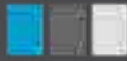
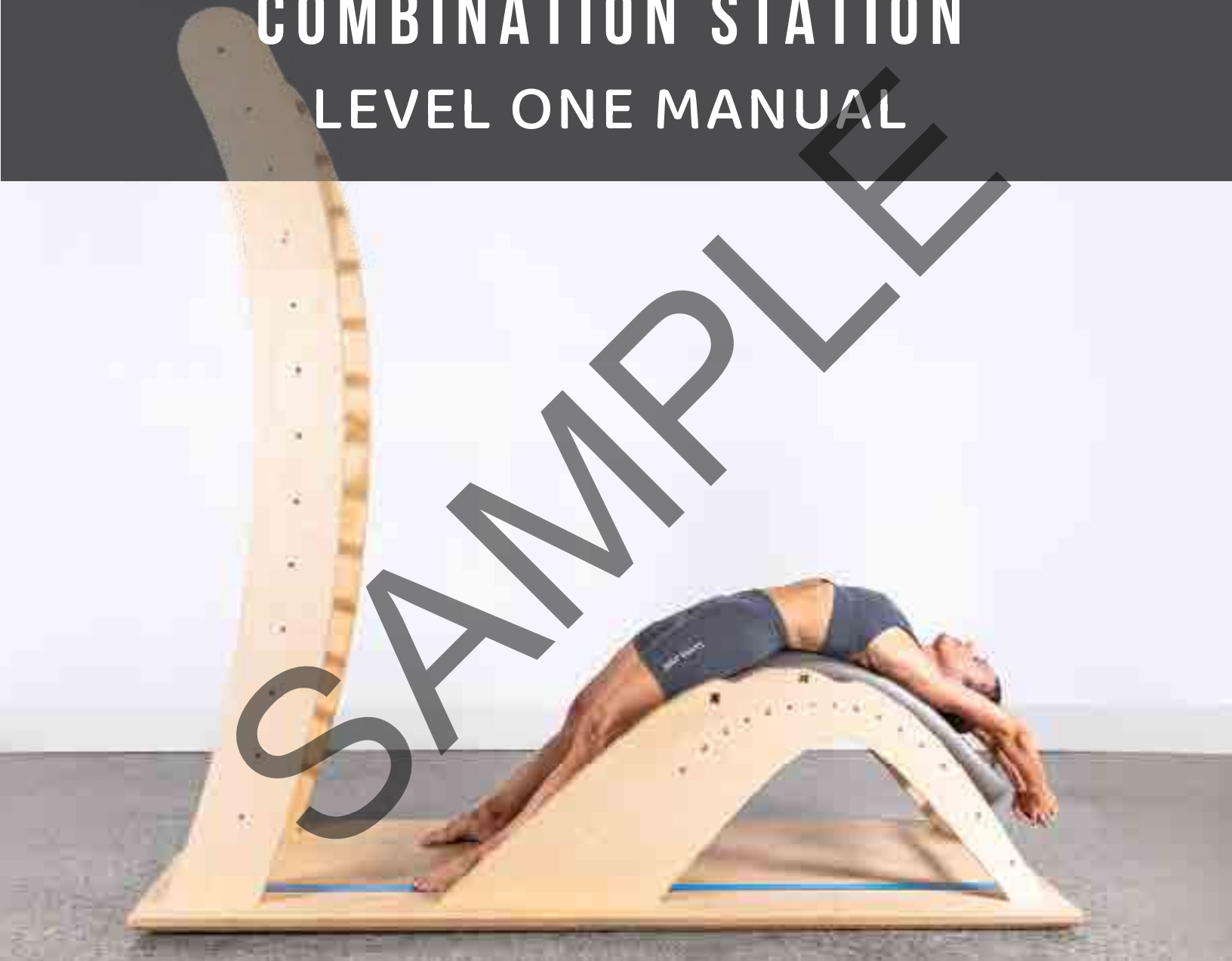


STRETCHFIT



COMBINATION STATION LEVEL ONE MANUAL



ANTHONY LETT & KENYI DIAZ



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STRETCHFIT

PTY. LTD.

Level 1 Manual

Combination Station Training

SAMPLE

Anthony Lett & Kenyi Diaz

Anthony



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SAMPLE

Introduction



A Note From Anthony

Stretchfit is the system I have arrived at after many, many years of study and teaching in the areas of health and fitness, anatomy and kinesiology, sports coaching and skill acquisition, mind/body medicine, exercise as medicine, mindfulness practice and philosophical study.

Although simple in practice, it brings together lessons I've learnt in all of those fields. I look forward to workshopping with you, where we can examine how these disparate fields inform each other.

For me, stretching has always brought about an enormously relaxed, embodied and receptive state, a state of being in which I like to relate to others and to experience the world. As it says on the poster "The beauty is that people come just wanting a stretch, and leave with so much more." What starts out as simply stretching a bunch of muscles from A to B really can become so much more. There's the biomechanical and anatomical dimension to understand, the self-awareness dimension that grows as you practice and then follows the challenge of integrating these new-found ways of moving and being into your relationships with others and the world around you. Sounds lofty, but these processes happen daily with many clients and students.

I look forward to working through this process with you.

Anthony Lett

Stretching Pedagogy

“If you learn only methods, you'll be tied to your methods. But if you learn principles, you can devise your own methods.” -Ralph W Emerson

Pedagogy: Refers to the principles and strategies employed in the practice of teaching. It encompasses the art and science of education, including instructional techniques, curriculum design, and the overall approach to facilitating learning. Pedagogy goes beyond the simple transmission of information; it involves understanding how students learn, tailoring instruction to meet their needs, and creating an environment conducive to effective learning.

Stretching pedagogy: Refers to the teaching principles and instructional methods employed in the context of stretching exercises and flexibility training. It involves the systematic and educational approach to guiding individuals through the process of improving and maintaining flexibility. Several key components characterize StretchFit's stretching pedagogy. The key components below apply both to teacher training and the instruction of clients.

Educational Framework: StretchFit's stretching pedagogy begins with a foundation in anatomy, physiology, and biomechanics. Teacher training aims to educate participants about the muscles involved, joint movements, and the physiological benefits of stretching. Understanding the underlying principles enables individuals to make informed decisions about the appropriate stretching routines, “corrections” and instruction, and adjustments for clients.

Progressive instruction: StretchFit's pedagogical approach to stretching often involves a progressive sequence of exercises. Teaching typically starts with basic stretches, ensuring participants grasp fundamental concepts like proper alignment, breathing, relaxation and contract/relax stretching. As participants advance, more complex stretches and flexibility techniques can be introduced.

Individualisation: Recognizing that individuals have varying levels of flexibility, StretchFit's stretching pedagogy encourages an individualized approach. Teachers tailor their guidance to accommodate participants' unique body types, limitations, and goals. This may involve providing modifications or alternative stretches to suit diverse needs. “Every client/student is a unique mix of psychosocial, biochemical, and biomechanical influences. Clients appear in the studio as a personal adaptive configuration of these influences superimposed on their unique inherited characteristics. These are the differences that both client and teacher have to work with” Anthony Lett.

Safe and effective techniques: Safety is paramount in StretchFit's stretching pedagogy. Teachers emphasize techniques that minimize the risk of injury while promoting optimal flexibility gains. This includes proper warm-up routines, gradual progression, and awareness of participants' physical limitations. StretchFit is not about contortionism and the naked pursuit of flexibility at the expense of health.

Feedback and Correction: Effective stretching pedagogy involves providing constructive feedback and “corrections.” Teachers may offer verbal cues, visual demonstrations, or hands-on adjustments to guide participants in achieving “correct” form and alignment during stretches. Timely and specific feedback aids in skill refinement.

Integration of mind/body connection:

StretchFit’s stretching pedagogy incorporates the mind-body connection. Teachers may guide participants in mindfulness practices, emphasizing the importance of mental focus, relaxation, and breath awareness during stretching exercises. This holistic approach enhances the overall stretching experience.

Application of Various Stretching Methods:

StretchFit’s stretching pedagogy encompasses different stretching methods, including static, dynamic, and PNF (proprioceptive neuromuscular facilitation) techniques. Instructors educate participants on the benefits and proper application of each method based on individual needs and goals.

Specificity as a key physical training principle and stretching as a distinct training modality:

The specificity principle states that training should be specific to the desired outcome. If the goal is to improve flexibility, dedicating focused time and attention to flexibility exercises will likely yield better results than trying to train for other qualities like strength simultaneously. This concept also aligns with the SAID principle—the Specific Adaptation to Imposed Demands. The SAID principle is a fundamental concept in exercise science and training that suggests the body will specifically adapt to the demands placed upon it. In other words,

the adaptations that occur in response to training are specific to the type of stress or stimulus applied. If the goal is to improve flexibility, the training stimulus should be specific to flexibility (e.g., stretching exercises). If the goal is to enhance strength, the training stimulus should be specific to strength (e.g., resistance training). The SAID principle suggests that to maximize adaptations, it's beneficial to provide a clear and specific training stimulus without introducing conflicting signals.

In summary, StretchFit’s stretching pedagogy involves the systematic and educational approach to teaching stretching exercises. It integrates knowledge of anatomy, sports science, emphasizes safety, individualizes instruction, provides feedback, and fosters a holistic understanding of flexibility training, promoting both physical and mental well-being.

"Pedagogy" also captures the educational philosophy, principles and practices that make StretchFit instruction unique. It's about the principles and methods that guide how instructors teach and individuals learn within the StretchFit program.

The unique features of StretchFit include:

Compartmental/regional stretching: using an anatomically based approach to isolate muscle groups to stretch.

Moderate intensity long duration: although Stretchfit does employ dynamic stretching, for the most part stretches are of long duration and moderate intensity.

Feeling over form: an emphasis on feeling sensations from the desired location is far more important than how an exercise looks to an observer. A shift away from the aesthetic dimension can also reduce the pressure and judgment often associated with appearance-focused goals. This creates a more inclusive and accepting fitness culture where individuals feel empowered to explore and enjoy physical activity without being overly concerned about how they look.

Long term sustainable exercise: Pursuing a feeling-centered approach (see above) contributes to long-term sustainability. A focus on positive experiences and well-being is more likely to lead to a lifelong commitment to physical activity, as opposed to short-term, appearance-driven goals.

Simplicity: Simple and clear instructions minimize cognitive load on learners. When instructions are straightforward, learners can focus more on understanding the content rather than struggling with complex instructions. Learners with varying levels of prior knowledge or different styles can benefit from clear, uncomplicated instruction, making the learning experience more equitable. “If you can’t explain it simply, you don’t understand it well enough” noted Einstein.

Simplifying the approach aims to decentralize knowledge and reduce the reliance on charismatic or authoritative figures (gurus) who traditionally hold power in instructing fitness routines. The emphasis on simplicity empowers individuals to take control of their own fitness journeys. Instead of relying on an authoritative figure, individuals are encouraged

to understand and engage with straightforward exercises that they can incorporate into their daily lives.

Ongoing teacher training and practice: So that these principles are embodied and effectively communicated to participants.

Stretching as a tool for holistic well-being: An emphasis on the positive impact of exercise and stretching on mental health, energy levels, mood, and overall quality of life.

Experiential Learning: Learners are encouraged to actively engage in the learning process.

Holistic health: This approach aligns with the idea of “biopsychosocial wellbeing,” or holistic development, which recognises that physical fitness is interconnected with mental, emotional, and social well-being. The pedagogical focus extends beyond the physical aspect to foster a more comprehensive understanding of health..

StretchFit uses an environmentally constrained system: The station, which determines the movement possibilities and influences how students stretch, is part of the external environment that constrains or shapes their actions. It plays a significant role in defining the movement possibilities and parameters of the stretching activities.

The concept of mechanotransduction: Is central to StretchFit (See later short course on this subject, along with a discussion of Davis’s Law).

The Biomechanics of Stretching

Before we get into the biomechanics of stretching, let's first understand what we are talking about.

What is stretching? What is stiffness?

Stretching places muscles and fascia in lengthened positions for prescribed periods of time. Force is applied to achieve this change in length. The amount of force is determined by the stiffness of the tissues. There are two types of stiffness. One is reflex mediated. This means it is controlled by our nervous system, and is dependent on the excitability of motor neurons. The other is called intrinsic stiffness. This is the stiffness of the tissue in the absence of any electromyographical reading.

Intrinsic stiffness refers to the viscoelastic quality of muscle-existing bonds between actin and myosin. This is the stiffness or extensibility of the meat itself, and, as a mechanical property, could be measured for example when under a general anaesthetic, where your muscles are almost totally lacking in tone. With repeated stretching over time, we affect both types of stiffness.

Research demonstrates that the meat itself becomes freer and grows longer too, albeit it microscopically. Via stretching, a process called 'mechanotransduction' occurs, where a mechanical stress (i.e. a stretch) stimulates

a biological adaptation. The adaptation is to grow longer muscles. It is as if we add a link to our muscular chain. Research also suggests that muscle 'grows' shorter too if movement is limited. (It's that damn 'use it or lose it' principle at work!) For more information on this, Google "Davis' law."

Reflexes are altered too. Your brain becomes rewired and new patterns and ranges of movement become possible without triggering reflexive pain signals. Pain tolerance is also altered. For more information on this read *Altered States*, Daniel Goleman.

Bottom line: Stretching is easy to define, and easy to practise. Stiffness is a little more complex. It has two types, one controlled by the central nervous system, the other independent of it.

What limits our flexibility?

Previously, we looked at muscle and fascia. We understand that they are alterable and to do so is safe. Shortly, we will look at the most effective way to do this. First though, let's look at what else can affect our flexibility.

The architecture of joints

is a limiting factor for flexibility. Often, of course, stiffness will prevent you from discovering this because bones lock together long into a stretch and, usually, your muscles

will stop you well short of this point. For some, though, unusual bony formation will prevent 'normal' ranges of motion. Because bone shape is permanent and cannot be changed once growth plates are closed (during adolescence), this limiting factor ought to be kept in mind. It has definitely prevented my own flexibility development, and knowledge of bony limitations could have prevented injury and countless hours of frustration for me.

If you feel a block somewhere into a stretch, and it is not a familiar stretching sensation, investigate the possibility of bone shape as its cause. Please read the section titled 'Tension and Compression' in our matbook *Innovations in Pilates, Matwork for Health and Wellbeing* for a more detailed discussion of this issue.

Image 1 gives some idea of the variation in bone shape. The overhanging acromion on the right will definitely limit what is known as 'normal' shoulder range of movement.



IMAGE 1

Capsuloligamentous structures

also limit our flexibility. The joint capsule and ligaments are comprised of fibrous connective tissue which fasten bones to one another and provide joint stability and mobility.

Although capsuloligamentous structures vary depending on the joint, they have a limited capacity to stretch. According to Davis Law (see appendix) they will stretch microscopically over a period of time. Note this is a chronic response, and is not immediately observable as an acute response would be.



IMAGE 2

Image 2 is an example of the ligaments of the hip joint. Merging with the capsule, they limit end ranges of movement.

To stretch them, you would first have to overcome all muscular and neuromuscular limitations. Once tensile stressors have been overcome, there may be a slow adaption from joint capsules and ligaments which will permit further end range movement.

Biomechanics of stretching

Since bone shape cannot be changed, and ligaments will not come to the party either, we are left to work with muscles and some types of fascia. Let's have a look at the basic biomechanics of stretching.

All muscles have an origin on one part of the skeleton and an insertion on another part. Stretching a muscle involves moving these two ends away from each other. Muscles can be stretched by anchoring one end and moving the other, or by moving both ends away from each other. **Image 3** illustrates this concept.

The **quadriceps** contract to straighten the knee. This tightens one end of the **hamstrings** running across the back of the knee onto the lower leg. This end of the hamstrings is usually described as the insertion.

In addition, leaning forward to hold the bar and contracting the rectus femoris to straighten the leg pulls the pelvis toward the thigh bone or femur. This action, called hip flexion, moves the other end of the hamstrings (usually described as the origin) at the back of the pelvis on the sit bones, or ischial tuberosities, further from the insertion.

The result: the origin and insertion of the hamstrings are moved apart and you will experience this as the sensation of stretching.

Stretching physiology

When we stretch, as in the example above, receptors within joints, tendons and muscles detect movement and changes in muscle length and tension.

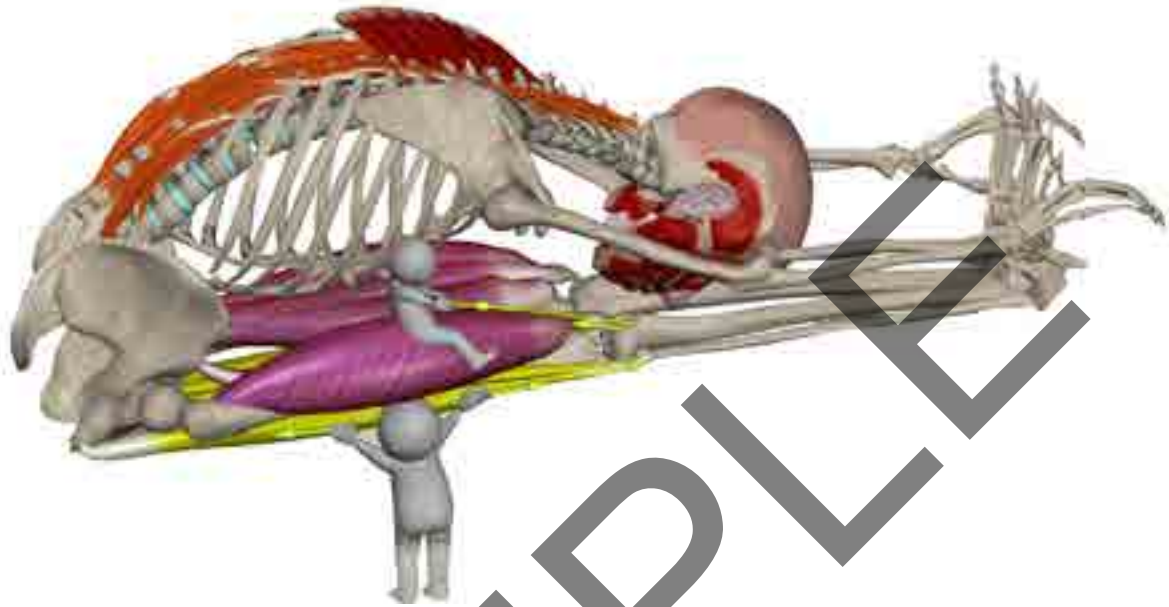
These receptors alert the central nervous system (CNS) to this event for an appropriate response. If you stretch too fast, for example, your muscles will contract to prevent damage.

Aside from stretching, receptors alert your CNS to events such as jumping and landing, leaning, or touching something hot. Reflex signals travel to the spinal cord and back in what is called a reflex 'arc'.

This enables a speedy response. It takes a second or two for messages to reach the brain itself – too long in this instance. Often, it is only after the reflex has occurred and the message arrives in the brain that you become aware of it.

We have a complex array of receptors and reflex arcs linking our muscles to our central nervous system. Two stretch receptors are most relevant to us. The muscle spindle stretch receptor detects changes in length and the speed of those changes. Basically, when a muscle stretches, the spindle sends a signal to the spinal cord, which then signals back to the muscle to contract and resist the stretch. This is known as the 'stretch reflex'.

IMAGE 3



Bottom line: Stretching at speed, like ballistic stretching, is counterproductive. It will fire the muscle spindle stretch receptor and cause the muscles to contract.

The Golgi tendon organ (GTO) is a different story altogether. This receptor organ, located where the muscle and tendon join, detects changes in muscle tension.

When tension increases, particularly if there is no limb movement, it signals muscles to relax to prevent injury. The GTO is like a thermostat, flicking off the heater to prevent a meltdown.

The GTO forms the basis of what is called the contract/relax (C/R) technique; just one of the many found in the body of work known as PNF or proprioceptive neuromuscular facilitation. We will use this C/R technique throughout this book to deepen and accelerate our flexibility progress.

Here's how it works:

- 1 Take yourself VERY SLOWLY into a mild stretch. We call this the POINT OF TENSION, or POT. Moving quickly will trigger the stretch reflex. On a scale of one to ten, one being not much of a stretch and ten being complete agony, we suggest a score of five or six. Hold the position for **five breaths** and settle.
- 2 Contract the muscles that you are trying to stretch. We will give you cues, of course; although it may seem counterintuitive, contract the muscles we recommend for **five seconds**. Use around 30 % of your maximum effort, and start gently.
- 3 Relax totally and restretch to the new position. Don't expect miracles, but you can expect to be able to go further into the stretch, often between 1 to 10 centimetres further. Hold the new POT for **fifteen breaths**.

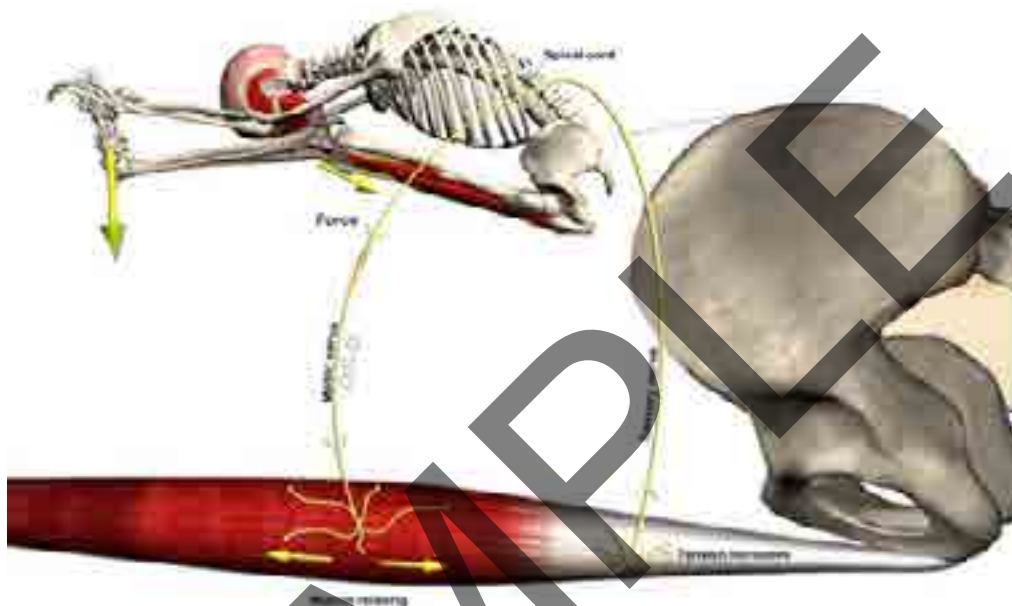
Contract/relax in the posterior stretch



- 1 Press the carriage away to the POT. Hold for 5 breaths.

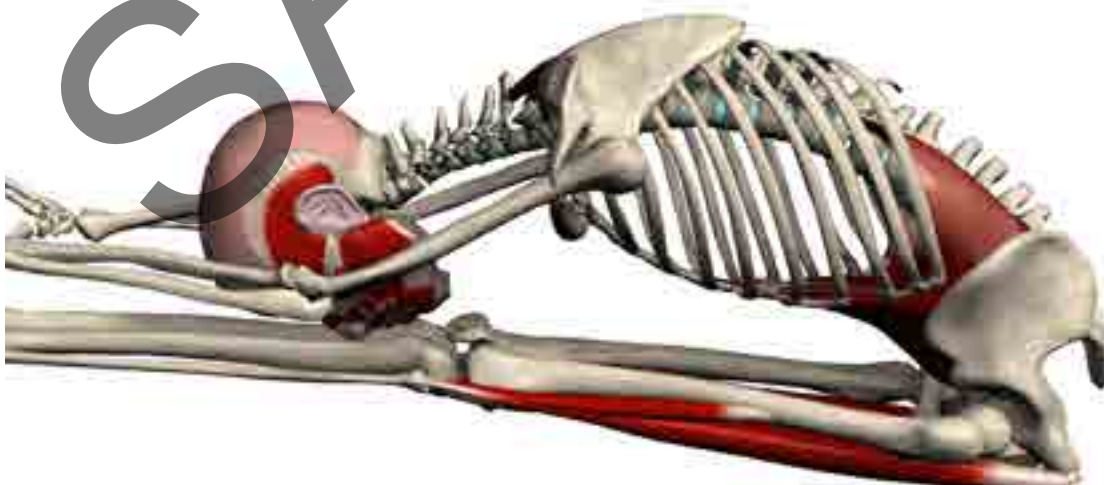
2

Contract the muscles you are stretching. In this case, it is the hamstrings. Contract for 5 seconds by pressing your feet down into the carriage. Use 30% of maximum force. The GTO will signal increased tension via a sensory nerve to the spinal cord. A relaxation signal will travel to the muscle, facilitating a restretch.



3

Relax and re-stretch to the new POT. Hold for 15 deep breaths. See image below.



About the Contraction

Stretch →



← Contraction

THE GOLDEN RULE FOR CONTRACTIONS IS THAT THEY SHOULD BE IN THE OPPOSITE DIRECTION TO THE STRETCH.

How do students in StretchFit classes learn?

Sensory modalities (such as visual, auditory, kinesthetic, and tactile) play a crucial role in teaching and learning StretchFit. Personal reflection is also a key aspect of teacher training. (It's also important to recognise the diversity of human abilities and talents. Howard Gardner's theory of multiple intelligences, for example, suggests that individuals possess different types of intelligences, and therefore learning styles, including linguistic, logical mathematical, spatial, musical, bodily-kinaesthetic, interpersonal, intrapersonal, and naturalistic.)

Sensory modalities: The ways individuals prefer to take in and process information.

The idea of visual, verbal, and kinaesthetic learning styles is rooted in the concept of sensory modalities, which are the ways individuals prefer to take in and process information. While it's important to note that most people use a combination of these styles, some individuals may have a dominant preference. The three main learning styles are:

- **Visual learning:**

Characteristics: Visual learners prefer to see and use visual aids such as demonstrations, charts, graphs, diagrams, and videos. They tend to understand and remember information better when it is presented in a visual format.

- **Verbal or auditory learning:**

Characteristics: Auditory learners grasp information better through listening and speaking. They benefit from lectures, discussions, and verbal explanations.

Preferred activities: Participating in group discussions, listening to instructions, lectures or podcasts, explaining concepts aloud.

- **Kinaesthetic learning**

Characteristics: Kinaesthetic learners learn best through hands-on experiences and physical activities. They like to engage their sense of touch and movement to understand concepts.

Preferred activities: Doing experiments, performance, role-playing, building models, using hands-on activities.

Which approach might be useful at different stages of learning?

Early stages of learning

- **Visual:** In the early stages, demonstrations, visual aids and colourful visuals can be effective in capturing attention and conveying basic concepts.
- **Kinaesthetic:** Hands-on activities and interactive experiences can help reinforce fundamental.

Middle stages of learning

- **Verbal:** As learners progress, verbal explanations and discussions become important for understanding complex ideas and theories.
- **Visual:** Visual aids and demonstrations can still be useful for illustrating advanced concepts.
- **Kinaesthetic:** For subjects that involve practical application like stretching, hands-on experiences are crucial.

Later stages of learning

- **Kinaesthetic:** hands-on experiences remain crucial in the later stages of learning.
- **Verbal:** Engaging in discussions and explaining concepts to others can solidify understanding at an advanced level.

Individual Differences: It's essential to recognize that individuals have unique learning preferences. Some may have a dominant style, while others may benefit from a combination of styles.

Tailoring teaching methods to accommodate diverse learning styles can enhance overall comprehension and retention. In practice, a balanced approach that incorporates elements of all three learning styles is often recommended to address the diverse needs of learners. Teachers and instructional designers can employ a variety of methods to engage students visually, verbally, and kinaesthetically to create a more inclusive and effective learning environment.

TASK: Short project

Part A

Watch some videos from the StretchFit portal and in point form, jot down any trends you can see in the teaching of the stretches. Which sensory modalities does Anthony use? Does Anthony use anatomical language, or does he describe (verbal) and demonstrate (visual) very briefly how to do the stretch and where the stretch ought to be felt? Does he do this simultaneously? What does he do after that? Does he allow enough time for students to practice (kinaesthetic) and explore the stretch? Does he use strategic silence to enable students to feel and engage in the stretch, without excessive external input?

Write down your observations and submit them in a single email titled “Part A: observations”

TASK: Role play with a partner and teach them a stretch. Try to keep the verbal instruction to what is necessary and nothing more. Consider the following:

- Will you give a description of the exercise first, or a visual demonstration, or both?
- Will you do both at the same time?
- Will you mention anatomical details?
- Will you explain the contract/relax approach?
- Will you mention where the stretch ought to be felt?
- Will you mention that the way the stretch looks is critical? Is it?
- Are you developing a process, or teaching randomly?
- Which sensory modalities are you making use of mostly?

TASK: Teaching practice one

Make a video recording of yourself teaching any 3 stretches, and critique them along the following lines:

- What did you do well?
- Did you do too much of anything?
- Did you do too little of anything?
- Which sensory modalities did you use?
- Did you provide effective feedback?
- Did you ask the client if they were getting a stretch, where, and how intense it was?

TASK: Submit the videos and the critique of approximately 200 words per stretch, as a file, in one single email, titled “teaching practice one” to info@stretchfit.studio

Developing a teaching process

Developing a teaching process involves creating a systematic and structured approach to convey information, facilitate learning, and guide individuals toward specific objectives. This process is designed to be effective, engaging, and adaptable to the needs of learners.

There are various ways of teaching a stretch. An example that has worked well for the author uses the following Acronym: LDER think “you are the leader!”

L: This refers to location of the stretch. E.g. “this is a stretch for the quadriceps and should therefore be felt around here.” Circle the location on your body.

D: is for demonstration. Show your students what the stretch looks like, whilst explaining any further key points as you do it.

E: is for exploration. Allow your students to DO the stretch. Choose some key points to mention and some key questions for the students to ask themselves. For example, “Are you getting a stretch?” “where is the stretch coming from?” “How intense is the stretch?”

R: is for review and reflection. Review the stretch, mention any key points before attempting the other side, or for next time, and review your own performance. Ask if there are any reflections, questions, or comments from students.

TASK: Teaching practice two

Take a video of yourself teaching a stretch using the process above and submit the video in one single email titled “teaching practice two.” Submit it to info@stretchfit.studio. Answer the following:

Is this process useful for guiding you ?, Do you have a model or process that you prefer? If “yes,” please explain it. Are there any downsides the this process?

Feedback and instruction once the stretch has begun.

A key element once a stretch is in progress is communication and feedback. **There are 3 essential questions** used to ascertain useful feedback from the client and to provide direction for the stretchee. Without this information, it is not possible to proceed effectively. The 3 questions are:

1. Are you getting a stretch!?

Although obvious, it is often overlooked, and yet it is the entire point of the exercise!

2. Where is the stretch coming from?

This question is important so that there is certainty that it is being experienced in the correct region. It could be a cramp, an impingement or a different sensation without the client being aware of this. It is important to find this out.

3. How intense is the stretch? (Usually, the client is asked to rate it out of 10. 10 would be maximum, 1 would be minimum.)

Without this knowledge, it is impossible to give further guidance. If the score is a 3 out of ten for intensity, the client will need to make some adjustments to make the stretch more intense. If it is an 8 out of ten for example, it may be too intense, and instruction about how to “reverse engineer” the stretch may be required.

TASK: Teaching practice three

Teach another stretch and ask the questions above. Describe the process in no less than 200 words, along the following guidelines:

- When was it appropriate to ask the first question?
- What was the answer?
- Did you/your client encounter anything other than stretch sensations?
- Was the stretch located in the appropriate location?
- Did you know what to do to make the stretch less intense?
- Did you know what to do to make the stretch more intense?

Submit your answer in one single email titled (“teaching practice three” to info@stretchfit.studio)

Error detection and correct form

While there may be a basic shape or form for a stretch, individuals can explore nuanced movements to find the correct stretch position for them. This is called the “range of correctness.” This emphasizes the importance of personalization and adaptability in performing stretches. Here are some key points to elaborate on this idea.

Basic Form as a Starting Point:

- Teaching a basic form or position for a stretch provides a foundation for students. This could be a commonly accepted starting point that is generally effective for many individuals. For example, in a hamstring stretch, the basic form might involve reaching towards the ladder while keeping the back straight.

Acknowledging Individual Anatomy:

- Every person's body is unique in terms of joint structure, muscle length, and flexibility. What works for one person may not be suitable for another due to these individual differences. Acknowledging this diversity encourages students to explore variations that accommodate their specific anatomical characteristics and current levels of flexibility.

Encouraging Exploration:

- Students should be encouraged to explore slight adjustments in their body positioning during a stretch. This exploration might involve changes in the angle of the limb, the placement of the feet, or the orientation of the torso. This trial-and-error approach allows individuals to discover variations that feel most effective for their body.

Sensation Awareness:

- Emphasizing the awareness of sensations during stretching is crucial. Students should be guided to pay attention to how different movements and adjustments influence the stretch. This mindfulness enables them to identify positions that create a targeted and comfortable stretch.

Variability in Time:

- Flexibility is a dynamic quality that can change, both positively and negatively over time. Students should be encouraged to reassess their stretching ability in each stretch, at every session, at every step. If they encounter any limitations or discomfort, they can adapt their movements accordingly. If things feel easier, they can deepen their position.

Incorporating Proprioception:

- Proprioception, the awareness of one's body in space, plays a significant role in finding the appropriate stretch position. Students can be guided to listen to their bodies, adjust their positions based on feedback from their muscles and joints, and develop a deeper connection with their own physical sensations.

The idea is to move beyond a rigid, one-size-fits-all approach to stretching and embrace the concept of individualized exploration. By understanding that the correct stretch position is a dynamic and personalized concept, students can cultivate a more mindful and adaptable approach to their stretching practices, leading to better results and a reduced risk of injury.

Keep this idea as a guiding principle for you and your students: **“If you’re feeling it in the right region, at the right intensity, you’re doing it “right.”**

Which of the performances of the stretch below are correct?

One, or both? Explain your answer in class.



Touching and assisting

Although hands-on assisted stretching is often not necessary on the combination station, there will be occasions when an assist is indicated. Please read the guidelines below to ensure you are assisting safely and effectively.

- **Consent is Paramount:** Always prioritize and obtain explicit consent before physically adjusting or touching a client during a stretch.

Clearly communicate the intention behind the touch and ensure clients feel comfortable with any physical adjustments.

- **Safety First:** Prioritize the safety of clients during stretches and adjustments. A stable teacher ensures the safety of both them and the client. Sudden movements or lack of stability can lead to accidents or injuries during the stretching process.

Be aware of any pre-existing injuries or conditions that may affect a client's ability to be touched in certain areas.

- **Hygiene Matters:** Maintain high standards of personal hygiene as a teacher and encourage clients to do the same.

Use clean hands and, if necessary, consider the use of sanitizing wipes or hand sanitizer and a towel before any physical contact.

- **Respect Personal Space:** Be mindful of personal space boundaries and avoid unnecessary invasion.

- **Clear Communication:** Clearly communicate the purpose and benefits of physical adjustments to clients.

Establish open lines of communication, encouraging clients to express their preferences, concerns, or discomfort regarding physical contact.

- **Sensitivity to Individual Needs:** Recognize and respect individual comfort levels regarding physical contact.

Consider cultural differences and be sensitive to diverse perspectives on touch.

- **Professionalism:** Maintain a professional demeanour at all times, ensuring that any physical contact is conducted in a respectful and non-intrusive manner.

Avoid engaging in any behaviour that could be interpreted as unprofessional or inappropriate.

- **Use Verbal Cues First:** Use verbal cues and demonstrations as the primary means of instruction. Reserve physical adjustments for situations where verbal cues alone are not sufficient to guide a client into the correct form.

- **Non-Intrusive Touch:** When physical adjustments are necessary, use gentle and non-intrusive touches.

Focus on guiding clients into proper alignment without applying excessive force.

- **Continuous Training and Education:**

Stay informed about the latest guidelines and best practices related to physical adjustments in stretching classes.

Attend workshops or training sessions to enhance your skills in providing safe and effective physical adjustments.

- **Feedback Loop:** Establish a feedback loop with clients, encouraging them to provide feedback on the appropriateness and effectiveness of physical adjustments.

Use client feedback to refine your approach and continuously improve your teaching methods.

- **Reduced Strain on the Teacher:** Relying on body weight minimizes the strain on the teacher's muscles and joints. This is particularly important during repetitive or extended stretching sessions, helping to prevent fatigue and potential injuries.

In most cases, using straight arms and leaning is preferable to excessive use of strength. The gradual application of pressure through body weight can promote a sense of ease and comfort, enhancing the stretching process.

By utilizing body weight efficiently, the teacher can conserve energy for the duration of the class. This enables a more sustainable teaching approach, ensuring that the instructor remains engaged and attentive throughout the session.

- **Visual Monitoring:** Regularly scan the entire class to observe each participant's form, alignment, and engagement in the stretching exercises. This visual monitoring helps identify any potential issues

or areas where individual attention may be needed. Monitor when assisting one client too, so that the rest of the class does not feel neglected.

- **Encourage Questions:** Foster an environment where participants feel comfortable asking questions. Encourage them to raise their hand or approach you during designated times for queries, promoting a more organized and focused communication process.

- **Set Expectations:** Establish clear expectations regarding noise levels and communication during the class. Communicate the importance of a focused and respectful atmosphere, emphasizing that excessive noise can be disruptive to others.

- **Designated Communication Times:** Allocate specific times during the class for questions and individual assistance. This helps streamline communication and ensures that participants receive the attention they need without disrupting the flow of the overall class.

- **Utilize Non-Verbal Communication:** Incorporate non-verbal cues such as gestures or signals to communicate with participants across the room. This can be an effective way to address individual needs without verbal disruptions.

- **Addressing Noise:** Be mindful of your own voice and the volume of any music or background noise in the class. Strive to maintain a balanced sound environment that allows for clear communication without unnecessary distractions.

- **Personalized Attention:** When providing individual assistance, approach the participant directly rather than shouting instructions from a

distance. This personal touch not only ensures effective communication but also demonstrates attentiveness to each participant's needs.

- **Use Mirrors:** If the class setup includes mirrors, leverage them to your advantage. Mirrors can help you monitor participants' form and technique without having to be physically close to each individual.
- **Encourage Peer Support:** Foster a sense of community within the class by encouraging participants to assist and support each other. This can help minimize the need for excessive shouting or external communication.
- **Adapt as Needed:** Stay flexible and adapt your communication approach based on the dynamics of each class. Some groups may require more direct communication, while others may prefer a quieter atmosphere.
- **Ensure fixation of muscles:** Anchoring or stabilizing muscles is a very important part of any assist. Muscle fixation involves stabilizing one end of a muscle(s) to allow controlled movement and tensile loading at the other end. This technique enhances the precision and effectiveness of any stretch by helping to isolate specific muscles and to take a client to a point where they can feel the stretch without any uncertainty about whether they are feeling it in the correct location.

Clearly identify the muscles that need to be fixed or anchored during particular stretches or exercises. Teachers must understand the attachment points, fibre direction and functions of the muscles being stretched to fixate effectively.

Visualizing muscle fibre direction is crucial for understanding the biomechanics and the direction of force.

Below is a guide to help in visualizing muscle fibre direction:

- **Basic Anatomy:** Know the muscle shape and architecture.



In this assist, the oblique abdominal muscles and the quadratus lumborum are two of many muscles being stretched. Their attachment points on the pelvis are fixed/anchored, while their attachment points on the rib cage are pressed in the other direction. Note the direction of force is directly opposite the direction of contraction of these muscles. Also noteworthy is the teacher using bodyweight rather than strength to assist the client.

- **Parallel Muscle Fibers:** Some muscles have parallel fibre arrangement. Picture these fibres running straight from the origin to the insertion, such as in the hamstrings. This arrangement allows for a greater range of motion and power development. An example is the hamstrings below



The hamstrings travel from the ischial tuberosity, across the back of the knee to the tibia and fibula. To stretch them, one or both ends need to be taken further from the other end. In a stretch like the one below for example, this is precisely what is happening. Inclining the trunk pulls the hamstring attachments on the ischial tuberosity away from the other ends on the lower leg.



Similarly, assisting the client by taking the attachment point on the leg away from the "origins" on the ischial tuberosities stretches the long parallel fibres of the hamstrings.

In the example below, Kenyi presses the chest away from the insertion of the pectoral major on the upper arm to elongate the fibres of the muscle. Note this is a pennate shaped muscle, so not all the fibres may be stretched in one position. The force direction and angle between the arm and the chest may need to be explored to target each of the pectoral muscles 3 major heads.

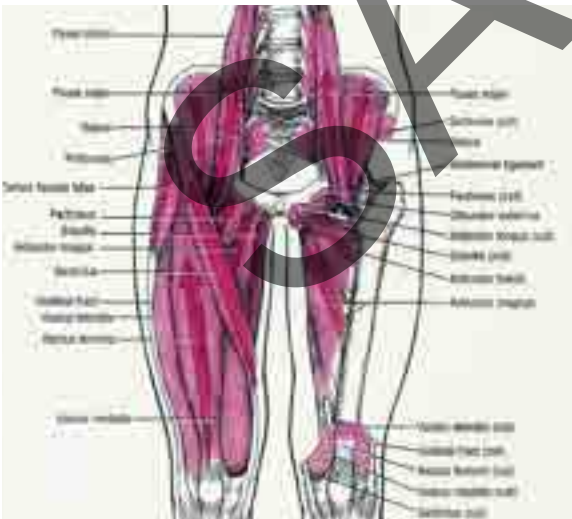


- **Pennate Muscle Fibers:** Other muscles like the pec. major below, have a pennate arrangement, where the fibres are obliquely aligned to the tendon. This includes muscles like the deltoids or the vastus lateralis. Visualize the featherlike pattern, which provides greater force production but may limit range of motion.



As discussed above, such muscles might need to be stretched at different angles to effectively stretch all of the fibres.

- **Movement Patterns:** Connect muscle fibre direction with movement patterns. For example, when you flex your bicep (biceps brachii), visualize the muscle fibres contracting and shortening, causing the forearm to move towards the upper arm. Then visualise the opposite movement, where the biceps are stretched. The origin of the muscle on the scapula would need to be taken away from the insertion on the radial bone, or vice versa.



An example of the muscles of the thigh. The arrows demonstrate the line of force of each individual muscle. Theoretically, to stretch each muscle it would need to be taken in the reverse direction of the arrow.

Regional/compartmental stretching:

The StretchFit approach to categorizing stretches, learning repertoire and creating classes

Key terms

- Regional/compartmental stretching
- “Role reversal” stretching
- Nuanced stretching

With around 660 muscles in the human body, designing a class with the intention of stretching all of them is not an easy task. The good news is that you don't need to stretch one muscle at a time. Yes, you can discriminate to some extent, and targeting particular muscle groups, or muscles within groups, and fibers within muscles is necessary for remedial purposes, in addition to managing the sheer number of them. But how do you decide which muscles to prioritize? Well, you don't, at least not initially. You don't start by prioritizing muscles; you start by prioritizing muscle groups. Muscle groups are found in compartments, also called regions.

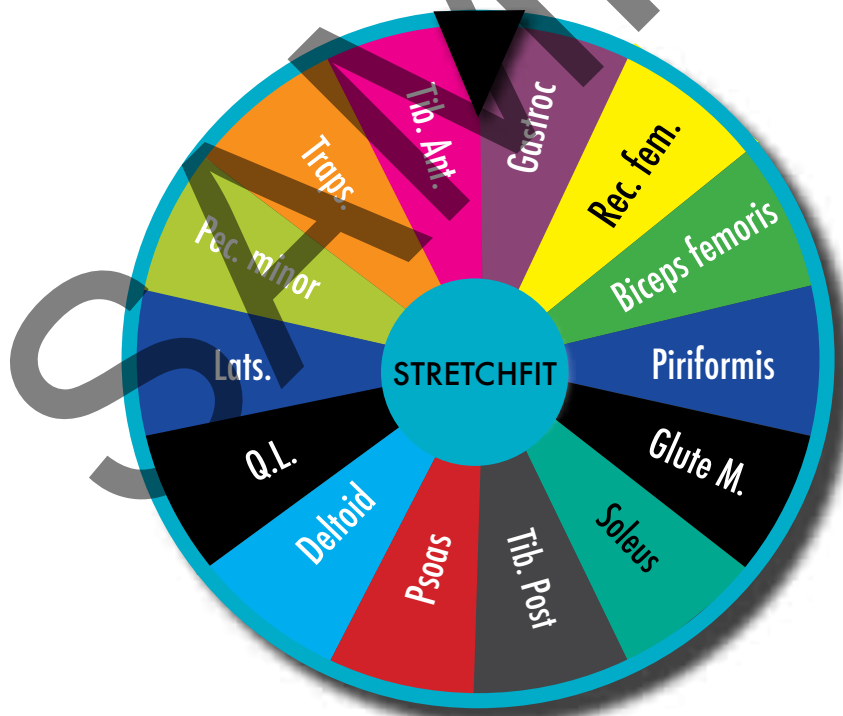


Image 1. The “Spin and stretch” approach is not the best way to navigate your way around the body—it’s way too random.

Regional anatomy and compartmental stretching

The StretchFit approach is to use the surgical and medical anatomy teaching methodology called “regional anatomy” as the basis for arranging classes and learning repertoire. When studying regional anatomy (topographical anatomy) as opposed to systemic anatomy, the body is divided into major parts, (e.g. the lower limb) and then further subdivided into areas, regions and compartments. There is focused attention on a specific compartment including examination of the arrangement and relationships of the various systemic structures (muscles, nerves, arteries, etc.) within it.

Within a compartment there are groups of muscles, for example the adductors, with similar lines of force and, therefore, similar actions and functions. Consequently, when you stretch a compartment you stretch all of the muscles within it to a large extent. Of course, you can learn to shift the locus of the stretch to certain muscles within the compartment as you become more experienced, and this is important, but as a starting point, the generalist compartmental approach makes sense. As you become more aware through practice of particular sensations and tight spots within a compartment, you can explore a more nuanced approach, adjusting and feeling for particular muscles or fibers within the muscles of a compartment.

Missing anything?

A particular advantage of the compartmental approach is that with good instruction precise regions are easy to locate and no muscle groups are glossed over. In many exercise systems, exercises are named after animals e.g. the Pigeon pose in Yoga, or the Swan Dive in Pilates, without attention to the compartments or tissues being affected. An analysis of many of the movements in many exercise systems reveals continual stress of the same tissues, in similar planes of movement, even when practicing a variety of exercises with a variety of names. If your concern is more about you, or your client i.e. the person, than the pose, the compartmental approach provides a methodology that might be right up your alley, (or compartment!) Compartmental stretching avoids highly choreographed and often repetitive exercises in favor of simplicity and precision.

The compartmental approach also guards against injury. A wise Yogi once said to me that injury inevitably results from “too much movement, in too few places, repeated too often.” This can be avoided with the compartmental approach because you don’t stress the same tissues repeatedly, and you don’t stretch the ones that don’t need it either!.

As attractive as the regional/compartmental approach sounds, it comes with one caveat- you’ve got to find a teacher who is able to identify and teach you how to stretch each one effectively. (Some very well-designed equipment comes into play here, but more on that later!) You have also got to find a teacher with a degree of irreverence-one willing to give precedence to an approach that is guided by the logic of science instead of historical dogma.

Compartmental Stretching of the Leg and Thigh

The leg and thigh provide good examples of the compartmental approach to stretching. The region of the Leg is the area below the knee and above the ankle. It has 3 compartments-posterior, lateral and anterior. Each compartment has a number of muscles with similar functions. With three basic stretches, and some variations, you can devise a seriously effective stretching regimen for the entire leg region.

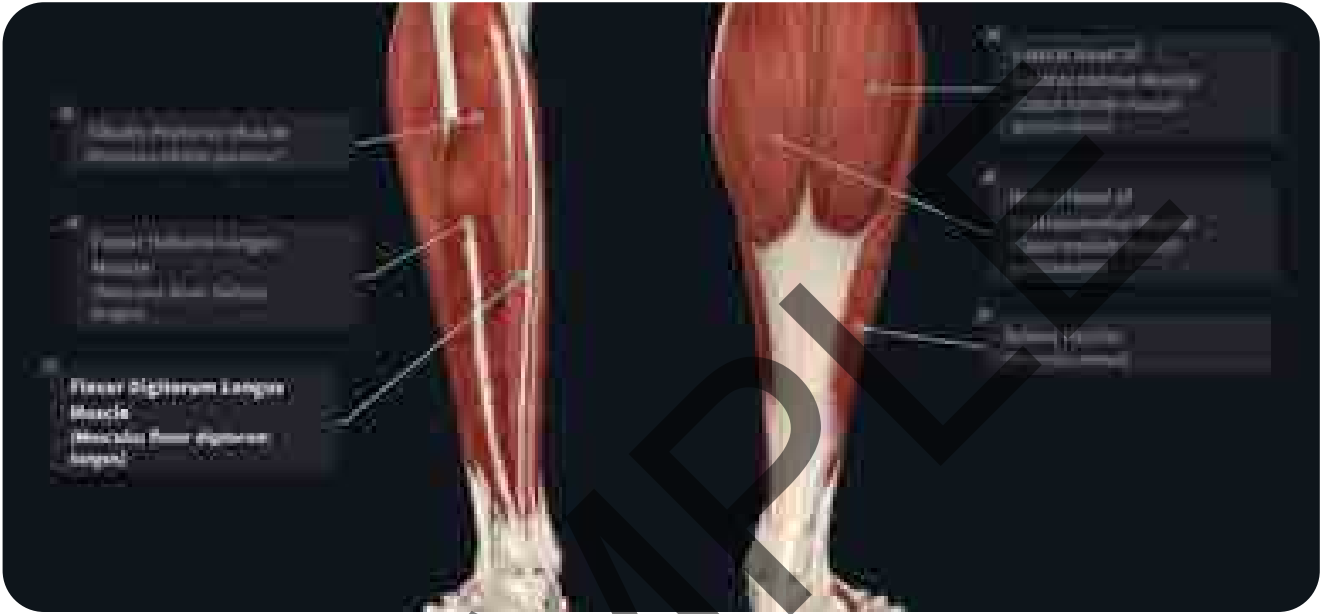


Image 1 shows just some of the muscles in the posterior compartment of the leg. Rather than trying to isolate all 5 of them or taking the hit and miss “spin and stretch” approach, stretching the posterior compartment and adding some variations will effectively target each of them.

Summary

Learning compartmental stretching provides a systematic approach that effectively targets the whole body and can also be nuanced to ensure individual patterns of flexibility are attended to.

If you are interested in learning about regional anatomy, we have an entire online Certificate in Musculoskeletal Anatomy that follows this approach. It comes with an interactive anatomy app, working skeleton for you to make muscles on at home, and a 350-page interactive manual!

Reply to us and mention this article for a 10% discount on the entire course!

Here's a link to the course: <https://www.pilateskinesiology.com/onlinecourses>

Email: info@stretchfit.studio

Compartmental Stretching of the lower limb

As mentioned in the previous post, when studying regional anatomy, the body is divided into major parts, (e.g. the lower limb) and then further subdivided into regions and compartments. (The terms regions and compartments are used interchangeably, which can sometimes be confusing.) There is focused attention on a specific compartment including examination of the arrangement and relationships of the various systemic structures (muscles, nerves, arteries, etc.) within it. Each compartment is enclosed in deep fascia. (See Image 1.) For the purposes of stretching a medical level of examination of each compartment is probably not necessary (although it is never unhelpful). A knowledge of the muscles within a compartment, their origin, insertion, action, and fibre direction are adequate and perhaps more relevant to stretching.

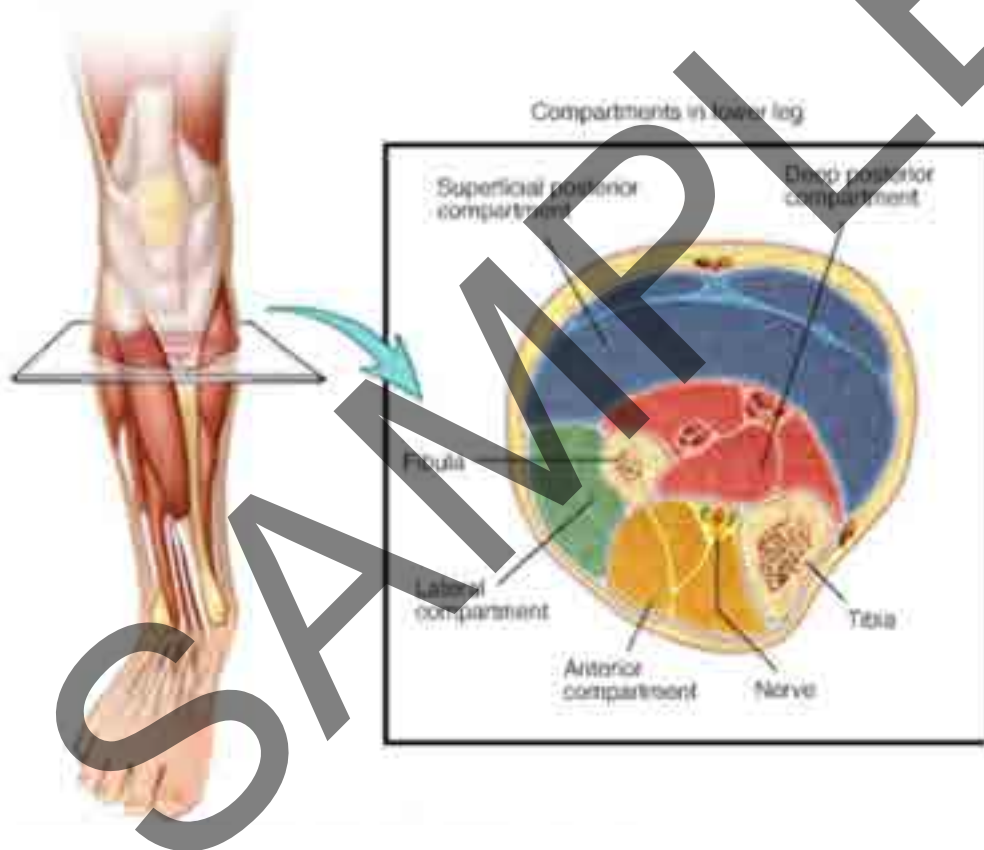


Image one. A transverse section of the right leg clearly shows the posterior compartments (superficial and deep), the lateral and the anterior compartment. The whiteish borders that separate each compartment is comprised of deep fascia.

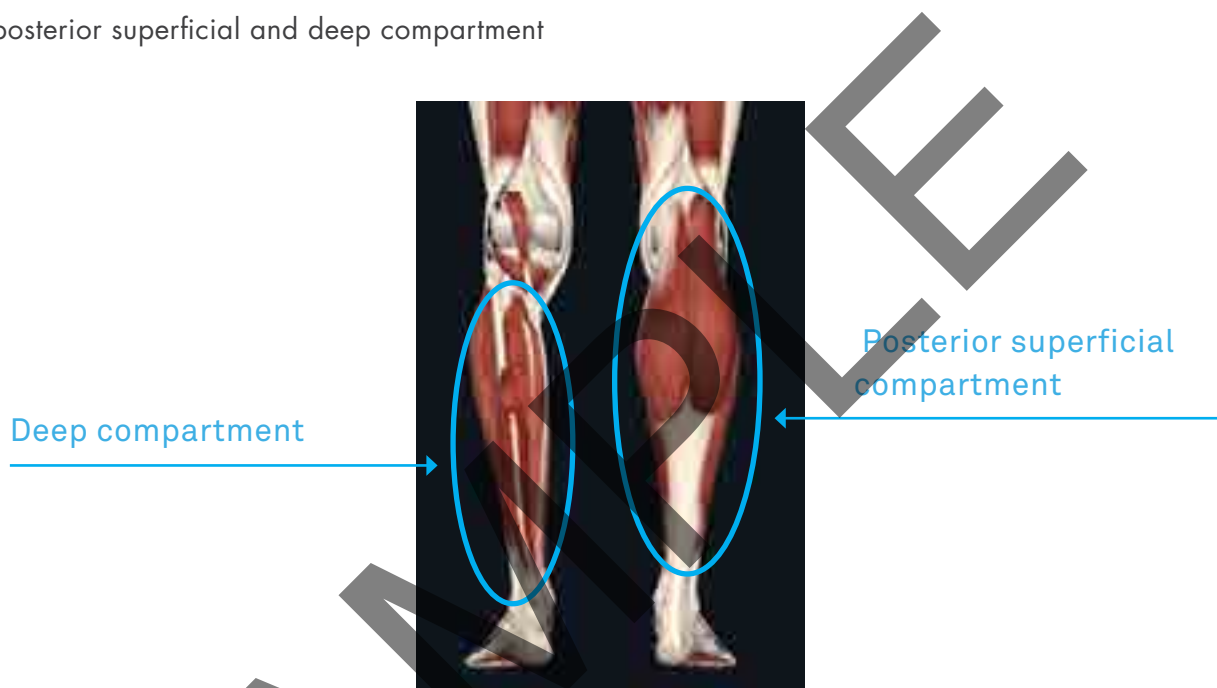
The lower limb

In the lower limb, there are 7 relevant compartments for stretching at this stage.

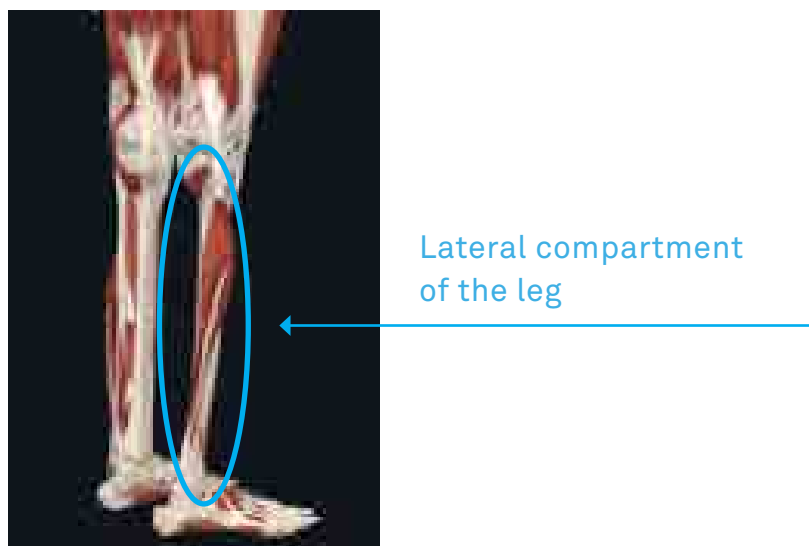
The simple seven include:

Region: The leg- between the knee and ankle has 3 compartments

1. The posterior superficial and deep compartment



2. The lateral compartment of the leg



3. The anterior compartment



Anterior compartment of the leg

Region: The thigh-between the knee and hip has four compartments

1. The anterior compartment of thigh



The anterior compartment of thigh

2. The posterior compartment of thigh



The posterior compartment of thigh

3. The medial compartment of thigh



The medial compartment of thigh

4. The gluteal compartment



The gluteal compartment

In image two below, the thigh is about to be cut across at its midpoint to expose the anterior and posterior compartments.



Image 2

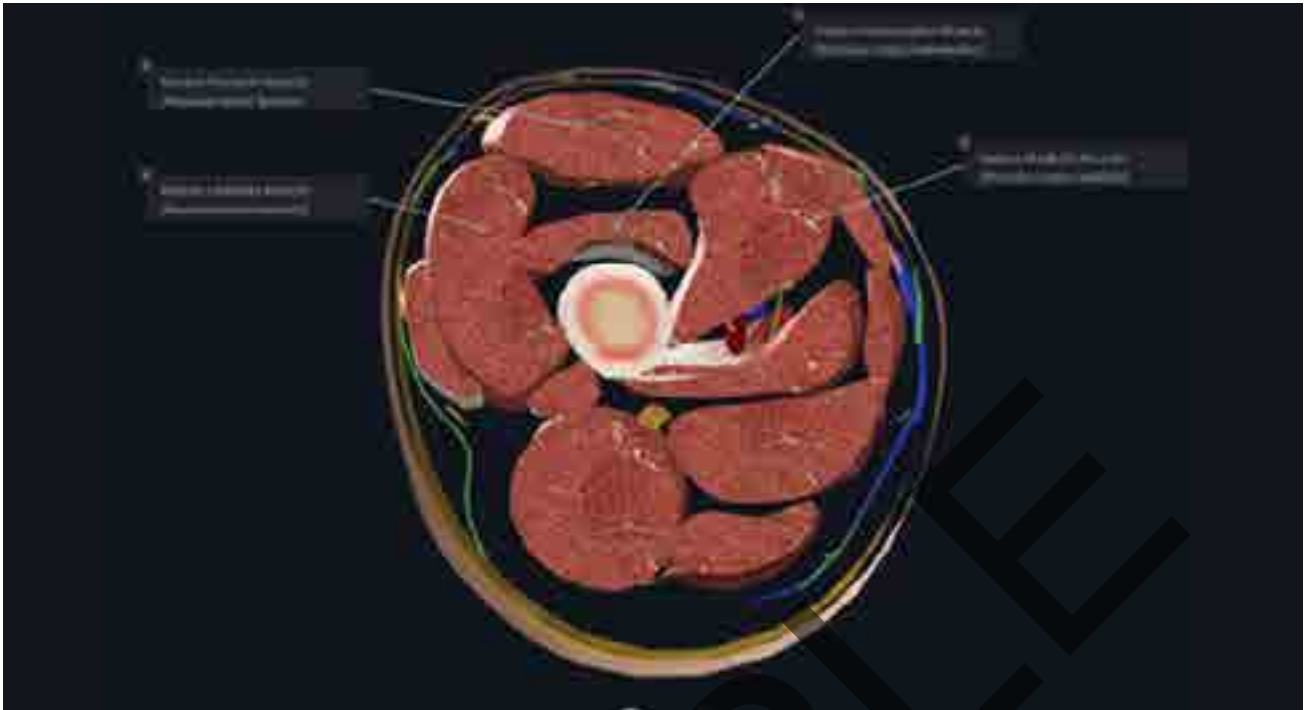


Image 3. Image three shows a transverse section that has been cut at the mid-thigh, as indicated in image two. The four muscles that have been labelled are known collectively as the quadriceps femoris and are found in the anterior compartment of the thigh. The “quads” can be stretched by reversing their concentric action-knee extension. Combining knee flexion and a posterior pelvic tilt will effectively stretch the four muscles and the compartment in its entirety.

Nuancing stretches

In the examples above, we can see that simply reversing the concentric actions of muscle groups and/or compartments will provide a stretch for the entire compartment. (This is why a degree of anatomical knowledge is essential. Without fundamental understanding of the action of a group of muscles and its origins and insertions, you can't know how to reverse them.) At the beginning stages of stretch teaching and practice, this “role reversal” will do the job safely and effectively. If done well, it will be exceedingly effective. As you or your students practice continues, a degree of exploration in each stretch can be encouraged. Indeed, in our training courses this is strongly encouraged. In the StretchFit repertoire, there are also specific stretches that focus on muscles within groups, like the biceps femoris in the hamstring compartment for example. Just like compartmental stretching, this process is simple too. While in the midst of a stretch, simply leaning or rotating a body part in a particular direction will change the line of pull on a particular muscle within a compartment and the locus of the stretch will change. If this nuanced shift is done with awareness and the sensations increase, it is likely that the affected muscle, or the fibers within it are extra tight. More attention in subsequent classes is then indicated. “That which hurts, instructs,” as the saying goes.

The benefit of this approach is that first a compartment is stretched thoroughly, ironing out many flexibility deficiencies. In due time some deeper, more focused examination can reveal important individual patterns. This is what the compartmental approach is all about too-finding individual issues in a simple step by step process and attending to them. “This issue are in the tissues” as the saying goes!

In our next post we will look at the regions of the spine and discuss which approach serves us best when trying to figure out how to stretch the multitude of muscles and joints in this region.

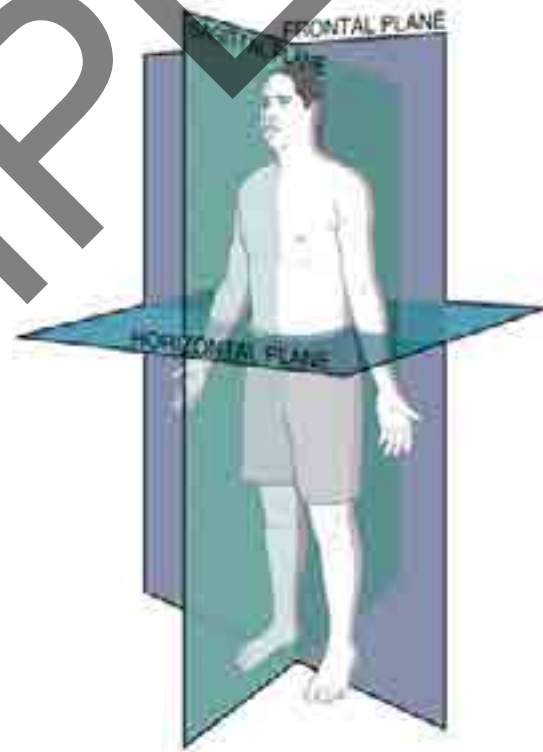
Stretching the trunk and neck

Think movements, not muscles

There are many compartments in the trunk/spine and neck. There are also a large number of muscles that can contribute to a large range of movements. For example, in the trunk the external oblique is a rotator, flexor, and lateral flexor of the trunk. In the neck, the SCM muscle does the same. Some of the back muscles can produce extension, lateral flexion, and rotation too. Consequently, placing them into a compartment with a specific function probably won't work. In the spine therefore, it is easier to think, and stretch, according to the 4 main movements-flexion, extension, lateral flexion and rotation. With this approach, and some nuanced exploration during the basic stretches, all of the muscles of the spine will be stretched effectively.

Spinal & neck movements

The spine and neck move in 3 planes-sagittal, coronal/frontal and transverse/horizontal. (See [Image 1](#)) Flexion and extension occur the sagittal plane. Lateral flexion in the coronal plane, and rotation in a transverse plane. According to our “role reversal” principle, flexing the spine and neck muscles will stretch the extensor muscles, and extending the spine and neck will stretch the flexor muscles. Lateral flexion will stretch the contralateral lateral flexors (lateral flexors on the other side) and rotation will do the same.



Of course, we are not robots and most of our movements are multi planar. However, if we follow the “nuanced” principle, eventually we will stretch everything.

Lateral flexion provides an example

The stretch in image 2 begins with lateral flexion, with “strictish” attention to form. Whilst in the stretch, the student is encouraged to explore moving the shoulder and hips relative to each other. This nuanced movement changes the line of pull from medial, to posterior, to anterior oblique abdominal fibers for example, ensuring nothing is untouched, (or “unstretched” to be more specific,) in the process. See Image below.

Variations



Image 2. Lateral flexion of the trunk with nuanced exploration to target specific parts of the external obliques for example (The Quadratus Lumborum also has 3 sheets of fibers and will be affected by this approach.)

Similarly, in the neck, a range of movements can be explored within the 3 planes. In image 3 below, flexion is combined with rotation to reach the large number of muscles in the lateral and suboccipital regions.

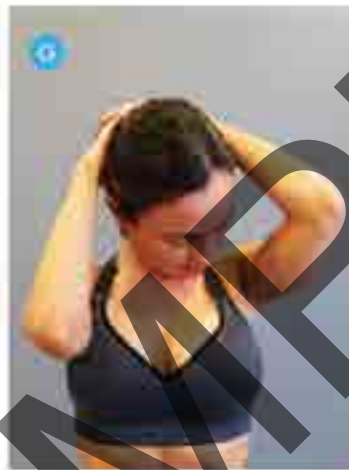


Image 3 combines flexion and rotation to reach specific muscles within the region.

Summary

The muscles of the spine and neck can be addressed by thinking about planes of movement instead of muscles. Exploring “role reversal” and nuanced movement variations within these planes will effectively target all of the muscles in these regions.

Stretching the muscles of the shoulder region

The muscles of this region are not as easily grouped into compartments as the muscles of legs or arms. There are numerous ways that they can be categorized too. A functional categorization could be based around the muscles that elevate and depress the scapula for example. We are going to take the approach used in traditional anatomy teaching and divide them into three groups. Take a look at the three and then read through the explanation below.

Don't be put off by the medical terminology.

1. Posterior axio-appendicular muscles
2. Intrinsic shoulder muscles
3. Anterior axioappendicular muscles.

While the 3 groups above sound complicated, they make logical sense.

Group one

The Axioappendicular muscles extend between the axial and appendicular skeletons. The axial skeleton comprises the spine and rib cage, (and a few other bits) and the appendicular skeleton is everything else. For example, the scapula and clavicle sit on the ribcage and are part of the appendicular skeleton.

So, posterior axio-appendicular muscles are the ones at the back that extend between the two. They include the following muscles:

- latissimus dorsi
- levator scapulae
- rhomboids
- trapezius

The posterior axio-appendicular muscles can perform quite distinct actions but cooperate to produce strong actions around the scapula, shoulder, and arm. They can be stretched collectively to some extent, and isolated with our nuanced approach.



Image 1. The posterior axioappendicular muscles

Group Two- The intrinsic shoulder muscles

The relatively short muscles that pass from the scapula to the humerus and act on the glenohumeral joint are known technically as the intrinsic six scapulohumeral muscles

The group consists of

- Deltoid
- Teres major
- Supraspinatus
- Infraspinatus
- Subscapularis
- Teres minor

The deltoid is a powerful prime mover, providing strength and power across the shoulder joint.

The remainder includes the four muscles of the rotator cuff group and the teres major. Although these muscles assist with various actions, their major role appears to be as important stabilizers of the humeral head in the glenoid cavity – that is, they steady the head in its socket. A variety of stretches are necessary to effectively target all of the muscles in this region.

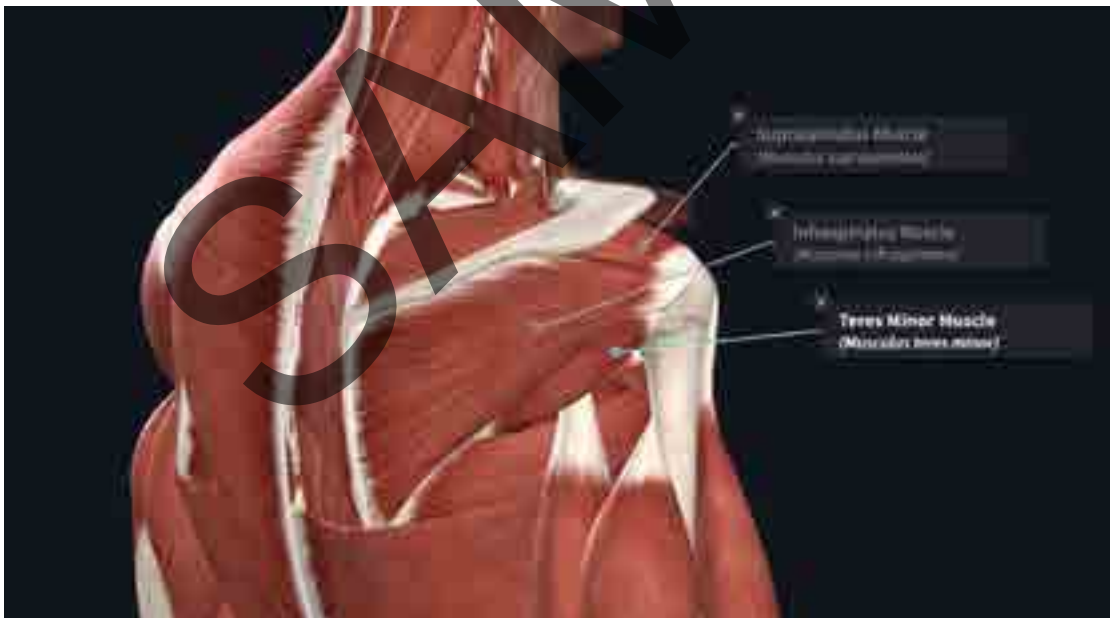


Image 2. Some of the intrinsic scapulohumeral muscles

Group Three- Anterior axioappendicular muscles.

The four anterior Axioappendicular muscles extend/join between the axial and appendicular skeletons at the front of the chest. They are also referred to as the pectoral muscles, or muscles of the pectoral region.

The anterior group includes:

- pectoralis major
- pectoralis minor
- subclavius
- serratus anterior

Although the muscles of this group have a variety of functions, they can be stretched effectively as a group and isolated with our nuanced approach also.



Image 3. The four Axioappendicular muscles

Summary

The posterior axioappendicular muscles can be mistaken for the muscles of the back, however they don't play a direct role in movement of the spine itself. They are stretched to some extent when stretching the spine but do warrant attention as a discrete group when planning a session. The intrinsic shoulder muscles require a number of different stretches, and the anterior axioappendicular muscles can be stretched effectively collectively and more precisely with our nuanced approach.

Stretching the muscles of the upper limb

In the **upper limb**, there are 4 relevant compartments for stretching at this stage. The four compartments include:

- The anterior arm between the shoulder and elbow
- The posterior arm between the shoulder and elbow
- The anterior forearm arm between the elbow and wrist
- The posterior forearm between the elbow and wrist

Like the intrinsic muscles of the foot, there are numerous muscles intrinsic to the region of the hand. Many of the major muscles of the hand and foot lie in the compartment of the leg and forearm respectively and will be stretched by focusing on these compartments.

The **anterior compartment of the arm** contains the flexor muscles - coracobrachialis, biceps brachii, brachialis. This group can be stretched collectively with a "role reversal" approach, and more precisely with some nuanced variations.



The anterior compartment of the arm

The posterior compartment of the arm contains the extensor muscles - the three heads of the triceps. Although it is unusual to find stiffness in this compartment, they can be stretched collectively, and the long head can be affected more precisely with some nuanced variations.



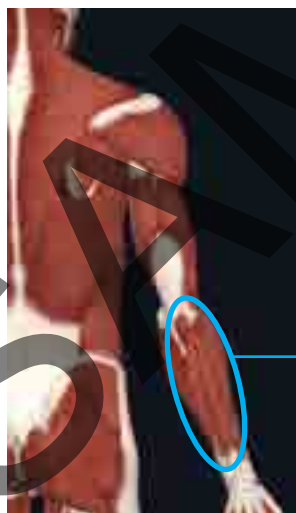
The posterior compartment of the arm

The anterior compartment of the forearm between the elbow and wrist contains the flexor muscles of the wrist, hand and fingers. They can be stretched collectively, and more precisely with some nuanced variations



The anterior compartment of the forearm

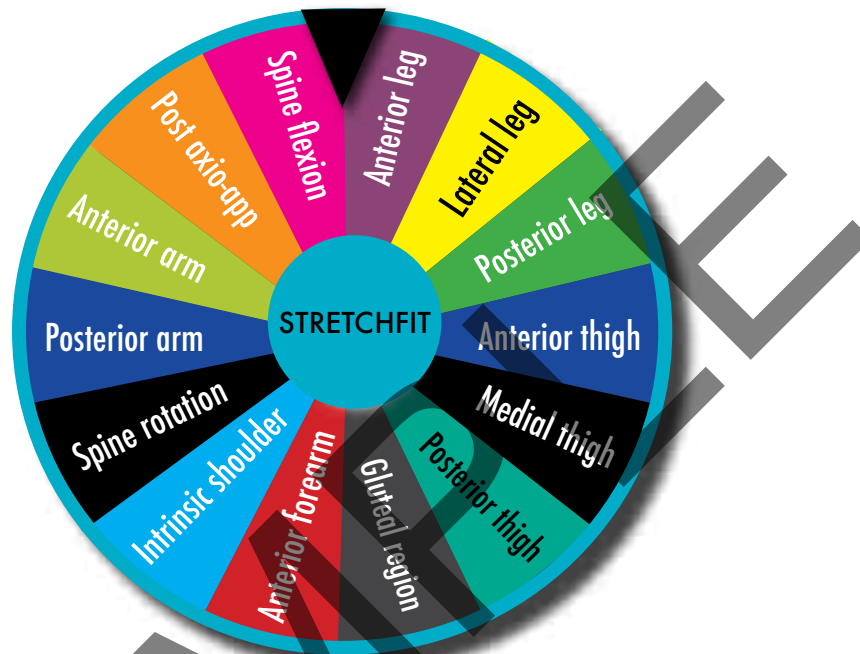
The posterior compartment of the forearm between the elbow and wrist contains the extensor muscles of the wrist, hand and fingers. They can be stretched collectively, and more precisely with some nuanced variations



The posterior compartment of the forearm

Putting it all together

The random “spin and stretch” approach of the spinning wheel is no match for stretching muscle compartments. You can still use the wheel, but individual muscles need to be replaced with compartments. This ensures that the entire body is stretched in a systematic way.



Creating lessons plans

Given the range of compartments, fitting all of them into a class is a challenge. There are really only 3 options available.

Option one is to conduct exceptionally long classes. I have tried it in my studio with some success. The difficulties are that a) people lack the time for 90 to 120 minutes of stretching, b) people lack the discipline for 90 to 120 minutes of stretching c) people lack the finances for 90 to 120 minutes of stretching!

Option two is to leave out some compartments. Commercial and other realities prevail with this option. On the plus side, clients and students may attend shorter classes more often.

Option three is to conduct our Range of Movement Assessments (ROMA) before creating a program for your clients. If possible, this is the preferred option. Time is not wasted stretching muscles that don't particularly need to be stretched, and compartments or muscles with less desirable levels of flexibility can be the focus.

What's next?

Moving on, your next tasks are as follows:

- Memorise the compartments.

This isn't difficult. The legs and arms only have anterior, posterior, medial and lateral compartments as possibilities. The spine and neck have 3 planes, and the shoulder has posterior, intrinsic and anterior groups. Voila!

- Make some sample plans and send them to me for comments
- Learn our ROMA guide
- Learn how to nuance stretches by practicing the material that you are teaching and deepening your anatomy knowledge. Developing both of these ways of knowing, the experiential and the theoretical, will do wonders for your work. For example, you might find through experience that nuancing a stretch for the posterior compartment of the thigh can be achieved by rotating the hips with respect to the lower limb. This will move the locus of the stretch to either the medial or lateral hamstrings, depending on the direction of your rotation. You could also have come to this realisation because you became aware, through your study of anatomy, that there are three hamstring running down the posterior thigh and a posterior head of adductor magnus, all of which can be stretched more strongly depending on the alignment of your pelvis and its angular relationship to the lower limb.

If you love your work, this won't be a chore. In fact, you might find the entire process extremely rewarding. Learning about your body by combining both experiential practice and theoretical learning is eternally interesting. The opportunity to share this knowledge with your students will bring a broad smile of satisfaction to your face, and theirs! Go for it!

- Anterior leg
- Lateral leg
- Posterior leg
- Anterior thigh
- Medial thigh
- Posterior thigh
- Gluteal region
- Spine flexion
- Spine extension
- Spine lateral flexion
- Spine rotation
- Post axio-app muscles
- Anterior axio-app muscles
- Intrinsic shoulder muscles
- Anterior arm
- Posterior arm
- Anterior forearm
- Posterior forearm

Chapter One

Warm Ups



About

Warmups are used for various purposes. In our case, they are used primarily to warm the body, as the name suggests! When muscle and fascia is warmer, it is more able to lengthen. (It is like warming up cheese to make fondue) In addition, movement lubricates joints, freeing them up for stretching. This is often called joint mobilization or arthro (meaning joint) fascial stretching. It is hard to measure, but likely that when myofascial tissue is stretched further because it has been warmed prior, the adaptations will be greater.

An efficient warm up should be around 5 to 10 minutes, depending on the length of the class or session. It can be longer of course, but must be undertaken with one question in mind - what is the intended adaptation? If it is to create strength, 10 minutes might be too brief. If the intended adaption to your class is flexibility only, then 10 minutes ought to be enough to raise body temperature and start stretching.

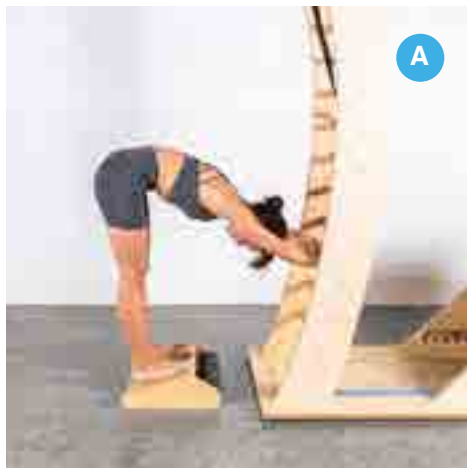
Keep in mind the psychological effects too. If the warmup is very vigorous, you need to remember that when you begin stretching, its time to tone it down and adopt a different mindset, one of patience and stillness.

Summary

- Used primarily to warm the body
- Keep in mind the psychological effects
- An efficient warm up should be around 5 to 10 minutes unless there are strength goals as part of the class or session.
- Involve large muscles and more muscle mass wherever possible
- Of course, many of the static stretches can be used as warm ups if performed dynamically

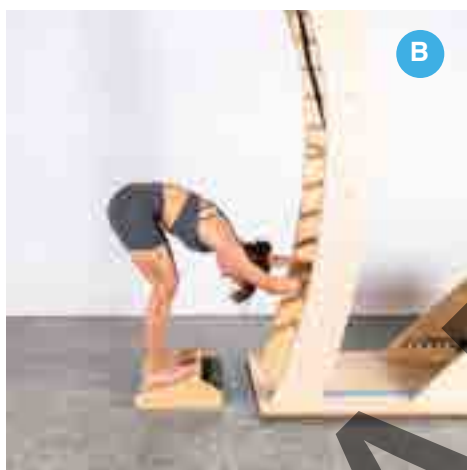
With these considerations in mind, select any of the warmups below for your sessions.

The Active Posterior Stretch



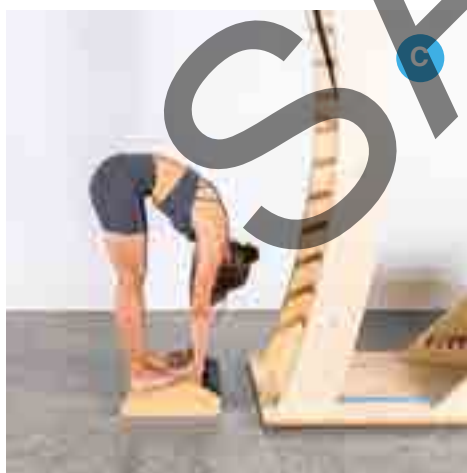
A. How to stretch

- Stand and reach down as far as possible to POT.



B. How to stretch

- Bend knees and take hands down one further rung/dowel.
- Let head relax.



C & D. Active movements

- Bend and straighten legs continuously about ten times very slowly.
- If your body relaxes, take your hands down lower and repeat as in image C and D.



D.

- Continue and as the stretch becomes easier over time, start with hands lower as in image D.
- You can also lower them during the stretch if it becomes much easier.



E. Counterstretch

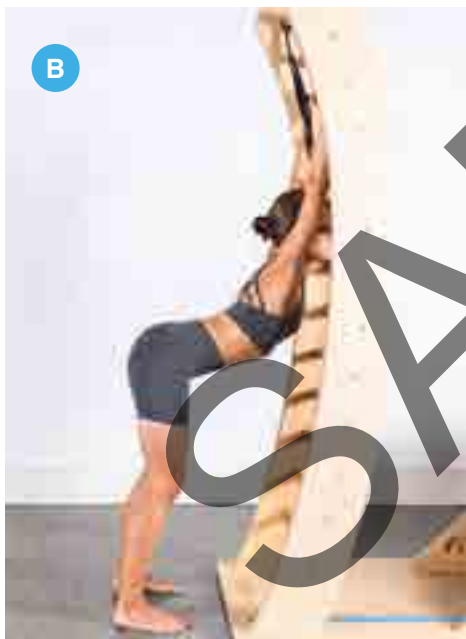
- Walk hands back up ladder.
- Lock arms.
- Move hips back and forth toward ladder 5 to 10 times.
- Allow heels to lift.

Thoracic Sway



A & B. How to stretch

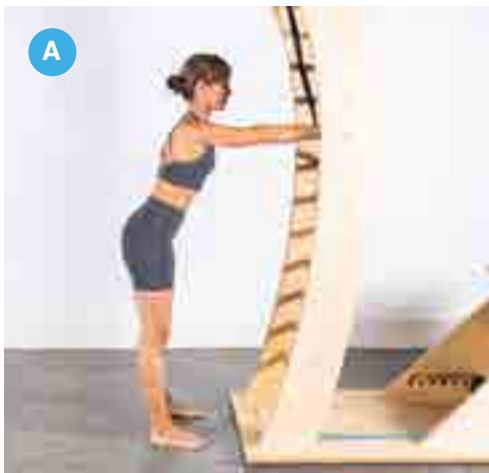
- Stand as pictured.
- Place feet under hips.
- If taller, stand further away from ladder.
- Reach arms up.
- Lower chest to floor.
- Point bottom to ceiling.



B.

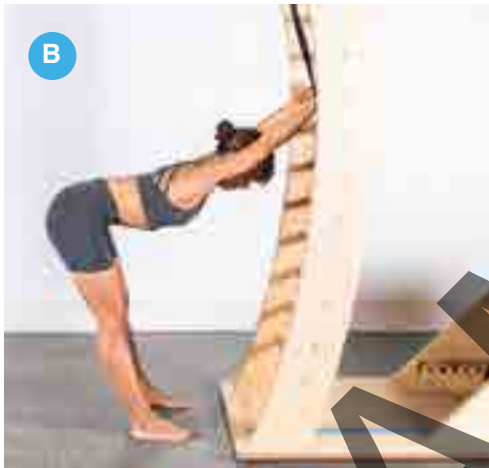
- Once in position rock back and forth to ladder very slowly.
- Repeat 10 to 20 times.
- To finish roll up through spine- see video.

Standing Roll Up



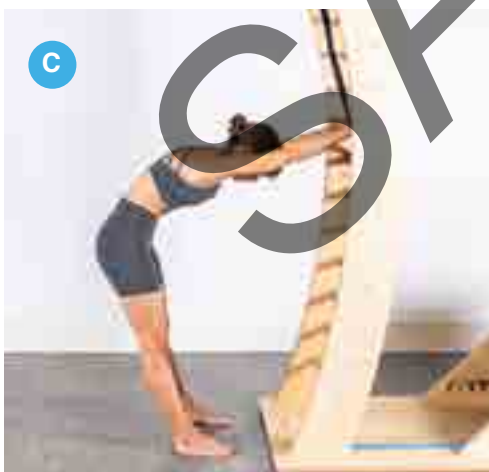
A & B & C. How to perform

- Stand as pictured, arms at shoulder height.
- If tall, stand further from base.



B.

- Lean hips back as far as possible.
- Lower chest.



C.

- Roll up slowly and sequentially through spine.
- Pull stomach in.
- Tuck bottom under.
- Head comes up last.



D.

- Roll up to standing/neutral position.



E.

- Lean hips toward ladder and then hold for 4 to 5 breaths.
- Return to neutral position (image D) and repeat entire sequence 4 to 5 times.

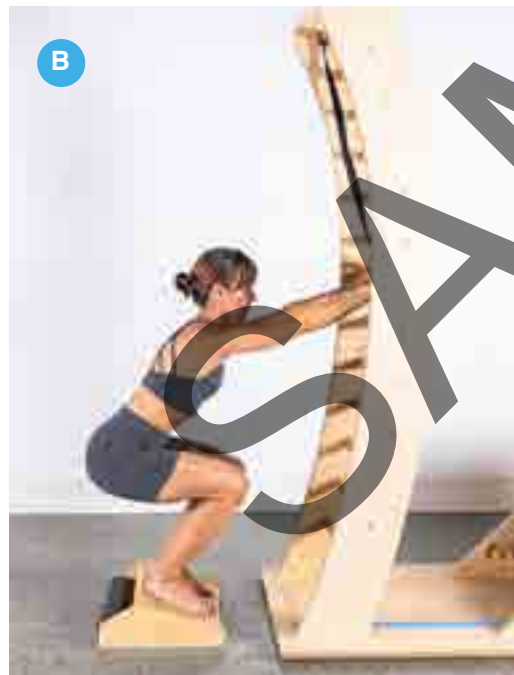
The Squat



A

A & B. How to perform

- Align hips, knees, feet
- Bend knees very slowly
- Pause at 10 cm intervals for several breaths
- Do not overuse arms



B

B.

- Go down to wherever possible
- Repeat up to 10 times
- Return to standing with each rep, pausing on the way up also

The Squat Single Leg



C.

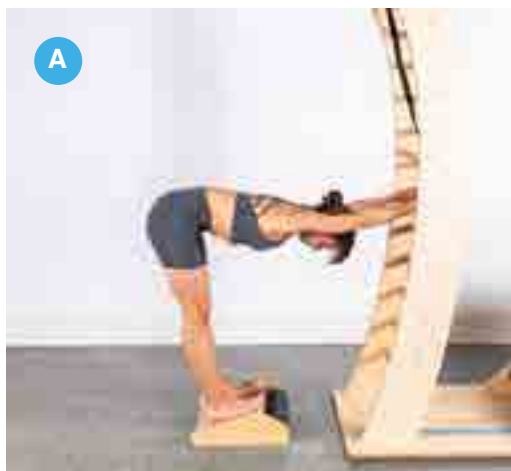
- Align hips, knees feet
- Bend knees very slowly
- Pause at 10 cm intervals for several breaths
- Do not overuse arms



D.

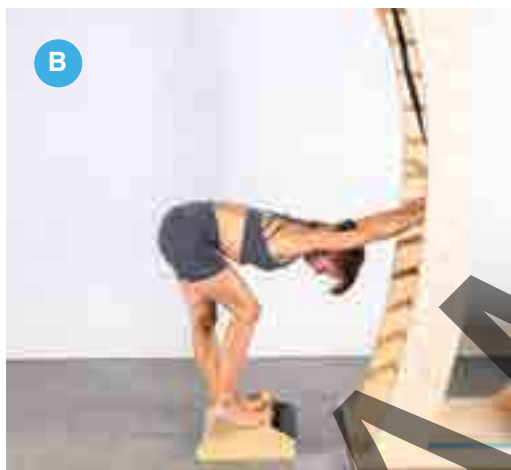
- Go down to wherever possible
- Repeat up to 10 times
- Return to standing with each rep, pausing on the way up also

Posterior Stretch Standing



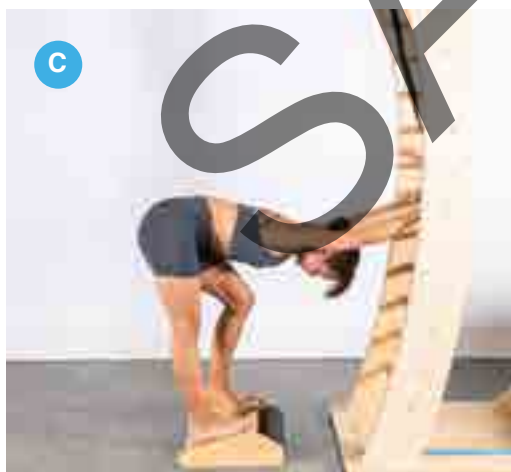
A . How to perform

- Stand as pictured
- Lean backward
- Lower arms if shoulders uncomfortable
- Start by holding bar at ring height. Take lower grip for more intensity, higher to make it easier.



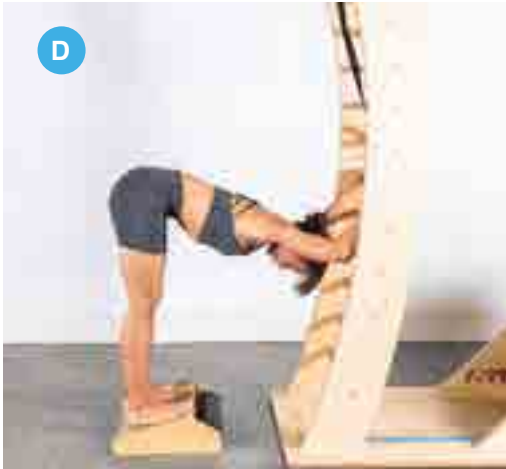
B.

- Bend one knee and move weight above straight leg.
- Alternate 5 times each leg, very slowly



C.

- Be sure to alternate legs and hold each position for several breaths.



D.

- Return to start position and pull body towards ladder very slowly.
- Lean back and forwards up to 10 times.



E.

- Roll back up slowly.
- Use slant board or take away as preferred.
- Swing hips toward ladder 5 or so times.

Hanging Back



A. How to perform

- Stand as pictured.
- Arms higher for stronger shoulder stretch.



B.

- Lean hips as far away from ladder as possible.
- Hold for several deep abdominal breaths.



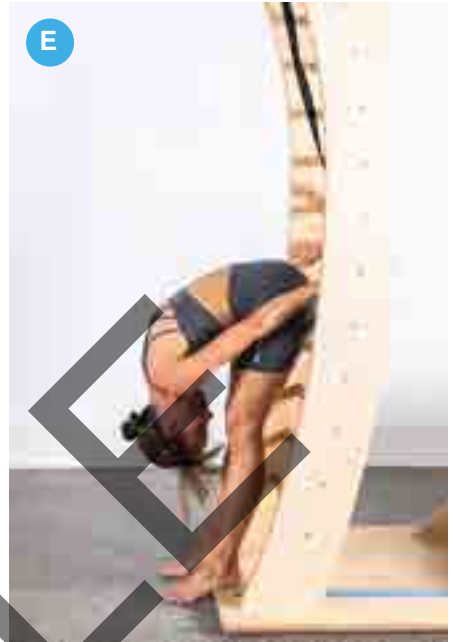
C.

- Return to start position.



D.

- Lean hips back to ladder with straight spine.



E.

- Lower head and chest toward legs.
- Roll back up through spine and repeat sequence 5 or so times.

SAMPLE

Lumbar Sway



A.

- Align ankles, knees hips, shoulder.
- Place arms at shoulder height.
- Keep arms straight throughout.



B.

- Locking arms, lean hips toward ladder.
- Rock hips back and forth upto 10 times.

Chapter Two

The Leg



Note: The leg describes the region between the knee and the ankle.
Please refer to the discussion about the 3 compartments of the leg above
page 38 and 39 titled "The simple seven."

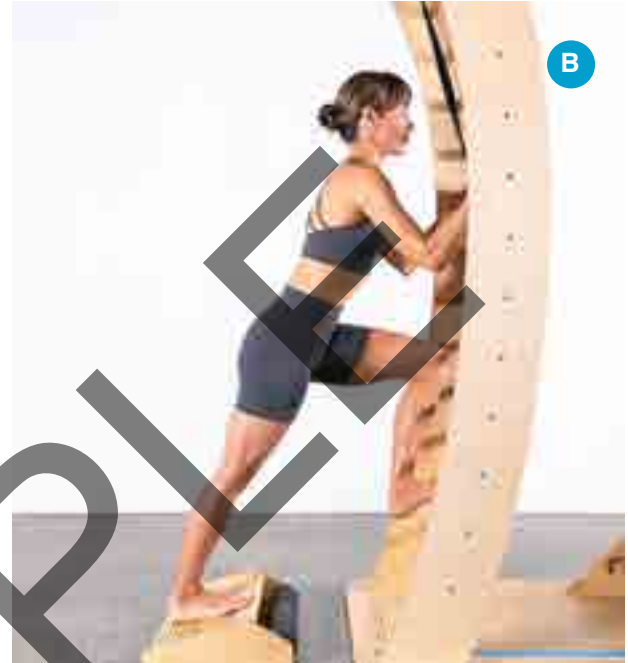
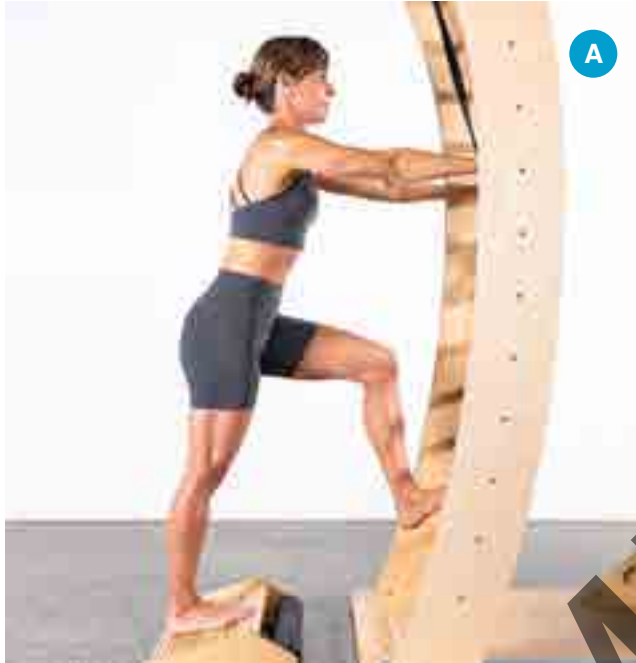
Part A

The Posterior Compartment



The Standing Calves

• **Standard:** Any • **Muscle Emphasis:** Entire superficial and deep group



A. How to stretch

- Lean hips toward ladder to POT.
 - Bend one knee, tighten quads in straight leg.
- Note: The leg on the ladder is not stretching.

A. How to contract

- Press ball of foot that is stretching into slant board as if accelerating.

B. How to restretch

- Lean hips further toward ladder.

C

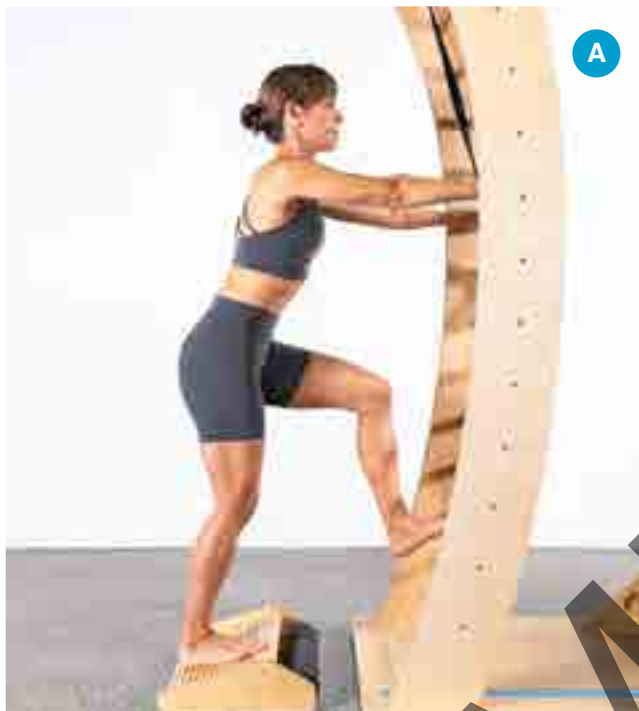


What to watch out for:

- Gripping with toes
- Moving into stretch too quickly - "bouncing".
- Allowing knee to bend.
- Don't drop arches, lift heel or turn out foot.

The Standing Soleus

- **Standard:** Any
- **Muscle Emphasis:** Posterior group, excluding gastrocnemius



A. How to stretch

- Stand on slant board as pictured & lean hips toward ladder.
- Take weight onto one leg.
- Bend knee of weighted leg so knee tracks over foot.
- Keep heel from lifting.
- Rest other leg as left leg in image.

B. How to contract

- Press ball of foot down into carriage.



C. How to restretch

- Lean hips toward ladder.
- Lean as much weight as desirable onto stance foot.
- Bend knee further.

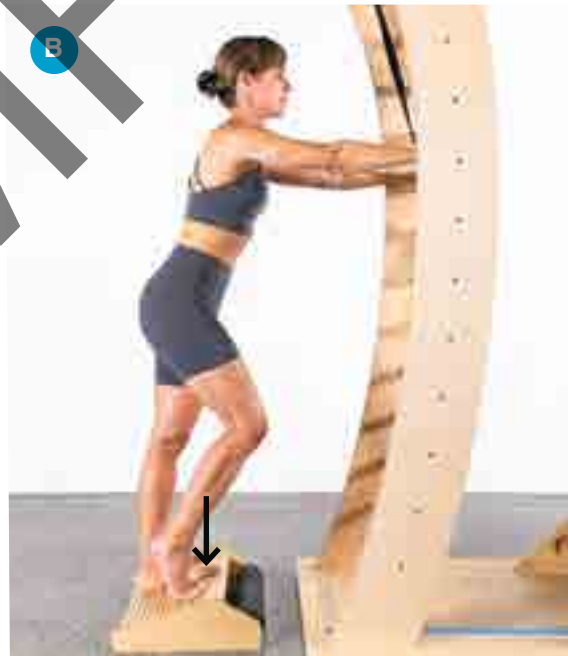
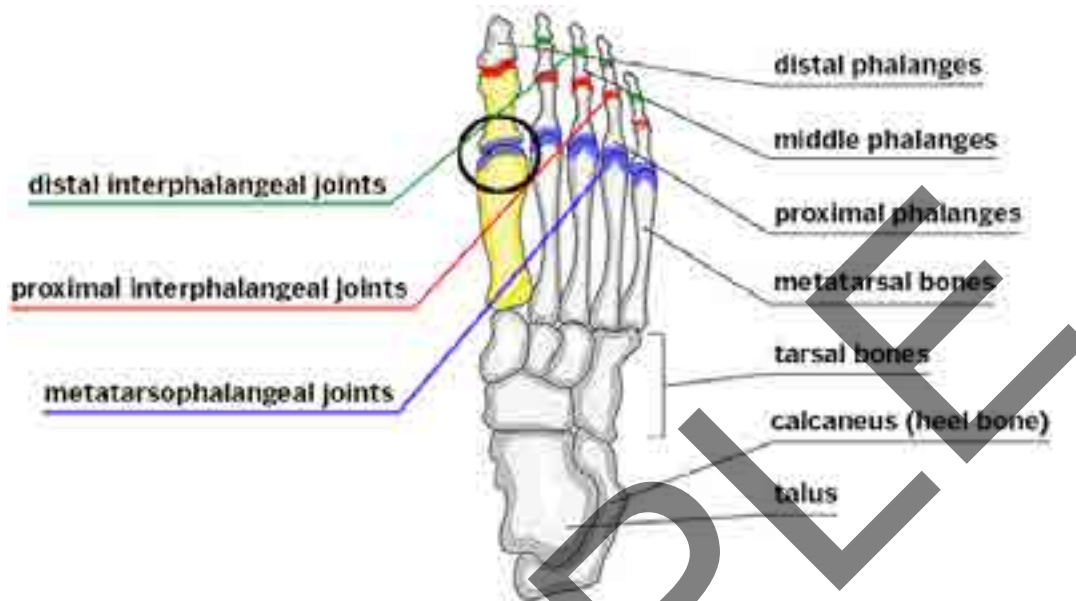
What to watch out for:

- Arch of foot collapsing.



Standing Toe Extension

- **Standard:** Any
- **Muscle Emphasis:** Flexors of toes



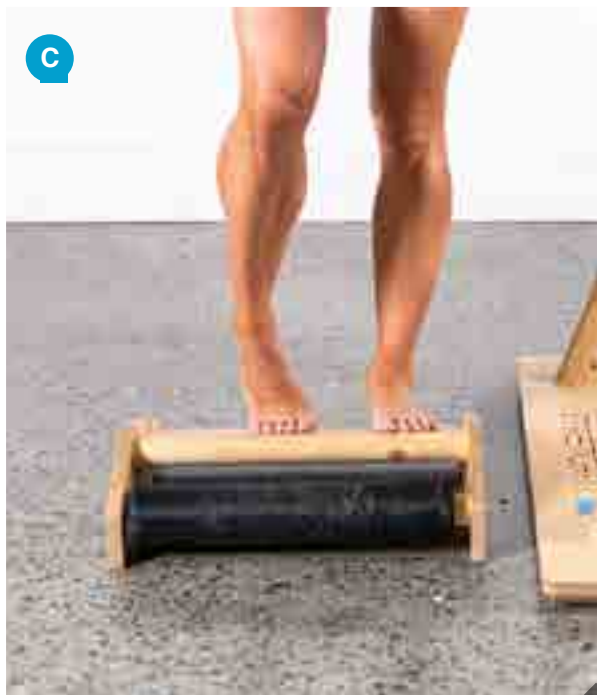
A & B. How to stretch

- Stand on slant board and place some body weight onto metatarsophalangeal joints ("balls" of feet).
- Lean forward to POT.

A & B. How to contract

- Press toes down into slant board (toe flexion).

Standing Toe Extension



B. How to restretch

- Lean forward and take more weight onto toes to increase toe extension.

C & D. Variation

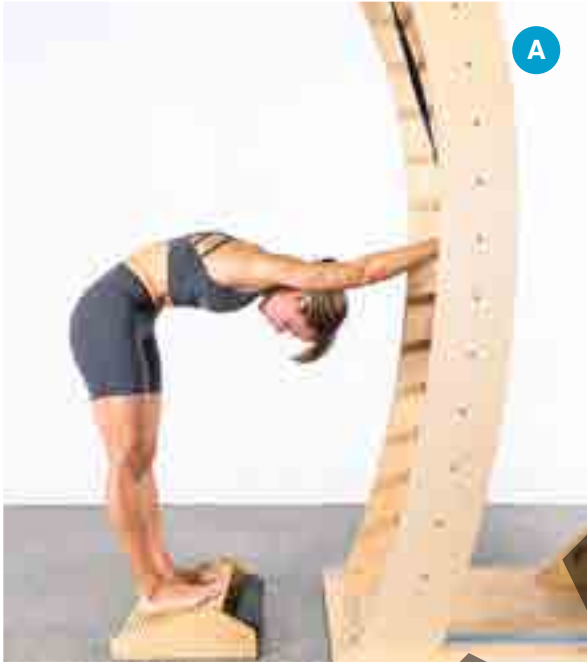
- Shift bodyweight around above each toe in turn.

Stretching the Gastrocnemius over Two Joints



The Standing Calf/Hamstring

- **Standard:** Any
- **Muscle Emphasis:** Entire calf group, hamstrings, adductor magnus, gluteus maximus

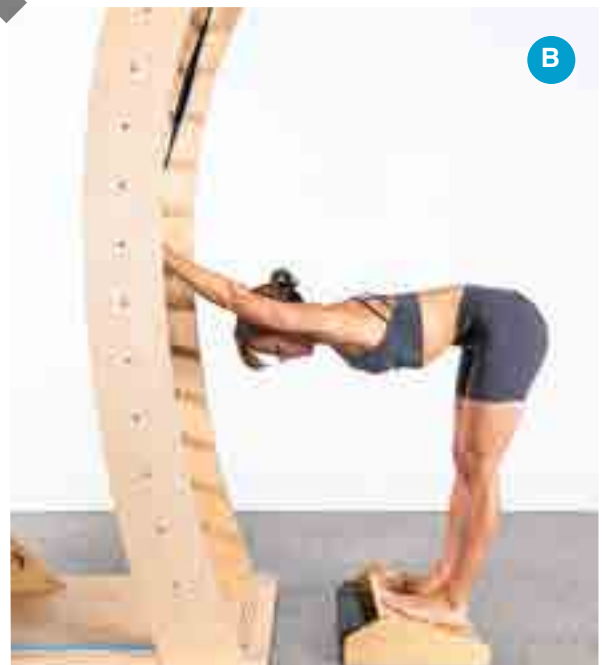


A. How to stretch

- Stand with both feet on slant board.
- Walk hands down ladder bars to POT, lean forward for calf emphasis.
- Decrease by leaning backward for hamstring emphasis.

A. How to contract

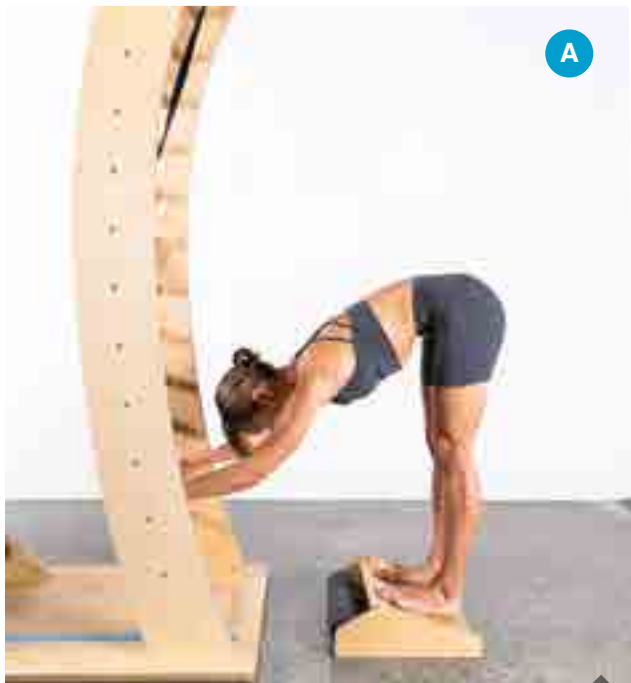
- Press the balls of both feet down into board.



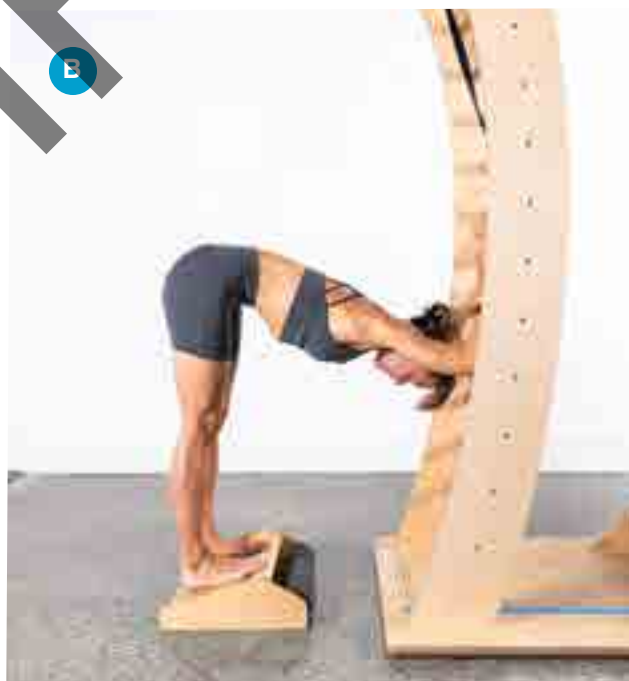
B. How to restretch

- Straighten back/spine,
- Lower chest.

Variations



- Lean hips back to increase hip flexion and stretch hamstrings more strongly.



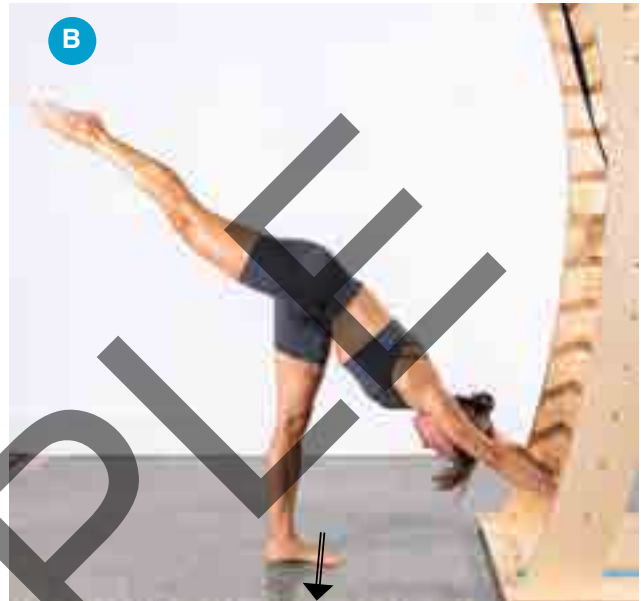
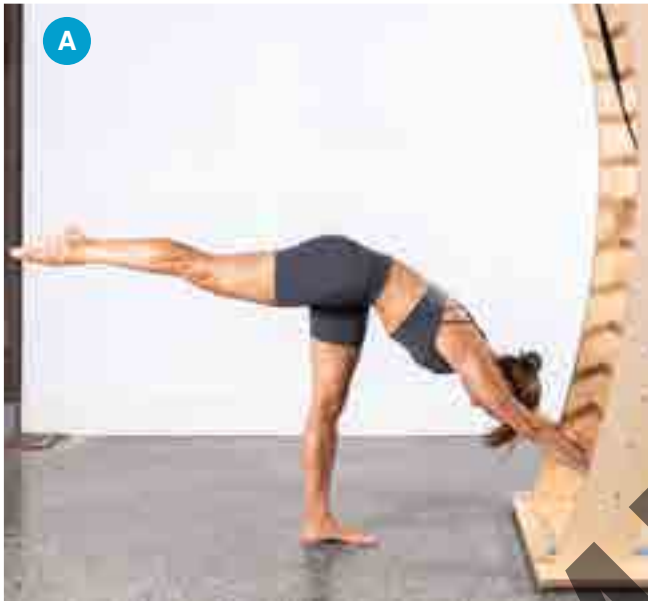
- Lean hips forward to increase dorsiflexion and increase calf stretch.



Bending one leg will transfer the effect to one leg entirely. By leaning hips across to the straight leg side, **the abductors**, **piriformis**, **lateral head of gastrocnemius**, **biceps femoris** and peroneals will be stretched further.

The Arabesque

- **Standard:** Intermediate - Advanced
- **Muscle Emphasis:** Entire posterior leg, hamstrings, gluteus maximus, adductor magnus

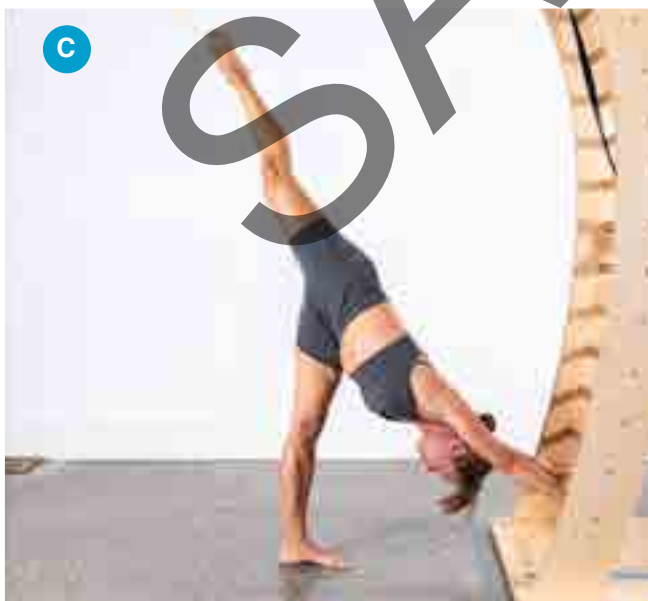


A & B. How to stretch

- Lower chest with back straight and both legs straight.
- Keep hips level.
- Legs straight and raise one leg to POT.

A & B. How to contract

- Press the ball of the foot down into floor.



B & C. How to restretch

- Lower chest. Lift rear leg further.
- Align leg, spine and arms.

What to watch out for:

- Arches of foot collapsing.
- Bending the stance leg.

Gluteus maximus and **adductor magnus** work very strongly to lift and hold the leg in the air.



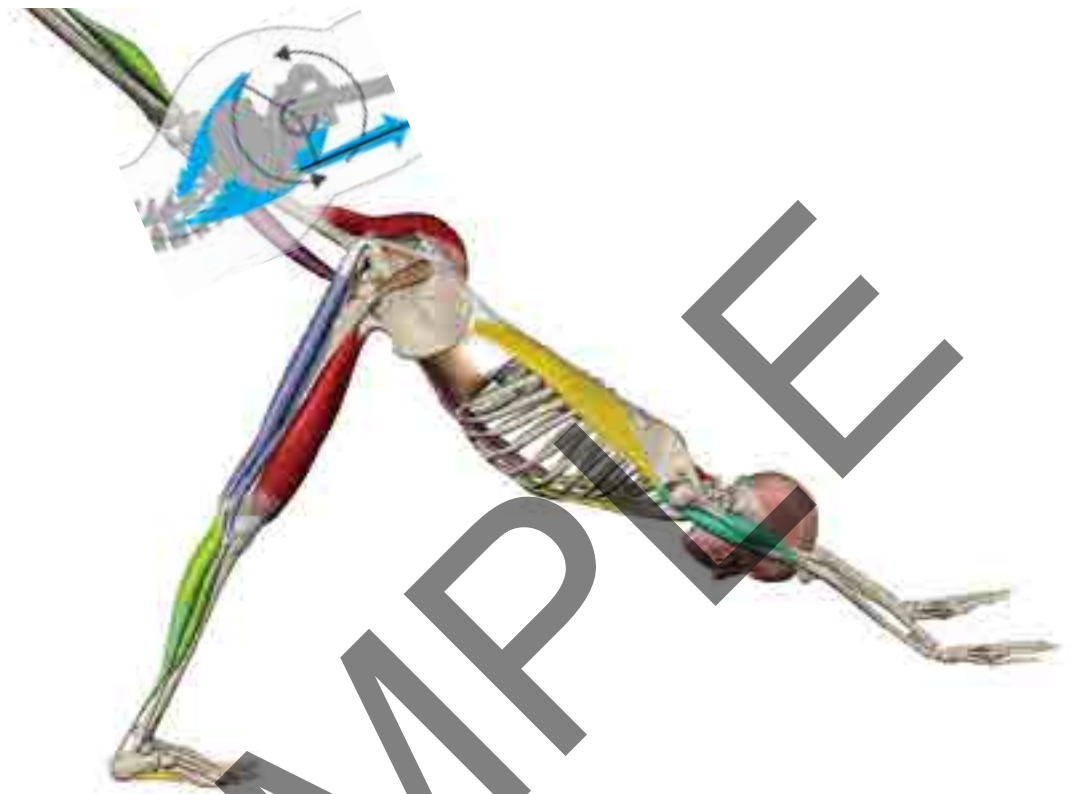
From the drone view, you can see down the posterior chain of the stretching leg from thoraco-lumbar fascia, sacrotuberous ligament, **hamstrings, gastrocnemius** and planter fascia.

Although certainly a stretch, a host of other muscles work strongly to maintain the position.



▲ Notice the **piriformis** muscle stabilising the hip laterally, the **triceps** stabilising the shoulder and elbow joints, the **gluteus maximus** extending the hip, and the **vastus lateralis** supporting the knee joint.

On the front of the chest you can see **pectoralis major** and the **rectus abdominus**. The deepest abdominal muscle, **transversus abdominus**, along with the **latissimus dorsi** attach to the thoracolumbar fascia in white.

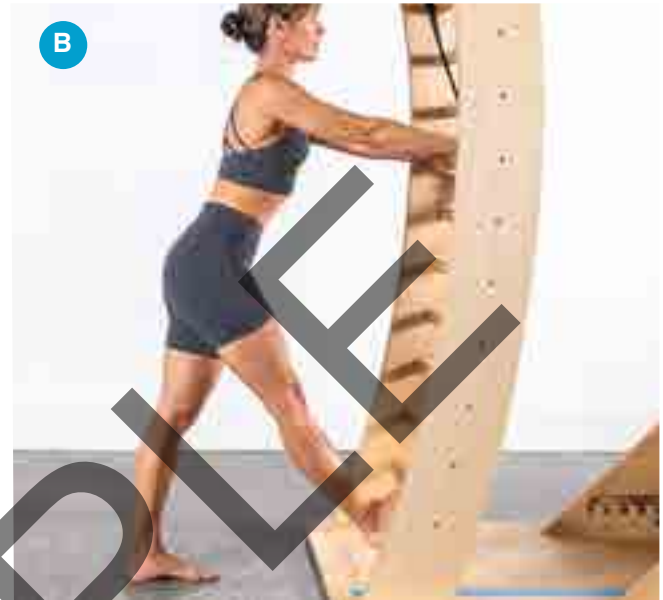
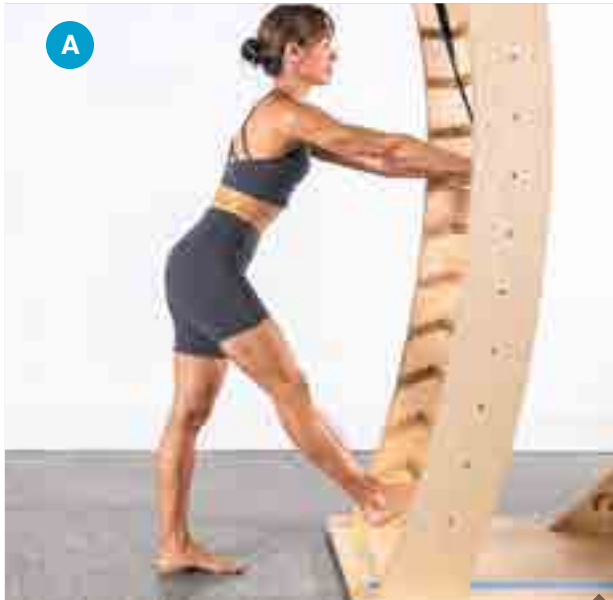


▲ As the leg is lifted, the **rectus femoris** and **illiopsoas** are gradually stretched. Because of their attachment at the front of the pelvis, the pull is in an anterior direction (see arrows).

As a consequence, the stretch becomes stronger in the stance leg.

The Bar Calf

• **Standard:** Advanced • **Muscle Emphasis:** Entire calf group

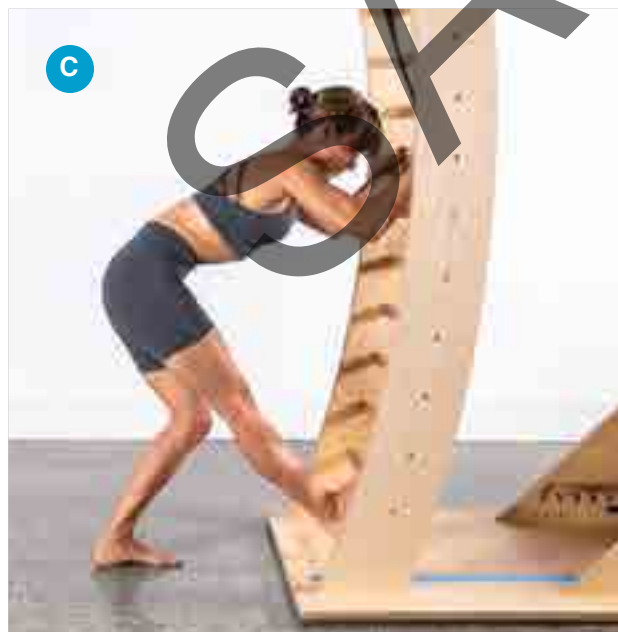


A & B. How to stretch

- Place ball of foot onto bar. Lower bar is easier due to less hip flexion.
- Lower heel to POT.

B. How to contract

- Press ball of foot into bar (plantar flexion).



C. How to restretch

- Lower heel underneath bar.
- Increase anterior pelvic tilt (Point sit bones up).
- Pull chest toward leg, i.e. increase hip flexion.

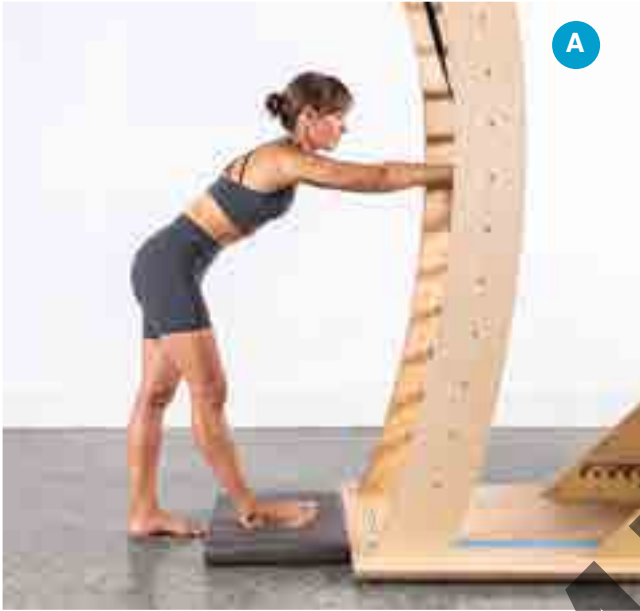
Part B

The Lateral Compartment
of the Leg

SAMPLE

The Standing Peroneals

• **Standard:** Any • **Muscle Emphasis:** Peroneal muscle group

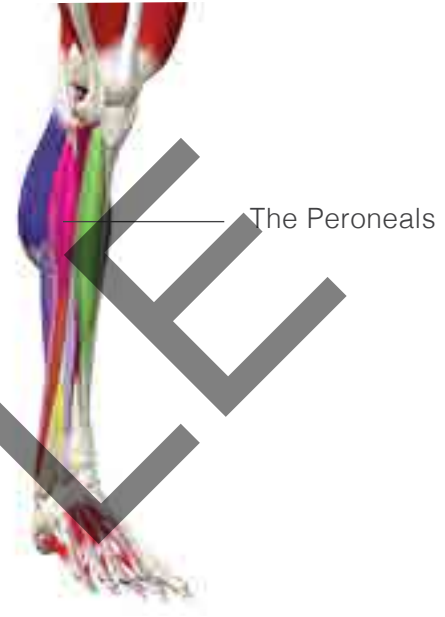


A. How to stretch

- Place one foot onto mat and hold bars. Very carefully roll foot inward (invert) and bend opposite knee if necessary to get a stretch.
- Rotate bent knee toward straight leg.
- See image C also.

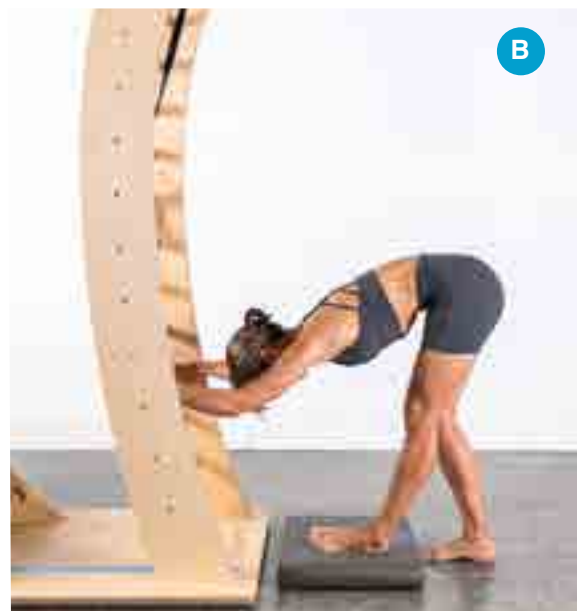
B. How to restretch

- Invert foot further, lean more weight onto foot.
- Rotate opposite hip toward inverted foot.
- Lean toward bar.



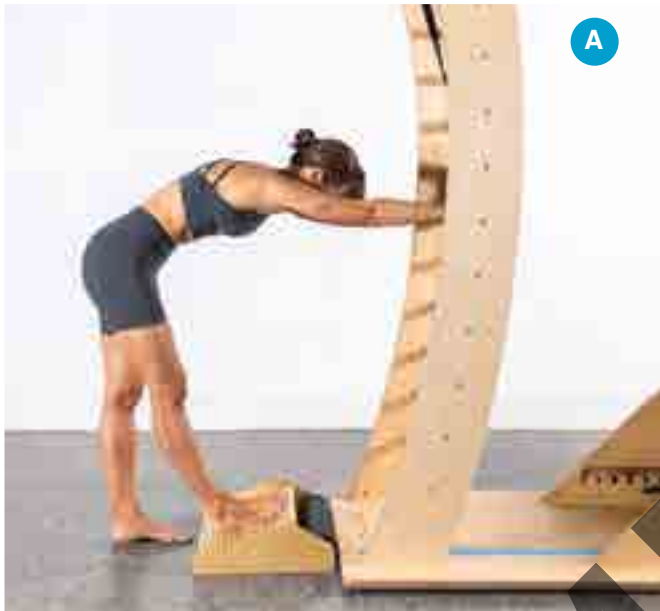
A. How to contract

- Press outside of foot down.



The Standing Peroneals with Box

• **Standard:** Any • **Muscle Emphasis:** Peroneal muscle group



A. How to stretch

- Place one foot onto slant board and hold bars.
- Very carefully roll foot inward (invert) and bend opposite knee.
- Rotate bent knee toward straight leg.
- See image C also.

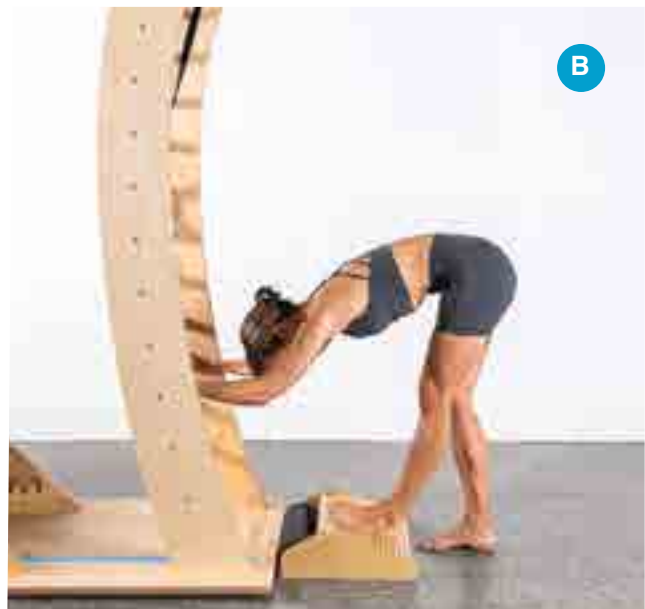


A. How to contract

- Press outside of foot down into slant board.

B. How to restretch

- Invert foot further.
- Lean more weight onto foot.
- Lean toward ladder.
- Rotate opposite hip toward inverted foot.



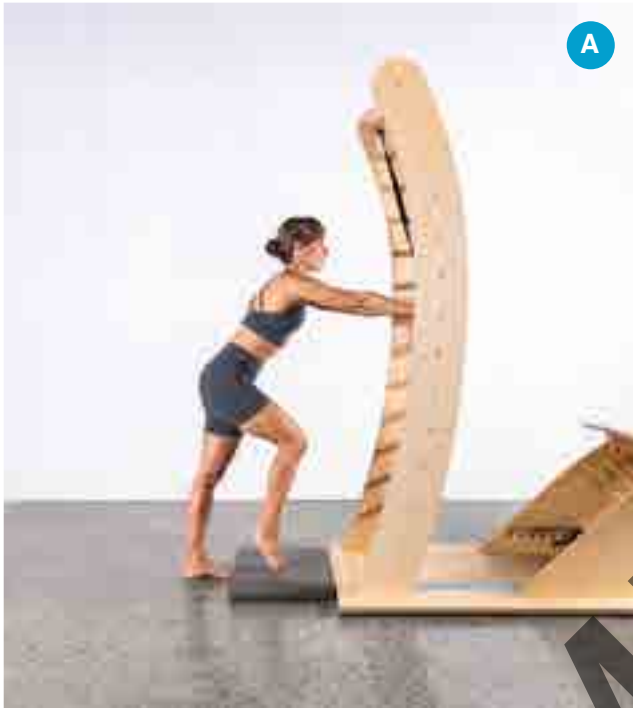
Part C

The Anterior Compartment
of the Leg



Standing Toe Flexion

- **Standard:** Any
- **Muscle Emphasis:** Toe extensors, anterior compartment.

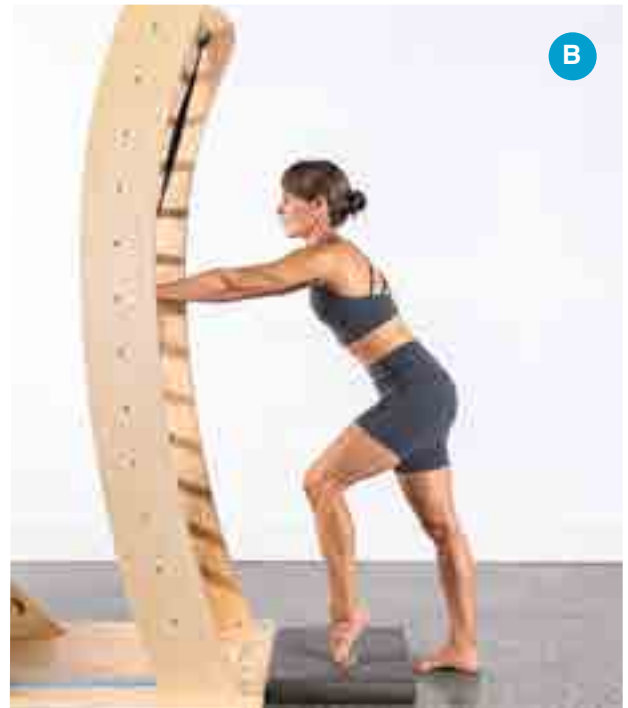


A. How to stretch

- Place dorsal metatarsals (tops of toes) on floor if possible, with toes flexed.
- Take some weight onto metatarsals to POT.

A. How to contract

- Press toes down into floor i.e toward extended position.

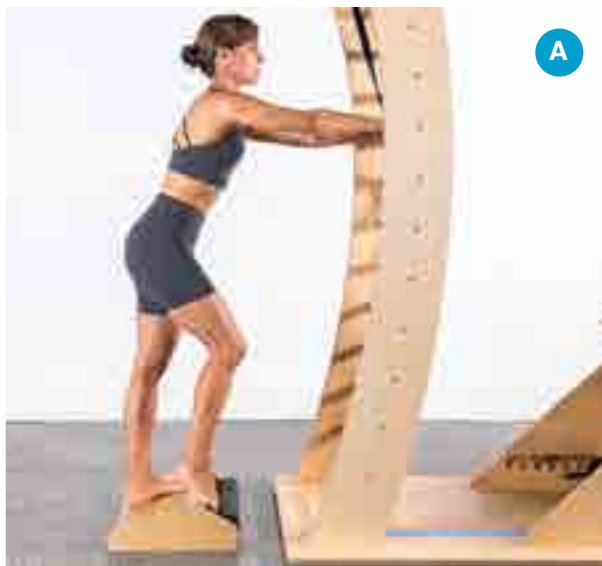


B. How to restretch

- Place more weight through foot.
- Try to straighten leg that is stretching.

Standing Toe Flexion with Box

- **Standard:** Any
- **Muscle Emphasis:** Toe extensors, anterior compartment.



A. How to stretch

- Place dorsal metatarsals into slot.
- Try to straighten leg to POT

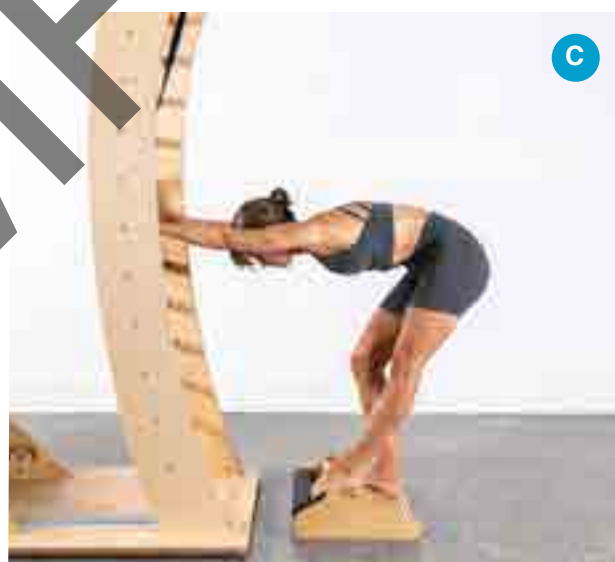
A. How to contract

- Press toes up into pad.



B. How to restretch

- Try to straighten leg that is stretching.



C. How to restretch

- Lean backwards and bend other knee.

Chapter Three

The Thigh



Please refer to the discussion about the 4 compartments of the thigh above, pages 39 and 40 titled "The simple seven."

Part A

The Posterior Thigh
(Hamstrings)



Standing Straight Leg Hamstring

- **Standard:** Any
- **Muscle Emphasis:** Underside of front leg-hamstrings, calves, peroneals



A. How to stretch

- Place one foot forward onto slantboard, ensure hips level horizontally and square.
- Hold bars for maximum support, lean hips backward and downward to POT.
- Bend opposite knee if necessary to get to POT.

B. How to contract

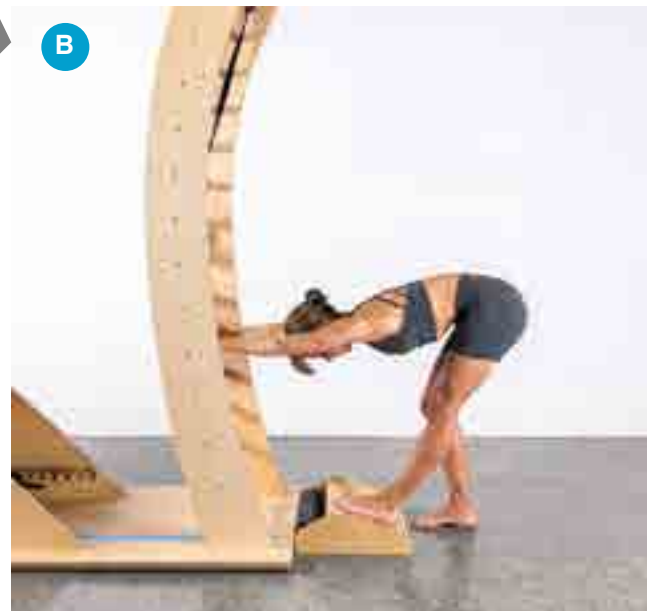
- Press stretching leg down and backwards.

B. How to restretch

- Lower trunk further.
- Increase anterior tilt of pelvis.
- Lean back and down further.
- Bend opposite knee.

What to watch out for:

- Posterior pelvic rotation and excessive spinal flexion.
- Hip losing alignment.



Bar Hamstring Bent Leg

• **Standard:** Intermediate to advanced • **Muscle Emphasis:** Underside of front leg-hamstrings, calves, peroneals



A. How to stretch

- Place one leg on bar. Higher=stronger.
- Try to straighten leg while keeping spine straight to POT.
- Hook arm around leg to keep chest in contact with thigh.

B. How to contract

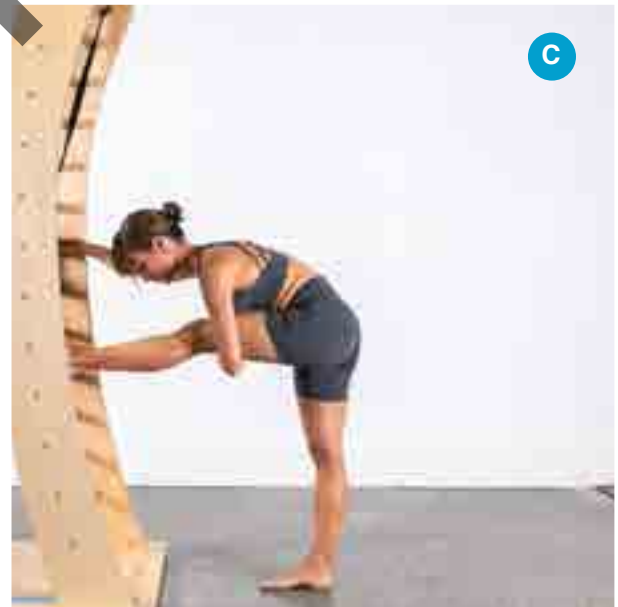
- Press stretching leg down and backwards.

C. How to restretch

- Try to straighten leg further.
- Increase anterior tilt of pelvis.

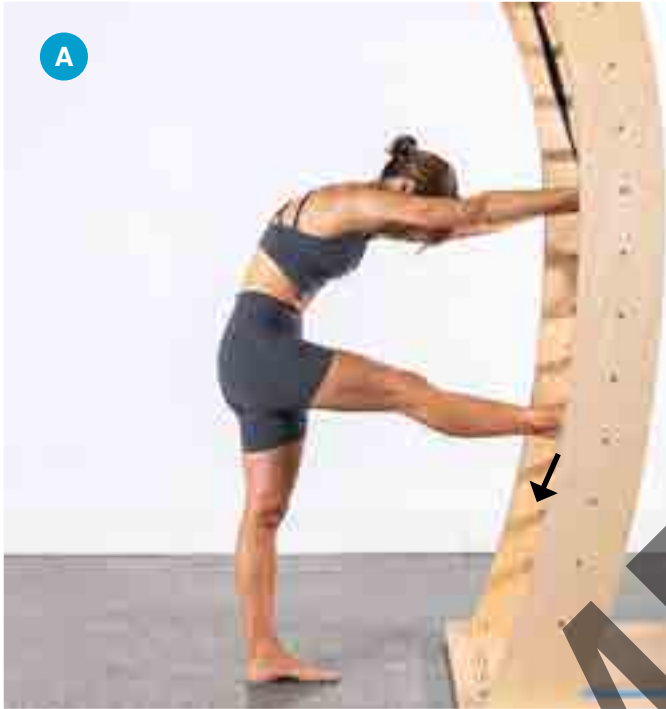
What to watch out for:

- Posterior pelvic rotation and spinal flexion.
- Hip losing alignment.



Bar Hamstrings

• **Standard:** Intermediate to advanced • **Muscle Emphasis:** Entire hamstring group

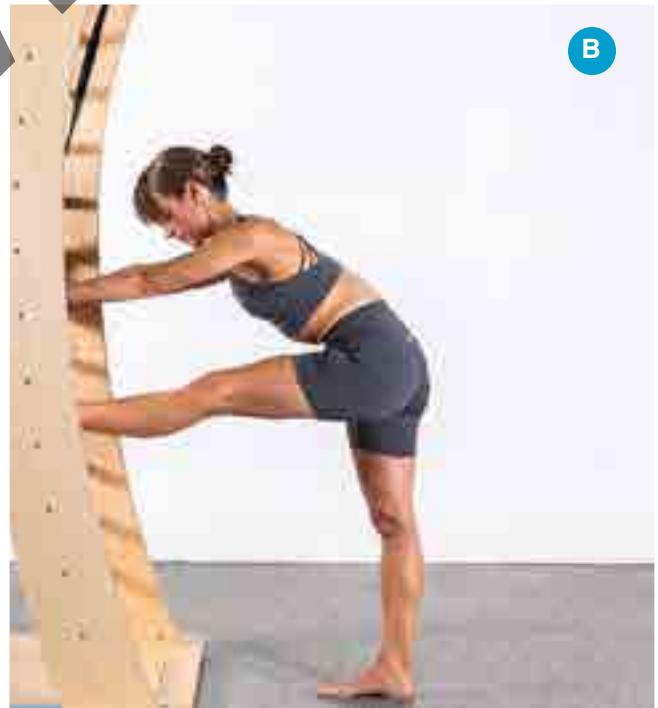


A. How to stretch

- Place foot onto bar at approx. 90 degrees (lower for less intensity, higher for greater).
- Rotate pelvis to anterior tilt.
- Try to keep spine straight.
- Minimise dorsiflexion.

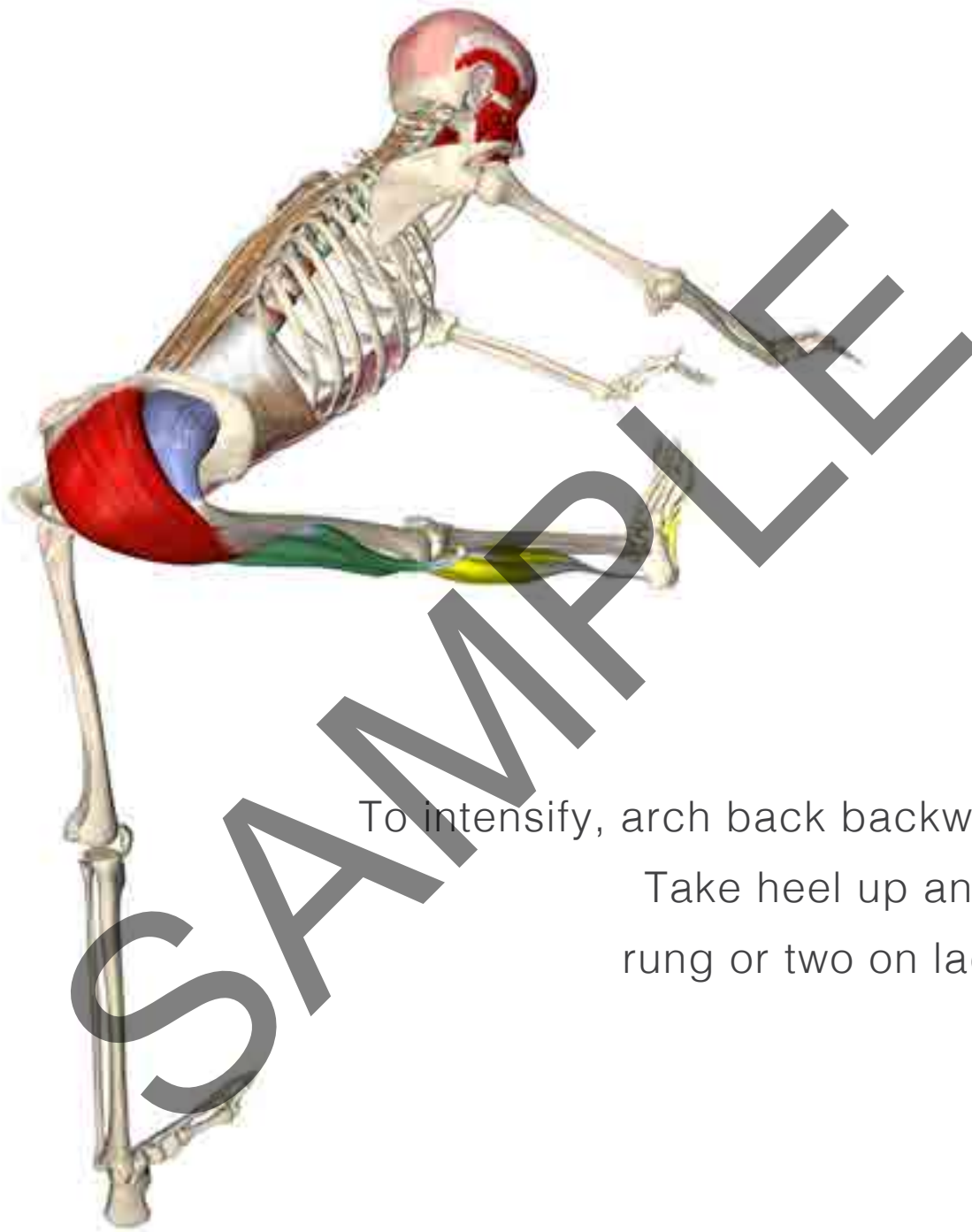
A. How to contract

- Press entire leg down into bar.



B. How to restretch

- Increase hip flexion with spine straight and anterior pelvic tilt.
- Lower chest toward leg.



To intensify, arch back backwards.

Take heel up another rung or two on ladder.