaxing your arch and toes as much as possible, more so that trying to push harder. You have 4 layers of strong muscle and connective tissue in the bottoms of your feet. If you do not relax the muscles in there you will not be able to address the underlying layers of muscle.
3. While breathing slow, deep breaths shift your weight to your right foot. If you have trouble relaxing your feet because you are so preoccupied with trying to balance on the roller then remove one foot and only work one foot at a time (see pic "Feet Roll 1b").
4. Repeat steps two & three at least 3 times, or about 2 minutes. If you are addressing one foot at a time, shift your weight from one side of the foot on the roller to the other side of the same foot but do not remove your foot from the roller. After completing all of the instructions for one foot, assess the effectiveness of your SMR efforts then do your other foot.
5. Remove your feet or foot from the roller and walk around for about 10 steps. Note the amount of contact you can make with the floor with your foot. You should feel a much better grasp of the ground than before. Each area of the foot has special muscles that affect foot and toe function. Grab the floor with your toes. Walk around and you should notice you have better toe and arch movement and more control of the placement of your foot.
6. Repeat steps 2 - 5 for another area of your arch about one inch closer to your heel or your toes (see pic "Feet Roll 1c"). You will get much better results if you take your time with the same specific area of your arch and shift your weight left and right across that area when using a bumpy roller. Rolling forward and backward (especially with both feet on the roller) tends to be the least effective technique for relaxing the tight muscles in the bottoms of your feet.



Foot Roll 1a

Foot Roll 1b



## Chapter 3 -- The Secondary Regions -- Section 1 -- Calves & Feet

### Foot Roll

7. After each set of rocking and pressing techniques for your arch take a minute or two to assess the effectiveness of your efforts. If tension or discomfort within your foot worsens with repeated rolling discontinue this SMR exercise and call a proper therapist (massage or physical therapist, chiro, etc.) to enlist their assistance.
8. You may need to try pressing your foot length-wise against the roller to allow the sides of your foot to wrap around the roller (see pic “Foot Roll 1d”). If you practice this technique with both feet on the roller, ensure that the foot you aren’t addressing stays facing sideways for increased stability on the roller. (safety first!)
9. Repeat for both feet every few days, or daily as needed. Practice this exercise at least once every two weeks as an assessment of proper ROM and function in your feet.



Foot Roll 1c



Foot Roll 1d



## Chapter 3 -- The Secondary Regions -- Section 2 -- Thighs



We don't think much about our knees until they hurt. Once they begin hurting, it can be a LONG road to feeling "normal" again!

That's because the true cause of knee pain is normally not completely addressed. The patella (kneecap) has attachments to the lower leg by way of a ligament and to the thigh by way of tendon attachments to the quads.

The quadriceps muscles are the only muscles attached to the kneecap. Unless you have some external force act on the knee, there is no other cause of pain in the kneecap or its attachments!

Address knee pain by investigating tightness in the quads. In back of the knee, inside the joint, or slightly below and in front of the knee on the front of the lower leg, the causes of pain can get a bit more complicated.

If you find that you have knee discomfort, even severe knee discomfort, first check your quads. Will rolling your quads fix every knee problem? In a word, no. But many joint pains in and around the knee are caused (or at least greatly influenced) by overly tight muscles attached in the area of discomfort. Use the Joint Tables in the front of this book to identify and work all of the muscles attached to the knee.

You need to be responsible for your body. If you have painful swelling, redness, or some other abnormality in the size or shape of your knee you need to call a therapist to get a proper diagnosis.

As a group, the quads tend to dominate the thigh. This means that you might need to "encourage" them to relax. Gentle pressure applied to the greatest knots will begin the process of autogenic inhibition. Consistent, gradually increasing pressure will allow you to release the deeper areas that tend to be the root cause of the discomfort you feel in your knees.

IT Band issues? Roll ALL of your quads! Your IT Band is essentially a very long tendon. The two outer quads that lie underneath the path of the IT Band tend to be VERY tight when you have IT Band discomfort. In some cases the IT Band develops adhesions to the outer quad, but in almost every case of IT Band discomfort the two underlying quads are all knotted up. If you can't comfortably lie on a roller with your thigh, roll your quads every day until your discomfort is gone. Work your center quads more often than your outer or inner quads, but be sure you address all three areas. Your quads work as a team, and so if one is locked up the others quickly fatigue too.

The adductors and hamstrings probably need attention too, but not nearly as much attention as the quads. Be sure you gently apply pressure in each area at least once a week to check it out.

Grab your stuff, let's start the thigh work!

Section note:

You should do these exercises at least once every couple weeks for maintenance. For your best results roll your quads every day and alternate between rolling your inner thigh, VMO, and outer quads. If you are training competitively you will need to address your quads and hamstrings every day.

## Chapter 3 -- The Secondary Regions -- Section 2 -- Thighs

### Hamstrings Press

If you have trouble keeping your hips back when you squat or your butt tends to tuck under, then do this exercise daily.

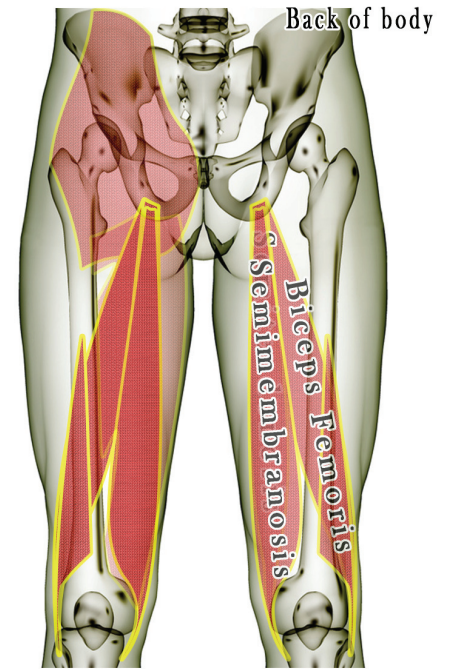
Together with the other thigh & hip muscles, the hamstrings help to hold your hip in the right position as you stand or sit (remember, sitting is an active process). The hamstrings can lock up and hold the back of your hip down close to your thighs, contributing to the ‘pooping dog’ position (posterior pelvic tilt) and placing excessive loads on your lower back & knees. Make restoring proper hip posture easier by unlocking the hamstrings.

In addition to attaching to the bottom of your hips, your three hamstring muscles (biceps femoris, semimembranosus and semitendinosus) attach to the lower leg along the back of your knee. If you have discomfort just below and in front of your knee (especially on the inside of your knee), or very high on the back of your knee, do this exercise daily. (Don't forget to work the front and inside of your thighs!)

The following therapeutic exercise releases knots, trigger points, and adhesions in your rear thigh muscles, and allows you to move your hip and knee more freely and functionally.

You'll need a small ball (about 2.5 inch diameter) and a plyo box or bench to practice the following exercise. A Beastie ball from Rumble Roller is preferred.

1. **Sit down on a box** that is tall enough that your feet barely touch the ground.
2. **Place the ball under the back of your thigh** (see pic “Hamstrings Press 1a”).
3. **Relax your thigh and breathe deeply as you try to let the ball sink into the back of your leg** so that your muscle mass wraps completely around the ball (see pic “Hamstrings Press 1b”). If there is no tension in the particular area of muscle that is sitting on the ball, move the ball to find the area of the most tension. If the box you are sitting on is tall enough that your foot does not touch the ground you have the best chance of completely relaxing your hamstrings to let the ball do its magic.
4. **Reduce the amount of pressure against the ball by leaning back** as you inhale.
5. **Increase the amount of pressure against the ball by pressing on the top of your thigh as you lean forward** while you exhale (see pic “Hamstrings Press 1c”).
6. **Repeat steps 4 & 5 at least three times**, or about 30-60 seconds.
7. After about one minute alternating higher and lower amounts of pressure against the ball in one specific spot, use your hands and **move the ball to another spot of high tension and repeat steps 3 - 6 for that new area**. Remember that you should chase tension, not pain. It may be uncomfortable to press on a tight knot in your muscles, but over time that pain will decrease and decrease until you literally don't feel any pain as you press on your



Hamstrings Press 1a



Hamstrings Press 1b



## Chapter 3 -- The Secondary Regions -- Section 2 -- Thighs

### Hamstrings Press

muscles.

8. After you've worked on one area, remove the ball and gently extend and flex your knee. When you feel ready stand up and raise and lower your leg to check ROM.

9. Walk around the room. Do a few slow air squats, gently trying to squat a little deeper with each movement. Note ROM.

10. You should practice this technique at least once every two weeks, but more often is likely to be better when you are first getting rid of the knots in these muscles. If you still have knots in your muscles, repeat this technique every day along with the other thigh SMR exercises until you have no discomfort at any point between your knee and hip.

11. If you are noticeably more sensitive on the second day of sitting on the ball, take a break for that day and see if you are better the following day.

12. If tension or discomfort within your thigh worsens with repeated rolling, call a proper therapist (massage or physical therapist, chiro, etc.) to enlist their assistance.



Hamstrings Press 1c

For more of an active release of tension, **you may wish to practice slowly extending your knee while holding pressure against a particular spot in your hamstrings** (see pic "Hamstrings Press 1d"). This is a more intense technique than simply pressing on your tight muscles. If you begin this particular technique without first relaxing your hamstrings you can expect minimal positive results. The more active any muscle is the harder you will need to press to cause it to relax or to get through to the underlying layers of tissue. The harder you push, the more likely you will can some tissue damage, and the longer it will take to recover from each session of SMR. Try to use only as little pressure as is necessary to stimulate the release of excess tension in your muscles. We are pretty good at turning muscles on...we suck at turning muscles off.



Hamstrings Press 1d

You can do this technique anywhere that you have a seat and a ball. It is still somewhat effective if your feet are touching the floor, but it works best if your foot can dangle.



## Chapter 3 -- The Secondary Regions -- Section 2 -- Thighs

### VMO Roll

If your knee “buckles for no reason”, you have patella tracking issues, or you lack knee flexibility, then do this exercise daily.

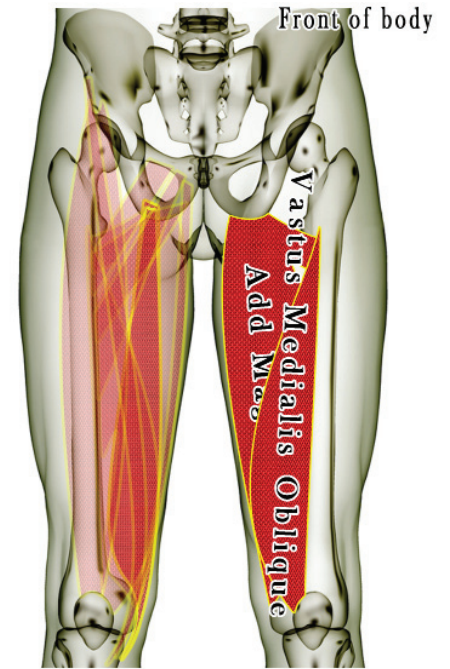
The following therapeutic exercise releases knots in your vastus medialis oblique (VMO), or the inner quadriceps muscles, and allows you to move your knee more freely and functionally.

You address your VMO simultaneously with the adductor magnus when you practice the first part of this exercise. It is the same beginning to the 2nd primary exercise. If your VMO is more locked up than your adductor group you should do this technique in addition to the 2nd primary until your VMO is free of knots.

You'll need a long or medium-length roller, (5-6 inch diameter) and some floor space.

You have 6 muscles that overlap near the inside of your knee (see pic “VMO Roll 1a”). Our initial interest is in freeing any adhesions between these muscles to allow them to perform individually near or across your knee joint. If they are stuck to each other then all movements of the knee are compromised because you get the lowest common denominator of movement possible with the muscles that are stuck to each other. This means your inner hamstrings (semitendinosus and semimembranosus) fight your quads while your adductors and other inner thigh muscles are overstimulated with any leg activity leading to premature fatigue and excessive wear and tear on your knee joint.

1. **Lie face-down on your stomach**, with your right leg out to the side like a figure four or a sniper.
2. **Place the roller under your right knee very near the kneecap** so that it is pressing against the vastus medialis oblique (VMO) and the knee joint at the same time (see pic “VMO Roll 1b”). The VMO is a bit unique in that it is attached to the patella both on top and on the side. It is best addressed at the kneecap by rotating your whole thigh so that the roller presses against the inside and then the front of your thigh as your foot points downward.
3. **Rotate your right leg so that the inside of your thigh rotates on the roller until the front of your VMO and rectus femoris are pressing against the roller and your foot points down at about 45 degrees.** This technique works better if you walk your arms and shoulders away from the roller as you rotate your leg (see pic “VMO Roll 1c”). While you rotate your leg allow your knee to straighten but do not forcefully extend your knee.
4. **Slowly rotate back to your starting position with your knee bent and the roller under your knee with your foot pointing parallel to the floor again** as you take in a slow, deep breath (see pic “VMO Roll 1b”). If you walk your arms and shoulders closer to the roller as you rotate your thigh on the roller this process is a bit easier to manage.
5. **Repeat this rotation of your thigh at least three times for the muscle tissue just above your kneecap.** You do not continue rotating left & right all the way up your thigh as you address the rest of your VMO.



VMO Roll 1a



VMO Roll 1b

## Chapter 3 -- The Secondary Regions -- Section 2 -- Thighs

### VMO Roll

6. Once you've addressed the inside and front of your VMO, **keep your foot pointing toward the ground with your knee relaxed** and take in a deep breath (see pic "VMO Roll 1c").
7. **Exhale as you shift your hips away from your shoulders to allow the roller to roll up your thigh two to three inches** so that it applies pressure to the lowest few inches of your VMO (see pic "VMO Roll 1d").
8. **Draw your leg back as you inhale by pulling your hips toward your shoulders** (see pic "VMO Roll 1e"). You should only roll over about 2 - 3 inches of muscle mass with each stroke.
9. **Repeat steps 7 & 8 at least three times in the same area.**
10. Without lifting your leg, **repeat steps 7 - 9 for the next three inch area a little closer to your groin.**
11. **Repeat steps 7 - 10 all the way up as close to your groin as you are comfortable.** Your VMO does not attach to any bone in the hip, but it does run most of the way up your thigh bone to your hip. To address the upper regions you will have to concentrate on relaxing more so than pressing really hard.
12. Once you've completed rolling your thigh from knee to groin, lie or sit and move your knee and thigh around until you feel ready to walk. **As an assessment practice exceptionally deep squats** (mind your limits!). If you've relieved knots in the VMO you should notice an easier time getting to the bottom of your squat and also an easier time initiating the standing phase of your squat. (Your VMO is the first of the quads to activate to attempt to straighten your knee). You might feel a slight bit of spot tenderness if you rolled through some areas of exceptional tightness. If you notice any negative or odd results, contact a health professional for assistance.
13. Now do the other leg.
14. **You should practice this technique at least once every two weeks, but more often is likely to be better when you are first getting rid of the knots in your VMO.**



VMO Roll 1c



VMO Roll 1d



VMO Roll 1e

If, due to severe discomfort, it takes more than two minutes to gently roll from knee to hip in short 2 inch strokes, get off the roller about 1/3 or 1/2 way up your thigh and take a moment for everything to relax. Return to where you left off and continue the short rolling motion up your thigh.

## Chapter 3 -- The Secondary Regions -- Section 2 -- Thighs

### ITB Roll

**If you have recurrent IT Band trouble, knees that are painful to squat, or trouble flexing your knees, then you should do this every few days.**

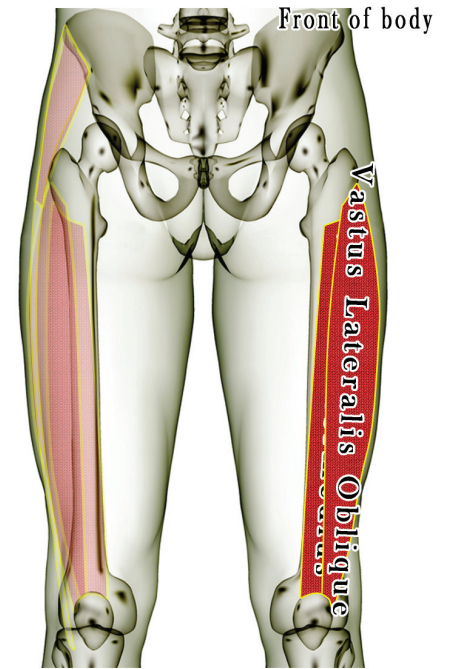
Many of us have tight quadriceps muscles. Some of us believe the pain we feel when we roll the outside of our thighs is attributed to IT Band trouble, when in fact we simply have overly tight quadriceps. Due to ridiculous sensitivity and the large amount of weight pressing into your tight outer quads, initially roll in 2-3 inch strokes. As your leg becomes less sensitive, roll in 1 - 2 inch strokes and use cross-fiber rocks to gently loosen excessively tight areas.

If your thigh is so tight that after 2-3 minutes you are not at your hip with the roller, take a break and walk around. Come back to where you left off and continue up your leg. Take as many breaks as necessary to roll from your knee to your hip in 2-to-3 inch rolls. Remember that relaxing your muscles is more important than pushing harder on them.

The following therapeutic exercise releases the knots in your thigh and allows you to move your knee more freely and functionally.

You'll need a medium to large roller, (preferably 5-6 inches in diameter) and some floor space.

1. **Sit down on the floor with your legs out in front of you.**
2. **Place the roller under the back of both knees with much of it outside of your left knee** (see pic "ITB Roll 1a"). If you are using a smaller roller, place it under and outside of your left knee.
3. **Roll toward your left side until your left toes point toward the floor** but are still slightly pointing toward your other foot (see pic "ITB Roll 1b"). The outer front portion of your left thigh should be resting on top of the roller, above but very near your kneecap. You are NOT lying on the side of your thigh against your actual IT Band. We are addressing the two quadriceps muscles under the IT Band region, we are NOT rolling the IT Band over and over. You can place your right knee on the roller or on the floor, whichever is more comfortable for you to support your body. You need to be able to support as much weight as necessary so that you can relax your left leg on the roller. It is likely to be very uncomfortable when you initially lay on top of the roller with the outside of your thigh muscles.
4. **Draw your left elbow underneath you for support and use your other elbow or hand.** Be sure to use your arms, right leg, and core muscles to lift your body so that not too much weight is pressing against the roller to allow you to relax your left leg. Remember, if you press too hard against already tight muscles, they will begin cramping as you roll through the area.



ITB Roll 1a



ITB Roll 1b



## Chapter 3 -- The Secondary Regions -- Section 2 -- Thighs

### ITB Roll

You may need to take this process in stages because your outer quads tend to be some of the most sensitive muscles in the body when practicing SMR exercises.

5. Take a deep breath, and as you **exhale push your body two to three inches toward the roller so that the roller moves up your thigh toward your hip**. Try to keep your hip as close to the ground as possible without tweaking your back.
6. **Move your arms underneath you again as you inhale.**
7. **Repeat steps 5 & 6 for your entire thigh until you reach the hip bone.** At first just roll up your leg without the pull-back motion we did with the VMO. As your outer quads loosen a bit and this movement is more comfortable, roll a few inches up your thigh with each stroke and about an inch back down all along your outer thigh.
8. **Remove the roller and gently flex and straighten your knee to increase circulation in your thigh without standing and loading your quads.** It is important to take a moment to allow your leg muscles (and possibly your head) to normalize after working through some tight junk in there.
9. When your leg feels ready, **get up and take a few steps, checking for improved range of motion. Do 2-5 squats, gently trying to squat a little deeper with each movement.**
10. If tension or discomfort within your thigh worsens with repeated rolling, call a proper therapist (massage or physical therapist, chiro, etc.) to enlist their assistance.
11. Now do your other leg.
12. Roll through your outer quads every few days or every day as needed until you no longer feel discomfort when you lie on the roller. Practice this exercise at least once every two weeks as an assessment.

For an active version of this SMR exercise you may wish to **hold a particular spot on the roller and slowly flex your knee as much as is possible** (see pic “ITB Roll 1c”). Take as many breaths as is necessary to feel ready, then **slowly allow your knee to straighten as you let out a long exhale** (see pic “ITB Roll 1d”). You may need multiple breaths to completely straighten your knee.

This active technique of flexing and relaxing your leg to allow it to extend while holding on one area of your thigh is a good alternative to repeated rolling of certain stubborn areas that don't seem to want to relax. Flexing your knee places a little more tension on the tendons as you bend your knee. This stimulates a signal to go to the brain to release some of the overly excited muscle fibers when you allow your leg to straighten. It is important that you do not actively extend your leg and activate your quads as you straighten your thigh. While this technique can be effective at getting to some of those deeper areas, the more active you are or the faster you go when doing it provides you with minimal progress releasing the underlying causes of all the tension in your quads.



ITB Roll 1c



ITB Roll 1d

Slow down. Take your time. You get faster relief if you do not rush this.





## Chapter 3 -- The Secondary Regions -- Section 3 -- Hips & Low Back



The hip & lower back are the center of your core. Your center of mass is near the top of your hip not far from your navel.

All movement must have a solid base to pull toward or push away from. If your lumbo-pelvic-hip-complex (LPHC) is unstable, you will develop dysfunctional compensations that can be virtually impossible to overcome.

There are more than two dozen muscles attached to the thigh and hip that affect how you use your hip and lower back (9 back-outside hip, 5 inside thigh, 4 quads, 3 hamstrings, 2 front-outside hip, 3 front-inside hip).

Add the 7 muscles attached to the lower back and the 4 abdominal muscles, and you have lots of muscles that can develop issues.

We have already tackled some of the thigh muscles that affect hip function. Now we are going to address the other hip flexors, extensors, abdominal & lower back stabilizers that allow us to perform hip functions optimally.

Full range of motion and proper stabilization of the lower back and the hip are essential to athletic performance. Develop an anterior pelvic tilt (the “chicken walk”) and you lose a portion of the power that full hip extension generates. You also load other areas of the body such as the hamstrings and lower back, so now those muscles will fatigue faster.

Conversely, if you develop a posterior pelvic tilt (the “pooping dog” position) you lose the natural curve in the lower back. This leads to movement compensations in other areas to regain support for whatever load you are lifting and shifts more sheering forces into the knees. The erectors in the middle and lower back typically take the brunt of the loading, causing numerous back & spine issues.

All of the LPHC muscles work together. Remember that Davis’s Law states “soft tissue models along lines of stress.” If you have a tendency of not fully opening a joint, the muscles attached to it will shorten or lengthen to the most often held position making it almost impossible to regain full joint ROM. If you work every day at regaining proper postural alignment, over time the soft tissue (your muscles and fascia) will grow to once again allow full joint ROM. Joint ROM imbalances may take weeks to years to correct, and can return if you fall back into inconsistent or incomplete fitness routines. (So do your due diligence!)

In the above examples, an anterior pelvic tilt is an example of the hip & thigh joint not completely opening, and the posterior pelvic tilt is an example of the lumbar vertebrae maintaining a flexed spinal position and not properly opening to a full natural lumbar curve. It will take daily SMR work and stretching coupled with exercises that encourage full range functional movement to teach the body what proper length-tension relationships are and how to maintain them when in action. Practice full range proper mechanics to avoid overuse issues that can take you off the playing field.

Section note:

You should do these four exercises at least once every two weeks. For your best results do the first two together and the last two together.

## Chapter 3 -- The Secondary Regions -- Section 3 -- Hips & Low Back

### Piriformis Press

If you experience recurrent sciatica symptoms that seem to mysteriously “come and go” or a general sense of hip tension, then do this exercise daily.

Many people who suffer from sciatica have tight hip muscles that contribute to their discomfort.

In some people the sciatic nerve runs through the piriformis muscle, and tension within the muscle pinches on the sciatic nerve, causing sciatica symptoms.

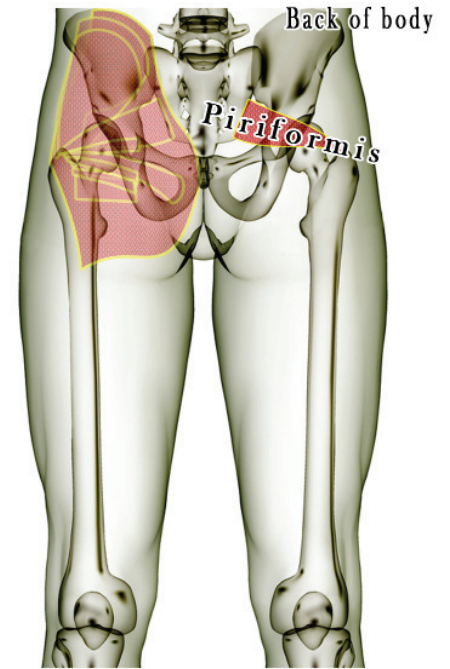
There are 5 muscles deeper than the piriformis in the hip joint. The exercise below addresses several of these at the same time, with the piriformis being the biggest of them.

The following therapeutic exercise releases knots in your lower outside hip muscles, and allows you to move your hip more freely and functionally.

You need a small ball (about 2.5 inches in diameter) to practice the next exercise. A Beastie ball from Rumble Roller is preferred.

This exercise requires that you can comfortably sit on a flat surface with your legs out in front of you and your hands just slightly behind you.

1. **Sit down and place the ball under your left buttock** about halfway between the bony notch high on the outside of your thigh (the greater trochanter) and the center of the back of your hip (your sacrum) **with your left knee bent and your right knee straight** (see pics “Piriformis Press 1a & 1b”).
2. **Gently lay your left knee out toward the ground without lifting your right buttock off the ground** (see pic “Piriformis Press 1c”). It is important that you keep BOTH butt cheeks on the ground. If you lift your right cheek off the ground by tilting your hips toward the ball you activate your hips muscles to stabilize yourself on the ball. This means you are activating the very muscles on the left side too in which you are attempting to relieve knots, which means your SMR efforts will be minimally effective at best. It also means you will need to press harder into the muscles to address any deeper knots, which will increase how long it takes to recover from this technique. (so keep your butt on the ground!)
3. **While keeping your knee laid out to the side and your hips relaxed, shift your hips left about one inch and take a moment to allow the ball to sink into the muscle tissue there. Then shift your hips right a couple inches; then forward; then**



Piriformis Press 1a



Piriformis Press 1b

## Chapter 3 -- The Secondary Regions -- Section 3 -- Hips & Low Back

### Piriformis Press

**backward.** Stay on top of the spot that has the most tension in it (not necessarily the most painful...chase tension, not pain). What you are looking for is an area that just doesn't want to allow the ball into that space and the muscle mass there does not want to wrap around the ball.

4. Once you've found "your spot," **take in a deep breath and draw your left knee in toward your chest with your left heel staying planted on the floor and your toes pointing at the sky** so that you are rocking left and right on the back of your left heel (see pic "Piriformis Press 1d").

5. As you let out a l-o-n-g exhale **slowly drop your left knee out toward the floor** (see pic "Piriformis Press 1c").

6. **Leave your knee out while you breathe deeply two or three times.** Try to let the ball sink into your hip deeper with each breath. Do not force your knee toward the floor, just allow your leg to gently drop toward the outside. Eventually your hip will relax more and your knee will get closer and closer to the ground while both butt cheeks remain on the floor.

7. **Repeat steps 4 - 6 four to six times,** but for not more than 2-3 minutes. You should notice the amount of tension in your muscles pressing on the ball decreasing with each subsequent round of raising and lowering your knee. If "your spot" of tension seems to shift, then shift your hips to keep pressure applied to it with the ball.

8. After 4 - 6 rounds or about 3 minutes, **remove the ball and gently rock left and right on your bottom.** If you feel like there's a "dent" in your behind, rock on your bottom until it is gone. That dent sensation should lessen in the future as you practice this technique regularly. It is likely from the deeper muscles in your hip not quite liking the pressure you just applied to them. Be a little more gentle in the future and you should be able to avoid this feeling.

9. **When you feel ready, get up and walk around and eventually do a few slow partial squats. Try to stretch your glutes away from your sacrum W-I-D-E as you flex your hips** (literally, make your butt as wide as possible in a partially bent over standing position). Slightly dip your knees inward (only slightly!) as you squat to accentuate the stretch in your glutes.

10. **Lift your knee to about hip level and make clockwise or counterclockwise circles with your leg to check range of motion (ROM).**

11. If tension or discomfort within your hip worsens with repeated rolling, call a proper therapist (massage or physical therapist, chiro, etc.) to enlist their assistance.

12. Now do your other hip.

13. Repeat daily or every few days as needed, until there is no more tension when you sit on the ball. Practice this exercise once every two weeks as an assessment.



Piriformis Press 1c



Piriformis Press 1d



## Chapter 3 -- The Secondary Regions -- Section 3 -- Hips & Low Back

### Glute Med Press

If you have trouble stabilizing your body on one leg or general muscle tension in the upper outside of your hip, then do this exercise daily.

There are three gluteal muscles that begin on the back of the hip bone at or near the top of your hip and insert at the greater trochanter very near the insertion for the piriformis.

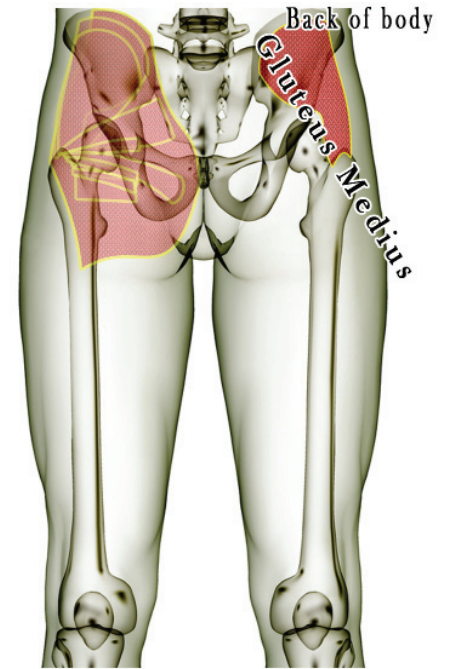
One of these muscles can cause discomfort similar to sciatica. Clearing this area along with the piriformis area can bring tremendous relief from a variety of hip muscle dysfunctions and restore proper range of motion in the hip, thereby restoring comfort with hip movement.

The following therapeutic exercise releases knots in your gluteus medius and other upper-outside hip muscles, and allows you to move your hip more freely and functionally.

You need a small ball (2.5 inches in diameter) to practice the next exercise. A Beastie ball from Rumble Roller is preferred.

This movement requires that you can comfortably lie down and roll onto your side on a flat surface.

1. Lie down on your back and hold the ball against the side of your left buttock about two inches below the top of your hip bone (iliac crest). DO NOT lift your hips and place the ball under your butt, otherwise you will miss the muscle we are attempting to address when you practice the following exercise.
2. Bend your right knee and place your right foot on the floor. Use your right leg to move your body and gently rotate your hip toward the ball so that you pin the ball between your hip and the floor (see pic “Glute Med Press 1a”).
3. Shift your whole body left about one inch; then right; then forward; and then backward to find “the spot” that has the most tension within your high-hip area (not necessarily the most painful...chase tension, not pain). Once you’ve found your spot, take note of where it is so you can continue rotating onto the same area.
4. Rotate away from the ball so that your glutes are barely pressing against it while you take a couple recovery breaths.
5. Use your right leg to move your body to rotate back onto the ball as you exhale. Attempt to rotate just a little bit farther this time (see pic “Glute Med Press 1b”).



Glute Med Press 1a



Glute Med Press 1b



## Chapter 3 -- The Secondary Regions -- Section 3 -- Hips & Low Back

### Glute Med Press

6. **Hold this position on the ball for 3 long, slow, deep breaths.** You should be able to notice a slight lessening of tension in your muscles near the top of your hip. If the tension is increasing rotate slightly away from the ball to apply a little less pressure against your tight muscles. Remember that pressing against tight muscles too hard too quickly will stimulate the muscles to tighten up rather than relax (so start with gentle pressure and you'll get a better response).
7. **Repeat steps 4 - 6 for three to five rounds, or about 2-4 minutes.** Typically by the fourth, fifth, or sixth round you should notice a dramatic improvement in the amount of tension in these muscles. If not, then try this exercise again but do not rotate your hip so far onto the ball. You may need to start with a slight little rotation until your muscles get more pliable.
8. **Remove the ball and gently rock left and right on your back.** If you feel like there's a "dent" in your buttocks, rock on your bottom until it is gone. That dent feeling is an indication you should apply less pressure to the ball next time. Do a couple bridges to check glute & hamstring function and comfort.
9. **When you feel ready get up and walk around. Do a few air squats. Alternate standing on one leg for a moment to check hip function.** Your medial glutes are primarily responsible for stabilizing your hip on one leg, so be very critical of any changes in hip stabilization on one foot. If it is worse, contact your local therapist.
10. **You should practice this technique at least once every two weeks, but more often is likely to be better when you are first getting rid of the knots in these muscles.** If you still have knots in your hip muscles, repeat this technique every day or two until you have no discomfort at any point between your knee and hip. If you are noticeably more sensitive on the second day, take a break for that day and see if you are better the following day. If tension or discomfort within your hip worsens with repeated rolling, call a proper therapist (massage or physical therapist, chiro, etc.) to enlist their assistance.

# Chapter 3 -- The Secondary Regions -- Section 3 -- Hips & Low Back

## Psoas Press

If you stand or walk with the top of your hip tilted forward (anterior pelvic tilt), then do this exercise daily.

The psoas muscle is the deepest of the muscles in the core on the front of your body. It is attached to the 12th thoracic vertebrae at the bottom of your ribs, all of the lumbar vertebrae in your lower back, passes along the front wall of your hip bone, and inserts on the inside of your upper thigh.

It functions as a hip flexor (pulls the front of your leg toward your core or your core toward your legs). This means that excess tension within it loads your spine and hip all day long.

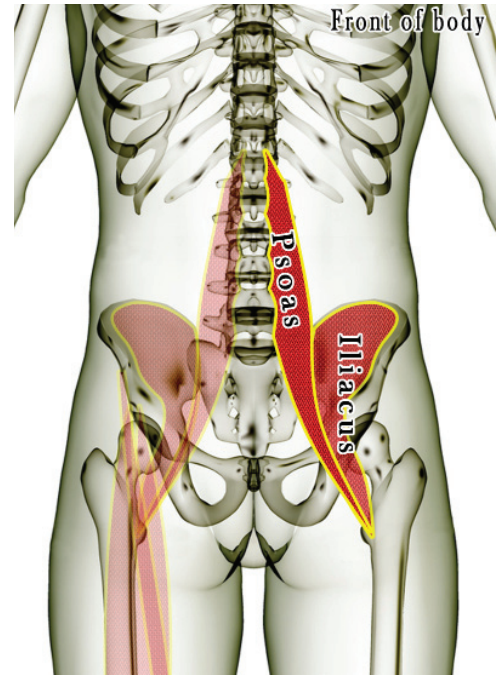
The following therapeutic exercise can relieve tension that causes lower and middle back pain by relieving knots in the psoas muscle. It can also alleviate the muscular cause of the hips being held in a “pooping dog” position where you cannot open your hips and lower back properly.

You need a small ball (2.5 inches in diameter) and a yoga block to practice the next exercise. A Beastie ball from Rumble Roller is preferred.

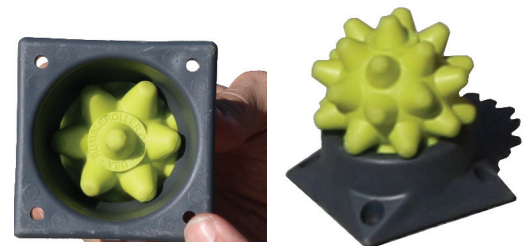
**DO NOT ATTEMPT** this exercise unless your doctor has cleared you for exercise and participating in activities that apply pressure to your body, such as massage. You will apply pressure to your abdomen and spine during this exercise, so it is absolutely critical that you **PROCEED WITH CAUTION**.

The area you will address runs from the top of your thigh to the spine near the bottom of your ribs. The psoas muscle bulges near the L4 vertebrae, or about the level of your navel. This is where we want to start with this exercise. The ball should be placed under your tummy about 2 - 3 inches to the side of your belly button (see pic “Psoas Press 1a”). You may wish to use the Beastie mounted to support the ball and allow you to better address deeper tissue (see pic “Psoas Press 1b”).

1. Lie on your stomach.
2. Support yourself on your elbows and knees and place the ball and block under your belly about 1 - 2 inches to the left of your belly button (see pic “Psoas Press 1c”...the opposite side of pic “Psoas Press 1a”). Ensure that your knee for the opposite side of your core is up to the side like a sniper position or a figure four.
3. Keep your weight mostly off of the ball by holding yourself in a partial plank (a pushup on your elbows and knees) while you take in a deep breath. Exhale and allow your lower body to relax so that your abdomen begins to



Psoas Press 1a



Psoas Press 1b



Psoas Press 1c



Psoas Press 1d

## Chapter 3 -- The Secondary Regions -- Section 3 -- Hips & Low Back

### Psoas Press

**gently apply pressure against the ball** (see pic “Psoas Press 1d”). You should feel a unique pressure slowly begin to intensify where the ball is pressing into your body (but NOT a heartbeat or sharp pain). **If you feel this unique pressure sensation, see number 6.** If not, see number 4. The pressure should kind of feel like you have gas or a mild case of nausea.



Psoas Press 1e

4. Raise your body back into the partial plank to shift the ball about one inch lower or higher, and make sure the ball is no more than 2 inches to the side of your navel.

5. Repeat step 3. If you do not feel a mild, yet gradually intensifying sense of pressure as you lower your hips and core against the ball, stop this exercise and contact a therapist for their assistance. You can injure yourself if you haphazardly apply even moderate weight to the wrong area. It's better to be safe than sorry.

6. **Gently increase the amount of pressure by gradually walking your elbows out farther away from each other and lowering your body toward the floor** (see pic “Psoas Press 1e”). Your psoas muscle is attached at the T12 vertebrae very near your diaphragm along with all of your lumbar vertebrae. If you push **on** the psoas too hard too quickly, you may have great difficulty breathing normally. You need to consciously breath in rhythmic deep breaths while practicing this exercise. If you need to raise your body just a bit in order to breath more deeply, then do so! Let your breathing guide you with how much pressure to apply to your psoas.

7. **After four deep breaths with your arms away from your body, gently walk them back under you and raise yourself almost completely off the ball**, but keep a little bit of tension against it (see pic “Psoas Press 1d”).

8. **Take a couple normal breaths.** Each time you walk your hands away from your body and lower more weight against the ball try to get your chest a little closer and closer to the ground until you are completely lying unsupported except for the ball under your abdomen (see pic “Psoas Press 1e”). If you ever feel a sharp pain in your abdomen, discontinue this movement at once and contact your therapist for assistance!

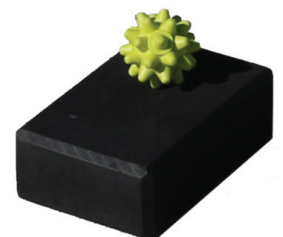
9. **Repeat steps 6 - 8 no less than four times, but for not more than five minutes.** Within three or four rounds of applying pressure to the ball, you should sense a significant drop in the pressure in your abdomen. If have trouble feeling the ball under you it may help to use a yoga block to lift the ball a little higher (see pics “Psoas Press 1g & 1h”). If you are using a yoga block you may not need the base under the ball, experiment with using the ball + base + block and using the ball + block to find your perfect amount of support.

10. **Remove the ball** (and base or block or both) **and lie on your stomach. Shift your hips left and right, and allow your core to normalize and your head to clear before you get up.**

11. **When you are ready, stand up and walk around. Using only your leg and hip muscles** (e.g., don't grab your knee with your hands) **every few steps slowly raise and lower your knee as high as possible.** You should notice it is easier to lift your leg for the side you just addressed and you have less tension in your back when you do so.

12. **Now do the other side of your hip & core.**

13. **You should practice this technique at least once every two weeks, but more often is likely to be better** (especially when you first start practicing this technique). If you still have knots in your core and hip muscles, repeat this technique every day or two until you have no discomfort at any point between your ribs and thigh. If you are noticeably more sensitive on the second day of applying pressure, take a break for that day and see if you are better the following day. If tension or discomfort within your core, spine, or hip worsens, call a proper therapist (massage or physical therapist, chiro, etc.) to enlist their assistance.



Psoas Press 1g



Psoas Press 1h



## Chapter 3 -- The Secondary Regions -- Section 3 -- Hips & Low Back

### QL Roll

**If your lower back aches, you have trouble standing fully upright and erect, or you feel tightness in your torso when you try to take in a really deep breath, then do this exercise daily.**

The quadratus lumborum muscle (QL) is absolutely critical for standing and walking. It is attached to the back side of your spine in your lower back, the top of your hip bone, and the bottom of your lowest rib. The QL is one of three primary areas you should address for relief of lower back pain (the rectus femoris and psoas muscles are the other two). This muscle stabilizes the space between your ribs and your hips. You will apply pressure to other lower and mid-back muscles while addressing the QL, so be aware that you might need therapy in more areas than the one described below.

The serratus posterior inferior (SPI) is a muscle attached to the lower four ribs and one of the critical muscles for stabilizing your ribs on your lumbar spine. It also makes it tough to breath deeply when it is riddled with contraction knots or trigger points.

The following therapeutic exercise can relieve tension that causes lower and middle back pain by relieving knots in the QL, SPI, and other local muscles. You'll need a medium or large-sized roller (about 5 - 6 inch diameter) to practice the following exercise.

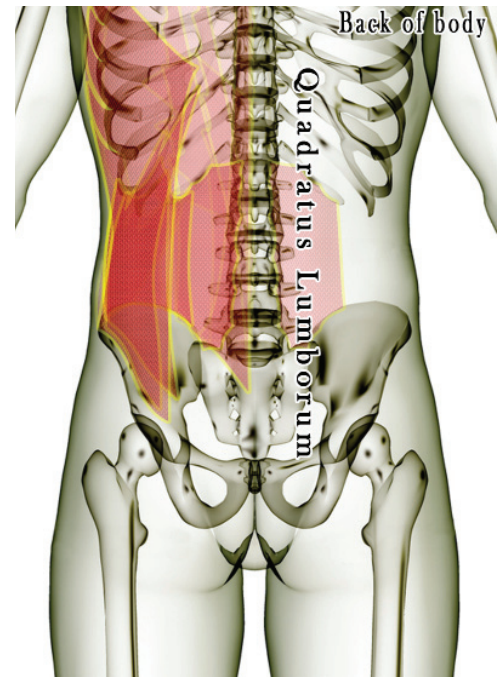
1. **Sit down on a flat surface and lean back against a roller with your lower 4 ribs so the roller is pressing against your back where your ribs and lower back meet** (see pic "QL Roll 1a").

2. **Bend your knees and place the bottoms of your feet on the floor.**

3. **Use your legs to gently rock at first, then roll a few inches toward your ribs as you exhale, and an inch or two toward your hips as you inhale. Gradually make your way back and forth between the bottom of your ribs and the top of your hips.**

4. **Reach back with your hands to hold your head and allow your back to arch over the roller** (see pic "QL Roll 1b"). Practice a sit up motion by flexing your spine so you press your lower back against the roller and then allow your shoulders to lower toward the floor as you relax your abs. You should notice more range of motion possible through your lumbar and thoracic spine each time you come back and do this exercise.

5. **Straighten your right leg and use your left leg to gently tilt toward your right side and lean onto the roller with your side for several breaths** (see pic "QL Roll 1c"). Be very conscious of the level of discomfort and pressure you feel all along your side and lower ribs. Stay within your safe limits. If you can't relax and breathe deeply while leaning against the roller, then that is too much pressure. You may need to stay on your back instead of rotating toward your side when you first begin to practice this exercise. If you



QL Roll 1a



QL Roll 1b



## Chapter 3 -- The Secondary Regions -- Section 3 -- Hips & Low Back

### QL Roll

press too hard with your body weight and the muscles attached to your ribs are too tight to stretch you can injure yourself. (So be careful!!)

6. **Rotate your body so that your back lies evenly on the roller and take a few breaths.**
7. **Repeat steps 5 & 6 several times for the same side, or for about 1 - 2 minutes** while applying only as much pressure to your right ribs as is tolerable.
8. **Switch your legs and repeat step 7 for your left side.**
9. **Remove the roller and gently rock your shoulders and hips left and right.** If you feel like you have some tightness in your chest, keep slowly rocking back and forth until you can breath normally. It should only take a few seconds to normalize. If you feel tightness after any SMR technique you were a little too aggressive with the pressure against your tight muscles, and you activated the stretch reflex.
10. **After your body feels normal again, get up and walk around the room. Do several slow trunk twists to assess ROM.** Remember to keep these movements light and slow. (Don't force it!) Bend forward too. Try to round your back as much as possible, then make your spine as tall as possible. Can you move better and breathe deeper?
11. If you experience any intense discomfort or questionable sensations, discontinue this exercise and contact your therapist.
12. **As steps 5 - 7 get relatively easy, lower your shoulders to the floor and allow your hips to raise up off the ground** (see pic "QL Roll 1d").
13. **Repeat steps 5 - 7 along each section of your lumbar spine up to your bottom ribs.** Again be mindful of your tolerance to the amount of pressure or discomfort you feel when practicing this advanced rolling technique. You may need to do shorter rotations toward each side without completely rolling to each side when you first begin doing this version of the QL Roll. Eventually you will be able to comfortably roll all the way from one side to the other and stack your shoulders without any disruption to your breathing (see pic "QL Roll 1e").
14. **Repeat daily or every few days as needed** until there are no more tight spots in your mid-back. Practice this exercise at least once every two weeks as an assessment of proper ROM and function in your lower and middle back.



QL Roll 1c



QL Roll 1d



QL Roll 1e



## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck



The shoulders are amazing! Unlike the thigh bone fitting into a socket in the hip joint, the bone of the upper arm just barely fits into a shallow cup in the shoulder blade.

This means that for the most part the shoulder is held in place by coordinated action of the muscle tissues. If we do not work to maintain proper stability and flexibility, shoulder function and ROM will become compromised.

In this section we discuss how you work some of the muscles attached in the shoulder area. Many of these affect more than one of the others because of the synergy needed for shoulder function.

In a general sense we work in the following order: bottom to top, largest to smallest, light pressure to heavy pressure.

You have 16 muscles directly connected to shoulder blade: 3 to the upper front tip (the coracoid process): the pectoralis minor, the coracobrachialis, the biceps brachii; 2 to the front wall in the armpit: the subscapularis and the serratus anterior; 3 to the upper backside: the deltoid, trapezius, and the supraspinatus; 3 to the inside-rear edge: the levator scapulae and the rhomboid minor and major; 5 to the backside or outer & lower edge: the infraspinatus, the long head of the triceps brachii, teres minor, teres major, and the latissimus dorsi.

You additionally should address the 15 other muscles in the upper body and neck: 12 attached to the collar bone, sternum, or the neck & head area; and 3 deep muscles in the middle back.

Like with the other regions of the body, try to work your “trouble areas” first and most often. As you have time, address the other complimentary areas. Remember, the more often you release tension in an area, the less time it will take the next time to release that same level of tension. In other words, the more often you roll out, the faster you get the release.

Now let’s get into it!

Section note:

You should do these seven exercises at least once every two weeks. For your best results alternate between two or three each day. You will find a combination that seems to afford you the best relief from your issues. Experiment to find your perfect combo.

If you have neck or shoulder issues you will need daily practice of three or more of the extended exercises in Section 4 of Chapter 3. Experiment with all of the SMR exercises for the muscles connected to the shoulder to determine the best daily combination. Use the Joint Tables in the front of this book to identify where to work next.

## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

### Pecs Roll

If your shoulders are rounded toward the center of your chest or you experience a lot of neck tension, then practice this technique often.

Your second area of interest when dealing with shoulder issues is your pectoralis muscles (especially the pectoralis minor). They pull your shoulders and arms forward and down, and the pectoralis minor pulls the front tip of your shoulder blade toward the center of your chest (rounds your shoulders).

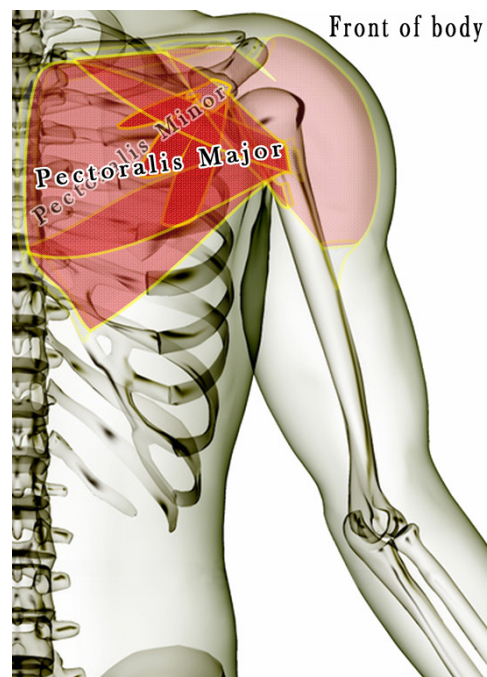
This is good and bad - good for protecting your neck & chest in a confrontation or fall, but bad if your shoulder is held too far forward for too long when walking, running, or reaching above your head.

Loosen these powerful muscles so that they can return to full stretch length and your shoulder, neck and back will thank you!

The following therapeutic exercise releases knots in your pecs and allows you to move your shoulder, arm, and neck more freely and functionally.

You need a bumpy roller to practice the following exercise. Any preference of roller size or density from RumbleRoller is recommended.

1. **The pectoralis minor is the target of this technique**, although you may occasionally need to address areas of your pectoralis major, too. There are three branches of your pec minor that stem from the front tip of your shoulder blade toward your third, fourth, or fifth rib (see pic “Pec Minor Branches”).
2. **Lay on your side with the right side of your chest pressing against the roller** (see pic “Pecs Roll 1a”).
3. **Rotate your torso so that your chest rotates toward the floor** (see pic “Pecs Roll 1a”). When you reach a “speed bump” as we like to call it (typically about 1 - 2 inches from your armpit along the outer ridge of the pectoralis minor), stay on top of it.
4. Gently but firmly roll up toward your coracoid process (the front tip of your shoulder blade, just below your collar bone) or down toward the 5th rib (at or slightly above the nipple line) (see pics “Pecs Roll 1c” and “Pecs Roll 1d”). Somewhere along that muscular ridge, you’ll find at least one knot that’s pretty stubborn and doesn’t want to relax. This is the spot we want to focus on.
5. **Hold pressure against the tightest of those knots** (not always the most painful—try to chase tension, not pain!). Feel for the knot that “gives” the least when you apply pressure.
6. **Raise your core slightly to decrease the pressure against the knot in your chest as you inhale.**
7. **Increase the pressure against the knot as you exhale by relaxing your core against the roller** (try to let gravity do most of the work while you concentrate on relaxing your tight muscles).
8. **Repeat steps 6 & 7 at least four times in the same spot, or about 1 - 2 minutes.** After about 30 - 45 seconds you should



Pec Minor Branches



Pecs Roll 1a



Pecs Roll 1b



# Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

## Pecs Roll

notice a significant drop-off of tension in the knot you are working on.

**9. Slowly roll over onto your back without the roller under you.** Note the range of motion possible. Raise your arms laterally up to the sides and overhead to the sides and in front while you lie on the floor. Repeat these arm movements as an assessment when you sit or stand. Do a few shrugs to check ROM with all movements of the shoulder.

**10.** Gradually you should notice fewer knots that you need to address in your pecs, and an easier time stretching your shoulders backward and upward, which should mean less tension in your neck.

**11.** If you experience any intense discomfort or questionable sensations, discontinue this exercise and contact your therapist (massage or physical therapist, chiro, etc.).

**12. Now do the other side.**

**13. Repeat daily or every few days as needed until there are no more tight spots in your pecs.** You should practice this exercise at least once every couple weeks as an assessment.



Pecs Roll 1c



Pecs Roll 1d

### **\*\*Hot Tip\*\***

- Practice slowly pressing your chest muscles forward and back as well as left and right (see pics “Pecs Roll 1c-1f”) to achieve your best results.
- Remember to exhale as you apply pressure to your tight muscles. They will relax faster when you synchronize the application of pressure with your breathing. Try to breathe in long, slow, d-e-e-p breathes.

### **\*\*Hot Tip\*\***



Pecs Roll 1e



Pecs Roll 1f

## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

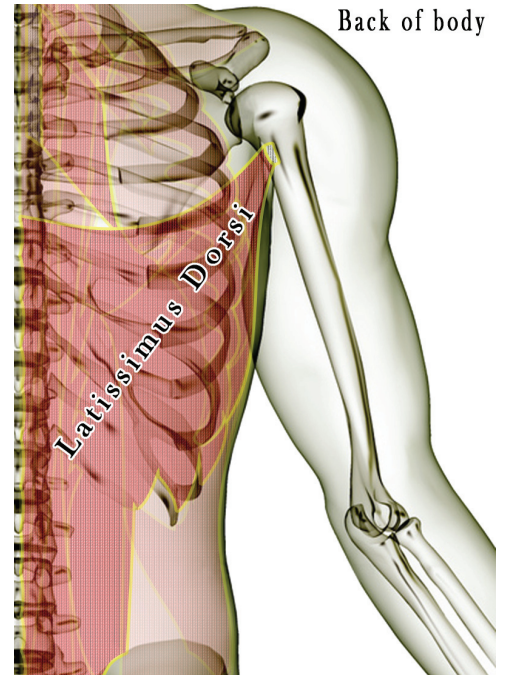
### T-Spine Roll

**If your back is rounded or you have difficulty keeping your shoulders back over your hips then do this exercise daily.**

Many of us have less than perfect posture. One rather easy way to ensure that we have a fighting chance at maintaining a neutral spine well into our advanced years is to regularly relax the overly tight (and exhausted) muscles all along our middle to upper backs.

The following therapeutic exercise releases the knots in your center and upper torso regions along your back, and allows you to more easily use the 4 layers of muscle mass here to hold your spine, ribs, and shoulders in proper alignment.

You'll need a long or medium-length roller, (5-6 inch diameter) and some floor space.



1. Lie down on your back with a roller under your ribs just below your shoulder blades and your hips off the ground (see pic "T-Spine Roll 1a").
2. Raise your arms above your head and allow gravity to pull them as close to the ground as is possible (see pic "T-Spine Roll 1b"). If you haven't already done so, bend your knees and place the bottoms of your feet on the floor.
3. Use your legs to gently rock at first, then roll a few inches toward your hips as you exhale, and an inch or two toward your head as you inhale. Gradually make your way back and forth between the bottom of your ribs and the top of your shoulder blades. The faster you go the more "surfacy" you stay with the roller. Think of a rock skipping across the water. Slow down and roll one vertebrae at a time and you will get your best results.



T-Spine Roll 1a



T-Spine Roll 1b

4. Practice shifting your head and shoulders toward the floor while you lift your hips, then lower your hips toward the floor while you raise your shoulders (see pic "T-Spine Roll 1c" and "T-Spine Roll 1b"). Do this "see-saw" technique for each vertebrae along your ribs. You may find certain areas are more tender than others. Mind your limits and note your progress over time. You should get less and less sensitive as you continue to practice this technique each week or two.
5. Straighten your right leg and use your left leg to gently tilt toward your right side along your ribs for several breaths (see pic "T-Spine Roll 1d"). Be very conscious of the level of discomfort and pressure you feel all along your side and ribs. Stay within your safe limits. If you can't relax and breathe deeply while leaning against the roller, then that is too much pressure. You may need to stay on your back instead of rotating toward your side when you first begin to practice this exercise. If you

## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

### T-Spine Roll

press too hard with your body weight and the muscles attached to your ribs are too tight to stretch you can injure yourself. (So be careful!!)



T-Spine Roll 1c



T-Spine Roll 1d

6. **Rotate your body so that your back lies evenly on the roller and take a few breaths.** If your arms begin to go numb while keeping them overhead then lay them across your chest until they feel normal again (see pic “T-Spine Roll 1a”). We sometimes have shoulders that are too stiff or aren’t properly aligned so that when we raise our arms overhead the blood vessels or nerves that cross the shoulder joint get pinched. Over time you should notice less and less of an issue with having your arms overhead when lying on your back. Go back & forth between having your arms across your chest and overhead until you no longer feel any issues in your arms.
7. **Repeat steps 5 & 6 several times for the same side, or for about 1 - 2 minutes** while applying only as much pressure to the back of your right ribs and shoulder blade as is tolerable.
8. **Switch your legs and repeat step 7 for your left side.**
9. **Remove the roller and gently rock your shoulders and hips left and right.** If you feel like you have some tightness in your chest keep slowly rocking back and forth until you can breath normally. It should only take a few seconds to normalize. If you feel tightness after any SMR technique you were a little too aggressive with the pressure against your tight muscles, and you activated the stretch reflex.
10. **After your body feels normal again, get up and walk around the room. Do several slow trunk twists and “scaredy cat/daisy cow” stretches to assess trunk ROM and function.** Remember to keep these movements light and slow. (Don’t force it!) Try to round your back as much as possible, make your spine as tall as possible, and extend back as far as possible. Can you move better and breathe deeper?
11. If you experience any intense discomfort or questionable sensations, discontinue this exercise and contact your local bodywork therapist (massage or physical therapist, chiro, etc.).
12. **Repeat daily or every few days as needed** until there are no more tight spots in your mid or upper back. Practice this exercise at least once every two weeks as an assessment of proper ROM and function in your upper and middle back.



# Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

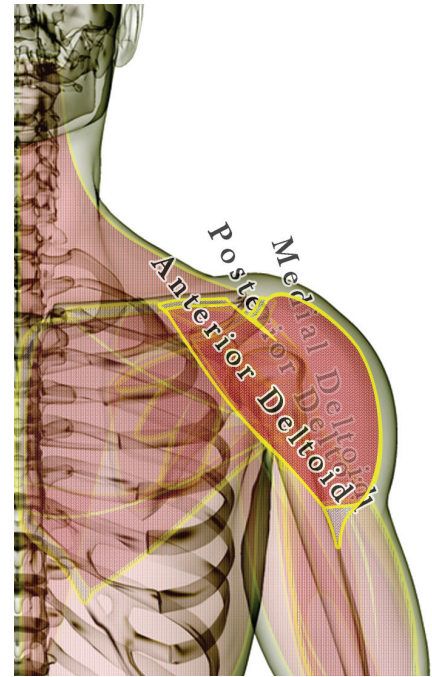
## Delts Roll

If your shoulders ache or you have trouble raising your arm overhead, then do this exercise daily.

Your deltoids (shoulder muscles) can get exhausted and ache. Typically you will need to address other muscles besides the delts to get lasting relief. If you practice the SMR exercise below and shortly afterward your tight delts or shoulder discomfort returns for no apparent reason then take a close look (and feel) at the other muscles attached around your shoulder. Your lats and pecs are likely suspects for tension, but take your time to explore the 15+ other muscles attached to your shoulder blade or crossing the shoulder joint. If any one of these is all bound up with knots or adhesions the residual tension will impact the rest of the muscles.

The following therapeutic exercise releases knots in your center, anterior, and posterior delts and allows you to move your shoulder more freely and functionally.

You'll need a long or medium-length bumpy roller (5-6 inch diameter) and a little wall space.



Delts Roll 1a

1. **Stand and pin a roller to the wall with your shoulder** (see pic “Delts Roll 1a”). Be sure your shoulder is completely relaxed and you have a good base of support at your feet. You will use your legs and hips to address your shoulder, with your shoulder muscles remaining relaxed throughout the entire sequence of steps for this exercise.
2. Begin by breathing deep, slow breaths as you **slowly rotate your torso toward your back and then slowly rotating toward the front** (see pics “Delts Roll 1b” and “Delts Roll 1c”). Most of us have more tension in one of three areas on the shoulder muscles: the anterior section, the middle section, or the posterior section. Note the level of tension that you feel as you rotate from your back to front and back again. If you move quickly it will be more difficult to determine where you have the most tension. If you move your shoulder by using the muscles attached to your arm (by shrugging your shoulder up, down, or forward/backward) you will have more trouble finding the area of most tension in your delts. Concentrate on relaxing your arm as much as is possible. Imagine that your limb is dead and you must use your legs to address different areas of your delts.



Delts Roll 1b



Delts Roll 1c



## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

### Delts Roll

3. When you find an area of high tension (It may be the most sensitive, but not always. It will be the area that “gives” the least as you press on it.) **hold that position on the roller and do a shallow squat with your legs and then stand up again** (see pics “Delts Roll 1d” and “Delts Roll 1e”).

4. Repeat step 3 at least 3 times for the area of high tension in your delts.

5. Repeat steps 2 - 4 at least two to three minutes for one shoulder. You may find that the area of “most tension” shifts from one spot to another in your shoulder as you practice this exercise. Many of us have layers of knots in the shoulders on top of each other. As we work through one layer and get to the next one it is almost like Pandora’s Box (but in a good way).

6. Once you have spent several minutes addressing the knots in one shoulder remove the roller and gently move your arm forward, backward, out to the side, and any direction that is normal and natural for you. You should notice a little more ease with arm movements. If you feel tighter in your shoulder then you were pressing too hard into the roller. This is why the floor is not the best place to address your delts-you tend to push too hard against your overly tight muscles unless you are lying on your stomach or your back. Addressing the sides of your shoulders by lying on your side tends to provide minimal relief from knots in the delts.

7. If you experience any increases in discomfort with regular practice of this exercise, discontinue at once and contact your local bodywork specialist (massage or physical therapy, chiro, etc.).

8. You should practice this every few days until your shoulder issues are gone, then once every couple weeks as an assessment.



Delts Roll 1d



Delts Roll 1e

## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

### SMR Butterfly

If your shoulders are rounded forward or you have difficulty retracting your shoulder blades then do this exercise daily.

This area is between your shoulder blades and your spine. You have 4 layers of muscle here so you are addressing more than the rhomboids, but they are our focus.

This area can be VERY sensitive and it might be too uncomfortable at first to lie on the ball with your arms on the floor, too. If so, place the block underneath your elbow.

This should make the next set of movements tolerable. If necessary, practice this exercise in a seated or standing position by placing the ball in a sock or stocking and hanging it over your shoulder.

The following therapeutic exercise releases knots in the mid-back muscles between your shoulder blades and some of the neck extensor muscles. This allows you to move your head, neck & shoulders more freely and functionally.

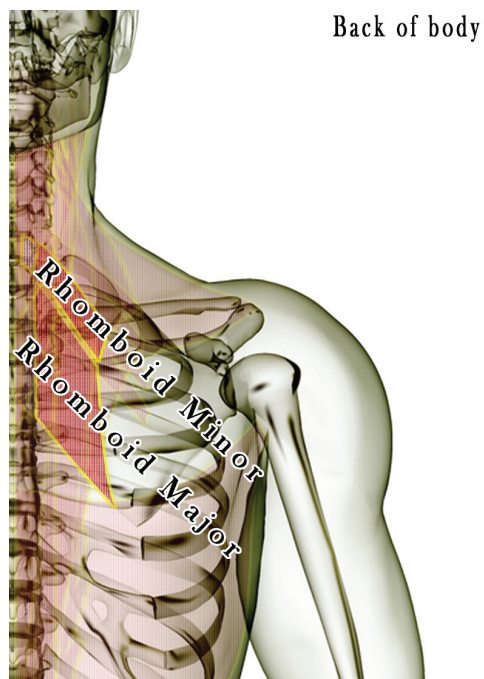
You need a small ball (2.5 inches in diameter) to practice the following exercise. A Beastie ball from Rumble Roller is preferred.

**1. Lie down on top of the ball with the area of your back that is between your left shoulder blade and your spine** (see pic “SMR Butterfly 1a”). Your head should be on the floor with both arms straight out to your sides like a capital “T”. Place a yoga block under your elbow or head (or both) if you are too uncomfortable attempting to lay your arm on the floor with the ball under your back. It is possible that when you first begin practicing this SMR exercise that you will need to support both your head and elbow so that you can relax your neck & shoulder muscles to get the most relief possible. Eventually you will not need the additional support. In the short-term, use it if you need it in order to relax while lying on top of the ball.

**2. Bend both arms 90 degrees but keep your elbows on the floor straight out from your shoulders** (see pic “SMR Butterfly 1b”).

**3. Rotate your bent arms so that your palms get closer to the ground while you inhale** (see pic “SMR Butterfly 1c”). Do not force your palms toward the floor. Do not raise your elbows off the floor. It is important that you have your elbows resting on the floor or a block so that you are not using the muscles attached to your shoulder to hold your arm up in the air.

**4. As you exhale, rotate your arms so that your knuckles get closer to the ground by your head** (see pic “SMR Butterfly 1d”).



SMR Butterfly 1b

SMR Butterfly 1c

## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

### SMR Butterfly

5. Repeat steps 3 & 4 at least five times, trying to get your knuckles just a little closer to the ground each time. This is the “preparation work” and it is important that you slowly rotate both arms at the same time.

6. After 5 - 10 rotations, lay your arms back with your knuckles as close to the ground as you can and take a d-e-e-p breath (see pic “SMR Butterfly 1d”).

7. As you exhale touch your elbows together over your face so that your arms touch each other from hands to elbows (see pic “SMR Butterfly 1e”). This action pushes your shoulder blades apart and applies considerable pressure to the ball under the rhomboids area. If you are having trouble touching your elbows together then lower your hands toward your chin and you should be able to get your elbows to touch. It is critical that you get your arms as close to each other as is possible.

8. After you get your arms to touch together and while holding your arms together over you, take in another d-e-e-p breath.

9. As you slowly exhale lower your elbows to the floor or the block (see pic “SMR Butterfly 1d”). The ball should sink in a little deeper into your back between your shoulder blade and your spine. Try to flatten your body against the ball and tuck your chin close to your chest. This causes the other muscles in the rhomboids area to stretch over the surface of the ball, driving out some of the tension in them.

10. Repeat steps 6 - 9 at least five times (not more than 10 times total).

11. Shift your body off the ball and lie flat on the floor for a moment. Let your head clear.

12. Stay on your back while you shrug to check ROM. Hug yourself and do snow angels. You should notice that your shoulder can flatten out against the ground more than before practicing this exercise.

13. Once your head clears, sit up and check ROM. In addition to shrugging your shoulders forward and backward, hug yourself and note the ROM possible when wrapping your arms around yourself. You should be able to spread your shoulder blades away from your spine a little farther each time you do this exercise. This exercise can also alleviate some neck tension issues because you have muscles that attach between the shoulder blades that also attach in the neck.

14. If you experience any intense discomfort or questionable sensations, discontinue this exercise and contact your bodywork specialist (massage or physical therapist, chiro, etc.).

15. Now do the other side.

16. Repeat daily or every few days as needed until there are no more tight spots in your mid-back. Practice this exercise once every two weeks as an assessment.



SMR Butterfly 1d



SMR Butterfly 1e



# Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

## Levator Floor Press

**If the back of your neck is always tight, your shoulders are by your ears, or you experience frequent tension headaches, then do this exercise daily.**

The levator scapulae is a muscle that runs from the inside tip of your shoulder blade (close to your spine in your upper back) up to the top 4 vertebrae of your neck (close to the back of your head). It pulls your shoulder up and in like when you shrug or tilt your head back and forth to the left or right. Its path is illustrated to the right, along with many of the 5 cervical erectors and 8 other muscles attached to the back of the neck and head.

You can relieve some tension headaches and many other head and neck issues by spending a little time working on this very complex area of the body.

The following therapeutic exercise releases contraction knots, trigger points, and adhesions in the neck and allows you to move your neck, head, and shoulder more freely and functionally. It can also dramatically relieve neck and upper back tension.

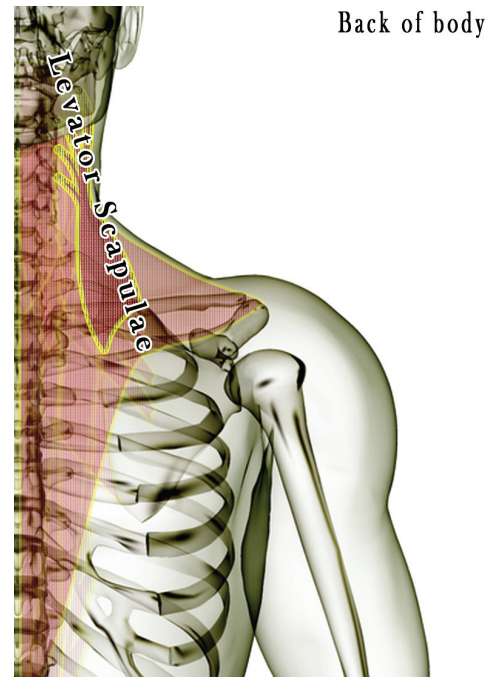
You'll need a small ball (about 2.5 inch diameter) to practice the following exercise. A Beastie ball from Rumble Roller is preferred.

**If you have a serious neck or spine issue, you need to check with your doctor or other healthcare professional before doing this exercise, as you will be placing significant pressure on your neck.**

1. Start by lying flat on your back with your feet flat on the floor and your knees bent like you're about to do sit ups. Take the ball and place it at the top of your traps at the point where your neck and traps come together, not under your shoulder blade, but against the top of it, just slightly under the flesh alongside your neck (see pics "Levator Press 1a & 1b").

2. Exhale and push your hips up toward the ceiling by doing a bridge (see pic "Levator Press 1c"). This action pins the ball between the top of your shoulder blade and the floor. Place your arms straight out to the sides with your palms up and your knuckles on the floor. If this position is too intense for you, then lower your arms closer to your sides, always with your palms facing up. Lift your hips only as high as is tolerable with the amount of pressure you are levering against your neck. Initially you may only be able to comfortably lift your hips just an inch or two off the ground. As your traps and other shoulder muscles relax you will be able to lift your hips higher to place more pressure against the ball (and your neck).

3. Lower your hips and shift your body so the ball moves along the top few inches of your traps and neck. Take a moment to check the amount of tension in the traps along the nearby areas of your neck and the inside-tip of your shoulder blade. Find the spot with the most tension and stay there (chase the most tension, not necessarily the most pain).



Levator Press 1a



Levator Press 1b



## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

### Levator Floor Press

4. Exhale and bridge again. Hold the bridge for 1 or 2 breaths.

5. Inhale as you lower your hips, but keep just enough pressure on the ball so that it doesn't slip out from under your shoulder. You need to vary the level of tension against your muscles but keep at least a little pressure at all times to get your best results.

6. Exhale and bridge again, trying to raise your hips just a little higher to add more pressure to the ball. Repeat steps 4 & 5 at least five times, or for about 1 - 2 minutes.

7. Shift your body off of the ball and do some simple shrugs while still lying down. Turn your head to each side to check the range of motion possible. Try to touch your chin to your collar bone on either side of your neck. How far out toward your shoulder can you reach your clavicle with your chin?

8. Once your head is clear, stand and walk around to increase blood flow. Shrug and nod your head left and right (like when you motion 'no') every few steps to check range of motion. See how far to each side you can comfortably turn your head. Try to turn your head so that your chin points straight out over your shoulder. You should almost be able to point your nose and chin 90 degrees to either side.

9. If necessary, do the other side. If you suffer from tension headaches, you may notice headaches that are less intense and occur less often as the knots in your neck decrease. If you have an increase in intensity or frequency of your headaches discontinue this exercise and contact a therapist for their assistance.

10. Repeat daily or every few days as needed until your issue is resolved. You should practice this exercise once every two weeks as an assessment.



Levator Press 1c

# Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

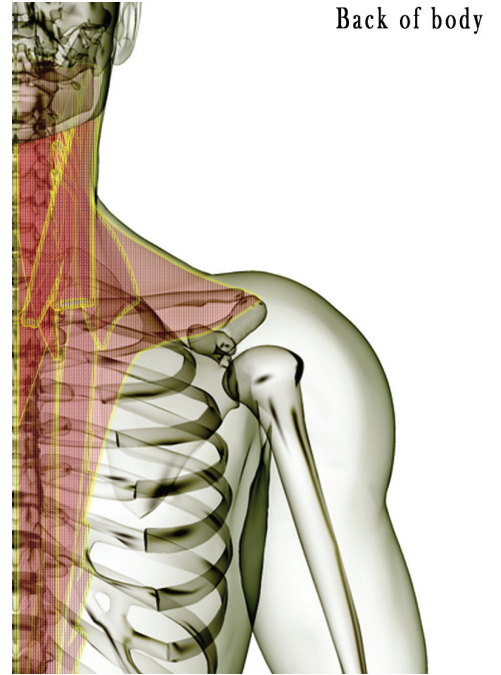
## Neck Roll

If the back of your neck is always tight, your shoulders are by your ears, or you experience frequent tension headaches, then do this exercise daily.

Many of us suffer from tight neck muscles. They lead to tension headaches and other nagging neck and shoulder discomfort. By spending a little time each night before bed you can work out some of the tight knots that keep your neck stiff and contribute to your discomfort. This is one of the safest techniques to practice (as long as you do not have a serious injury to your neck) because the amount of weight in your head and neck is not so great as to significantly restrict the blood flow to and from your brain.

You can spend much more than the 2-5 minutes recommended for most of the other SMR exercises while you watch the news or a movie before bedtime. The more you practice this exercise the better your neck is likely to feel.

You'll need a long or medium-length roller, (5-6 inch diameter) and some floor space.



1. **Lie down on your back with a roller under your neck** (see pic "Neck Roll 1a"). Just lay there. Breathe. Do not move. Try to melt into the roller. We all have muscles in our necks that seem to never "turn off." So take a few minutes to do nothing and chill out. Put on some soft music. Light a candle. Send the pets/kids/significant other out of the room so you can have some quiet time.

2. After you have achieved some level of actual relaxation (it may take more work than you initially thought!), **slowly rock your chin to the left and right. When you find a spot of increased tension hold that position on the roller.** If you have a bumpy roller you may need to adjust your neck position on the roller so that the bumps hit that spot of tension just right. Spend at least 30 seconds holding pressure against that one tight spot in your neck.

3. **You should notice that tight spot begins to relax a bit. If it does not, then you are likely so tight back there that the 10 - 15 pounds of weight in your head and neck is causing your tight muscles to fight any release. Scale this movement by placing the roller on the wall or a chair and leaning against it there** (see pic "Neck Roll 1b"). Some of us will need to scale this technique the first few times we do it to avoid setting off the stretch reflex. Every muscle in your body has an automatic reflex built into it to protect the muscle from being stretched too far too quickly. This same response works when you attempt to press on an already tight muscle with too much pressure too abruptly. It is for this reason that we say to gradually apply pressure to your tight muscles rather than to attempt to drive out the knots with more and more force. If your muscles are fighting the release you are seeking it almost doesn't matter how much force you use...relax more rather than press harder.

4. As you begin to relax the outer layer or two of neck muscles you should **slowly rock your chin an inch or two left and right or up and down.** This slight rocking or nodding motion will allow you to better address the deeper layers of tissue in one or more of the 4 layers of muscle on the back of your neck. Take your time and breathe deeply to provide your muscles with the best chance to get a deeper release.



Neck Roll 1a



Neck Roll 1b

5. If you find you are as relaxed

## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

### Neck Roll

as possible and you still can't quite "get in" to the deeper layers of knots in your neck, **gently lay your forearm on top of your forehead** (see pic "Neck Roll 1c"). Don't push your arm against your head, just lay it there and let gravity and time do the work for you. You can lay both arms on your head if you wish, but many of us do not need that much pressure against our necks (so use your best judgment).

6. After a reasonable amount of time (at least 2 minutes, but you could spend as much as half an hour like this), **remove the roller and lie on the ground with your head resting on the floor**. Allow everything in your neck to normalize. It should only take a few seconds or about a minute.

7. When you feel ready, **gently grab the back of your head with both hands and slowly pull your chin toward your chest**. You should feel a stretch along all of the muscles in the back of your neck possibly all the way down to between your shoulder blades. Take several breaths while gently holding your chin as close to your chest as is possible.

8. **Slowly return your head back to the floor. Try turning your chin to the right as far as possible while your head rests on the floor**. You should be able to point your nose and chin almost 90 degrees to the side toward your shoulder. (Don't force it!)

9. **Slowly return your head to neutral position and then turn toward the left as far as possible. Also try to touch your chin to your collar bone on either side of your neck with your mouth closed without using your hands**. If you have limited range of motion in either direction then practice this SMR exercise as often as possible, but at least once a day.

10. Once you can turn your nose and chin almost completely to both sides and you can touch your collar bone on either side of your neck, practice this exercise as an assessment every two weeks to ensure you maintain proper neck mobility. You are not likely to feel the slight loss of ROM you get from each day of stress. If you neglect your homework you will one day notice (seemingly all of a sudden) that you have a LOT of tension in your neck & shoulders. Prevent it. Do your homework.



Neck Roll 1c



Neck Roll 1d



## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

### Sterno Roll

If you have “head forward” posture, tension headaches, or other neck pains that “come and go” then do this exercise daily.

Many of us suffer from tight neck muscles. They lead to tension headaches and other nagging neck and shoulder discomfort. By spending a little time each night before bed you can work out some of the tight knots that keep your neck stiff and contribute to your discomfort. The sternocleidomastoid muscle attaches to your collar bone, sternum, and the back of your skull just behind your ears. If it is too tight your head gets pulled down and forward, and proper neck posture is impossible.

Spend at least 2-5 minutes addressing the sides of your neck while you watch the news or a movie before bedtime. The more you practice this exercise the better your neck is likely to feel.

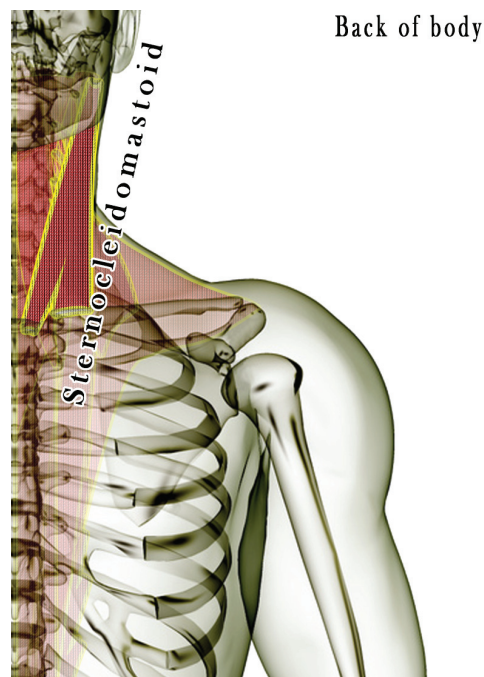
You'll need a long or medium-length roller, (5-6 inch diameter) and some floor space.

**1. Lie down on your right side with a roller under your neck** (see pic “Sterno Roll 1a”). Just lay there. Breathe. Do not move. Try to melt into the roller. We all have muscles in our necks that seem to never “turn off.” So take a few minutes to do nothing and chill out. Put on some soft music. Light a candle. Send the pets/kids/significant other out of the room so you can have some quiet time.

**2. After you have achieved some level of actual relaxation** (it may take more work than you initially thought!), **slowly rock your chin to the left and right. When you find a spot of increased tension hold that position on the roller.** If you have a bumpy roller you may need to adjust your neck position on the roller so that the bumps hit that spot of tension just right. Spend at least 30 seconds holding pressure against that one tight spot in your neck. You may find that very small movements make a big difference. You have several layers of muscles here and some of them are not very big but they can get very tight. Do not rush this. The more and faster you move the less effective this SMR exercise is.

**3. You should notice that your tight spot begins to relax after a short time. If it does not, then your neck muscles are likely so tight that the 10 - 15 pounds of weight in your head and neck is causing your tight muscles to fight any release. Scale this movement by placing the roller on the wall or a chair and leaning against it there** (see pic “Sterno Roll 1b”). Some of us will need to scale this technique the first few times we do it to avoid setting off the stretch reflex. Every muscle in your body has an automatic reflex built into it to protect itself from being stretched too far too quickly. This same response works when you attempt to press on an already tight muscle with too much pressure too abruptly. It is for this reason that we say to gradually apply pressure to your tight muscles rather than to attempt to drive out the knots with more and more force. If your muscles are fighting the release you are seeking it almost doesn't matter how much force you use...relax more rather than press harder.

**4. As you begin to relax the outer layer or two of neck muscles you should slowly rock your chin an inch or two left and right or up and down.** This slight rocking or nodding motion will allow you to better address the deeper layers of tissue in one or more of the 3 layers of muscle on the side of your neck. Taking your time and breathing deeply will provide you with the best chance to get deeper.



Sterno Roll 1a



Sterno Roll 1b



## Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

### Sterno Roll

5. If you find you are as relaxed as possible and you still can't quite "get in" to the deeper layers of knots in your neck, **gently lay your palm on the side of your head** (see pic "Sterno Roll 1c"). Don't push your arm against your head, just lay it there and let gravity and time do the work for you.

6. After a reasonable amount of time (about 2 - 5 minutes), **remove the roller and lie flat on your back with your head resting on the floor**. Allow everything in your neck to normalize. It should only take a few seconds or about a minute.

7. When you feel ready, **gently grab the back of your head with both hands and slowly pull your chin toward your chest**. You should feel a stretch along all of the muscles in the back of your neck possibly all the way down to between your shoulder blades. Take several breaths while gently holding your chin as close to your chest as is possible.

8. **Slowly return your head back to the floor. Try turning your chin to the right as far as possible while your head rests on the floor**. You should be able to point your nose and chin almost 90 degrees to the side toward your shoulder. (Don't force it!)

9. **Slowly return your head to neutral position and then turn toward the left as far as possible. Also try to touch your chin to your collar bone on either side of your neck with your mouth closed without using your hands**. If you have limited range of motion in either direction then practice this SMR exercise as often as possible, but at least once a day.

10. Once you can turn your nose and chin almost completely to both sides and you can touch your collar bone on either side of your neck, practice this exercise as an assessment every two weeks to ensure you maintain proper neck mobility. You are not likely to feel the slight loss of ROM you get from each day of stress. If you neglect your homework you will one day notice (seemingly all of a sudden) that you have a LOT of tension in your neck & shoulders. Prevent it. Do your homework.



Sterno Roll 1c



## Chapter 3 -- The Secondary Regions -- Section 5 -- Arms



The elbows and wrists are areas that tend to plague us once a problem has presented itself.

It's not surprising, considering that anything we do with our hands engages the muscles attached to the wrist and the elbow so the likelihood of re-injury is high. Many times immobilization seems to be the only "cure."

You have 18 muscles attached to your elbow: 3 upper arm muscles (2 biceps muscles in the front and the 3 heads of the triceps on the back), and 16 forearm muscles (5 flexors for your hand and fingers, the pronator teres & pronator quadratus, and the palmaris on the front of your forearm; 5 extensors for your hand and fingers, the brachioradialis, the anconeus, and the supinator on the back).

Add to this the 2 thumb extensors, thumb abductor, thumb flexor, and 1 index finger extensor, and you have 20 muscles just between your elbow & wrist! (that's more muscles than between any other two joints in your body)

Many of the arm maladies we see in society are greatly influenced by the amount of residual tension in the muscles attached in the injured area. Add to this the altered lengths of many of the muscles surrounding a given joint and it is no wonder that certain movements or activities hurt our joints.

When a joint suffers impact or twisting trauma the muscles attached to that joint will "lock out" in an attempt to splint the joint. This eventually leads to muscular fatigue and can lead to scar tissue in the form of adhesions, contraction knots, and trigger points.

Arthritis, carpal tunnel syndrome, tennis elbow, and golfer's elbow are just a few of the overuse issues that respond very well to proper self-care therapy of the arm muscles.

If you roll out can you avoid surgery? Maybe not. You need to be the best judge of progress. As before, when in doubt, get it checked out! Excess tension in the muscles attached to a joint can hinder proper movement, irritate the joint tissues, and slow the recovery process.

Let's get into what you can do to help speed recovery in the arms!

Section note:

You should do these four exercises at least once every two weeks. For your best results do the first two together and the last two together.

## Chapter 3 -- The Secondary Regions -- Section 5 -- Arms

### Triceps Roll

If you have trouble touching your bicep to your ear when you raise your arm overhead, tennis elbow, or other nagging elbow issues, then do this exercise daily.

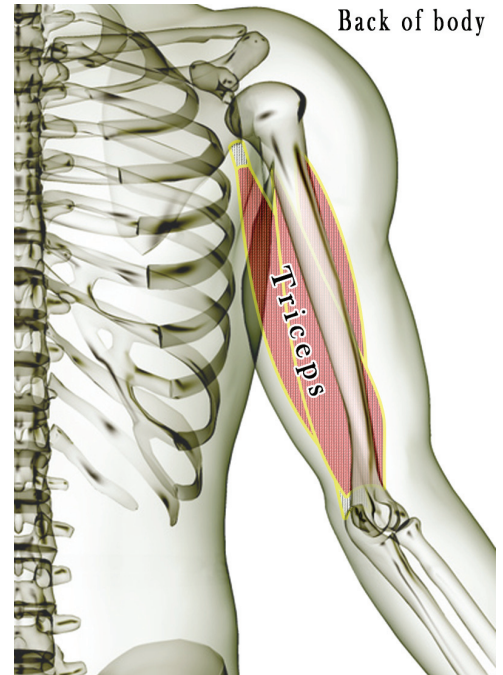
The long head of your triceps muscle attaches to both your shoulder blade and your elbow, so you may need to address it close to your shoulder as well as close to your elbow, or anywhere in between.

Many of our lower arm issues originate in the infraspinatus or the triceps. If you lack proper ROM at the shoulder you will likely develop issues at the elbow and wrist.

Proper function of the triceps improves circulation and function of the shoulder, lower arm and hand.

This movement addresses all the muscle tissue in the back of your upper arm, and allows you to move your elbow more freely and functionally.

You'll need a small cylinder or ball (2.5 inches in diameter) for the following exercise.



This movement is best done while lying down on your stomach with your arm out in front of you and the roller under the back of your arm.

**1. Lie down on your stomach with your right arm out on the floor in front of your head with your palm up.**

**2. Place the roller under the very end of your upper arm, just above the elbow joint.** Your arm should be out straight so that your knuckles touch the floor with the roller under your arm and your shoulder either touching the floor or as close to the floor as your flexibility allows (see pic "Triceps Roll 1a").



Triceps Roll 1a

**3. Take in a d-e-e-p breath while you bend your arm and gently touch your head with your palm** (see pic "Triceps Roll 1b").

**4. Slowly extend your arm as you exhale and continue to breathe deeply while you gently allow your arm to open and your knuckles to touch the ground.** Take as many breaths as necessary to completely open your arm (you may have more tension here than you initially thought).



Triceps Roll 1b

**5. Repeat steps 3 & 4 at least three more times,** always allowing gravity to slowly open your arm as you "let go" with the biceps muscles. NEVER tighten up the triceps while your arm is on top of the roller. You should notice that the roller sinks into the back of your arm just a little more after each flexion and extension of your elbow.

**6. After 3 - 6 repetitions or about 2 minutes, roll onto your back and bend and straighten your arm several times.** Note the fluidity of movement possible.



## Chapter 3 -- The Secondary Regions -- Section 5 -- Arms

### Triceps Roll

7. **If your arm feels like it can handle a load, roll into a push up position and do one or two slow, easy push ups.** Note the ROM at the elbow
8. **If you experience any intense discomfort or questionable sensations, discontinue this exercise and contact your local bodywork therapist (massage or physical therapist, chiro, etc.).**
9. **Now do your other arm.**
10. **Repeat daily or every few days as needed until there are no more tight spots in your arm.** You should practice this exercise once every two weeks as an assessment.

## Chapter 3 -- The Secondary Regions -- Section 5 -- Arms

### Biceps Press

If the front of your shoulder or the inside of your elbow has an ache that “comes & goes,” you have a dull discomfort in the front of your upper arm, or you tend to have golfer’s elbow then do this exercise daily.

Elbow function relies primarily on the triceps to extend and the biceps to flex (duh!), yet many of us do not even think of the true flexor of the elbow joint: the brachialis.

When the brachialis locks up, your triceps has to work harder to open your elbow, and your brachioradialis in the forearm must work harder to help flex your arm. In other words, your solution to elbow dysfunction and pain may lie with relieving tension in the deep biceps muscle.

This movement addresses the deep bicep muscle in the front of your upper arm and allows you to move your elbow more freely and functionally.

You need a small ball (2.5 inches in diameter) to practice the following exercise. A Beastie ball from Rumble Roller is preferred.

This movement is best done with your lower arm supported by the floor or a counter or table top, and the ball in your other hand.

1. You don’t really roll the ball, but you do more of a rocking motion while you apply pressure as you exhale and relaxing pressure as you inhale. Begin by relaxing your left arm. **Support your arm on a table, the floor, or other sturdy object so you can “turn off” your arm muscles.** The more active your arm is the more pressure you will need to apply with your other hand to address the knots in your muscles, and that means more potential for tissue injury. Relax more, rather than press harder. You’ll get better results and recover faster.

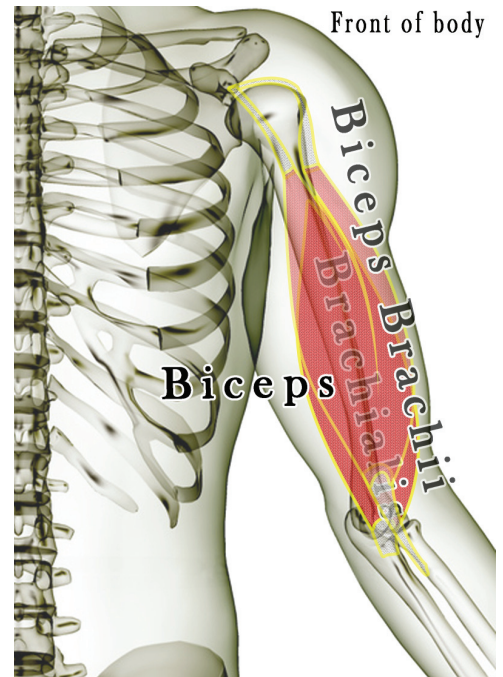
2. **Take the ball in your left hand and gently press it against the upper-outer portion of your elbow joint at the bottom of your right upper arm** (see pic “Biceps Press 1a”). Palm the ball rather than use your fingers so you have better leverage to apply pressure to your other arm.

3. Start to apply pressure to your right arm with your left hand by cupping the ball while your left pinky touches your right arm. **Take in a deep breath and slowly exhale as you knead your right arm with the ball by rocking your left hand over the ball while you rotate your left thumb toward your right arm** (see pic “Biceps Press 1b”).

4. **Inhale as you decrease the pressure against the ball and rotate your left pinky back toward your right arm.**

5. **Repeat steps 3 and 4 on the same spot at least three more times** (about 1 - 2 minutes) or until it begins to loosen.

6. **Remove the ball from your upper arm and flex & extend your arm several times to check ROM.**



Biceps Press 1a



Biceps Press 1b

## Chapter 3 -- The Secondary Regions -- Section 5 -- Arms

### Biceps Press

You should notice improved ease of opening and closing your elbow. While working on your biceps, you might notice twitches in the triceps muscle. When this happens, hold the ball steady until the twitching stops. You are resetting the muscle tension necessary to balance your elbow on the front and back sides. By pressing on your tight biceps muscles you are also temporarily increasing tension in your triceps muscle. By holding just the right amount of pressure against your biceps you stimulate the sensors in the tendons for the biceps to send a signal to the brain to release excessive tension by “turning off” parts of the biceps. After this signal is sent both sides of your arm relax a bit.

- 7. Repeat steps 3 - 6 for every inch of your upper arm as you work your way toward your shoulder in 1-to-2-inch increments.** Repeat the sequence of deep breathing, rocking, and applying pressure to any knots on the inside of your upper arm from elbow to shoulder. Take some extra time with any knots you encounter. The area just above your elbow (where the brachialis is thickest) is the most likely area to get lots of knots.
- 8. If you experience any intense discomfort or questionable sensations, discontinue this exercise and contact your local bodywork therapist (massage or physical therapist, chiro, etc.).**
- 9. Now do your other arm.**
- 10. Repeat daily or every few days as needed until there are no more tight spots in your arm.** You should practice this exercise once every two weeks as an assessment.

## Chapter 3 -- The Secondary Regions -- Section 5 -- Arms

### Extensors Roll

If you have a tendency toward tennis elbow, carpal tunnel, or other elbow and wrist issues, then do this exercise daily.

Many elbow and wrist issues can be greatly influenced by excessive residual tension in the muscles that attach in the lower arm.

We'll explore one method for addressing the extensors, the supinator, and the anconeus (a small triangular-shaped muscle by the elbow). Take your time to address any and all knots in this area, and pay special attention to where they are. Remember to apply consistent pressure to the muscle that is tight (it might be very small).

This exercise primarily addresses the muscles in the back of your forearm, and allows you to move your wrist and fingers more freely and functionally.

You'll need a medium sized roller (about 5 inches in diameter) for the following exercise.

Begin this exercise at your wrist and work toward your elbow. You need a strong table or bench (like a plyo box) to lay your forearm on top of the roller with your palm facing up. There are three regions in the forearm that you'll address: outside by the thumb, center between the two bones of the forearm, and inside by the pinky finger. You need to roll and apply pressure to each region in the same manner.

1. Place the back of your left wrist against the roller with your palm facing up.

2. Take in a deep breath and slowly exhale as you apply pressure to the top of your wrist with your right hand (see pic "Extensors Roll 1a"). If the muscle here is unusually tight and sensitive, spend about 30 seconds applying pressure as you exhale each breath, and decreasing the amount of pressure as you inhale.

3. Take in a deep breath and exhale while you apply pressure to your arm and gently push your arm over the roller about 1 inch (so your hand moves away from your chest). If you have a bumpy roller you may wish to adjust the placement of your arm on the roller so that the bumps dig in on certain specific areas of your forearm.

4. Inhale while you decrease the pressure on top of your arm and draw your arm back toward you about 1/2 an inch.

5. Repeat steps 3 & 4 for the length of your forearm starting at your wrist and finishing at your elbow.

6. If you find a spot of unusually high tension, stay on that spot and repeat step 2 (the muscle may be unusually sensitive in this spot but what we're really looking for are areas of muscle that simply do not "give" when you press on them, whether they are sensitive or not). Apply consistent, yet varied levels of pressure for at least 20 - 30 seconds (exhale as you apply heavy pressure, inhale as you decrease the pressure). After a small period of time you should feel the level of tension decrease. If so go to step 7. If not go to step 10.



Extensors Roll 1a



Extensors Roll 1b



## Chapter 3 -- The Secondary Regions -- Section 5 -- Arms

### Extensors Roll

7. Continue working up your forearm until you reach your elbow with the roller.
8. Once you've addressed the center of your forearm, then do the inside area by your pinky (see pic "Extensors Roll 1b").
9. Next do the outside region of your forearm near your thumb (see pic "Extensors Roll 1c")
10. After you've addressed all three regions, assess ROM and function with a few stretches and movements. Slowly bend and straighten your arm several times. Gently roll your wrist clockwise and counterclockwise several times to assess ROM. Do some light pressing motions against the table with your palms touching the table. Do it again with the backs of your hands touching the table. Your grip strength and comfort with presses following this exercise should improve. If not, go to step 11.



Extensors Roll 1c

11. If you experience any intense discomfort or questionable sensations or if your issue doesn't seem to change at all with repeated attempts to relieve tension here, discontinue this exercise and contact your local bodywork therapist (massage or physical therapist, chiro, etc.).

12. Now do your other arm.

13. Repeat daily or every few days as needed until there are no more tight spots in your arm. You should practice this exercise once every two weeks as an assessment.



Extensors Roll 1d



Extensors Roll 1e

### \*\* Hot Tip \*\*

When you find a tight knot, decrease the pressure with your right hand and flex your left wrist to raise your left hand as you inhale (see pic "Extensors Roll 1d"), then allow your left hand to slowly drop as you increase the pressure on top of your left arm with your right hand while you exhale (see pic "Extensors Roll 1e"). You'll get quicker releases with in certain areas using this active version of SMR technique.

### \*\* Hot Tip \*\*

## Chapter 3 -- The Secondary Regions -- Section 5 -- Arms

### Flexors Press

If you have a tendency toward golfer's elbow, carpal tunnel syndrome, arthritis in the wrist/fingers/hand/elbow, trigger finger and other troubling discomforts in the arm or hand, then do this exercise daily.

Many discomforts in the arm or hand can be reduced or eliminated by relieving excessive tension in the forearm muscles. The flexors, pronator, and the brachioradialis are all addressed using this method.

This technique addresses all the muscles in the front of your forearm and wrist, and allows you to move your elbow, hand and fingers more freely and functionally.

You'll need a small ball (about 2.5 inch diameter) to practice the following exercise. A Beastie ball from Rumble Roller is preferred (see pic "Beastie").



Beastie



1. Begin this series of movements by placing the back of your forearm on a yoga block or table with your hand lying gently over the edge.
2. Note the illustration above to see where you will use the ball on your forearm. The darker red muscle on front of the arm in the image above is our focus. Think of your arm as having three distinct areas, one third along the thumb side, one third between the two bones of your forearm, and one third along the pinky side (see pic "Flexors Press Placement").
3. Grab the ball in your opposite hand and place it near your wrist, with your palm over the ball and your pinky close to your wrist (see pic "Flexors Press 1a").
4. Gently apply increasing levels of pressure to the ball by rounding your hand over the ball as you roll your thumb toward your arm (see pic "Flexors Press 1b"). The movement is a rotation of your hand pressing or kneading (making small pivoting circles) over the ball.



Flexors Press Placement



Flexors Press 1a



Flexors Press 1b

## Chapter 3 -- The Secondary Regions -- Section 5 -- Arms

### Flexors Press

5. Inhale and rotate your hand so that your thumb moves away from your arm and your pinky moves toward your wrist, decreasing the pressure on the ball.
6. Repeat steps 4 & 5 for about a minute in that one particular area, or until the tension in your muscles decreases. If this is your “trouble area” then spend some extra time here. You should be able to feel at least a slight bit of muscular release about every thirty seconds.
7. Slide the ball a few centimeters closer toward your elbow.
8. Repeat steps 4 - 6 for every section of the front of your forearm. TAKE YOUR TIME with this series of movements. The knots in your flexor muscles can affect your entire palm & wrist or be very small and focused for one finger or the other.
9. After you’ve addressed the front of your forearm, slowly bend and straighten your wrist and fingers several times. Gently roll your wrist clockwise and counterclockwise several times to assess ROM. Do some light pressing motions against the table with your palms touching the table. Do it again with the backs of your hands touching the table. Your grip strength and comfort with presses following this exercise should improve.
10. If you feel no change in the level of muscle tension after holding pressure against one knot for more than 1 minute, or if the discomfort in your wrist worsens, call a professional therapist for assistance.
11. If necessary, do your other arm.
12. Repeat daily or every few days as needed until there are no more tight spots in your arm.

#### \*\* Hot Tip \*\*

- When you find a tight knot, decrease the pressure with your hand on the ball and flex your wrist to raise your hand as you inhale, then allow your hand to slowly drop as you increase the pressure on top of your forearm with your opposite hand while you exhale (see pics “Flexors Press 1c” and “Flexors Press 1d”). You’ll get quicker releases with this variation of an active release technique.

#### \*\* Hot Tip \*\*



Flexors Press 1c



Flexors Press 1d





## Chapter 4 -- The Extended Regions -- Section 2 -- Thighs



Rotate through the SMR exercises for your thighs in Chapters 1 & 2 every couple days. In addition, do at least one exercise in this section for the front of your thigh and one for the back of your thigh every single day until your issue is remedied.

If you don't see improvements within the first day or your issue gets worse, contact your local therapist for a proper diagnosis.

The quadriceps muscles are the only muscles attached to the kneecap.

Unless you have some external force act on the knee, there is normally no other cause of pain in the kneecap or its attachments!

Address knee pain by investigating tightness in the quads.

If your issue is behind the back of the knee, inside the joint, slightly below and inside or outside of the knee on the lower leg, the causes of pain can get a bit more complicated.

If you find that you have knee discomfort, even severe knee discomfort, first check your quads.

Will rolling your quads fix every knee problem? In a word, no. Work your center quads more often than your inner or outer quads, but be sure you work all three major areas frequently.

The adductors and hamstrings need attention too but probably not nearly as much attention as the quads. Be sure you gently apply pressure in each area at least once every two weeks to check it out.

Explore the 7 exercises in this section. Do two each day, one for the front of your thigh and one for the back or inside of your thigh. You will discover one or two techniques that afford you the greatest level of relief. These are your key extended SMR exercises. Do them every day along with the primary and secondary SMR exercises for the thighs. Alternate practicing the remaining movements in this section until your issue is gone.

Grab your stuff, let's start the thigh work!

Section note:

You should do at least one of the exercises in this section every day. For your best results do the primary and secondary exercises for your thighs and the most effective of the following seven exercises every day. Alternate through the remaining other six movements until your issue is gone.

## Chapter 4 -- The Extended Regions -- Section 2 -- Thighs

### Hamstrings Roll

When first dealing with a hamstring issue many people cannot practice the Hamstrings Press in Chapter 2 every day because their muscles are too sensitive. This exercise is a “scaled down” version of how to relieve tension in your hamstrings.

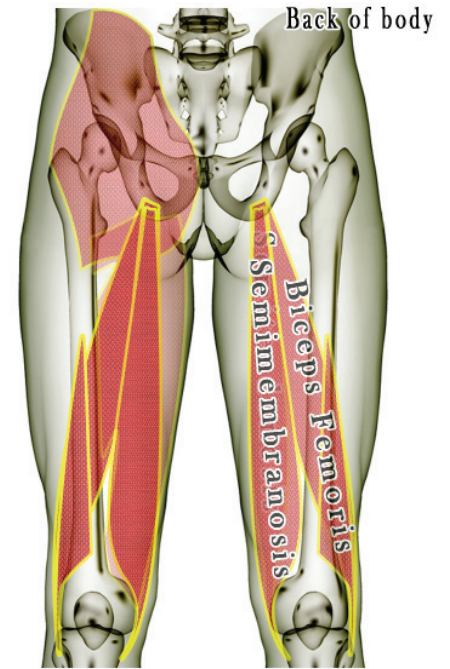
Together with the other thigh & hip muscles, the hamstrings help to hold your hip in the right position as you stand or sit (remember, sitting is an active process). The hamstrings can lock up and hold the back of your hip down close to your thighs, contributing to the ‘pooping dog’ position (posterior pelvic tilt) and placing excessive loads on your lower back & knees. Make restoring proper hip posture easier by unlocking the hamstrings.

In addition to attaching to the bottom of your hips, your three hamstring muscles (biceps femoris, semimembranosus and semitendinosus) attach to the lower leg along the back of your knee. If you have discomfort just below and in front of your knee (especially on the inside of your knee), or very high on the back of your knee, do this exercise daily. (Don’t forget to work the front and inside of your thighs!)

The following therapeutic exercise releases knots, trigger points, and adhesions in your rear thigh muscles, and allows you to move your hip and knee more freely and functionally.

You’ll need a long or medium-length roller, (5-6 inch diameter) and some floor space.

1. **Sit down with only one leg on a roller** (see pic “Hamstrings Roll 1a”).
2. **Shift your weight toward the roller as you exhale.** Relax your thigh and breathe deeply as you try to let the roller sink into the back of your leg so that your muscle mass wraps completely around the roller. Let time and gravity do the work for you. You can’t actively push with your legs and turn off your hamstrings at the same time. Focus on relaxing more so than pushing on the roller.
3. **Shift your weight away from the roller as you inhale.**
4. **Move to another spot on your hamstrings.**
5. **Repeat steps 2 - 4 and determine if your new spot is tighter or not as tight as the last spot.**
6. **Repeat step 5 until you find the tightest spot in your hamstrings.** It should not take more than a minute or two.
7. **Repeat steps 2 & 3 for 1-2 minutes.** Remember that you should chase tension, not pain. Only press enough to trigger autogenic inhibition (pushing too hard too soon triggers the stretch reflex and your tight muscles never relax). It may initially be uncomfortable to press on a tight knot in your muscles, but over time that discomfort should decrease and decrease until you literally don’t feel any pain as you apply pressure using the roller. If that is not happening you might be pushing too hard.
8. **After you’ve worked the tightest area of your leg, remove the roller and gently extend and flex your knee.** When you feel ready to do so, stand up and raise and lower your leg to check ROM.
9. **Walk around the room. Do a few slow air squats, gently trying to squat a little deeper with each movement.** Note ROM.
10. **You should practice this exercise in addition to the Hamstrings Press in Chapter 2 when you are first getting rid of the knots in your hamstrings.**
11. **If tension or discomfort within your thigh worsens with repeated rolling, call a proper therapist (massage or physical**



Hamstrings Roll 1a

## Chapter 4 -- The Extended Regions -- Section 2 -- Thighs

### Hamstrings Roll

therapist, chiro, etc.) to enlist their assistance.

For an alternative technique that allows you to apply more pressure to the roller without activating your hamstrings, **you may wish to fold your knee back under you for the leg that is off the roller** (see pic “Hamstrings Roll 1b”). This is a more intense technique than simply sitting on your tight muscles. Using your other leg for leverage allows you to shift more weight into your leg on the roller when practicing step 5.

**Be cautious how much tension you place against the inside of your folded knee!**

You can do serious damage to your knee if you apply too much pressure to a folded knee and the tissues do not move properly. It doesn't make any sense to injure one knee while attempting to address tight muscles that affect the other. You'll probably get your best results from sitting on a ball like in Chapter 2 instead of trying to get more and more aggressive with a roller for your hamstrings.



Hamstrings Roll 1b

## Chapter 4 -- The Extended Regions -- Section 2 -- Thighs

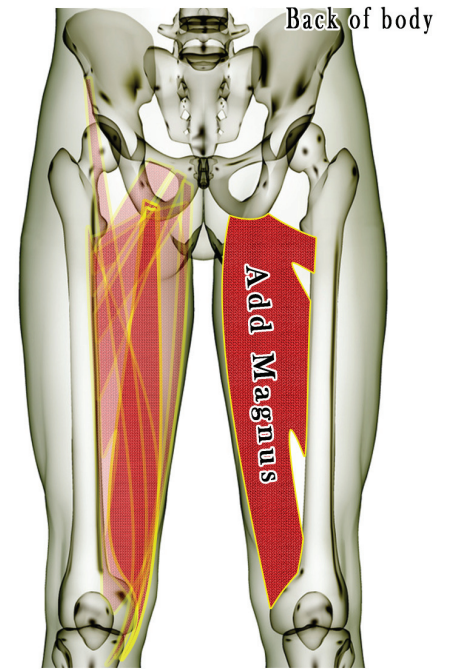
### Cricket

**If your knees drop inward during squats or the landing of a jump, then do this exercise daily.**

If the second Primary (Adductor Roll) is too intense for you to relax while you address your inner thigh, then this is a “scaled down” version. You can do this in place of the second Primary exercise until you are comfortable going back. It is important that you use just the right amount of pressure when addressing any tight muscle if you want to get lasting relief. Use your best judgment, and when needed use the Cricket.

The following therapeutic exercise releases the knots in your inner thigh muscles, and allows you to move your hip and knee more freely and functionally.

You'll need a long or medium-length roller, (5-6 inch diameter) and some floor space.



1. Lie face-down on your side with the roller between your thighs (see pic “Cricket 1a”).
2. Rotate your hips so that your inside thighs gently rub against the roller (see pic “Cricket 1a”).
3. Slowly rotate back to your starting position (see pic “Cricket 1a”).
4. Repeat this rotation of your thigh for 1 - 2 minutes.
5. Remove the roller and move your knee and thigh around until you feel ready to walk. Do a few slow, deep squats to check ROM. Try to pull your knees W-I-D-E as you squat, like a Sumo squat. Press out with your elbows against the inside of your thighs or knees. You might feel a slight bit of spot tenderness if you rolled through some areas of exceptional tightness. If you notice any negative or odd results, contact a health professional for assistance.
6. Repeat every-other day until you can practice the Adductor Roll, then practice the second Primary exercise at least once each week.



Cricket 1a



Cricket 1b







## Chapter 4 -- The Extended Regions -- Section 3 -- Hips & Low Back



As stated before, the hip & lower back are the center of your core. Your center of mass is near the top of your hip. If this region is dysfunctional, your other joints have little chance of optimum function.

We have already tackled some of the muscles that affect hip function. Now we are going to address the other hip flexors, extensors, and lower back stabilizers that allow us to perform hip functions optimally.

Full range of motion and proper stabilization of the lower back and the hip are essential to athletic performance. There are more than thirty muscles attached to either side of your hips. These muscles must work together in perfect harmony to provide the right amount of tension in the right place to minimize wear and tear on the spine and hip joints.

If you are experiencing hip or lower back issues you need to commit to a daily routine of active therapy combined with conscious work improving the quality of your hip and lower back stabilization and mobilization.

Davis's Law states "soft tissue models along lines of stress." Your body is literally building your muscles and connective tissue based on how you stand, walk, sit, and sleep. If you have movement dysfunctions caused by tight muscles, trigger points, or adhesions you likely have perpetuating factors in your lifestyle that keep you from achieving lasting relief.

You need a comprehensive approach that includes proper lifting and stabilizing techniques while moving a load. You will lift your luggage, groceries, backpack, or some other object at some point in your daily or weekly life. If you lack proper hip and lower back stabilization and mobilization you will overreach with your shoulders or shift your weight too much into your knees. These and other movement dysfunctions will cause pain in your other joints, yet the source of the problem is in your hip and lower back.

Hire a qualified coach to help you move better!

Use the SMR exercises in this book and get regular massages to help you mobilize your tissues. Move your body. Do full range of motion movements. Re-learn how to fire all your hip and lower back muscles properly. If you break up adhesions you also need to prevent them from returning by moving as often as possible with as much range of motion as possible. The longer you spend sitting or standing in one position the more likely you are developing sticky tissues that prevent you from moving well.

Get up and get in motion!

Section note:

You should do at least two of these exercises every day. For your best results do three of the secondary exercises and two of the movements in this section every day. Alternate between the remaining secondary movements and the ones in this section as needed. You will likely find a few specific exercises that are more effective than the others. Do those movements every day until your issue is gone.

## Chapter 4 -- The Extended Regions -- Section 3 -- Hips & Low Back

### Iliopsoas Roll

The following is a less intense method of addressing the psoas and iliacus muscles that make up the iliopsoas group, the primary hip flexors in your body.

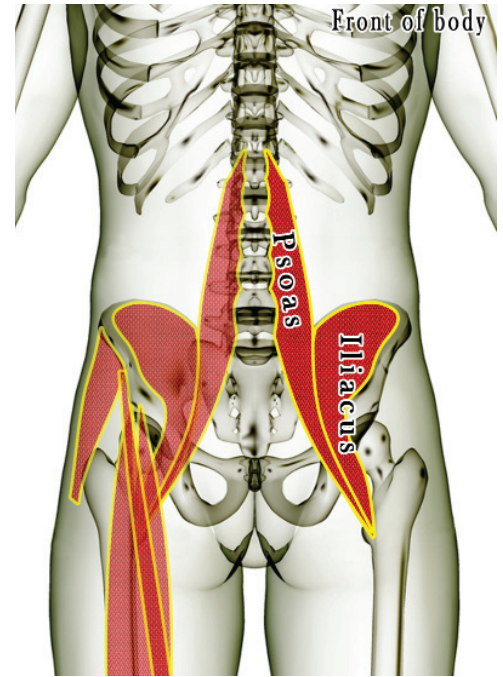
The psoas muscle is the deepest of the muscles in the core on the front of your body. It is attached to the 12th thoracic vertebrae at the bottom of your ribs, all of the lumbar vertebrae in your lower back, passes along the front wall of your hip bone where it joins the iliacus, and both insert on the inside of your upper thigh.

They pull the front of your leg toward your core or your core toward your legs. This means that excess tension within them loads your spine and hip all day long.

The following therapeutic exercise can relieve tension that causes lower and middle back pain by relieving knots in the psoas muscle. It can also alleviate some of the muscular causes of hip discomfort due to overly tight muscles locking up the front of your hips.

You'll need a large or medium sized roller (about 5 - 6 inch diameter) to practice the following exercise.

1. Lie face-down on the floor and place the roller under your stomach just above your hips (see pic "Iliopsoas Roll 1a").
2. Draw your elbows underneath you and additionally support yourself with your knees if necessary.
3. Gently rock toward your left and right, then roll about an inch forward and backward for a minute or two.
4. Repeat step 3 for each inch of your Psoas, which runs from just below your ribs on the front of your abdomen to the upper part of your inner thigh.
5. Pay close attention to what sensations you experience as the roller gets into the front of your hips (see pic "Iliopsoas Roll 1b"). Our focus is to relax overly tight muscles. If any questionable sensations develop discontinue SMR and seek professional assistance.
6. After you've addressed your iliopsoas remove the roller, lie down on your stomach, and gently shift your hips right and left until they feel normal. When you feel ready, get up and walk around.
7. As you walk around draw your knee as high as is reasonable. You should notice an easier time lifting your leg and you should feel less tension in your lower back as you lift your knee above your hips.
8. If you feel no change in the level of muscle tension after holding pressure against one knot for more than 1 minute, or if the discomfort in your hip or back worsens, call a professional therapist for assistance.
9. If necessary, do your other hip.
10. Repeat daily or every few days as needed until your issue is resolved.



Iliopsoas Roll 1a



Iliopsoas Roll 1b







## Chapter 4 -- The Extended Regions -- Section 4 -- Shoulders & Neck



The shoulder joint is mobilized and stabilized through coordinated activation of the surrounding muscles. If we do not work to maintain proper strength and flexibility in all of the surrounding muscles, shoulder function and ROM will become compromised.

If you are working in this section, you have already done the SMR exercises in Chapter 2, Section 4 and you still have some nagging neck or shoulder issues.

The movements in this section help you to unlock some of the deeper muscles of the rotator cuff or other muscles that attach to the shoulder blade (scapula) and limit proper function and recovery of the other shoulder muscles.

In a general sense we work in the following order: front to back, largest to smallest, light pressure to heavy pressure.

You have 16 muscles directly connected to shoulder blade: 3 to the upper front tip (the coracoid process): the pectoralis minor, the coracobrachialis, the biceps brachii; 2 to the front wall in

the armpit: the subscapularis and the serratus anterior; 3 to the upper backside: the deltoid, trapezius, and the supraspinatus; 3 to the inside-rear edge: the levator scapulae and the rhomboid minor and major; 5 to the backside or outer & lower edge: the infraspinatus, the long head of the triceps brachii, teres minor, teres major, and the latissimus dorsi.

You additionally should address the 15 other muscles in the upper body and neck: 12 attached to the collar bone, sternum, or the neck & head area; and 3 deep muscles in the middle back.

The shoulders rarely have problems without trouble areas also existing in the hip and lower back.

Think of your torso as a giant 'X' — if you have trouble in your left shoulder, you likely have trouble in your right hip & lower back; right shoulder, left hip & lower back. Be sure you practice the appropriate SMR exercises from Section 3 in both Chapters 2 & 3 until your shoulder issue is resolved.

By releasing tension in excessively tight muscles in every area of your back, you are allowing your body to better manage any loads you lift and therefore helping the shoulders by letting the hips do their job better.

Section note:

You should do two of these movements every day in addition to two of the secondary movements and the Lats Roll. Practice two or three of the SMR exercises in this section on day one, then two or three different exercises the next day, and the remaining exercises on the following few days. After practicing each movement you will discover one or two of them that are the most effective for providing relief for your issue.

For your best results do the most effective of these movements every day along with the most effective of the secondary movements from Chapter 2, Section 4 and the Lats Roll.

# Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

## Pecs Hand Press

If your shoulders are rounded toward the center of your chest or you experience a lot of neck tension, then do this exercise daily.

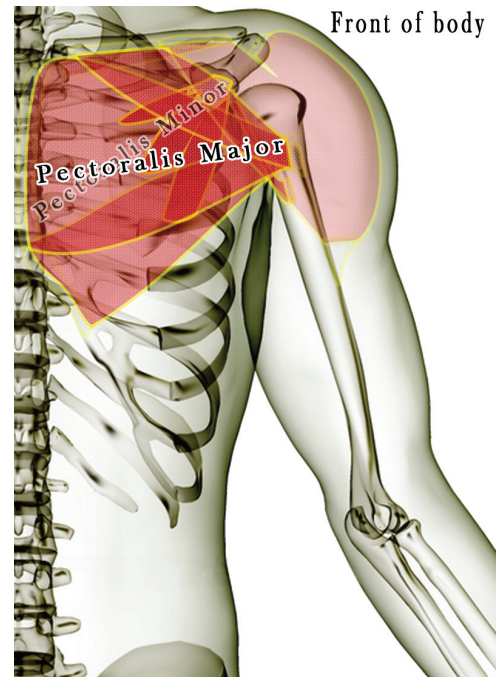
Your second point of interest when dealing with shoulder issues is your pectoralis muscles (especially pectoralis minor). They pull the front tip of your shoulder blade or your arm toward your sternum (chest).

This is good and bad - good for protecting your neck & chest in a confrontation or fall, but bad if your shoulder is held too far forward for too long when walking, running, or reaching above your head.

Loosen these powerful muscles so that they can return to full stretch length and your shoulder, neck and back will thank you!

The following therapeutic exercise releases knots in your pecs and allows you to move your shoulder, arm, and neck more freely and functionally.

You need a small ball (2.5 inches in diameter) and possibly a yoga block to practice the following exercise. A Beastie ball from Rumble Roller is preferred.



1. **The pectoralis minor is the target of this technique**, although you may occasionally need to address areas of your pectoralis major, too. There are three branches of your pec minor that stem from the front tip of your shoulder blade toward your third, fourth, or fifth rib (see pic “Pecs Press Branches”).

2. **Grab the ball with your left hand and place it over your chest near your left shoulder** (see pic “Pecs Press Scap Tip” & pic “Pecs Press Placement”).

3. **For additional leverage place a yoga block flat against the ball and interlock your fingers over the outside of the block** (see pic “Pecs Press 1a” & pic “Pecs Press 1b”).

4. **Firmly squeeze the block against the ball as you slowly roll the ball from your armpit toward the center of your chest and back.** When you reach a “speed bump” as I like to call it (typically about 1 - 2 inches from your armpit along the outer ridge of the pectoralis minor), stay on top of it, and gently but firmly roll up toward your coracoid process (the front tip of your shoulder blade, just below your collar bone) or down toward the 5th rib (at or slightly above the nipple line). Somewhere along that muscular ridge, you’ll find at least one knot that’s pretty stubborn and doesn’t want to relax around the ball. This is the spot we want to focus on.

5. **Hold the ball against the tightest of those knots** (not always the most painful—try to chase tension, not pain!). Feel for the knot that “gives” the least when you apply pressure.

6. **Decrease pressure over the knot in your chest as you inhale and raise your elbows** (see pic “Pecs Press 1b”).

7. **Increase the pressure against the knot as you exhale by hugging the block to squeeze it against the ball, and slowly allow your elbows to drop as you breathe** (see pic “Pecs Press 1c”).



Pecs Press Branches



Pecs Press Scap Tip



# Chapter 3 -- The Secondary Regions -- Section 4 -- Shoulders & Neck

## Pecs Hand Press

8. Repeat steps 5 & 6 at least four times in the same spot, or about 1 - 2 minutes. After about 30 - 45 seconds you should notice a significant drop-off of tension in the knot you are working on.

9. Slowly remove the block and ball, and roll your shoulder backward. Note the range of motion possible. Do a few shrugs to check ROM with all movements of the shoulder.

10. Gradually you should notice fewer knots that you need to address in your pecs, and an easier time stretching your shoulders backward and upwards, which should mean less tension in your neck.

11. If you experience any intense discomfort or questionable sensations, discontinue this exercise and contact your therapist (massage or physical therapist, chiro, etc.).

12. Now do the other side.

13. Repeat daily or every few days as needed until there are no more tight spots in your pecs. You should practice this exercise at least once every couple weeks as an assessment.



Pecs Press Placement



Pecs Press 1a



Pecs Press 1b



Pecs Press 1c

## Chapter 4 -- The Extended Regions -- Section 4 -- Shoulders & Neck

### Pecs Wall Press

If your shoulders are rounded toward the center of your chest or you experience a lot of neck tension, then do this exercise daily.

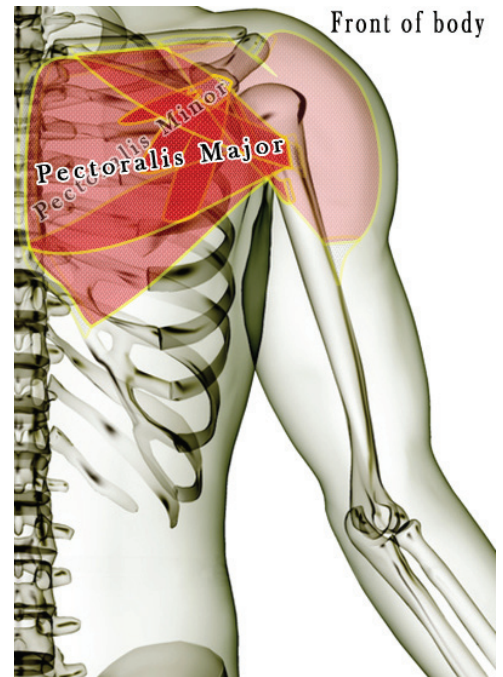
This is a method of addressing your pecs by using your hips & legs to apply pressure to them. For some people, this method allows them to “turn off” the pecs better than the Pecs Hand Press.

When dealing with a shoulder issue one should always investigate the pectoralis minor. By releasing excessive tension in it you can allow the other muscles attached to the shoulder blade (traps, levator scapulae, rhomboids, etc.) to relax as well.

The following therapeutic exercise releases knots in your pecs and allows you to move your shoulder, arm, and neck more freely and functionally.

You'll need a small ball (about 2.5 inch diameter), a support, and a wall to practice the following exercise. A Beastie ball from Rumble Roller is preferred (see pic “Beastie + Base”).

1. **Grab the ball and place it over your chest** (see pic “Pecs Press Placement”).
2. **Gently but firmly roll the ball from your armpit toward the center of your chest.**
3. **When you reach the “speed bump” stay on top of it** (typically this will be the branch of your pec minor that is about 1 inch from your armpit running from the front tip of your shoulder blade to your fifth rib near the bottom of your chest). Gently but firmly roll up toward your coracoid process (the front tip of your shoulder blade, just below your collar bone) or down toward the 5th rib (at or slightly above the nipple line). Somewhere along that muscular ridge you'll find at least one knot that's pretty stubborn and doesn't want to relax around the ball. If your “speed bump” differs from this location follow the same procedure for finding your “sweet spot.”
4. **Hold the ball against your sweet spot—the tightest of those knots** (not always the most painful — try to chase tension, not pain).
5. **Press this area of your chest up against the ball with it pinned between your chest and the wall or held mounted in the wall unit** (see pic “Pecs Press 2a”).
6. **Rotate your body toward the ball as you use your legs and hips to press your chest against the ball for 3 or 4 long, slow, deep breaths** (see pic “Pecs Press 2b”).
7. **Return to the position in step 5 to lessen the pressure against the ball for a couple recovery breaths.**
8. **Repeat steps 6 & 7 for 4 or more rounds, but not more than 5 minutes.**
9. **Slowly move away from the ball and roll your shoulder backward.** Note the range of motion possible with the shoulder rolls and any decrease in tension in your shoulder & neck.
10. **If you feel no change in the level of muscle tension after holding pressure against one knot for more than 1 minute, or if the discomfort in your hip worsens, call a professional therapist for assistance.**
11. If necessary, do the other side. Gradually you should notice fewer knots in your pecs.
12. **Repeat daily or every few days as needed until your issue is resolved.**



Beastie + Base



Pecs Press Placement



# Chapter 4 -- The Extended Regions -- Section 4 -- Shoulders & Neck

## Pecs Wall Press

### **\*\*Hot Tip\*\***

Use this exercise as your secondary pecs exercise if you find this movement is more effective for you than the Pecs Hand Press exercise in Chapter 3, Section 4.

### **\*\*Hot Tip\*\***



Pecs Press 2a



Pecs Press 2b

1. If you do not have the wall mount system you can use a yoga block for added leverage against your chest with the ball between your body and the block (see pic “Pecs Press 2c”).
2. Interlock your fingers over the top of the block and your palms facing each other against the sides of the block. Make sure that your foot is closest to the wall for the same side as the side of your chest that the ball is addressing.
3. Keep your hands against the block while you inhale and raise your elbows above the block (see pic “Pecs Press 2c”).
4. Exhale and slowly push your chest into the block with your legs & hips while you relax your shoulders and allow your elbows to slowly fall (see pic “Pecs Press 2d”).
5. Inhale and draw your body slightly backward so there is decreased pressure against your pecs, and raise your arms to stretch your pecs. Take a couple breaths if necessary to let your head clear.
6. Repeat steps 4 & 5 at least four times, or for about 1 minute. By the third or fourth round you should notice a significant drop - off of tension in the knot you are working on.
7. Repeat the recovery steps 9-12.



Pecs Press 2c



Pecs Press 2d

# Chapter 4 -- The Extended Regions -- Section 4 -- Shoulders & Neck

## Pecs Floor Press

This movement is the third method of addressing the pecs. Each method will appeal to a certain group of people.

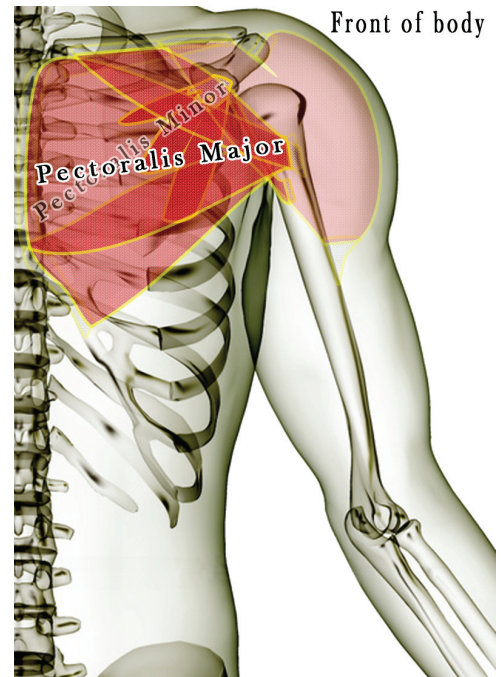
Some of us activate our pecs too much when doing anything with the arms to get effective release in them when practicing the other two movements. The following exercise allows you to lie still if you need to do so in order to ‘turn off’ your pecs.

Whichever method you find works best for you, use that one as your Secondary movement at least once every two weeks.

The following therapeutic exercise releases knots in your pecs and allows you to move your shoulder, arm, and neck more freely and functionally.

You’ll need a small ball (about 2.5 inch diameter) and a support to practice the following exercise. A Beastie ball from Rumble Roller is preferred (see pic “Beastie + Base”).

1. **Grab the ball and place it over your chest** (see pic “Pecs Press Placement”).
2. **Gently but firmly roll the ball from your armpit toward the center of your chest.**
3. **When you reach the “speed bump” stay on top of it** (typically this will be the branch of your pec minor that is about 1 inch from your armpit running from the front tip of your shoulder blade to your fifth rib near the bottom of your chest). Gently but firmly roll up toward your coracoid process (the front tip of your shoulder blade, just below your collar bone) or down toward the 5th rib (at or slightly above the nipple line). Somewhere along that muscular ridge you’ll find at least one knot that’s pretty stubborn and doesn’t want to relax around the ball. If your “speed bump” differs from this location follow the same procedure for finding your “sweet spot.”
4. **Hold the ball against your sweet spot—the tightest of those knots** (not always the most painful — try to chase tension, not pain).
5. **Lie face-down on the floor with the ball in its support under your chest near your shoulder, and the ball pressing against the area of your chest that has the tightest knot in it** (see pic “Pecs Press 3a”).
6. **Inhale as you tilt your body away from the ball to reduce the amount of pressure against your chest muscles.**
7. **Exhale as you tilt toward the ball** (see pic “Pecs Press 3b”) and apply pressure



Beastie + Base



Pecs Press Placement



Pecs Press 3a



Pecs Press 3b



## Chapter 4 -- The Extended Regions -- Section 4 -- Shoulders & Neck

### Pecs Floor Press

to the tight knot in your chest. Remember to focus on learning how to relax your tight muscles first before attempting movements with the muscles you are addressing through SMR exercises. You need to begin any active release movements with a relaxed muscle. The more active your muscles are the less effective SMR techniques are.

8. If you can maintain a relaxed state with your chest, try slowly sliding your hand over the floor in a counter clockwise circle with your left arm, clockwise circle with your right arm. Move the arm for the side of your chest that the ball is pressing against. Use your other arm for support. Pop your opposite knee out to the side for additional support when applying pressure to the ball.

9. Inhale as you tilt your body away from the ball to lessen the pressure against your chest while you reach your arm out in the circle to stretch your pecs (see pics “Pecs Press 3a, 3c & 3d”).

10. Exhale slowly as you slide your hand back in and down toward your face while you tilt your body toward the ball. So you increase pressure against the ball while you exhale and slowly draw your arm back toward you (see pics “Pecs Press 3d & 3b”).

11. Repeat steps 9 & 10 four to six times, or for about 2 minutes.

12. Roll off the ball onto your back and relax for a moment. Slowly roll your shoulder backward. Make “snow angel” movements with your arms. Notice the range of motion possible with the shoulder rolls. Once your head clears, sit up and assess ROM again. You should ALWAYS see at least a slight improvement in ROM and function.

13. If you feel no change in the level of muscle tension after holding pressure against one knot for more than 1 minute, or if the discomfort in your shoulder or neck worsens, call a professional therapist for assistance.

14. If necessary, do the other side. Gradually you should notice fewer knots in your pecs.

15. Repeat daily or every few days as needed until your issue is resolved.



Pecs Press 3c



Pecs Press 3d

### **\*\*Hot Tip\*\***

Use this exercise as your Secondary pecs exercise if you find this movement is more effective for you than the Pecs Hand Press exercise in Chapter 3, Section 4.

### **\*\*Hot Tip\*\***



## Chapter 5 -- Section 1 -- Compression Therapy

There are two forms of compression that we suggest to implement in order to get your best possible results with the SMR exercises: compression garments and elastic straps. Each can assist your body in getting proper circulation to overworked or injured areas. These tools will not make up for really bad form in your training or eating a really crappy diet. They will however support your recovery efforts and, when used properly, can be just the boost you need to get past the sticking point in your recovery.

**Compression garments** such as pictured at right are usually worn for extended periods of time. Whether it is for a one hour workout or all night while sleeping, these garments are worn to improve circulation, decrease fatigue, and improve recovery. There are many different companies manufacturing garments for each body part. They can be very helpful for joint troubles like tennis elbow or runner's knee and numerous muscle issues such as fatigue, strains and trigger points. This modality of compression is the safest and easiest to integrate into your lifestyle.



Compression Pants

**Compression straps** such as pictured below are usually worn for very brief periods of time (30 seconds to 2 minutes).



4 different strength compression straps

It is a good idea to limit the use of a compression strap to not more than two minutes at one time. This method of compression is applied to a limb with a dull ache or excessive joint tension. Many people experience a dramatic decrease in sensitivity when using a roller or ball if they use a compression strap immediately prior to practicing SMR techniques (the roller won't hurt as much).

SMR techniques (the roller won't hurt as much).

If you do not move your limb while the strap is worn it can act like a tourniquet and cause tissue damage, so more is NOT better. The straps we recommend currently come in 4 different strengths. It is good to have at least two of these straps because your arms are not likely to benefit from the same level of compression as your legs. You also will experience times following an extreme physical challenge in which the usual level of compression is simply too much for your muscles to endure and your discomfort increases after use. The best evidence you can use to determine the effectiveness of any compression strap is the relief you get immediately following its removal. If you get a "waterfall-like" sensation of circulation through the limb you just strapped and your limb feels "lighter" or "more fluid" when moving it, then you are on the right track. If you get more cramping or an increase in a dull ache in the wrapped limb then the strap you are using is either too strong or it is being wrapped too tightly around your arm or leg. Use your best judgment when choosing the strength of strap and level of tightness as you wrap.

If you have varicose veins you should choose compression garments instead of compression straps as the straps may lead to some clotting while wrapped around your limb and blood begins to pool in the overstretched blood vessels. This could lead to a life-threatening situation as the clot later moves through the bloodstream.

If you limit each compression strap application to two minutes or less you can safely use them many times each day (even as many as 10-20 times per day). Strapping your arms or legs between sets of very few or single-rep maximum lifts can greatly help big muscles lift bigger! NEVER strap more than one limb at a time (nor your neck).



advanced compression technique with a small ball inside the strap

## Chapter 5 -- Section 1 -- How to use a Compression Strap

Helpful if used properly, DANGEROUS is used improperly



Levels of resistance for each compression strap  
2-6 lbs      3-9 lbs      4-11 lbs      5-13 lbs

If you are on pain killers or have a condition that limits your ability to feel the difference between pressure and pain in the area you are using the strap then you **SHOULD NOT USE** this set of tools. Instead go hire a proper therapist (massage, chiro, PT) to assist you in addressing your issue.

**You can use this tool multiple times a day, just limit each use to not more than 2 minutes at a time.**



1. Place the strap flat against your limb and begin wrapping it completely around your limb while keeping the rubber strap flat and slightly overlapped as you wrap (see pic at right).
2. Wrap so that the strap spreads out about 4 to 6 inches along your limb, but ensure there are no gaps so that your skin is not pinched between layers of the strap.
3. On the last wrap around your limb relax the amount of stretch placed on the strap so that you can tuck the last 2 inches or so back under the previous wrap.
4. If the strap is not almost uncomfortably tight then you need to wrap it again but tighter. There is a difference between the squeeze you will feel from tight compression and the pain you will feel from too much compression. If at any time you feel pain, REMOVE THE STRAP! This tool is potentially dangerous, so mind your own limits. If you are not sure of what you are doing, seek the help of a qualified healthcare professional (massage or physical therapist, chiro, etc.).
5. Once you have the strap sufficiently tight, do a series of 2 or 3 slow and methodical movements such as airsquats or stationary lunges then do a different movement. AVOID BRISK MOVEMENTS such as jumping or movements such as lateral lunges (sideways lunges) which require more stretch than your tissues can handle with the strap on.
6. After no more than two minutes (or the compression begins to become painful) remove the strap and note how you feel. When you remove the strap you should feel a waterfall-like sensation of blood flow through the area you just strapped. You should also notice that your limb feels lighter and moves more freely. If this is not the case, use a different level of compression strap or different strength strap. Consult your local healthcare professional if you have any questions.
7. If you ever feel like your muscles want to cramp up after removing the compression strap then that strap was TOO STRONG for your muscle mass at this point in time. It is likely that from time to time you will need to use a lighter strength compression strap because your muscles are a bit more worn out than usual and the strap you usually use is too strong to be effective. Always note your results as soon as you remove the strap to determine if you are using the right level of compression. If you wrap the strap as tight as possible and it still doesn't do anything then you need the next level stronger strap or you need to consult your local healthcare professional.



advanced compression technique with a small ball inside the strap

Regular use of the right level of compression can be a wonderful tool in your self-care toolbox. Learn how to apply this tool so that you maximize the benefits and minimize the risks.







## Chapter 5 -- Section 2 -- Hot & Cold Therapy



Heat has a time and place in your self-care



Cold has a time and place in your self-care

There is one form of hot or cold therapy we recommend to complement SMR exercises, and that is the use of hot or cold massage stones.

The addition of cold brings with it a process called vasoconstriction which limits the amount of blood flow to a particular area by causing the blood vessels to tighten. This can be good when your muscles are too engorged with blood and they are not relaxing because they have too much blood in them. This happens only occasionally for most people and it is usually immediately following an extremely intense physical activity. The marble stones we recommend provide limited cooling compared to an ice pack or ice bath, but for SMR purposes the impact is sufficient enough to be included with this manual. The use of actual ice in any form is outside the scope of this manual at this time. Be sure to initially use a cloth barrier to protect your skin from freezer burn or other damage from the cold stones. Gradually the stones will warm to room temperature and you can remove the barrier. The marble stones usually provide about 10 minutes of cooling per use.

The addition of heat brings with it a process called vasodilation which increases blood flow to a specific area by opening blood vessels wider. This is good for some areas that tend to be very stubborn when practicing SMR exercises and the muscles never seem to “let go” such as your neck, arches, or calves. Think of using heat to speed the normal process of SMR regardless of where you use it. By itself it can feel very soothing. Combining heat with the SMR techniques whether using a hot massage stone or hot tub and then the SMR ball or roller. The basalt stones can hold a LOT of heat for about 20 minutes, so be sure you initially use a cloth barrier to protect your skin from burns. The barrier can be removed as the stones cool. A good rule of thumb: if the stone is too hot for your hands it is too hot for any other skin on your body.

**The massage stones should be used in place of any ball techniques when hot or cold is desired in addition to the pressure one applies during the SMR exercise.**



All of the Basalt (Hot) Stones



All of the Marble (Cold) Stones

## Section 5.2.1 -- Hot & Cold Therapy -- Hot Massage Stones

Helpful if used properly, DANGEROUS if used improperly



All of the therapeutic Basalt Massage Stones



NEVER heat the stones in anything other than hot water

1. Heat some water. (150-160 degrees is preferred, NOT boiling)
2. Using tongs so as not to burn yourself, place a stone or two in the hot water.
3. Leave in for 2-5 minutes.
4. Again using tongs, remove the stones and wrap with a cloth to prevent burning yourself.
5. Lay the covered stone anywhere on your body you wish to apply heat. Be very careful with the temperature of the stones. If they are too hot for your bare hands, then they are too hot for any other bare skin on your body (use a towel or clothing as a barrier).
6. As the stone cools remove the cloth barrier to get more time to work with it.



Use tongs when working with hot water

As long as you use good judgment it is appropriate to lay your arms or legs on top of a hot stone to apply pressure while receiving the benefit of locally increasing blood flow through vasodilation. When lowering your core onto the stone use extreme caution! You may not feel the heat until you have already started to get a contact burn on the skin. Start with a very conservative approach with how hot and how long you use each stone. Gradually experiment with where, how long, and how much pressure you use when working with stones heated to various temperatures.



**The Green Marble Cylinder**  
The ONLY stone good for  
BOTH cold or hot use

Regular use of the right level of heat and pressure can be a wonderful tool in your self-care toolbox. Learn how to apply this tool so that you maximize the benefits and minimize the risks.

You should check with your doctor prior to using any SMR tools or techniques. All techniques are recommended for educational purposes only. No information offered here or in any Network Fitness site or publication is meant to supersede advice from a medical professional.

For more info go to [smrtips.com](http://smrtips.com)



## Section 5.2.2 -- Hot & Cold Therapy -- Cold Massage Stones

Helpful if used properly, DANGEROUS if used improperly



All of the therapeutic Marble Massage Stones



Chill the stones in a bucket of ice or the refrigerator. Be careful which stones you place in the freezer -- the thinner ones may crack!

1. Chill stone in refrigerator or cup of ice. (Be careful not to place very thin stones like the crescent eye stones in the freezer, as they may crack)
2. When the stone is reasonably cool or cold, remove it and wrap with a cloth to prevent a freezer burn on your skin.
3. Lay the covered stone anywhere on your body you wish to apply cool pressure. Be very careful with the temperature of the stones. If they are too cold for your bare hands then they are too cold for any other bare skin on your body.
4. As the stone warms remove the cloth barrier to get more time to work with it.



Use towels when working with cold stones

As long as you use good judgment it is appropriate to lay your arms or legs on top of a cold stone to apply pressure while receiving the benefit of locally decreasing blood flow through vasoconstriction. When lowering your core onto the stone use extreme caution! You may not feel the cooling of your tissues until you have already started to get a freezer burn on the skin. Start with a very conservative approach with how cold and how long you use each stone. Gradually experiment with where, how long, and how much pressure you use when working with stones chilled to various temperatures.

Regular use of the right level of cooling and pressure can be a wonderful tool in your self-care toolbox. Learn how to apply this tool so that you maximize the benefits and minimize the risks.



**The Green Marble Cylinder**  
The ONLY stone good for  
BOTH cold or hot use

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For more info go to [smrtips.com](http://smrtips.com)



## Section 5.3.3 -- Magnesium Dosage

**You may need to take magnesium for tight muscles, but how do you know how much?**



From Natural Vitality's flyer about Natural Calm Magnesium Citrate:

"Magnesium is one of the most important basic nutrients that power our bodies and it is required for more than 700 biochemical reactions. But since our bodies don't produce this mineral, we need to replenish its supply every day. Due to nutrient-deficient soil and fast-paced lifestyles, few of us (estimated at less than one in five) get sufficient magnesium in our diets. This means supplementation is needed, and Natural Calm is the best-selling, award-winning ionic magnesium that mixes easily in water to restore healthy magnesium levels quickly and effectively."

**We do not endorse any other magnesium supplement, for the effectiveness of Natural Calm at determining whether or not an individual needs more magnesium as well as the speed with which this particular product works are both reasons that place it well ahead of any other products on the market.**

**Here's how to use it:**

1. Measure one level teaspoon of the flavor of your choice.
2. Place it in a DRY cup.
3. Heat 1-2 ounces of water.
4. Place HOT water in cup with powder (with hot water the powder will effervesce like crazy).
5. After the small explosion in your cup settles down, stir the water to finish dissolving any last bits.
6. Add cool or warm water to the level of your preference and drink like a tea (drinking slowly over 10-20 minutes is recommended).
7. Wait 15-30 minutes to determine whether your system is responding properly. If you feel one of two things happen you have taken a sufficient dosage: 1) Your muscles noticeably relax, or 2) You experience a mild to moderate tummy disruption that may lead to you needing to take a bathroom pitstop for a quick bowel movement.
8. If neither of the two effects listed in #7 have happened within 30 minutes of finishing your drink, repeat numbers 1-7 until you notice a difference.
9. Note the amount of Natural Calm you needed to experience muscle relief or tummy disruption. If it was more than 1 teaspoon, continue taking it every day until only one teaspoon makes you feel like you have "bubbles in your tummy."
10. If you get no muscle relief but experience tummy disruption after only one teaspoon of Natural Calm, then it is not likely that have a magnesium deficiency.





## Chapter 6 -- Stretches & Functional Movements -- Intro

The following is a list of stretches and functional movements included in the classes in this manual.

For the purposes of the Alexander Method of SMR, we use the following definitions:

**Passive Stretch:** a *passive position* you hold for a long period of time (typically 2-5 minutes or more) to allow muscle tissue to lengthen beyond its functional capacity so as to encourage the growth of additional sarcomeres within each muscle involved to allow greater ROM and ease of movement.

**Active Stretch:** an *active position* you hold for a short period of time (typically 1-10 seconds) to lengthen and retrain muscles to more effectively coordinate across a joint and allow for improved movement patterns, especially when each muscle is at its full-range functional length.

**Functional Movement:** a *constant motion movement* you slowly practice to train muscles to more effectively coordinate across a joint and allow for improved movement patterns, especially when each muscle is at its full-range functional length.

Many of the stretches or functional movements can fit more than one class to compliment specific SMR techniques, since some of them involve more than one joint. During the workshop we will discuss the movements listed below for each particular class and whether that movement can also be used in another class.

This is not every stretch or functional movement one might choose but it is a good starting point. More stretches and movements will be added as time, knowledge, and resources allow. As we find combinations that work best for the majority of people we will publish them to help our SMR coaches. We are open to feedback from our coaches to share with us what they find works best for their clients and athletes.

Any movement or stretch can be done for a specific number of repetitions or for a certain amount of time. It is up to the instructor to choose which priority is more appropriate. Many functional movements can be performed as a lengthening technique or as an activation technique, the only difference is how quickly the movement is performed.

Descriptions and downloads of each stretch or exercise can be found online at [smrtips.com](http://smrtips.com) under the growing stretches section.

## Chapter 6 -- Section 1 -- Passive Stretches

For the purposes of the Alexander Method of SMR, a **Passive Stretch** is a *passive position* you hold for a long period of time (typically 2-5 minutes or more) to allow muscle tissue to lengthen beyond its functional capacity so as to encourage the growth of additional sarcomeres within each muscle involved to allow greater ROM and ease of movement.

The following is a list of passive stretches included in the classes in this manual.

Descriptions and downloads of each stretch or exercise can be found online at [smrtips.com](http://smrtips.com) under the growing stretches section.

### I. Passive Stretches

1. Cat Claw (CC)
2. Child's Pose (CHPS)
3. Chin Tuck (CHT)
4. Crossover (CO)
5. Dual Knee Drop (DKD)
6. Floor Touch (FT)
7. Frog (FRG)
8. Head Hang (HH)
9. Head Hang Backward (HHB)
10. Head Tilt (HT)
11. Hooked Knee Drop (HKD)
12. Nose to Knees (N2K)
13. Scorpion (SCP)

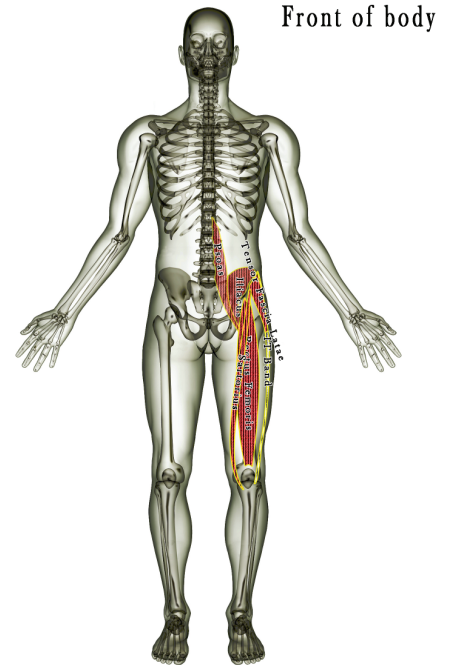
## Chapter 6 -- Section 1 -- Passive Stretches

14. Straddle (STR)
15. Straddle Lean (STRL)
16. Straddle Press (STRP)
17. Straddle Reach (STRR)
18. Supine Frog (SFRG)
19. Supine Hurdle (SHRDL)
20. Supported Angel (SPAN)
21. Supported Corpse (SPCPS)
22. Wall Piriformis Block (WPB)
23. Wall Straddle (WSTR)

Supported Corpse

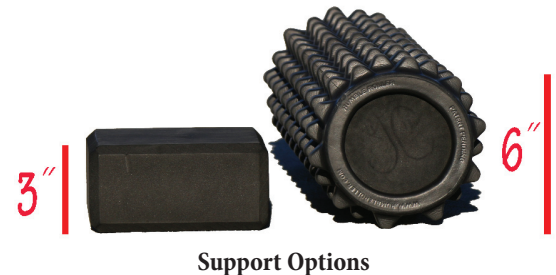
A critical stretch for assessing proper hip flexor ROM. Do this daily until you no longer feel any stretch, then do it once every 2 weeks as an assessment.

- This stretch lengthens the hip flexors. Because one of the hip flexors (the psoas) attaches to your lumbar spine, this stretch can make your lower & mid back feel tight as you straighten your knees and lower them below your hips (see pic “Supported Corpse 1c”).
- Your psoas muscle attaches to the upper inside part of your thigh bone and all of your lumbar spine. As you straighten and lower your knees a tight psoas will pull at the upper bones where it is attached (namely, your lower back). The diaphragm also attaches to the upper three vertebrae of your lower back (the same vertebrae your psoas attaches to). If your psoas is really tight it can make it hard to breathe when you stretch it.
- You’ll need a support up to 6 inches in diameter to practice the following exercise (see pic “Support Options”). We recommend a large Rumble Roller, but you can use any strong object such as a yoga block, book, or even just a rolled up towel on the floor if you are very tight in your hip flexors.



1. Lie face up with your arms outstretched and palms face up (see pic “Supported Corpse 1a”).

2. Bridge to lift your hips high enough to place a support under them (see pic “Supported Corpse 1b”). Most people can begin with a support object 3 to 6 inches thick. A foam roller is a good tool. Due to the wide range of flexibility limits any one person may have, you are likely to need to adjust the height of the support and may need to begin with much less than a 6 inch support. Use your best judgment and watch for the warnings listed below to determine if your support is too tall.



3. Make sure your support is under your hip bones, NOT your lower back. (see pic “Supported Corpse 1c”).

4. Straighten your knees until they are completely open and below your hips (see pic “Supported Corpse 1c”).



Supported Corpse 1a

5. Spend 2 to 5 minutes trying to “turn off” every muscle in your body. Your deepest of the hip flexors, the psoas and the iliacus muscles, are the last muscles to relax when you stop moving and the first muscles to activate when you begin moving. The longer you can stay motionless the better stretch you will get from this position.

6. Bend your knees (see pic “Supported Corpse 1d”) as needed to relieve mid-back or lower back discomfort as you do this stretch if you find it hard to breathe with your knees straight & below your hips or if your lower back or mid-back begin to cramp up. Your lower & mid-back muscles may tighten in response to your psoas pulling too much on your spine when you straighten your legs. Gradually you will feel less tension through your core as you lie with your legs straight. Each time you practice this stretch you may increase the length of your iliopsoas hip flexor group by a few sarcomeres. Each one of those is only 1 millionth of a meter in length, so if your hip flexors are radically tight you will need to practice this stretch every single day for some time to finally achieve balance between your hip flexors on the front of your body and the erectors and other muscles in



Supported Corpse 1b



Supported Corpse 1c



## Supported Corpse

your lower and mid-back. Be patient and practice this stretch every day so long as you feel any tightness across the front of your hips or in your lower/mid-back.

7. **Remove the support from under your hips after about 5 minutes. DO NOT SIT UP, but rather bridge gently** (use your legs to lift your hips, see pic “Supported Corpse 1b”) **and remove the roller or other support from under you and gently lower your hips to the floor.** If bridging is painful or too awkward, use your legs to push your body toward your head and wiggle off of the support while keeping your shoulders on the floor.

8. **Spend a few minutes doing a “systems check” while lying on the floor and gently moving your legs, doing bridges, dropping your knees to either side** (see pic “Supported Corpse 1e”), and just resetting how you stabilize your spine & hips. Slowly rock your knees to either side to gently reactivate your hip flexors and lower back muscles.

9. **If you feel tension in your hips or back when you do this stretch then that is your cue to do it every night before you go to bed until you no longer feel that tension.** Once you no longer feel any tension when doing this stretch, try it once every two weeks to assess whether you need to practice this again.

10. Gradually you should notice less and less tension or discomfort each week. If you ever feel more hip or lower back tightness after practicing this stretch then attempt this stretch with a lower height support. If you use too tall of a support too soon, your core and back muscles will respond by tightening even more. **Be sure you select the appropriate height for your support.** The way you feel after this stretch tells you if the height was too tall (you feel worse), too short (you feel nothing), or just right (you feel better). There is no need to use an object taller than 6 inches. If you feel no effect after 5 minutes of lying motionless on the support then you are now in maintenance--do this once every two weeks as an assessment.



Supported Corpse 1d



Supported Corpse 1e

### \*\*Hot Tip\*\*

- To get an even deeper stretch on one side lift the opposite leg and brace your knee with your hands as you push the opposite leg out and hook your heel on the ground (see pic “Marching Corpse”). For detailed instructions look up Marching Corpse in our Active Stretches.
- Pairing Supported Corpse and Marching Corpse with the Quad Roll, Psoas Press or Iliacus Press is a great combo to open up tight hips.



Marching Corpse

### \*\*Hot Tip\*\*



## Chapter 6 -- Section 2 -- Active Stretches

For the purposes of the Alexander Method of SMR, an **Active Stretch** is an *active position* you hold for a short period of time (typically 1-10 seconds) to lengthen and retrain muscles to more effectively coordinate across a joint and allow for improved movement patterns, especially when each muscle is at its full-range functional length.

The following is a list of active stretches included in the classes in this manual.

Descriptions and downloads of each stretch or exercise can be found online at [smrtips.com](http://smrtips.com) under the growing stretches section.

### Active Stretches

1. Airsquat (AS)
2. Bench Foot Grab (BFG)
3. Bench Hero (BHR)
4. Bench Rear Foot Grab (BRFG)
5. Bridge (BRG)
6. Butterfly (BF)
7. Calf Press (CP)
8. Chin Press (CHPR)
9. Cobra (CBA)
10. Cross Over Toe Touch (COT)
11. Daisy Cow (DC)
12. Dual Knee Hug (DKH)
13. Elevated Calf Press (ECP)

## Chapter 6 -- Section 2 -- Active Stretches

14. Good Mornings (GM)
15. Hero Pose (HP)
16. Hurdle (HRDL)
17. Kneeling Lunge (KL)
18. Lateral Head Pull (LHP)
19. Lunge and Reach (LAR)
20. Marching Corpse (MRCPS)
21. Overhead Elbow Grab (OEG)
22. Overhead Elbow Press (OEP)
23. Overhead Stick Pull (OSP)
24. Overhead Tilt and Reach (OTAR)
25. Post Tib Lunge (PTL)
26. Rear Foot Grab (RFG)
27. Scaredy Cat (SC)
28. Seated Piriformis Block (SPB)
29. Shifted Angel (SHAN)
30. Split (SPL)
31. Standing Cat Claw (SCC)



## Chapter 6 -- Section 2 -- Active Stretches

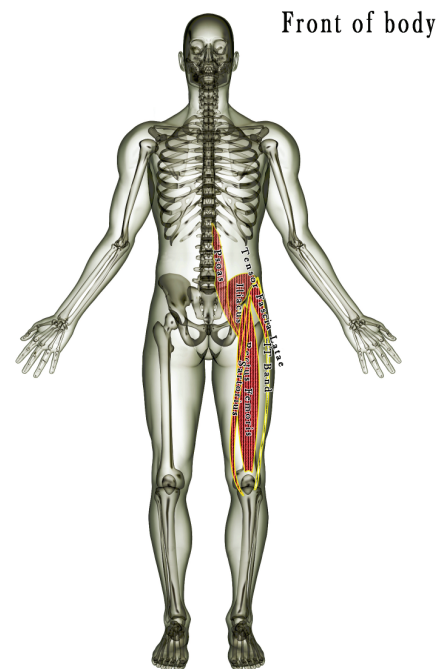
32. Standing Head Pull (SHP)
33. Standing Head Tilt (SHT)
34. Standing Nose to Knees (SN2K)
35. Standing Pecs Twist (SPT)
36. Standing Rear Foot Grab (SRFG)
37. Standing Straddle Nose to Knees (SSN2K)
38. Supine Frog (SFRG)
39. Trunk Tilt (TRT)
40. Wall Lunge (WL)
41. Wrist Extensors Press (WEP)
42. Wrist Flexors Press (WFP)

## Chapter 6 -- Section 2 -- Active Stretches -- Stretch 20

### Marching Corpse

#### Target: Hip Flexors

- Can be performed as an active stretch. NOT recommended as a functional movement, as the temptation is too great to lift the support foot off the ground prior to the elevated foot touching the ground, which is an intense activation of the core and hip flexor muscles not a relaxation/lengthening effect on them
- 3-5 reps for each side with more time per rep tends to work better



1. Lie face up with your arms outstretched and palms face up (see pic “Marching Corpse 1a”).
2. Bridge to lift your hips high enough to place a support under them (see pic “Marching Corpse 1b”). Most people can begin with a support object 3 to 6 inches thick. A foam roller is a good tool. Due to the wide range of flexibility limits any one person may have, you are likely to need to adjust the height of the support and may need to begin with much less than a 6 inch support. Use your best judgment and watch for the warnings listed below to determine if your support is too tall.
3. Make sure your support is under your hip bones, NOT your lower back. (see pic “Marching Corpse 1c”).
4. Straighten your knees until they are completely open and below your hips. Pull one knee toward your chest and interlock your fingers either behind or in front of your knee (see pic “Marching Corpse 1s”). Do not actively pull your knee with your arms, but instead push your straight leg out away from your hips to lengthen your hip flexors. Then relax your straight leg as you allow your heel to drag the ground to be held in place by friction. Your hands are around the back or front of your bent leg only to hold your hip in place as your other leg is used as “dead weight” to gently pull on all of your hip flexors for the side that your leg is straight.
5. Spend 30 seconds to about a minute trying to “turn off” every muscle in your body while your hands gently hold your knee in place. Your deepest of the hip flexors, the psoas and the iliacus muscles, are the last muscles to relax when you stop moving and the first muscles to activate when you begin moving. The longer you can stay motionless the better stretch you will get from this position.
6. Let go of your knee and slowly return your bent leg to straight with both your heels on the floor. Take a moment to allow your hips and back to reset with both heels on the floor. You will get much more out of this stretch if you take 5-10 seconds between alternating holding your knees. If you lift your foot off the floor while you are returning the other one to the floor you will dramatically activate your core and hip flexors to stabilize your spine, which minimizes the effectiveness of the stretch you might get, so ensure at least one foot is on the ground at all times.
7. Bend your opposite knee and interlock your fingers behind or in front of it to hold the other leg in place while you attempt



Marching Corpse 1a



Marching Corpse 1b

## Chapter 6 -- Section 2 -- Active Stretches -- Stretch 20

### Marching Corpse



Marching Corpse 1c



Marching Corpse 1d

to lengthen the other side of your hip flexors.

8. Remove the support from under your hips but **DO NOT SIT UP!** Bridge gently (use your legs to lift your hips, see pic “Marching Corpse 1b”) and remove the roller or other support from under you and gently lower your hips to the floor. If bridging is painful or too awkward, use your legs to push your body toward your head and wiggle off of the support while keeping your shoulders on the floor.

9. Spend a few minutes doing a “systems check” while lying on the floor and gently moving your legs, doing bridges, dropping your knees to either side, and just resetting how you stabilize your spine & hips. Slowly rock your knees to either side to gently reactivate your hip flexors and lower back muscles.

10. If you feel tension in your hips or back when you do this stretch then that is your cue to do Supported Corpse every night before you go to bed until you no longer feel that tension. Supported Corpse simultaneously stretches the 5 hip flexors we target on either side of the hips. Almost all the other hip flexor stretches we practice attack one side or the other, but Supported Corpse equally stretches both sides at the same time, which is why it is an integral part of any successful program to lengthen the hip flexors. Once you no longer feel any lower back tension when practicing Supported Corpse, try it once every two weeks as an assessment.

### \*\*Hot Tip\*\*

- This stretch lengthens the hip flexors. Because one of the hip flexors (the psoas) attaches to your lumbar spine, this stretch can make your lower & mid back feel tight as you straighten your knees and lower them below your hips (see pic “Marching Corpse 1c”).
- Your psoas muscle attaches to the upper inside part of your thigh bone and all of your lumbar spine. As you straighten and lower your knees a tight psoas will pull at the upper bones where it is attached (namely, your lower back). The diaphragm also attaches to the upper three vertebrae of your lower back (the same vertebrae your psoas attaches to). If your psoas is really tight it can make it hard to breathe when you stretch it.
- You’ll need a support up to 6 inches in diameter to practice Marching Corpse or Supported Corpse (see pic “Support Options”). We recommend a large Rumble Roller, but you can use any strong object such as a yoga block, book, or even just a rolled up towel on the floor if you are very tight in your hip flexors.

### \*\*Hot Tip\*\*



Support Options







## Chapter 6 -- Section 3 -- Functional Movements

For the purposes of the Alexander Method of SMR, a **Functional Movement** is a *constant motion movement* you slowly practice to train muscles to more effectively coordinate across a joint and allow for improved movement patterns, especially when each muscle is at its full-range functional length.

The following is a list of functional movements included in the classes in this manual.

Descriptions and downloads of each stretch or exercise can be found online at [smrtips.com](http://smrtips.com) under the growing stretches section.

### Functional Movements

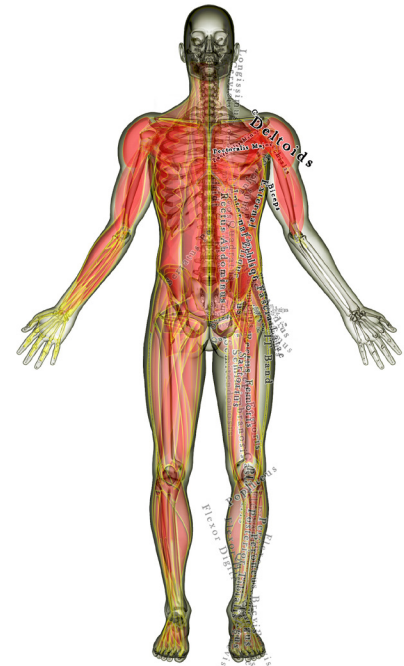
1. Banana Rolls (BR)
2. Butt Kickers (BK)
3. Chin to Clavicles (C2C)
4. Chin to Sternum (C2ST)
5. Chin toward Shoulders (C2SH)
6. Core Twists (CT)
7. Cradles (CRDL)
8. Floor to Sky (F2S)
9. Giant Around the Worlds (GATW)
10. High Marching (HM)
11. Inchworms (IW)
12. Knee Hugs (KH)
13. Lateral Lunges (LL)
14. Pass Thrus (PT)

## Chapter 6 -- Section 3 -- Functional Movements

15. Single Leg Deadlifts (SLDL)
16. Stationary Inchworms (SIW)
17. Sumo Squats - Knees (SSK)
18. Sumo Squats - Toes (SST)
19. Superlunges (SL)
20. Supermans (SM)
21. Supine Knee Hugs (SKH)
22. Toy Soldiers (TS)
23. Wall Squats (WS)
24. Wall Touch (WT)
25. Windmills (WM)

Superlunges

Muscles Involved	
Activated	Stretched
Almost every muscle in the body is activated during this exercise	Glutes, Hip Lateral Rotators, Hip Flexors, Hamstrings, Pectoralis Major & Minor, Anterior Deltoids, Biceps, Obliques, Lumbar and Thoracic Spine Extensors



- There is a lot going on in this exercise! There are many steps, but the most important one is the hamstrings stretch portion. Once that is easy the rest becomes more important to focus on
- This movement activates almost every muscle in the body and stretches many of the core, hip and shoulder muscles. This is a very good movement to include in a warm up for most activities

1. Stand with your feet about shoulder-width apart (see pic “Superlunges 1a”).
2. Without losing your balance take a large step forward (see pic “Superlunges 1b”). Ensure your forward heel and toes are firmly in contact with the ground.
3. Place your opposite palm next to your forward foot (see pics “Superlunges 1c & 1d”). If you have difficulty placing your hand next to your foot you may need to work on hamstring and glutes flexibility.
4. Rotate your chest toward your knee and extend your upper arm (see pics “Superlunges 1e & 1f”). You may need to consciously “pull” your knee in toward your chest as you rotate your torso. Many people have tight hips and this portion of the Superlunge requires flexible hip and core muscles to allow you to twist without your knee drifting outward away from your chest. It is not necessary to reach behind your body with your upper arm. We want to see your arms stacked vertically like in pic “Superlunges 1f.”
5. Place both hands on the floor on either side of your forward foot (see pics “Superlunges 1g”).
6. Straighten the knee of your forward leg (see pic “Superlunges 1h”). This is a functionally important step in the Superlunge sequence. This step stretches the hamstring and gastrocnemius muscles, which are excessively tight in most adults.
7. Dorsiflex your forward foot (raise your toes--see pic “Superlunges 1i”). Take a short to moderate time (5-30 seconds) holding this position to lengthen the muscles along the back of your leg. If you have difficulty



Superlunges 1a



Superlunges 1b



Superlunges 1c



Superlunges 1d



Superlunges



Superlunges 1e



Superlunges 1f



Superlunges 1g



Superlunges 1h



Superlunges 1i

placing your hands next to your foot with your knee extended you may need to drop your back knee like in pic “Superlunges 1j.” ***This is the most important step in the Superlunge sequence.*** Dorsiflexion of the foot aids in lengthening the gastrocnemius calf muscle and helps you better stretch your hamstrings. If you skip this step you may leave excessive tension in muscles of the posterior chain. Overly tight muscles tend to be weaker muscles because they have lessened contractile potential. Spend extra time here especially when you are new to this exercise.

**8. Step forward with your rear foot and recover.** You may need just moment before beginning the Superlunge for your other side.

**9. When you are ready repeat this movement a number of times** (typically 5-10 repetitions per side). When you are new to this exercise you will likely respond better to fewer lunges with longer holds in step 7.

**10.** Experiment with many different schemes of repetitions and times holding the extended knee position. As you get more practice this exercise gets noticeably easier. If it does not, contact a fitness professional for their assistance.

**\*\*Hot Tip\*\***

- The better core control you have and the more flexible the shoulders, spine, and hips are the easier this movement becomes.
- Once step 7 becomes “easy” in the standing position (see pic “Superlunges 1i”) begin practicing Superlunges with more speed for dynamic activation of the entire body. Treat this movement as a stretch-based exercise at first to improve flexibility, then a dynamic warm up exercise to maintain that flexibility.

**\*\*Hot Tip\*\***



Superlunges 1j



## Glossary

- **AbDM:** see Abductor DigitiMinimi.
- **Abductor Digiti Minimi:** muscle in the outside of the bottom of the foot attached to the back of the pinky toe.
- **Abductor Hallucis:** muscle in the arch near the heel bone attached to the outside edge of the big toe.
- **Abductor Pollicis Longus:** thumb muscle in the back of the forearm.
- **AbH:** see Abductor Hallucis.
- **Achilles Tendon:** strong tendon attached to the heel bone and the soleus and gastrocnemius muscles in the lower leg.
- **Actin:** the “thin” myofilament in a sarcomere that regulates the level of tension within the sarcomere
- **Active Recovery:** mild physical activity to stimulate blood flow to all areas of the body without adding to the stress of any one area.
- **Active Stretch:** an active position you hold for a short period of time (typically 1-10 seconds) to lengthen and retrain muscles to more effectively coordinate across a joint and allow for improved movement patterns, especially when each muscle is at its full-range functional length.
- **AdH:** see Adductor Hallucis.
- **Add Brevis:** see Adductor Brevis
- **Add Long:** see Adductor Longus
- **Add Mag:** see Adductor Magnus
- **Adductor Brevis:** one of the adductor muscles attached between the pelvic arch and the high on the inside of the thigh bone.
- **Adductor Hallucis:** muscle in the arch of the bottom of the foot and the bottom of the 3 outer toes attached to the big toe.
- **Adductor Longus:** one of the adductor muscles attached between the pelvic arch and the upper part of the inside thigh bone.
- **Adductor Magnus:** the largest of the adductor muscles attached between the pelvic arch, the bottom of the hip bone and most of the inside of the thigh bone.
- **Adhesion:** abnormal connections between adjacent tissues in the body.
- **Anconeus:** muscle in the outer elbow region of the forearm.
- **Anterior Delts:** the front of the shoulder muscle.
- **Anterior Pelvic Tilt:** biomechanical dysfunction that pulls the top of the hip forward and loads the lower back and hamstrings; persons with this condition have extreme trouble completely opening the hip.
- **Ant Scalene:** see Anterior Scalene.
- **Anterior Scalene:** deep neck muscle attached to the anterior tubercles on the transverse processes of the 3rd to 6th vertebrae and the inner surface of the 1st rib; the space behind this muscle and over the 1st rib is where the subclavian artery and the brachial plexus can get pinched when this muscle and the medial scalene are inflamed.
- **Anterior Tibialis:** muscle in the front of the lower leg that inserts in the arch of the foot.
- **APL:** see Abductor Pollicis Longus.
- **AT:** see Anterior Tibialis.
- **Autogenic Inhibition:** the process whereby the Golgi Tendon Organ “senses” enough tension in the tendon for enough time to trigger a signal to the brain to release the muscle spindles that act on the attached muscle. The same process that is responsible for static stretching relieving tension in overly tight muscles.
- **Baker’s Cyst:** also known as a popliteal cyst; is a medically diagnosed condition in which you experience a bulge and a feeling of tightness behind your knee, often causing pain when you fully extend the knee or are more active.
- **BF:** see Biceps Femoris.
- **Biceps:** see Biceps Brachii
- **Biceps Brachii:** muscle in the upper arm attached to two areas of the shoulder blade and the upper portion of the radius bone in the lower arm.
- **Biceps Femoris:** outer hamstring muscle with a short head attached to the thigh bone and a long head attached to the bottom of the hip bone and both attach to the outer portion of the back of the lower leg.
- **Biomechanical Dysfunction:** a series of compensations the body makes due to flexibility or strength limitations to provide the end result a person wants to achieve, many times at the cost of injury to the body.
- **Brachialis:** muscle attached to the upper arm and the upper portion of the ulna in the lower arm.
- **Brachioradialis:** muscle attached in the lower portion of the upper arm and a bone in the wrist.
- **Carpal Tunnel Syndrome:** medically diagnosed condition in which the medial nerve in the wrist is compressed by ligament in the wrist which causes numbness, tingling, weakness, or muscle damage in the hand or fingers; in some cases the hand flexors and especially extensors are significantly knotted up and are contributing to the problem.
- **Cervical Erectors:** collection of 5 muscles deep in the upper back and neck that (as a group) attach to the back of the skull, all of the cervical vertebrae, the top 6 thoracic vertebrae.
- **Chondro-Malacia Patella Syndrome:** medically diagnosed condition of the grinding in the knee against the back of the knee cap usually accompanied with extremely tight quads.
- **Coracobrachialis:** small muscle very deep in the front of the shoulder attached to the front-tip of the shoulder blade and the inside-front of the upper area of the upper arm.
- **ECRB:** see Extensor Carpi Radialis Brevis.
- **ECRL:** see Extensor Carpi Radialis Longus.
- **ECU:** see Extensor Carpi Ulnaris.
- **ED:** see Extensor Digitorum.
- **EDB:** see Extensor Digitorum Brevis.
- **EDL:** see Extensor Digitorum Longus.

# Glossary

- **EDM:** see Extensor Digiti Minimi.
- **EHB:** see Extensor Hallucis Brevis.
- **EHL:** see Extensor Hallucis Longus.
- **EI:** see Extensor Indicis.
- **EPB:** see Extensor Pollicis Brevis.
- **EPL:** see Extensor Pollicis Longus.
- **Erectors:** collection of 4 extensor muscles in the lower and middle back that stabilize the spine; branches of these are attached to specific areas of the spine and ribs to affect the lower, middle, and upper back & neck.
- **Ext Oblique:** see External Oblique.
- **Extension:** the act of extending or “opening” a joint.
- **Extensor Carpi Radialis Longus:** muscle in the back of the forearm.
- **Extensor Carpi Radialis Brevis:** muscle in the back of the forearm.
- **Extensor Carpi Ulnaris:** muscle in the back of the forearm.
- **Extensor Pollicis Brevis:** thumb muscle in the back of the forearm.
- **Extensor Digiti Minimi:** muscle in the back of the forearm.
- **Extensor Digitorum:** muscle in the back of the forearm.
- **Extensor Digitorum Brevis:** muscle in top of the foot that inserts in the top of the toes (except the big toe).
- **Extensor Digitorum Longus:** muscle deep in the front of the lower leg that inserts in the top of the toes (except the big toe).
- **Extensor Hallucis Brevis:** muscle in top of the foot that inserts in the top of the big toe.
- **Extensor Hallucis Longus:** muscle deep in the front of the lower leg that inserts in the top of the big toe.
- **Extensor Indicis:** muscle in the back of the forearm.
- **Extensor Pollicis Longus:** thumb muscle in the back of the forearm.
- **External Obliques:** muscle attached between the hips and ribs on the sides of the body.
- **Fascia:** connective tissue in the body that envelops muscle and other tissues.
- **FCR:** see Flexor Carpi Radialis.
- **FCU:** see Flexor Carpi Ulnaris.
- **FDB:** see Flexor Digitorum Brevis.
- **FDL:** see Flexor Digitorum Longus.
- **FDMB:** see Flexor Digiti Minimi Brevis.
- **FDP:** see Flexor Digitorum Profundis.
- **FDS:** see Flexor Digitorum Superficialis.
- **FHB:** see Flexor Hallucis Brevis.
- **FHL:** see Flexor Hallucis Longus.
- **Flexion:** the act of flexing or “closing” a joint.
- **Flexor Carpi Radialis:** muscle attached on the front of the forearm.
- **Flexor Carpi Ulnaris:** muscle attached on the front of the forearm.
- **Flexor Digiti Minimi Brevis:** muscle in arch of the foot attached to the front of the base of the pinky toe and the underside of the end of the pinky toe.
- **Flexor Digitorum Brevis:** muscle in arch of the foot that inserts in the bottom of the toes (except the big toe).
- **Flexor Digitorum Longus:** muscle deep in the back of the lower leg attached to most of the back of the tibia (large bone) and inserts in the bottom of the toes (except the big toe).
- **Flexor Digitorum Profundis:** muscle attached on the front of the forearm.
- **Flexor Digitorum Superficialis:** muscle attached on the front of the forearm.
- **Flexor Hallucis Brevis:** muscle in the arch of the foot that inserts in the bottom of the big toe.
- **Flexor Hallucis Longus:** muscle deep in the back of the lower leg attached to the lower third of the fibula (small, outer bone) and inserts in the bottom of the big toe.
- **Flexor Pollicis Longus:** muscle attached on the front of the forearm.
- **FPL:** see Flexor Pollicis Longus.
- **Frozen Shoulder:** medically diagnosed condition in which a person can not lift their arm overhead, many times caused by extremely tight subscapularis and other arm & shoulder muscles.
- **Functional Movement:** a constant motion movement you slowly practice to train muscles to more effectively coordinate across a joint and allow for improved movement patterns, especially when each muscle is at its full-range functional length.
- **Gastroc:** see Gastrocnemius.
- **Gastrocnemius:** muscle in the lower leg that makes the distinctive “upside-down heart” shape near the knee that attaches to both the back of the thigh and the outside of the achilles tendon.
- **Glute Max:** see Gluteus Maximus.
- **Glute Med:** see Gluteus Medius.
- **Glute Minimus:** see Gluteus Minimus.
- **Glutes:** the Gluteus Maximus, Gluteus Medius, and the Gluteus Minimus, taken as a group.
- **Gluteus Maximus:** the largest muscle in the hip which attaches to the top of the back of the hip, the back of the thigh, and the IT Band.
- **Gluteus Medius:** muscle in the hip which attaches to the upper part of the back-outside portion of the hip, the upper-outside portion of the thigh bone.
- **Gluteus Minimus:** muscle in the hip which attaches to the middle to-upper part of the back-outside portion of the hip and the upper-outside portion of the thigh bone at the greater trochanter.
- **Golfer’s Elbow:** medically diagnosed condition of an irritation of the inside head of the upper arm at the attachment to the elbow; in many cases the flexor muscles that attach in the area are extremely tight and lending to the irritation.
- **Golgi Tendon Organ:** sensor in the tendinous junction of the muscle and the tendon that detects the amount of tension in the muscle and sends a signal to “turn off” the muscle if too much tension is detected for too long of a



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period of time.

- **Gracilis:** thin muscle attached to the lower-inside area of the pelvis and the front-inside area of the lower leg just below the knee.
- **Greater Trochanter:** bony notch on the outside of the thigh bone; where we measure the hips.
- **GTO:** see Golgi Tendon Organ.
- **Hamstrings:** collection of 3 muscles in the back of the leg that attach to the bottom of the hip bone, the back of the thigh bone, and either side of the back of the lower leg bone.
- **Iliacus:** muscle that works with the psoas and rectus femoris as a hip flexor and is usually named iliopsoas in conjunction with the psoas.
- **Ilium:** large bone on either side of the hip, which has a large crest that is the top of the hip; shares a ligamentous joint with the sacrum, another bone of the hip.
- **Impingement:** medically diagnosed condition that is caused by the upper arm bone pinching in the shoulder joint, in many cases is primarily caused by significant muscular imbalances around the shoulder joint.
- **Inferior Gem:** see Inferior Gemelli.
- **Inferior Gemelli:** muscle in the very deep outer hip under the piriformis.
- **Infraspinatus:** one of the 4 rotator cuff muscles; muscle attached to most of the back of the scapula (shoulder blade) and the upperback portion very high on the upper arm.
- **Int Oblique:** see External Oblique.
- **Internal Obliques:** muscle attached between the hips and ribs on the sides of the body.
- **Interossei:** muscle attached between the toes.
- **Ischio-Tibial Band:** strong connective tissue much like a tendon that attaches to outside of both the hip and the lower leg.
- **IT Band:** see Ischio-Tibial Band.
- **IT Band Syndrome:** medically diagnosed

condition of extreme sensitivity along the path of the IT Band usually accompanied with extremely tight quads and possibly tight lateral hip flexors and glutes.

- **Joint:** the junction of two bones.
- **Joint Receptors:** sensors in joint tissues that detect pressure, acceleration, and deceleration that can signal an inhibitory response in surrounding muscles to protect the joint.
- **Kinetic Chain:** the combination of the nervous, muscular, and skeletal systems that are responsible for human movement.
- **Knot:** non-technical term used to describe contractions of muscle tissue or bundles of fascia that do not relax under normal conditions.
- **Kyphosis:** medically diagnosed condition of the spine curving out instead of in, typically in the cervical spine (neck).
- **Lats:** see Latissimus Dorsi.
- **Latissimus Dorsi:** muscle in the back that connects to the arm, ribs, hip, and the spine from the middle of the back to the hip.
- **LS:** see Levator Scapulae.
- **Levator Scapulae:** muscle in the neck and upper back.
- **Length-Tension Relationship:** the length at which a muscle can produce the greatest force.
- **Lordosis:** medically diagnosed condition of an excessive lordotic vertebral curve or “swayback” typically in the thoracic spine (lower back).
- **Lumbricals:** muscle attached to the FDL tendon in the middle of the arch and the 4 lesser toes.
- **Massage Therapy:** form of therapy by a licensed practitioner that uses hands-on techniques to manually address tight muscles and adhesions in the connective tissue to relieve muscular or joint pain and muscular dysfunctions.
- **Mechanoreceptors:** sensors in the body that detect change in length or tension; the Muscle Spindles, Golgi Tendon

Organs, and Joint Receptors.

- **Medial Delts:** the middle of the shoulder muscle.
- **Med Scalene:** see Medial Scalene.
- **Medial Scalene:** deep neck muscle attached to the posterior tubercles on the transverse processes usually of the 2nd to 7th vertebrae and the upper surface of the 1st rib; the space forward of this muscle and over the 1st rib is where the subclavian artery and the brachial plexus can get pinched when this muscle and the anterior scalene are inflamed.
- **Migraines:** a medically diagnosed neurological syndrome characterized by altered perceptions, severe headaches, and nausea.
- **Muscle:** collection of fibers that attach to tendons in the body that produce movement.
- **Muscle Spindle:** sensor in the muscle which detects the change in length of the muscle and is responsible for activation of the muscle fibers either to provide movement or to protect the muscle from movements that are too fast.
- **Muscular Dysfunctions:** contractions in the muscles that do not discontinue under normal circumstances.
- **Myosin:** the “thick” myofilament in a sarcomere that is responsible for the contraction of the sarcomere, and therefore the muscle.
- **Nociceptors:** sensors in the body that detect pain.
- **Obturator Ext:** see Obturator Internus.
- **Obturator Externus:** muscle in the very deep outer hip under the piriformis.
- **Obturator Int:** see Obturator Internus.
- **Obturator Internus:** muscle in the very deep outer hip under the piriformis.
- **Occipitalis:** muscle attached to the lower portion of the back of the head.
- **Palmaris Longus:** muscle attached on the front of the forearm.
- **Palmaris:** see Palmaris Longus.

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- **Passive Stretch:** a passive position you hold for a long period of time (typically 2-5 minutes or more) to allow muscle tissue to lengthen beyond its functional capacity so as to encourage the growth of additional sarcomeres within each muscle involved to allow greater ROM and ease of movement.
- **PB:** see Peroneus Brevis.
- **Pec Major:** see Pectoralis Major.
- **Pectoralis Major:** the largest muscle in the front of the chest attached to the clavicle (collar bone), sternum (breast bone), some of the connective tissue at the top of the abdominal wall, and the inside of the upper arm.
- **Pec Minor:** see Pectoralis Minor.
- **Pectoralis Minor:** muscle deep in the upper-outside chest attached to the front-tip of the shoulder blade, 3rd rib, 4th rib, and 5th rib.
- **Pectineus:** known as the “4th adductor;” muscle attached very high between the pelvic bone and the inside thigh bone.
- **Peroneus Brevis:** muscle in the lower-back outside of the lower leg that attaches to the outside bone of the lower leg and the back of the pinky toe in the foot.
- **Peroneus Longus:** muscle in the upper outside of the lower leg that attaches to the outside bone of the lower leg and most of the bones of the arch of the foot.
- **Peroneus Tertius:** muscle in the lower-front outside portion of the lower leg that attaches between the two bones of the lower leg and the back of the back of the pinky toe in the foot.
- **Piriformis:** the largest of the lateral rotators of the hip; muscle deep in the outside of the hip between the greater trochanter and the middle of the sacrum (center of the hip bone); muscle that, in some cases, can be singularly responsible for causing sciatica symptoms.
- **PL:** see Peroneus Longus.
- **Plantar Fasciitis:** medically diagnosed condition of an irritation of the plantar fascia in the bottom of the foot making it painful to apply pressure to the heel.
- **Plantaris:** small muscle in the middle-to- outside portion of the back of the knee that attaches to the back of the thigh bone and the heel bone.
- **Popliteus:** the deepest muscle attached in the back of the knee attached to the outside of the back of the thigh bone and the inside ridge of the lower leg just below the knee.
- **Post Tib:** see Posterior Tibialis.
- **Posterior Delts:** the middle of the shoulder muscle.
- **Post Scalene:** see Posterior Scalene.
- **Posterior Scalene:** deep neck muscle attached to the transverse processes of the upper 2 or 3 vertebrae and the lateral surface of the 2nd rib.
- **Posterior Tibialis:** deepest muscle in the back of the lower leg attached to most of the area between the two bones and inserts into most of the bones in the arch of the foot.
- **ProQuad:** see Pronator Quadratus.
- **Pronator Quadratus:** deep muscle on the front of the forearm.
- **ProTer:** see Pronator Teres.
- **Pronator Teres:** deep muscle on the front of the forearm.
- **Psoas:** one of the longest muscles in the body; muscle connected to the either side of the body on the front- outside area of the last thoracic vertebra in the middle of the back, all of the lumbar vertebrae, the front-wall of the back of the hip, and the very uppermost part of the inside thigh; muscle that works with the iliacus and rectus femoris as a hip flexor and is usually named iliopsoas in conjunction with the iliacus.
- **PT:** see Peroneus Tertius.
- **QL:** see Quadratus Lumborum.
- **QP:** see Quadratus Plantae.
- **Quadratus Lumborum:** muscle in the lower back that attaches to the lowest rib, all the lumbar vertebrae, and the ilium & sacrum in the hip.
- **Quadratus Plantae:** muscle deep in the arch attached to the front of the heel bone and the tendon of the FDL.
- **Quadriceps:** collection of 4 thigh muscles that attach to the knee and are responsible for extension of the knee; includes the rectus femoris, vastus medialis, vastus lateralis, and vastus intermedius muscles.
- **Quads:** see Quadriceps.
- **Reciprocal Inhibition:** the process of one muscle activating (agonist) and causing the opposite muscle (antagonist) to release. Dynamic flexibility elicits this response.
- **Rectus Femoris:** one of the quadriceps muscles and the only one that attaches to both the hip and the knee.
- **Relative Flexibility:** the combination of joints bending in series to accomplish a movement, normally because no one joint has the ROM to accomplish the movement without the compensations; can lead to excessive wear and tear on the joints from awkward body positions to accomplish work demands.
- **RF:** see Rectus Femoris.
- **Rhomboids:** muscle attached to the middle spine and the inside ridge of the back of the shoulder blades.
- **Rotator Cuff:** collection of 4 muscles attached to the scapula (shoulder blade) that are responsible for rotating the arm; includes the supraspinatus, infraspinatus, teres minor, and subscapularis muscles.
- **Sacro-Iliac Joint:** the junction of the Sacrum and the Ilium in the hip (either side of the middle of the back of the hip, above the tailbone).
- **Sacrum:** large bone in the center of the back of the hip; shares a ligamentous joint with the ilium, another bone of the hip.
- **Sarcomere:** the smallest functional component of muscle made up of actin and myosin fibers.
- **Sartorius:** typically the longest muscle in the body attached to the front- outside of the hip and the front- inside of the lower leg just below the knee.

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- **Sciatica:** medically diagnosed condition of tingling and moderate to severe pain radiating from the backside of the hip and running down the back of the leg, in severe cases down to the heel.
- **SCM:** see Sternocleidomastoid.
- **Scoliosis:** medically diagnosed condition of the spine curving left or right anywhere along the vertebral column.
- **Self-Myofascial Release:** a process of applying pressure to specific areas of the body to bring about autogenic inhibition and restore functional movement to a joint.
- **Self-Therapy:** as used in this text, the combination of stretching, SMR, active recovery, and other exercise-related activities to bring about full muscular recovery.
- **Semimembi:** see Semimembranosis.
- **Semimembranosis:** inside hamstring muscle attached to the bottom of the hip bone and the front-inside of the lower leg just below the knee but a bit higher than the semitendinosus.
- **Semitendi:** see Semitendinosus.
- **Semitendinosus:** inside hamstring muscle attached to the bottom of the hip bone and the front-inside of the lower leg just below the knee.
- **Serratus Anterior:** muscle attached to the side of many of the middle ribs and the front-inside ridge of the shoulder blade, behind the ribs but in front of the subscapularis.
- **Serratus Posterior Inferior:** muscle in the middle and lower back attached to the bottom 4 ribs, the last 2 thoracic vertebrae and the first 2 lumbar vertebrae.
- **Serratus Posterior Superior:** muscle in the upper back and neck attached to the top 4 ribs, the bottom 2 cervical vertebrae and the top 2 thoracic vertebrae.
- **Shin Splints:** painful cramping of the muscles on the front of the lower leg or legs usually from too heavy volume of activity too quickly for the current capabilities of the muscle tissue.
- **SI Joint:** see Sacro-Iliac Joint.
- **SMR:** see Self-Myofascial Release.
- **SPI:** see Serratus Posterior Inferior.
- **Splenius Capi:** see Splenius Capitis.
- **Splenius Capitis:** neck muscle attached to the back of the skull underneath the attachments of the trapezius and SCM muscles, and attached to the 3rd cervical to the 2nd or 3rd thoracic vertebrae.
- **Splenius Cervi:** see Splenius Cervicis.
- **Splenius Cervicis:** neck muscle attached to the upper 2 or 3 cervical vertebrae, and attached to the 3rd to 6th thoracic vertebrae; makes up the posterior portion of shared attachments to the upper cervical vertebrae with the levator scapulae in the middle and the medial scalene in the front.
- **Soleus:** muscle in the back of the lower leg attached to the back of the bones of the lower leg and the inside of the achilles tendon.
- **SPS:** see Serratus Posterior Superior.
- **Sternocleidomastoid:** muscle attached to the sternum (breast bone), the clavicle (collar bone), and the mastoid (back of the skull behind the ear).
- **Subclavius:** small, thin muscle very deep in the upper chest running much of the length on the underside of the clavicle (collar bone.)
- **Subscap:** see Subscapularis.
- **Subscapularis:** one of the rotator cuff muscles that is attached to most of the face of the front of the shoulder blade and high on the inside of the upper arm.
- **Superior Gem:** see Superior Gemelli.
- **Superior Gemelli:** muscle in the very deep outer hip under the piriformis.
- **Supinator:** muscle deep in the front and back of the forearm.
- **Supraspinatus:** one of the 4 rotator cuff muscles; muscle attached deep on top of the scapula (shoulder blade) and the upper-outside portion very high on the upper arm under the shoulder muscle.
- **Tendon:** strong connective tissue attached on one end to a muscle and the other end to a bone.
- **Tennis Elbow:** medically diagnosed condition of an irritation of the outside head of the upper arm at the attachment to the elbow; in many cases the extensor muscles that attach in the area are extremely tight and lending to the irritation.
- **Tensor Fascia Latae:** muscle in the front outside area of the hip that connects to the IT Band in the upper outside portion of the thigh.
- **Teres Major:** muscle attached to the outside edge of the lower portion of the back of the scapula (shoulder blade) deep to the infraspinatus and attached to the upper-inside portion high on the upper arm.
- **Teres Minor:** one of the 4 rotator cuff muscles; small muscle attached to the upper-outside edge of the back of the scapula (shoulder blade), just above the teres major, deep to the infraspinatus, and attached to the outside portion of the upper arm bone underneath the shoulder muscle.
- **TFL:** see Tensor Fascia Latae.
- **Thoracic Outlet Syndrome:** a medically diagnosed condition of tingling and usually pain down the arm, many times caused by the brachial plexus nerve branch and the subclavian artery being pinched either between the anterior and medial scalene muscles in the neck or between the upper ribs and an extremely tight or inflamed pectoralis minor.
- **Trapezius:** muscle that connects to the clavicle (collar bone), Scapula (shoulder blade), occipital bone (back of the skull), and the vertebrae of the spine from the neck to the middle of the back.
- **Traps:** see Trapezius.
- **Triceps:** muscle with three heads that makes up the back of the arm and is attached to the shoulder blade, back of the upper arm, and the upper-back-end of the ulna in the lower arm.
- **Trigger Finger:** medically diagnosed condition in which the finger is

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“locked” or catches in a fixed position because the motion of the tendon that opens and closes the finger is limited; in some cases, the finger extensors and especially the flexors are exceptionally tight.

- **Trigger Point:** area of muscular dysfunction that satisfies the following criteria: 1) taut band palpable; 2) exquisite spot tenderness of a nodule in a taut band; 3) recognition of pain complaint by pressure on the tender nodule; 4) painful limit to full stretch range of motion.
- **Trigger Point Therapy:** among physicians, typically only physiatrists (physicians specializing in physical medicine and rehabilitation) are well versed in trigger point diagnosis and therapy. Other health professionals, such as physiotherapists, osteopaths, chiropractors, massage therapists and structural integrators are generally more aware of these ideas and many of them make use of trigger points in their clinical work.
- **Vastus Intermedius:** one of the quadriceps muscles that is attached in the deep portions of the front and lateral (outside) aspects of the thigh and connects to the knee.
- **Vastus Lateralis Oblique:** one of the quadriceps muscles that attaches in the front-outside of the thigh and connects to the knee.
- **Vastus Medialis Oblique:** one of the quadriceps muscles that attaches in the front-inside of the thigh and connects to the knee.
- **VI:** see Vastus Intermedius.
- **VLO:** see Vastus Lateralis Oblique.
- **VMO:** see Vastus Medialis Oblique.
- **Winged Scapulae:** medically diagnosed condition of the insides of the scapulae (shoulder blades) pulling away from the back ribs as a person stands upright, many times caused by dysfunctional serratus anterior muscles.
- **WOD:** see Workout Of the Day.
- **Workout Of the Day:** collection of exercises for that particular day.