

Myolissa[©]

**Based on Rollin
self-treatment TechniqueTM**

How to get rid of articular pain

Once and for all

By

Jocelyne Rollin

Copyright

The author of this book doesn't directly or indirectly provide any medical advice or prescribe the use of any technique for the treatment of physical or medical problems without the advice of a doctor. His sole intention is to provide general information to help you in your quest for physical well-being. The author cannot be held responsible if you choose to use the information presented in this book.

Myolissa®, 2017

All rights reserved. No part of this book may be reproduced in any form whatsoever without prior written consent of the publisher, except in the case of literary reviews.



Publisher: Nillor Publishing
Graphics: Jocelyne Rollin
Illustrations: Jocelyne Rollin
Author: Jocelyne Rollin
ISBN 978-2-924822-45-6 (Book)
ISBN 978-2-924822-46-3 (eBook)

First printed in 2017
Legal Deposit — Bibliothèque et Archives nationales du Québec, 2017
Legal Deposit — Bibliothèque et Archives Canada, 2017

Printed in Canada

Catalog data before publication (Canada)

Rollin, Jocelyne
Get rid of articular pain once and for all – Myolissa® self-treatment
ISBN 978-2-924822-45-6 (Book)
ISBN 978-2-924822-46-3 (eBook)

Introduction

Hello,

Let me tell you about my journey into myotherapy. What led me to develop the myotherapy technique is the fact that I suffered for several years of tension in the neck and shoulders that were causing me terrible headaches and blurred vision. In addition, during this same period, I suffered from tension in the lower back, accompanied by inflammation of the sciatic nerve. I can understand the pain and feeling of helplessness resulting from these conditions.

At that time, like everyone else, I consulted with my doctor who had me undergo all the usual tests: X-rays, EEG and imaging. No cause was found for my migraines, but it was confirmed that I was in effect suffering from migraines. The only thing detected was a herniated disc, which partly explains my back pain, but for which no solution was offered apart from resorting to drugs. I was prescribed anti-inflammatory drugs and muscle relaxants. I also underwent lumbar infiltration which momentarily relieved the inflammation of the sciatic nerve, but the pain returned after a short period. My condition led me to physiotherapy, which I followed for 6 months at a rate of two sessions per week. This treatment focused only on the painful area and consisted essentially in applying heat and delivering electric shocks with a Tens unit. Result: very little change. I saw all these treatments as “Band-Aid” solutions that dealt with the result (the inflammation), but not with the cause of my problems. My frustration was that the experts did not seem to be able to provide me with an explanation regarding the **source** of the pain I was experiencing.

Being in my early thirties at the time, I could not resign myself to live the rest of my life on six codeine tablets a day and running at only 70% of my abilities. I was convinced that there was a solution somewhere out there and was hoping to find it one day.

In my search for relief, I decided to consult a chiropractor, while remaining skeptical about it. When I went to my first appointment, I was suffering from an excruciating migraine. Again, I underwent an X-ray. I remember waiting for the results with my head to the wall, holding my neck with both hands. But then, Eureka! they showed me the medical imagery and told me exactly where my problem was: my second cervical vertebra was no longer aligned with the others.

Already at the first treatment, the chiropractor was able to replace my vertebrae and my headache was miraculously downgraded to “simple headache”.

Naturally, I signed-up for the 24-session treatment, because it was the first time I felt an improvement in my condition.

One day, wanting to spoil myself for my birthday, I made an appointment for my first massage with a massage therapist, whose name I found in the phone book. Since there are no coincidences, I was lucky to fall on a therapist who practised myotherapy. It was not the same technique as mine but he was rather efficient. When I left his office, I felt like my head weighed 10 pounds less, and the feeling of always having a headache lurking in the back of my neck was gone.

I hesitated between continuing my treatment at the chiropractor's or go to massage therapy. The cost was the same, except that I had 60 minutes of treatment with the therapist and only 10 with the chiropractor. As for the results, at the beginning, they were similar.

Over time, I've realized that massage therapy, in my case, delivered much better results. But I still didn't understand why. What was the link between migraines, the displaced vertebra and myotherapy? It was only when I took my course in massage therapy that I understood. In fact, it was during the Anatomy sessions that I understood the relationship between my vertebrae (bones), my migraines (nerves) and myotherapy (muscles).

I realized at that time that the muscles are attached to the vertebrae and that if these muscles become tensed, they shorten and apply stress on the vertebra, which moves in the direction of muscle tension. That was the answer I was looking for.

I understood that the chiropractor's therapy was good to realign my spine, but that it didn't solve the problem once and for all because it didn't take care of relaxing the muscles attached to the vertebrae. Since these were still tensed, they would obviously pull on the vertebra and it would move again after a short period of time.

By working directly on the tensed muscles, the myotherapist restores their elasticity. The result is that the vertebra is no longer under tension and stays in place. It will remain there as long as muscle flexibility is maintained.

Regarding the causes of my migraines, I learned that the spinal cord runs down the spine, and the nerves exit between two vertebrae to go innervate various parts of the body. So, when the neck muscles are tense, they pull on the vertebra and decrease the space where the nerves exit. Therefore, a slight friction occurs on the nerves and that causes inflammation, resulting in migraines or inflammation of the sciatic nerve.

I've since then adopted myotherapy. Basing myself on my own imbalances, I developed specific maneuvers for self-treatment. I know they work because I use them regularly. I also propose stretching exercises that maintain the muscle flexibility gained through myotherapeutic treatment prevention tips to prevent acute attacks.

I'm still prone to suffering migraines, but I'm able to defuse the crisis as soon as the signals arise. Same goes for the inflammation of the sciatic nerve. These are all skills I learned over the years that I want to share with you in order that **you** may avoid years of unnecessary suffering.

Jocelyne Rollin

Myotherapy

The etymology of the word Myotherapy consists of two Greek particles: myo/muscle and therapy/treatment. Myotherapy refers to treatment of the muscles in all its forms.

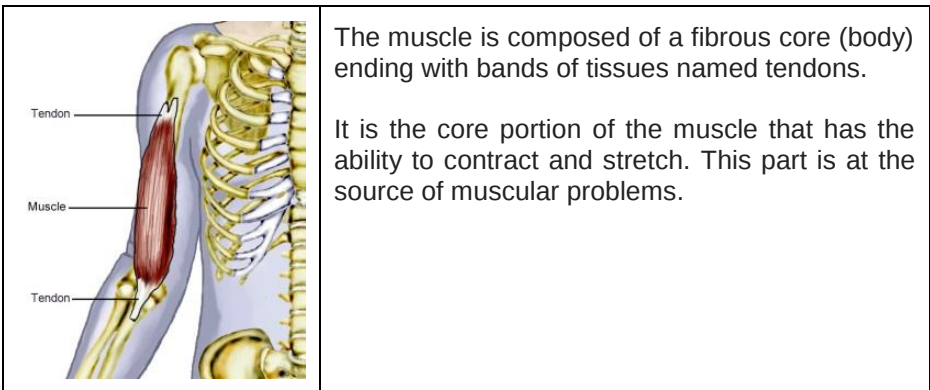
Myolissa®

The Myolissa® is a myolissage technique that, with the use of specific manual maneuvers, works towards relaxation of tensed muscle fibres.

Myolissa® self-treatment: Mission

Its mission is to provide everyone with the ability to relax their tensed muscles in order to soothe the pain resulting from inflammation.

Structure of the muscle



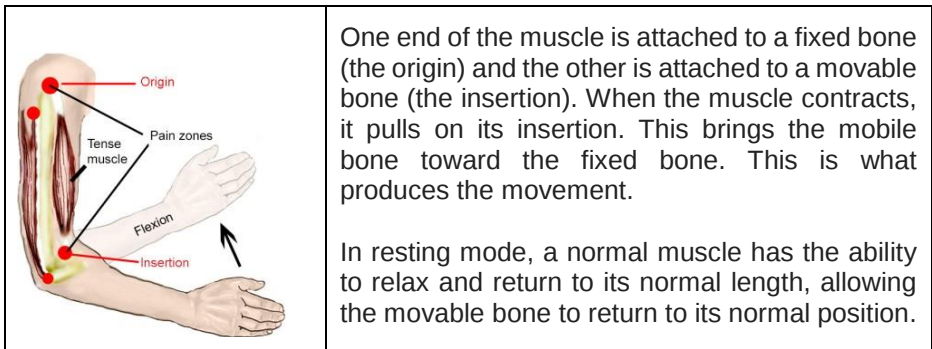
Tendons

The tendons form the ends of the muscle. They are composed of tissue that does not have the ability to stretch and contract. The tendons attach the muscle to the bone.

It is the tendons that become inflamed if the body of the muscle is stretched.

Movement

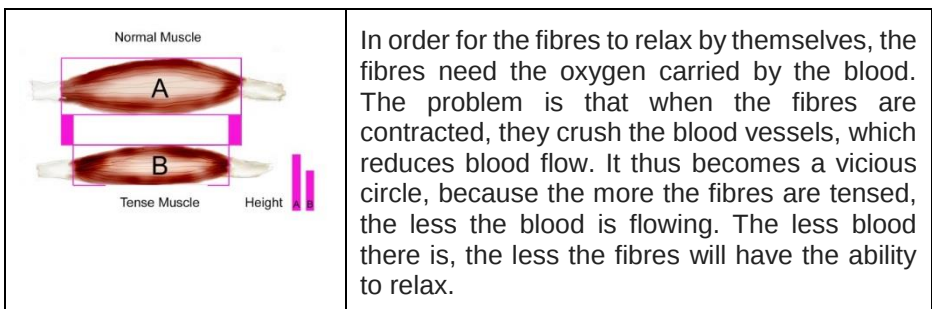
Muscles allow and are responsible for movement.



If the muscle is tensed-up or spastic, it will be unable to contract and will not allow the bone to perform its full movement. In addition, it cannot return to its normal length and allow the member to return to its usual position in resting mode. If we continue to use our muscle and force them to make full movement, then the muscle pulls on its attachment points (origin and insertion), or where the tendon attaches to the bone. It then forms micro-tears and it's in these places that inflammation will develop.

The tensed-up muscle

A muscle is tight or spasmed when it loses its ability to stretch, to contract, but more specifically to return to its original length. We shall then say it has lost its elasticity. The muscle loses its elasticity when the fibres remain contracted, that's to say, bonded against each other.



Inflammation

The pain caused by inflammation is called “inflammatory pain”

Inflammation is a natural response of the body to tell us that it is suffering an imbalance. Signs of inflammation are pain, redness, swelling and heat at the location.

The only remedy for inflammation is eliminating the cause. As long as the tense muscle hasn't been relaxed, it will continue to pull on its attachments and inflammation will only increase.

By relaxing the tensed-up muscle, it will regain its elasticity and its original length. It will cease to pull on its attachment points, that is, the origin and insertion points. The inflammation will disappear by itself within 24 to 48 hours after treatment.

Example

Here's an example. Let's say you are wearing a new shirt or blouse. You feel the label rubbing against your neck, but think it's only temporary and that you'll get used to it. At lunch, the pain becomes more intense and redness begins to appear. You decide to put an analgesic balm where irritation occurs. At the next break, you can see that nothing works. What you did is that you put a "Band-Aid" on the wound, so to speak, and it has grown. You momentarily stopped the pain, but you haven't solved the problem. Even if you wear another shirt the next day, you will probably still feel the pain of inflammation of the previous day, because it does not go away instantly. The next time you wear the garment, the irritation comes right back. It will stay that way as long as you don't remove the label.

Pain

Pain is an alarm signal that our body gives off to warn us of an imbalance. It is therefore important to try to resolve the situation at the first sign of pain. Ignoring the "little pain", it will increase until it is strong enough that we have no other choice but to deal with it. At this stage, treatment is much longer and more painful.

The pain caused by inflammation is called "inflammatory pain."

Medication

Anti-inflammatory drugs

The effect of anti-inflammatory is to reduce inflammation. Their effect is not instantaneous and they do not work on the source of the problem: the tense muscle. If the problem is not corrected, it is only a matter of time before the inflammation returns or increases. Many people complain of stomach pain when they take anti-inflammatories, but these drugs in fact do a good job of complementing self-treatment.

Muscle relaxants

For their part, muscle relaxants act much in the same way as we do, that is, to allow the muscle to relax. Their effects are felt after a much longer period and

do not necessarily a 100% solution to the problem Relaxants act on the nervous system and the person often feels drowsy and sleepy when taking them. They create more an impression of muscle relaxation than bring on true relaxation of the muscle fibres.

Infiltration

Infiltration is a technique consisting in injecting a potent anti-inflammatory drug directly at the location of the pain. Again, this is only a Band-Aid solution applied to the painful area, since the cause of the inflammation is not what is being treated. This is why they tell you that you are entitled up to 4 injections per year. If the problem were solved, one infiltration would suffice. For a person in a crisis situation, a combination therapy consisting of an infiltration and self-treatment is a winning combination

It is recommended to discontinue taking your ***prescribed*** medicine ONLY on the advice of ***your doctor***.

Causes of muscular tension

Post-traumatic stiffness

The muscle has a reflex. When in a survival situation, or in an **accident**, a **fall** or even **surgery**, it will shrink and harden to try to protect the bones. However, in most cases, it is unable to relax by itself. Note that sometimes the pain appears many years after the incident. This is quite normal.

The loss of elasticity over the years

Throughout our lives, although we don't realize it, our muscles gradually lose their flexibility. There comes a day when the muscle can no longer meet our needs and that is when inflammation occurs.

Repetitive work

The pain we feel as a result of repetitive work comes much more from a loss of flexibility accumulated over the years than from the work per se. If we are functioning with a strained muscle at 75% and that our work requires that it stretch to 80%, rest assured that inflammation will occur!

Sometimes a person can identify the exact cause of his/her pain, but in some cases, its source can't be identified. Our sole recommendation: don't unnecessarily seek to find the source of your pain, but rather seek to address it in order to prevent the situation from getting worse.

The principle behind myotherapy

When treating the tense muscle, we are manually forcing the muscle fibres to relax. These fibres will separate from one another and will restore the muscle's

volume. The blood will again be able to move freely within the muscle and around it, which will bring it the oxygen it needs to stretch and contract properly. From that moment, it will stop pulling on its attachment points, the tendons. The pain caused by inflammation will disappear by itself.

The results

If the muscle is totally relaxed, there is no reason why it should become tense again.

After the first treatment, the muscle will regain much of its flexibility. The blood will flow freely and it will be able to use the available oxygen to keep its flexibility.

We suggest you perform self-treatment for a few days, until the pain subsides.

If you're performing treatment on a single muscle, you may feel pain in other places in the days that follow. This is normal. Suppose you've been experiencing under the right foot for three weeks. You work on the muscles corresponding to that pain. It disappears, but you start to feel pain in your left calf. The reason is that in order to avoid aggravating the pain in your right foot over the last three weeks, you've compensated by using your left leg.

The left-hand side muscles were made to play a role for which they were not designed. So, once you understand the principle, you will not be asking yourself questions but will simply proceed to self-treatment in the afflicted areas.

In a nutshell, you must begin self-treatment as soon as the first signs of pain occur.

To whom does self-treatment apply?

To anyone who experiences pain due to muscle tension.

Note that even if the muscle has been spastic for years, it has the ability to regain its flexibility following myotherapeutic self-treatment. The age of the person has nothing to do with the ability of the muscles to regenerate.

Muscular tension

The problem is not where we feel the pain...

Indeed, we now know that pain comes from inflammation. We also know that inflammation is the result of a tense muscle that pulls on its attachment points, therefore, we must treat the muscle and not its attachments (where the inflammation is being felt).

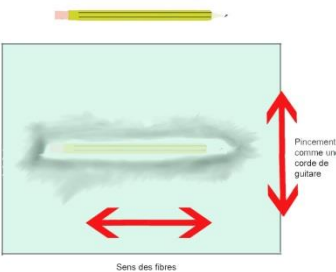
Detection of tense muscles

Finger pressure test

When we perform a finger pressure test on a normal muscle, it will sink down slightly and we won't feel any pain. Instead, pressing on a tense muscle, it will be almost impossible to have the fingers sink down. In addition, we will feel pain. Not surprisingly, this is called "muscle pain".

You can do this test on virtually all the muscles in your body. You'll be surprised at the number of muscles that are tense but are not yet causing you inflammatory pain. This is because your movements do not exceed the degree of flexibility of the muscle. However, one wrong move and the result will most probably be pain.

Orientation of the muscle fibres

 Sens des fibres Pincement comme une corde de guitare	To work a muscle correctly, you need to know the orientation of the fibres. Here's how to go about it. Take a pencil and place it under a piece of cloth. Slide your fingers along the length of the pencil. You don't feel any "bumps". This is the orientation of the fibres. But if you slide your fingers in the other direction, you will feel as if you were pinching a guitar string. You will feel a "bump". This is the direction that is opposite to the fibres
---	--

The same principle applies to a tense muscle. If you run your fingers on a muscle and you feel like you're pinching a guitar string, keep your fingers on the "bump", but work the muscle in the other direction, which is the direction of the fibres for this muscle.

Although it is best to work the muscle in the direction of its fibres, don't worry if you're not sure to have correctly identified it. You'll find instructions in each self-treatment zone that will tell you **in** which direction to work the muscles. The treatment will have its effect even if you work the muscle in the direction opposite to the fibres.

Self-assessment prior to self-treatment

It is recommended that you check the range of motion your tense muscle allows. Take the neck, for example. Turn your head to the right and left, tilt it forward and back, then to the shoulders. This will allow you to judge what movements are the most difficult to perform. Try to establish reference points. This assessment will help you to judge the work once you have completed **the** self-treatment.

Self-treatment

Once you've established the extent of movement the muscle allows, you may move on to self-treatment. It's better to focus on one muscle at a time and, as soon as it is relaxed, move on to another. In any event, working one muscle has a certain effect on the adjacent muscles.

Maneuvers

Once you've identified the tense muscles, you will perform the maneuvers shown in the following chapter.

Confirmation of work done

Once you're satisfied with the work done, you will use the same detection technique you used before treatment to determine the state of the muscle *after* you perform the treatment. It should be much less painful when touched and rather smooth at the finger-pressure test. Sometimes, the inflammatory pain may even have subsided somewhat.

Following self-treatment

The muscle continues to relax after self-treatment. The important thing to do is to apply heat to the area you just worked on.

Self-assessment after starting self-treatment

Perform the range of motion self-assessment again. There should be an improvement and movements should be smooth and painless.

Different areas (zones) of the body

Although you can concentrate only on the tense muscle that is causing the inflammation, if you want to get better results, it is best to work the body by area or "zones" that are prone to be affected by muscle dysfunction.

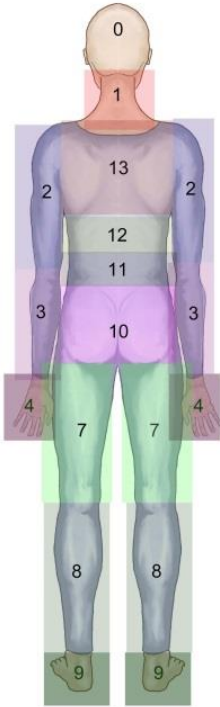
For example, let's say you're experiencing pain in your right knee. The problem could be a strained muscle in your left foot.

Thus, the first rule will be to work the opposite side, as well as the areas that are adjacent to the painful zone. Here is a guide to help you effectively identify the various zones of the body.

0. Head and face	5. Thorax	10. Buttocks
1. Neck	6. Abdomen	11. Lower back
2. Arm	7. Thighs	12. Middle back
3. Forearm	8. Legs	13. Upper back
4. Hands	9. Feet	



Anterior Zones



Posterior Zones

Chart for zones of the body

Pain	Zones to work on				
Head	0-Head and face	1-Neck			
Face	0-Head and face	1-Neck			
Neck	1-Neck	2-Arms	5-Thorax	13-Upper back	
Superior limbs					
Shoulder	1-Neck	2-Arms	5-Thorax	13-Upper back	
Arm	2-Arms	3-Forearms	5-Thorax	13-Upper back	
Elbow	2-Arms	3-Forearms			
Forearm	2-Arms	3-Forearms	4-Hands		
Wrist	3-Forearms	4-Hands			
Hand	3-Forearms	4-Hands			
Inferior limbs					
Hips	7-Thighs	10-Buttocks			
Thigh	7-Thighs	10-Buttocks			
Knee	7-Thighs	8-Legs			
Legs	7-Thighs	8-Legs			
Ankle	8-Legs	9-Feet			
Feet	8-Legs	9-Feet			
Back					
Buttocks	10-Buttocks	7-Thighs			
Lower back	11-Lower back	6-Abdomen	10-Buttocks		
Middle back	12-Middle back	5-Thorax			
Upper back	13-Upper back	1-Neck	2-Arms	5-Thorax	
Thorax and abdomen					
Thorax	13-Upper back	12-Middle back	5-Thorax		
Abdomen	6-Abdomen	11-Lower back			

The self-treatment technique

In this section we will be taking a look at the different steps to go through for effective self-treatment.

Starting point: the pain zone

It is pointless to try working on inflammatory pain, since it's the result of muscle tension. These maneuvers would be of no benefit and would be too painful. Inflammation and pain will disappear on their own once the muscle is relaxed.

For its part, muscle pain will be felt only when pressure is applied on the strained muscle. It's normal to feel pain at the beginning of the treatment. The pain will quickly subside as the muscle relaxes. You can then increase the pressure, if necessary. It's not unusual that muscle pain disappears completely after just a few maneuvers.

Residual pain may persist after the first treatment. In most cases, it feels like the aches you get after performing an exercise to which you're not accustomed. You may also feel pain in other tense muscles located in the same area. Try to find anatomical reference points to help you identify the muscle you've worked on. Thus, if the tense muscle is not exactly at the same place, it indicates that the first one you treated has relaxed, but that the one close by has not.

At first, you will start from the area of inflammatory pain (for example, an elbow). We know that the pain comes from one of the two muscle attachments. Thus, we will use this location to identify the problem muscle.

Identifying the tense muscle

	With your fingers, go down to the next joint (wrist) and try to see if there is a tense muscle by using the pencil method that we described in the previous chapter. If you've found one, that's the one you'll have to work. Starting again from the same pain point (elbow), you will now pull up your fingers toward the other joint (shoulder) and look for other tense muscles. It's quite possible that from the same pain point, you might find several tense muscles.
---	---

Massage oil

Some maneuvers may be done over the clothes and do not require oil. For maneuvers directly on the skin, regular massage oil can be used.

Put a few drops of oil in the palm of your hand. Spread the oil on the area. Don't use too much oil, as the skin gets too slippery and it becomes difficult to make precise maneuvers.

Pressure

It's very important that you respect your own tolerance to pain. As such, it's recommended you start with light pressure and increase gradually as long as you're able to tolerate it. Here's a guide to help you to increase the pressure gradually.

			
Full hand	Palm	Heel	Finger Pads

Shaded areas indicate the surface of the hand at work. Even if you don't increase the pressure, the smaller the surface is, the more it will feel like you're increasing the pressure. However, the more the surface is small, the more the work becomes specific. Never use the fingertips, as the pain can be excruciating and, in addition, there will be a risk of bruising.

You begin with movements the same direction as the muscle fibres, usually from one joint to another, with the full hand in order to warm that area. When you're able to endure the pain, you work with the palm of the hand. If the pain caused by these movements becomes intolerable, you go back to the full hand for a number of maneuvers, and then return to the palm of the hand.

Proceed with the four steps of manual pressure. If you're unable to tolerate step 4 at the first treatment, it does not matter, because basic groundwork is being performed in any event.

The number of repetitions to perform is at your discretion. Usually, a reduction in pain levels and increased muscle flexibility when applying pressure are indications that the treatment was effective. It will usually take from 3 to 10 minutes, depending on the case.

Frequency

Where frequency of treatment is concerned, each case is different. For the initial treatment, it is recommended to go for 3 consecutive days, and as required thereafter. Pain levels and muscle flexibility to the touch will dictate the frequency. There is no contraindication to doing it often. When you feel abnormal pain, as minimal as it is, we suggest you immediately perform self-treatment.

If you do not give the muscle a chance to settle into a permanent state of tension, it will respond quickly to self-treatment. It will not get to a point where it will have lost all flexibility. Its fibres are still hydrated and will relax faster. Also, the inflammation will not have set in permanently and will disappear immediately.

A muscle accustomed to therapeutic self-treatment responds instantly.

Hot or cold?

Should you apply heat or cold to the painful area? Let's analyze this together. If you apply ice on a muscle, will it relax or contract? Contract... and that's exactly the opposite effect than what we're looking for.

That is the question everybody's asking. You put ice in the first 24 hours after a **new injury** (a sprained ankle, for example) and not more than **10 minutes** at a time, every **3 hours**. This has the effect of reducing swelling and preventing inflammation. If you apply ice for a longer period of time, the opposite occurs and may actually cause inflammation. After the initial period, it's time to apply heat.

In cases of muscle tension, the pain has often been present for some time. It is therefore not a "new injury." So, you should apply heat. Muscles produce heat when they work and they respond very well to warmth. As soon as you feel pain, it is recommended to apply **heat for 20 minutes** at a time every **2 or 3 hours**.

With regard to the type of heat to use, a *Magic Bag* type compress is preferable, because the heat will decrease by itself. One can also use a classic hot water bladder or simply use a bottle filled with hot water. If you use a heating pad, do not use it during the night unless it is equipped with an automatic shutoff mechanism. Also, do not use the highest heat level. You can also wrap the heat source in a wet towel, which will produce moist heat. However, this is not necessary because the period of exposure to heat is not long enough to have detrimental side effects.

To sum it up, after self-treatment it is recommended to place a *Magic Bag* type compress for 20 minutes on the tense muscle to help it relax.

Prevention

An ounce of prevention is better than a pound of cure.

We recommended you practise myotherapeutic self-treatment as soon the first signs of pain occur. Pain is a warning signal that there is a muscle imbalance, meaning that a muscle is in the process of tensing up, that it's losing its elasticity and is pulling on its attachment points.

It's best to practise some self-treatment maneuvers immediately on the muscle in question and prevent the condition from worsening and letting inflammation creep in and settle in permanently. There are maneuvers for all body parts.

Since this treatment leaves a pleasant feeling of relaxation in the muscles even though they were not tense at the time, you can also use it for your personal enjoyment.

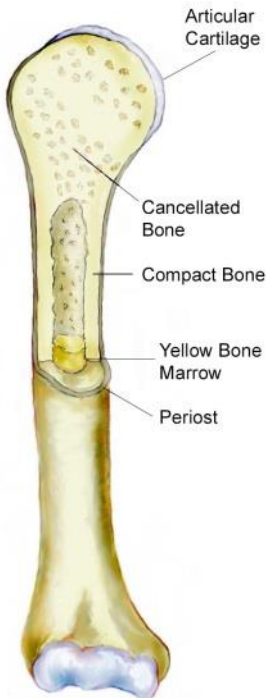
A few minutes of self-treatment daily while watching TV or even in the car will ensure you muscle health that you will appreciate.

Systems of the human body

In order to better understand the body mechanics that can affect the human body's balance, in the next chapters we will provide you with an overview of the main systems that are of interest to us.

Skeletal system

Bone structure



A long bone is composed of:

- articular cartilage
- periost
- cancellated bone
- compact bone
- yellow bone marrow.

Articular cartilage

- Articular cartilage or hyaline cartilage is a layer of very hard tissue that covers the ends of bones of synovial joints. These joints are the main joint of the hip, shoulder, elbow and knee.
- Articular cartilage has no vascular (blood vessel) or nerves.
- The deterioration is defined as **osteoarthritis**.

Periosteum

- The periosteum forms the outer layer of the bone to which the **muscle tendons** and ligaments are attached.

Cancellated bone

- This is the intermediate layer of the bone. It is brittle and has a spongy appearance.

Compact bone

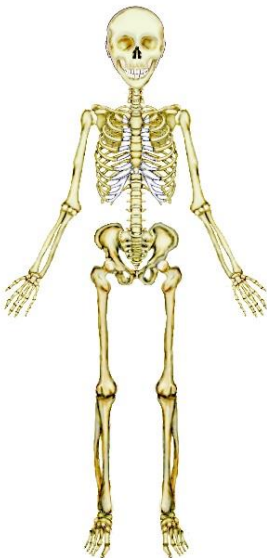
- Although it seems dense to the naked eye, under a microscope, we can distinguish a multitude of channels and passages containing nerve fibres, blood and lymphatic vessels.

Yellow marrow

- It is located in the centre of the bone and is responsible for the production of red and white blood cells and platelets.

The bone will only cause pain if it is cracked or broken. The situation will go back to normal after 6 to 8 weeks. If you haven't experienced a fall or an accident and are feeling pain, its origin is most likely muscular and it will subside with myotherapeutic self-treatment.

Role of bones:



The human body has 206 bones.

Support

- The bones are the structure of the body.
- They allow us to remain in an upright position.

Protection

- Skull bones serve to protect the brain. The vertebrae, for their part, are used to protect the spinal cord.

Movement

- The arrangement of the bones, muscles and joints allow movement.

Storage of minerals

- The bones act as a reservoir for minerals, the most important being calcium and phosphorus. If necessary, the bones release these minerals through the bloodstream.

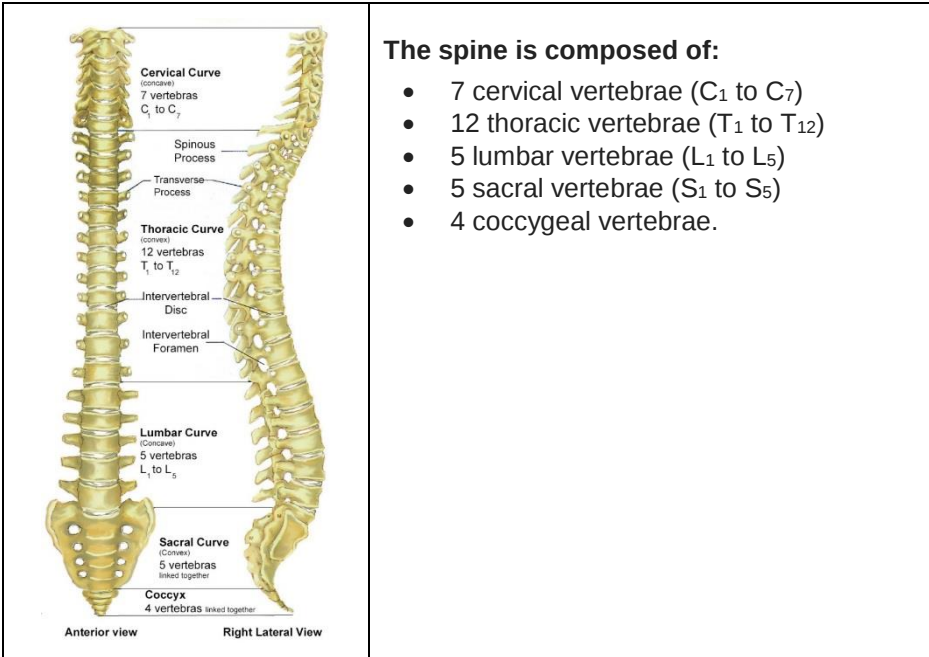
Production of blood cells and platelets

- In adults, the formation of red and white blood cells occurs in certain bones.

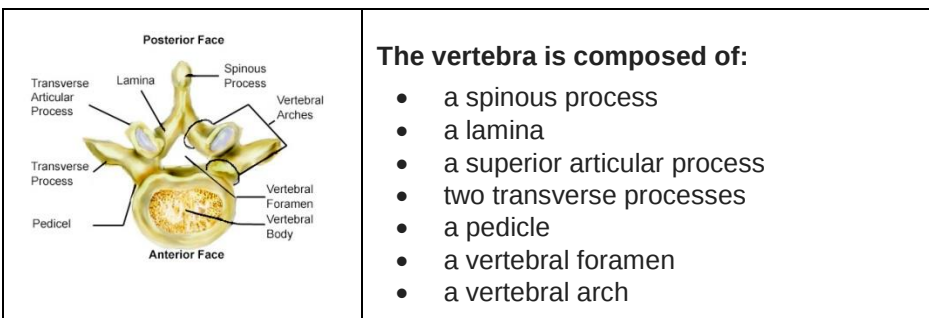
Vertebral system

We cannot talk about the back without talking about the spine, because it is where almost all of the back and gluteal muscles attach. So we will give an overview of its composition and related body mechanics to better understand the impact of muscle tension in the back and buttocks area of the body.

The spine



The vertebra



The Intervertebral disc



The vertebrae are separated from one another by intervertebral discs.

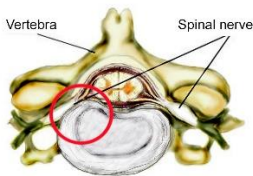
These discs consist of two parts:

- A fibrous disc
- A pulposus nucleus

The roles of the intervertebral discs are:

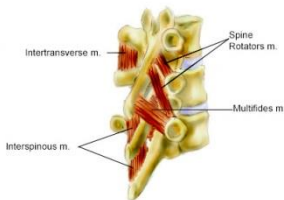
- to secure the successive vertebrae
- to withstand tension on the spine.

Herniated disc



A herniated disc is the deformation of the intervertebral disc that pinches a spinal nerve, see *Homeostatic Imbalances* Chapter.

Back muscles

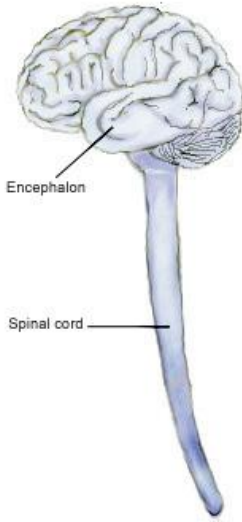


The back muscles are attached to the transverse and spinous processes of the vertebrae.

When stretched, they bring the vertebrae closer together. This reduces intervertebral space and may cause excessive friction on the nerves emerging from this location.

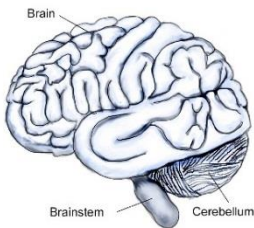
Nervous system

Central nervous system



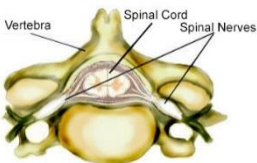
The central nervous system includes:

- the encephalon
- the spinal cord



The encephalon consists of:

- the brain
- the cerebellum
- the brainstem



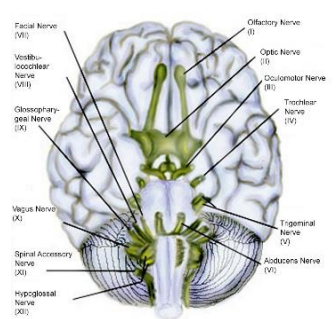
The spinal cord

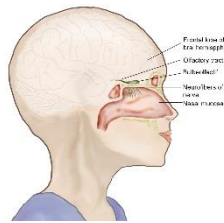
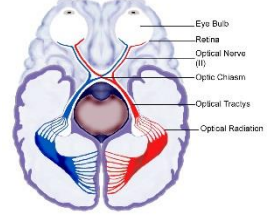
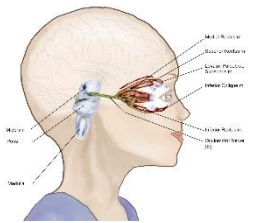
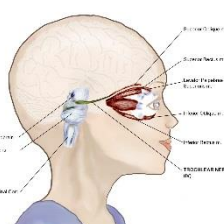
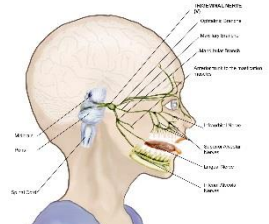
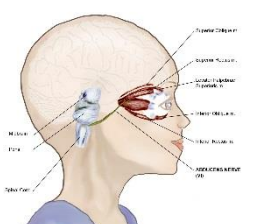
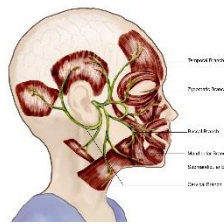
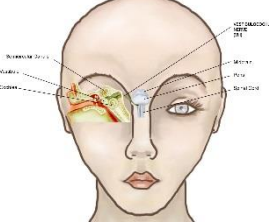
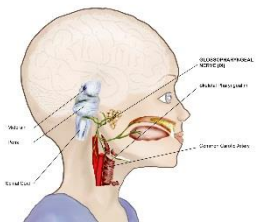
The spinal cord passes through the spine.

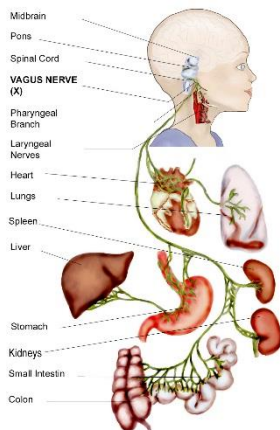
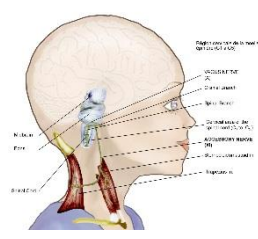
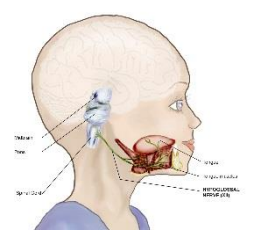
Spinal nerves extend from the spinal cord and go out of each side of the vertebrae.

Types of nerves

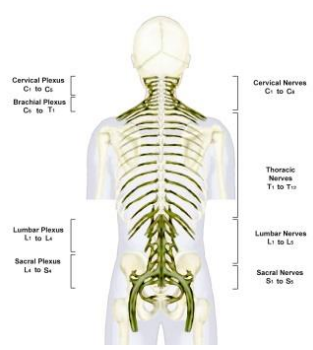
Cranial nerves

	The head has 12 pairs of nerves that are defined as cranial. • Cranial nerves originate from the medulla, which is the junction between the brain and the spinal cord. • All cranial nerves innervate the skull, except the pair of vagus nerves, which descends into the trunk and innervate most of the organs of the trunk.
---	--

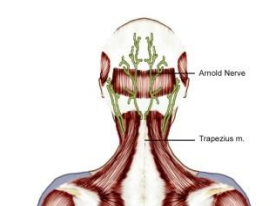
 Olfactory Nerve	 Optic Nerve	 Oculomotor Nerve
 Trochlear Nerve	 Trigeminal Nerve	 Abducens Nerve
 Facial Nerve	 Vestibulocochlear Nerve	 Glossopharyngeal Nerve

	Vestibulocochlear Nerve	Glossopharyngeal Nerve
 Midbrain Pons Spinal Cord VAGUS NERVE (X) Pharyngeal Branch Laryngeal Nerves Heart Lungs Spleen Liver Stomach Kidneys Small Intestine Colon Vagus Nerve	 Midbrain Pons Spinal Cord Vestibulocochlear Nerve Accessory Nerve Nucleus Fibre Splenoid Accessory Nerve	 Midbrain Pons Spinal Cord Glossopharyngeal Nerve Hypoglossal Nerve Hypoglossal Nerve

The spinal nerves

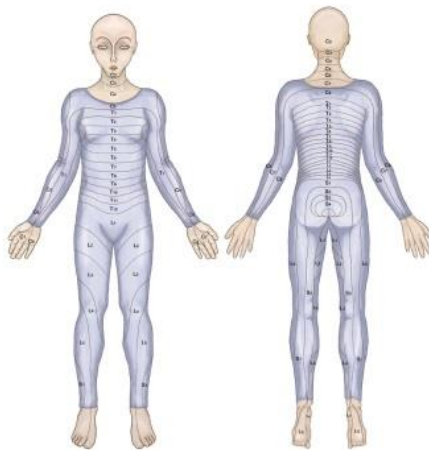
 Cervical Plexus C1 to C5 Brachial Plexus C5 to T1 Thoracic Nerves T1 to T12 Lumbar Plexus L1 to L4 Sacral Plexus L4 to S4 Cervical Nerves C1 to C8 Lumbar Nerves L1 to L5 Sacral Nerves S1 to S5	There are 31 pairs of spinal nerves each containing thousands of nerve fibres emerging from the spinal cord and innervating all parts of the body, with the exception of the head and neck regions.
---	--

The Occipital nerve (Arnold)

 Arnold Nerve Trapezoid m.	This is a spinal nerve (its source comes from the spinal cord) which exits between the C₁ and C₂ vertebrae. It passes through the tendon of the trapezoid. You feel pain in the back of the head (see chapter <i>Homeostatic imbalances</i>).
--	--

The dermatomes

A dermatome (segment of skin) corresponds to a skin surface innervated by the cutaneous branches of a spinal nerve (its sensory nerve fibres).



All of the spinal nerves, except C_1 , delimit dermatomes. Adjacent dermatomes of the trunk have a uniform width and are almost horizontal. Distribution corresponds to that of the spinal nerves.

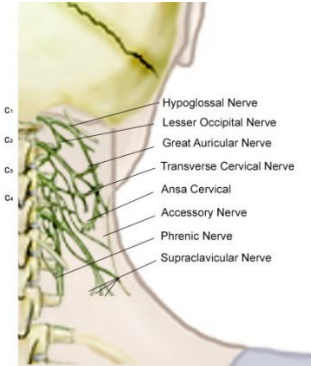
The arrangement of dermatomes of the limbs is less precise. The skin of the upper limbs is served by the ventral rami of C_5 to T_1 (or T_2).

The ventral rami of lumbar nerves innervate most of the front side of the thighs and legs, while the ventral rami of the sacral nerve branches serve most of the posterior surface of the lower limbs.

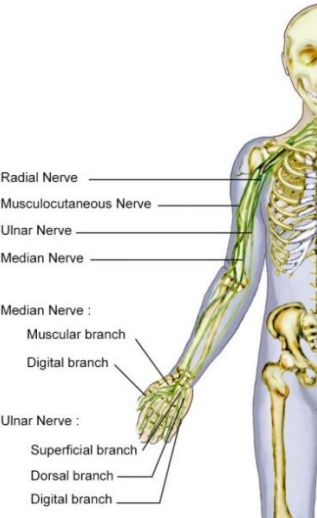
The plexus

A plexus is a tangle of several nerves that pass in the same spot. The human body has 4 plexus: cervical, brachial, lumbar and sacral.

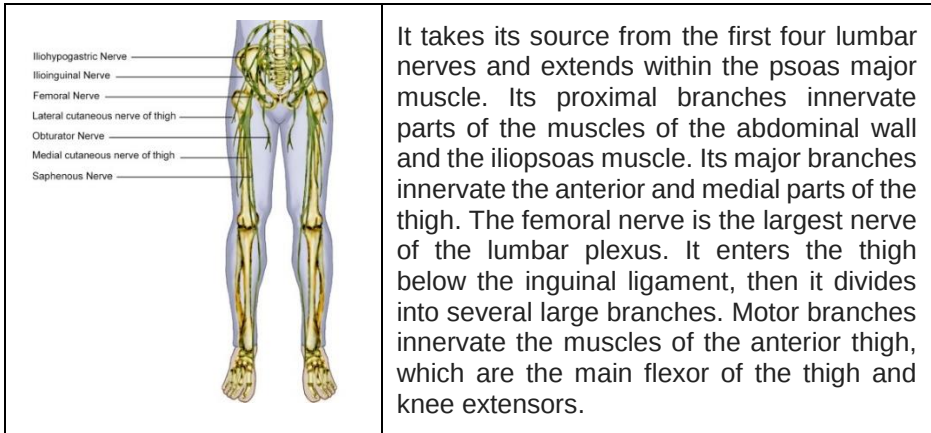
The cervical plexus

 The diagram illustrates the cervical plexus, a network of nerves in the neck. It shows the plexus formed by the ventral rami of the first four cervical nerves (C1-C4). The nerves are depicted as a green web-like structure. Labels on the right side identify the following nerves: Hypoglossal Nerve, Lesser Occipital Nerve, Great Auricular Nerve, Transverse Cervical Nerve, Ansa Cervical, Accessory Nerve, Phrenic Nerve, and Supraclavicular Nerve. On the left side, the vertebrae C1, C2, C3, and C4 are marked.	It is buried deep in the neck under the sternocleidomastoid muscle. It consists of the ventral rami of the upper four cervical nerves. The ramifications are shown in loops. Most of them are cutaneous nerves and transmit sensory impulses from the skin of the neck, in the region of the ear and shoulder. Other branches innervate the muscles of the anterior neck.
---	--

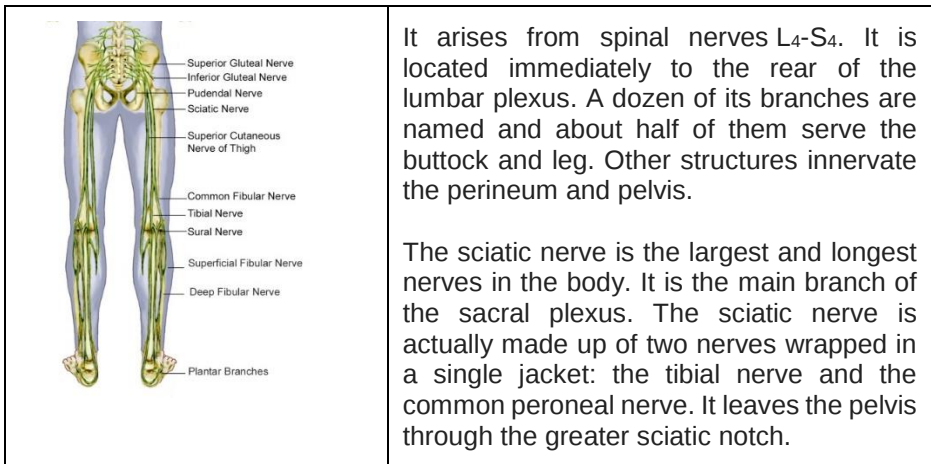
The brachial plexus

 The diagram shows the brachial plexus, a network of nerves that supplies the upper limb. It is depicted as a green web-like structure originating from the neck and extending down the arm. Labels on the left side identify the following nerves and branches: Radial Nerve, Musculocutaneous Nerve, Ulnar Nerve, Median Nerve, Median Nerve : Muscular branch, Median Nerve : Digital branch, Ulnar Nerve : Superficial branch, Ulnar Nerve : Dorsal branch, and Ulnar Nerve : Digital branch. The diagram also shows the skeletal structure of the upper limb for reference.	It is large. One part is located in the neck and another in the armpit. It plays an important role, as it includes almost all the nerves serving the upper limb. You can feel it just above the collarbone on the lateral edge of the sternocleidomastoid muscle.
---	--

The lumbal plexus



The sacral plexus



Then it runs under the gluteal maximus muscle and enter in the back part of the thigh, just inside the hip joint. There it sends motor branches to the muscles of the posterior of the thigh (which are extensors of the thigh and knee flexor) and to the adductor Magnus muscle. Its constituent nerves just separate above the knee.

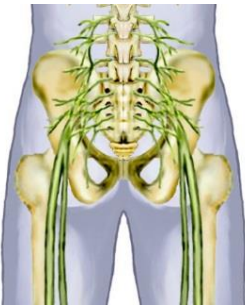
As you can see, the plexus originate from the spinal cord. They emerge between two vertebrae and then innervate different parts of the body. The muscles are attached to the spinous and transverse processes of the vertebrae. When a muscle is stretched, it shrinks and pulls on the tendons. Since the vertebrae are mobile, it causes a narrowing of the intervertebral spacing. This has the effect

of exerting a pressure on the nerve that exits there. Inflammation of the nerve will then follow.

If the situation is not corrected, it will incur a collapse of the intervertebral disc, which can cause a *herniated disc* as well as wear on the vertebra, called *osteoarthritis*.

The sciatic nerve

The sciatic nerve is the longest and largest nerve in the body. It is part of **sacral plexus**.



It originates in the lumbar region between the vertebrae L₄-L₅ and S₁ to S₃.



If they are tense, the muscles of the *lower back* and *buttocks* are responsible for the inflammation of the sciatic nerve.

When the sciatic nerve is inflamed, you can feel pain at:

- the sacrum
- middle of the buttock
- the hip joint
- under the buttock
- on the side of the thigh
- behind the knee
- behind the leg
- the heel
- the little toe.

The more the nerve is inflamed, the more you will feel the pain going down along the leg.

To treat inflammation of the sciatic nerve, it is imperative to find out what is causing the inflammation. The cause lies in the muscles of the lower back and buttocks that are stretched and are exerting friction on the nerve.

Even if you are feeling pain throughout the whole leg, it's only by working the muscles of the lower back and buttocks that you will solve the problem.

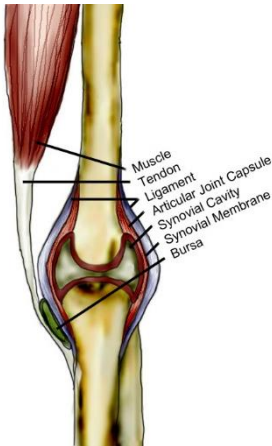
“Sciatica” being a common buzzword it is often used to designate other health problems and should not be confused with simple spasmed muscles in the thigh and leg that have absolutely no connection with the sciatic nerve, although the pain can be similar. What I suggest is not to take any risks and proceed with the complete self-treatment of the lower limb, which cannot do any harm but only bring relief.

For the **lower limb**, see sections *The thigh* and *The leg*.

For treatment of **sciatic nerve**, see the sections *The Gluteal Region* and *The back*.

The articular system

Synovial joints



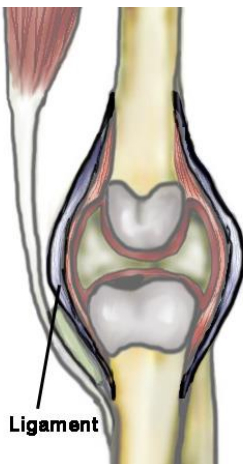
In synovial joints, bones are linked together by means of a cavity filled with synovial fluid. This provides greater freedom of movement, which means that all synovial joints are very mobile joints. All joints of the limbs and even the majority of the joints of the body belong to this class.

Each synovial joint has:

- articular bursa
- articular capsula
- ligaments
- muscular tendons.

If the muscle is tense, you will see tendinitis at first (inflammation of muscular tendons). If tendinitis is not treated, it will develop into bursitis (inflammation of the articular bursa). After that, it will be capsulitis (inflammation of the articular capsula). That's why it is important to treat the muscle or muscles at the first sign of pain in the joint.

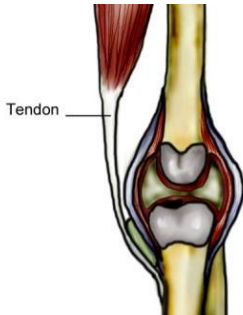
Ligaments



A ligament is a band of tissue which attaches two bones together. It serves as reinforcement for the joint.

A ligament can tear or stretch, but it will not be inflamed.

Muscular tendon



Tendinitis

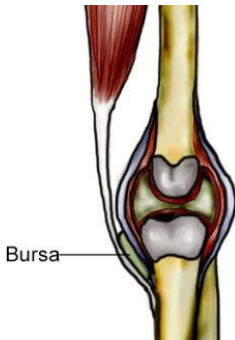
The tendon is a band of connective tissue that ends the muscle and attaches it to the bone.

When the muscle is tensed, it hardens and shrinks. It pulls on the tendons, which will cause inflammation and a condition called **tendinitis**.

By restoring flexibility to the muscle, it will stop pulling on the tendons.

Inflammation and pain will disappear by themselves.

Articular Bursa



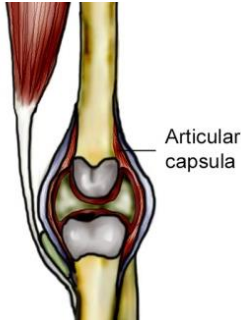
Bursitis

A bursa is a small pocket made of connective tissue filled with synovial fluid. The bursa is attached to the bone near the joints and prevents direct contact between bone and tendon, for example.

When the muscle is tensed, it hardens and shrinks, causing excessive friction on the bursa. It then develops a type of inflammation called **bursitis**.

By restoring flexibility to the muscle, it will stop rubbing on the bursa. Inflammation and pain will disappear by themselves.

Articular Capsula



Capsulitis

An articular capsula is a fibrous and elastic envelope that surrounds and defines synovial joints. The inside of the capsula is called the “synovial cavity” and it is this that contains the synovial fluid.

When the muscle is tensed, it hardens and shrinks, which causes excessive friction on the capsula. It then develops a form on inflammation which we call **capsulitis**.

By restoring flexibility to the muscle, it will stop rubbing on the capsula. The inflammation and pain will disappear by themselves.

We will see each of the joints in detail.

The shoulder joint

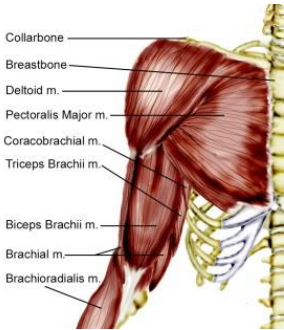
The shoulder joint is a synovial joint of spheroid type. This means that it provides a wide variety of movements. This is the most mobile joint in the body. But this joint must also be very strong. To increase its strength, the tendon of the long head of the Biceps Brachii muscle passes directly into the joint capsula. In addition, the muscles of the rotator cuff that are the Subscapularis, Supraspinatus, the Infraspinatus and the Teres Minor, merge into a single tendon at the shoulder and also surround the joint capsula.

The muscular mechanics of the shoulder joint

The shoulder joint doesn't have any muscles. It's the muscles of the arm and the rotator cuff which affect the joint.

The tendons

Two muscle tendons pass directly through the shoulder joint: the long head of the Biceps Brachii m. and rotator cuff tendon.

	The anterior muscles which cross the shoulder joint • Pectoralis Major m. • Deltoid m. • Coracobrachialis m. • Long head of the Biceps Brachii m.
	The posterior muscles which cross the shoulder joint • Latissimus Dorsi m. • Teres Major m. The rotator cuff muscles • Subscapularis m. • Supraspinatus m. • Infraspinatus m. • Teres Minor m.

If one or more of these muscles are tight, they can pull on the joint and cause inflammation. Thus, even if we feel the pain in the shoulder joint, the problem lies in the muscles of the arm and the muscles of the rotator cuff. We must therefore work these muscles to decrease the strain at the shoulder joint. Over the years, if this imbalance is not corrected, it will result in wear on the bones of the joint, a condition called osteoarthritis.

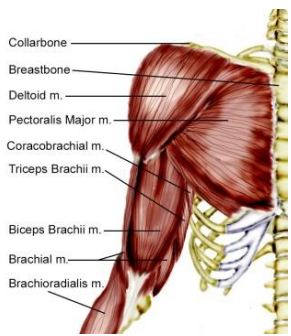
Self-treatment

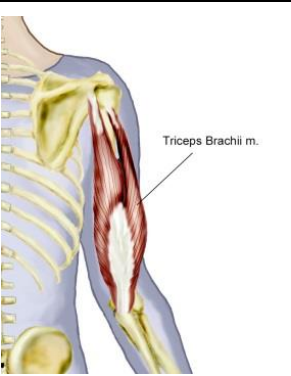
For treatment of the shoulder joint, see sections *Arm* and the *Back—Rotator cuff*.

The elbow joint

The elbow joint is a synovial joint of trochlear type. This means that the elbow joint is uniaxial and offers only flexion and extension. By cons, this joint must be very strong anyway. To increase its strength, it is surrounded by ligaments and, unlike the shoulder joint, there is no muscle tendons which pass through the joint capsula. The tendons of the muscles of the arm and forearm are attached to the exterior of the capsula, but near the joint.

The muscular mechanics of the elbow joint

 Collarbone Breastbone Deltoid m. Pectoralis Major m. Coracobrachial m. Triceps Brachii m. Biceps Brachii m. Brachial m. Brachioradialis m.	Anterior muscles that cross the elbow joint • Biceps Brachii m. • Brachial m. • Brachioradialis m.
---	--

 Triceps Brachii m.	Posterior muscles that cross the elbow joint • Triceps Brachii m.
--	---

Even if you feel pain in the elbow joint, the problem lies in the muscles of the arm and those of the forearm. You must therefore work these muscles to reduce tension at the elbow joint. Over the years, if this imbalance is not corrected, it will result in wear of the bones of the joint, a condition called osteoarthritis.

Self-treatment

For treatment of the **elbow joint**, see the *Arm* and *Forearm* sections.

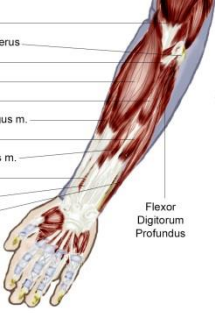
The wrist joint

The wrist joint is a synovial joint of biaxial type, which allows flexion, extension, abduction, adduction and circumduction. The muscles responsible for movement of the wrist, thumb and fingers are in the forearm. Their tendons pass through the wrist joint.

If the muscles that attach to the joint are tight, they cause excessive friction, triggering inflammation.

The muscular mechanics of the wrist joint

The wrist does not have muscles, although tendons of the muscles that act on the fingers pass through this joint.

 Biceps Brachii tendon Medial Epicondyl of the Humerus Pronator Teres m. Brachioradialis m. Flexor Carpi Radialis m. Extensor Carpi Radialis Longus m. Palmaris Longus m. Flexor Digitorum Superficialis m. Pronator Quadratus m. Flexor Pollicis Longus m. Flexor Carpi Ulnaris m. Flexor Digitorum Profundus	Anterior muscles • Pronator Teres m. • Brachioradialis m. • Flexor Carpi Radialis m. • Extensor Carpi Radialis Longus m. • Palmaris Longus m. • Flexor Digitorum Superficialis m. • Pronator Quadratus m. • Flexor Pollicis Longus m. • Flexor Carpi Ulnaris m. • Flexor Digitorum Profundus m.
--	--

 Brachioradialis m. Extensor Carpi Radialis Longus m. Anconeus m. Extensor Carpi Radialis Brevis m. Flexor Carpi Ulnaris m. Extensor Digitorum Communis m. Extensor Carpi Ulnaris m. Abductor Pollicis Longus Extensor Digiti Minimi m. Extensor Pollicis Brevis m. Extensor Pollicis Longus m. Extensor Digiti Quinti Proprius m.	Posterior muscles • Brachioradialis m. • Extensor Carpi Radialis Longus. • Anconeus m. • Extensor Carpi Radialis Brevis m. • Flexor Carpi Ulnaris m. • Extensor Digitorum Communis m. • Extensor Carpi Ulnaris m. • Abductor Pollicis Longus. • Extensor Digiti Minimi m. • Extensor Pollicis Brevis m. • Extensor Pollicis Longus m. • Extensor Digiti Quinti Proprius m.
---	---

If you feel pain at the wrist, you have to work the muscles of the forearm. Over the years, if this imbalance is not corrected, it will result in wear on the bones of the joint, a condition called osteoarthritis. a condition called osteoarthritis.

Self-treatment

For treatment of the **wrist**, see sections *Forearm* and *Hand*.

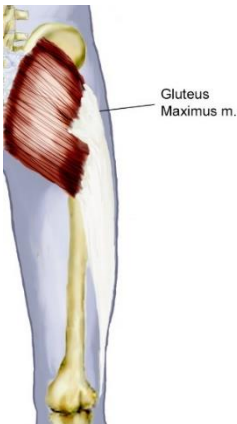
The hip joint

The hip joint is a synovial joint of spheroid types. This means that it provides a wide variety of movements. It is similar to the shoulder joint, but unlike it, no muscle tendon passes through the joint. The gluteal muscles as well as those of the thigh attach to the hip joint or intersect it.

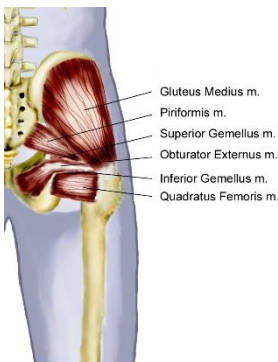
The muscular mechanics of the hip joint

The muscles that cross the hip joint or attached to it

- Gluteal m.
- Tensor Fasciae Latae m.

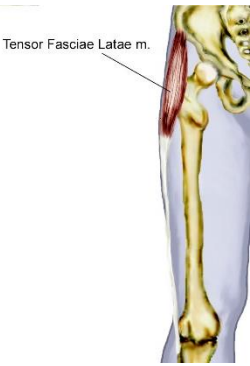


Gluteus Maximus m.



Gluteal muscles beneath the gluteus maximus.

- Gluteus Medius m.
- Gluteus Minimius m.
- Piriformis m.
- Superior Gemellus m.
- Inferior Gemellus m.
- Obturator Externus m.
- Obturator Internus m.
- Quadratus Femoris m.

	Tensor Fasciae Latae m.
---	--------------------------------

If one or more of these muscles are tight, they can pull on the joint and cause inflammation. Thus, even if we feel the pain in the hip joint, the problem lies in the muscles of the thigh and gluteal muscles. We must therefore work these muscles to decrease the strain at the hip joint. Over the years, if this imbalance is not corrected, it will result in wear on the bones of the joint, a condition called osteoarthritis.

Self-treatment

For the treatment of **the hip joint**, see the *Thigh* and *Gluteal Area* sections.

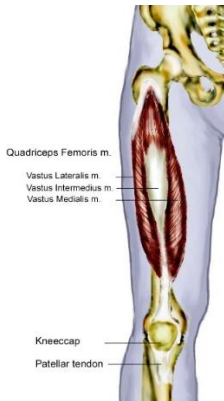
The knee joint

The knee joint is a synovial joint of trochlear type. It is biaxial and allows movements of flexion, extension and a certain rotation. No muscle tendon passes directly into the joint, but several muscles of the thigh and the leg meet at that level. The leg muscles are attached near the knee joint and can give the impression that the pain comes from the joint.

The muscular mechanics of the hip joint

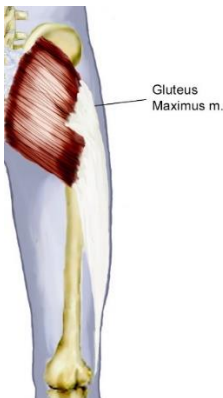
The muscles that attach to the knee joint

- Quadriceps Femoris m.
- Gluteus maximus m.
- Tensor Fasciae Latae m.



The Quadriceps Femoris is formed by 4 muscles:

- Rectus Femoris m.
- Vastus Lateralis m.
- Vastus Intermedius m.
- Vastus Medialis m.



Gluteus Maximus m.

	Tensor Fasciae Latae m.
---	--------------------------------

If one or more of these muscles are tense, they can pull on the joint and cause inflammation. Thus, even if we feel the pain in the knee joint, the problem lies in the muscles of the thigh leg and Gluteus maximus muscles. We must therefore work these muscles to decrease the strain at the knee joint. Over the years, if this imbalance is not corrected, it will result in wear on the bones of the joint, a condition called osteoarthritis.

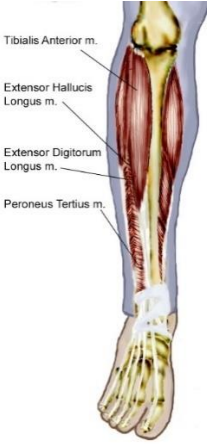
Self-Treatment

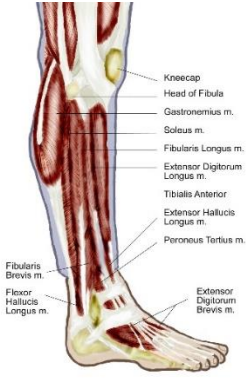
For treatment of **knee joint**, see the *Thigh* and *Leg* sections.

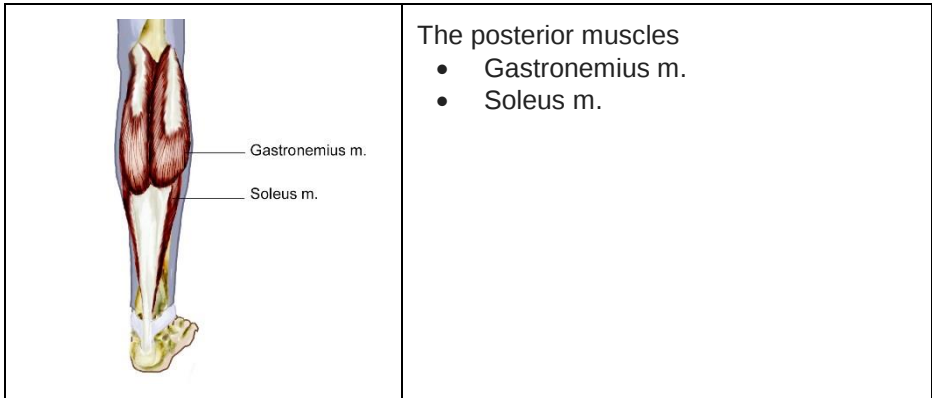
The ankle joint

The ankle joint is of trochlear type therefore uniaxial, which allows flexion (dorsiflexion) and extension (plantar flexion). The muscles responsible for movement of the ankle and the toes are located in the leg. Their tendons pass through the ankle joint.

The muscular mechanics of the ankle joint

 This diagram shows the anterior view of the right leg and foot. The muscles highlighted in red are the Tibialis Anterior m., Extensor Hallucis Longus m., Extensor Digitorum Longus m., and Peroneus Tertius m. Labels with leader lines point to each of these muscles.	The anterior muscles • Tibialis Anterior m. • Extensor Hallucis Longus m. • Extensor Digitorum Longus m. • Peroneus Tertius m.
---	---

 This diagram shows the lateral view of the right leg and foot. The muscles highlighted in red are the Fibularis Longus m., Fibularis Brevis m., Flexor Digitorum Longus m., Flexor Hallucis Longus m., Tibialis Posterior, Extensor Hallucis Longus m., Peroneus Tertius m., and Extensor Digitorum Brevis m. Labels with leader lines point to each of these muscles.	The lateral muscles • Fibularis Longus m. • Fibularis Brevis m. • Flexor Digitorum Longus m. • Flexor Hallucis Longus m. • Tibialis Posterior m.
--	---



The leg muscles tendons pass through the ankle joint. If these muscles are stretched, they cause excessive friction at the ankle joint which triggers inflammation.

To remove this inflammation, simply proceed to the self-treatment of the leg muscles. As soon as the tension of these muscles will decrease the inflammation will subside by itself. It is therefore necessary to work the muscles of the leg to reduce the tension at the ankle joint. Sometimes the problem may even come from the foot muscles. Over the years, if this imbalance is not corrected, it will result in wear on the bones, a condition called osteoarthritis.

Self-treatment

For treatment of the **ankle joint**, see the *Leg* and *Foot* sections.

The muscular system

Functions

Muscles perform four important functions:

They produce movement:

- They make locomotion and manipulation possible;
- They enable us to react quickly to events;
- They ensure vision and enable us to make facial expressions;
- They support blood circulation.

They maintain posture:

- The muscles are constantly adjusting our posture to allow us to remain standing or sitting in spite of gravitational forces.

They stabilize the joints:

- Skeletal muscles assist the ligaments in strengthening the joints, especially the shoulder and hip, whose bones are not complementary.

They generate heat:

- The muscles represent 40% of our body mass and greatly contribute to the maintenance of normal body temperature through heat loss during movement.

Functional characteristics

Muscle tissue has four functional characteristics:

Excitability

- The ability to perceive and respond to a stimulus.

Contractility

- The ability to contract forcefully in the presence of a suitable stimulus.

Extensibility

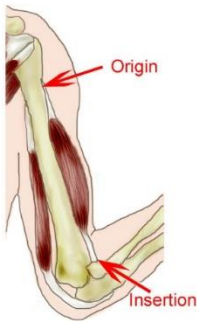
- The ability of muscle fibres to stretch.

Elasticity

- The ability of muscle fibres to return to their resting length when relax.

Where muscle tension is concerned, it is this last characteristic, *elasticity*, that the muscle has lost.

The muscle attachments

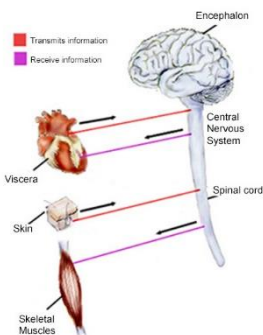


The vast majority of muscles overlap the joints and are attached to the bone (or other structures) in at least two places. One of them is located on a non-movable bone, and we call this the *origin*. The other is attached on a movable bone and is called the *insertion*.

When the muscle contracts, the movable bone (insertion) moves toward the fixed bone (origin).

The normal activity of a skeletal muscle depends on its **innervation** and on an **abundant blood supply**. Each skeletal muscle fibre has a nerve ending that regulates its activity.

Innervation



The muscle is innervated by a motor spinal nerve. It can receive information from the brain (contract or stretch), but has no means to return information to the brain.

Skin, for its part, transmits information to the brain (pain, heat, cold), but cannot receive information from the brain.

This explains why we do not feel pain when the muscle is contracted, since it cannot transmit the message to the brain. The pain we feel is caused by inflammation of the tendon, which is made up of skin and, therefore, is able to communicate pain to the brain.

Muscular contraction

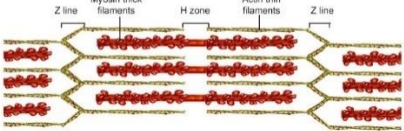
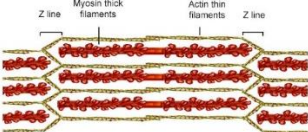
When a muscle contracts, the fibres get closer to one another; it shortens and hardens.

In order to go back to its original length, it needs to produce adenosine triphosphate proteins (ATP). The most effective way to do this is by converting glucose by supplying oxygen. The oxygen is carried by the blood, and this is where things get complicated.

As we said previously, a tense muscle contracts and hardens. It crushes the blood vessels and reduces blood flow. As the oxygen supply comes from the blood, the muscle loses its source of oxygen and can no longer produce enough ATP to relax by itself.

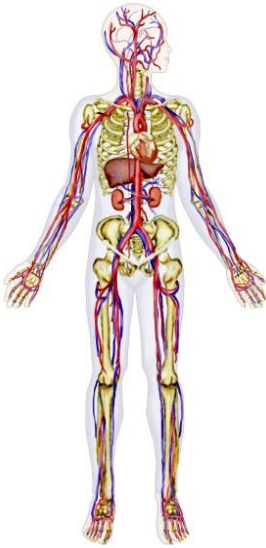
The only way to remedy this situation is to manually force the muscle fibres to detach from each other.

Luckily, this can be done very efficiently by performing myotherapeutic self-treatment.

 The diagram illustrates a relaxed muscle fiber. It shows several horizontal myosin thick filaments (red) and actin thin filaments (yellow). The myosin filaments are in the center, and the actin filaments are attached to the Z lines (yellow vertical lines) on either side. A clear H zone (white space) is visible between the actin filaments in the center of the myosin filaments. Labels include 'Z line', 'Myosin thick filaments', 'H zone', and 'Actin thin filaments'.	Relaxed muscle When the muscle is in its normal state, a fair bit of space can be observed at the Z line.
 The diagram illustrates a contracted muscle fiber. The myosin thick filaments (red) and actin thin filaments (yellow) are now closer together. The H zone has disappeared, and the actin filaments from opposite sides are now overlapping in the center. The Z lines (yellow vertical lines) are also closer together. Labels include 'Z line', 'Myosin thick filaments', and 'Actin thin filaments'.	Contracted muscle When the muscle contracts, the clear zone disappears and there is no more space at the Z line. This results in a constriction of the blood capillaries.

The blood system

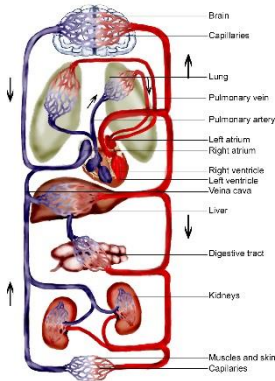
Properties



The blood vessels are neither rigid nor static. These are dynamic structures that contract, relax and even proliferate, depending on the body's needs. They form a network that begins and ends at the heart.

We call “red blood” the blood that is oxygenated and comes out of the heart. Blood that is poor in oxygen and returns to the heart is called “blue blood”.

The exchange of nutrients, waste and gases takes place between the interstitial fluid (the fluid that circulates between the cells and tissues) and the blood circulating in the body.



Blood vessels are divided into three categories:

- arteries
- veins
- capillary vessels

The heart contractions push the blood into the large arteries emerging from the ventricles. The blood then goes through the ramifications of the arteries to the smaller arterioles. Finally, it will flow into the capillary beds of all organs and tissues.

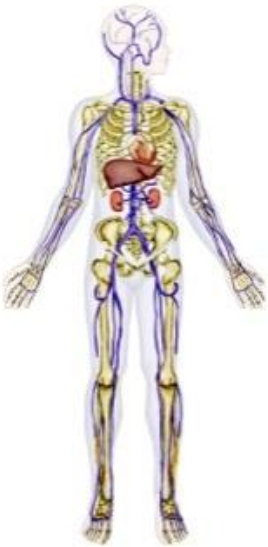
Upon exiting the capillary beds, blood returns to the heart through the venules, veins, and finally, the large veins.

Structure and function



Arteries (red blood)

The arteries carry oxygen-rich blood from the heart. They divide into smaller and smaller vessels.

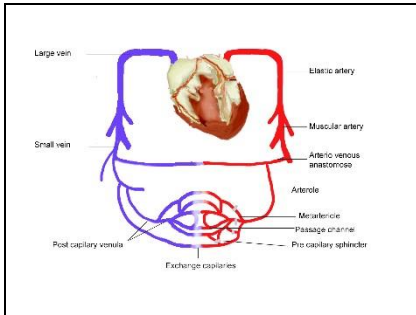


Veins (blue blood)

The veins carry the oxygen-poor blood to the heart.

They divide into vessels that become bigger and bigger as they move toward the heart.

Capillaries (junction between the arteries and veins)



Only the capillaries come into close contact with the cells. Their extremely thin walls allow exchanges between the blood and the interstitial fluid in which the cells bathe. These exchanges provide that which is necessary for the cells to maintain their normal physiology.

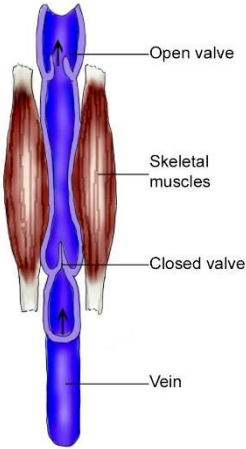
The capillaries are the smallest blood vessels. They are 1 mm long on average and their size is just enough to let the red blood cells through one after the other.

Most tissues are rich in capillaries. However, there are notable exceptions. Tendons and ligaments are not very vascularized; cartilage and epithelia have no capillaries, but receive their nutrients from the vessels of the surrounding connective tissues.

The pressure exerted in the capillary beds pushes the blood to the venous system and causes its reabsorption. **Non reabsorbed liquid (i.e. 3 L per day) is integrated into the interstitial fluid.** The interstitial fluid and plasma proteins that escape from the bloodstream must return to the blood so that the blood volume may remain at its normal level and in order to maintain the blood pressure necessary for the cardiovascular system to function properly. The lymphatic vessels carry out this task.

Blood circulation

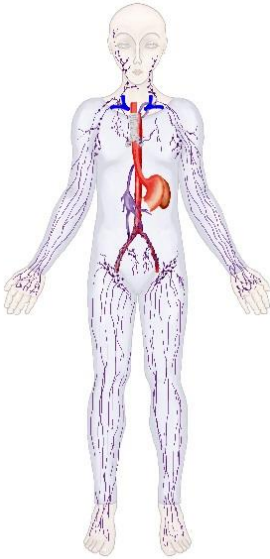
The heart is the pump that moves the red blood through the arteries. However, the pressure is not strong enough to get the blue blood back to the heart. The blue blood travels through the veins by way of the respiratory pump (the lungs), but mainly by the activity of the muscles at each contraction and relaxation.

 The diagram shows a red artery running vertically. On either side of the artery are two skeletal muscles, also shown in red. The muscles are contracted, pressing against the artery and narrowing its lumen. A black arrow points downwards through the center of the artery, indicating the direction of blood flow. Labels with leader lines point to the 'Artery' and the 'Skeletal muscles'.	In the case of an artery, if the muscle is tense, it will press on it, reducing the blood flow. One may then experience numbness in the extremities: hands and feet.
 The diagram shows a blue vein running vertically. On either side are two skeletal muscles, shown in red. The muscles are contracted, pressing against the vein. Inside the vein, there are two blue valves. The top valve is labeled 'Open valve' and has an arrow pointing upwards through it. The bottom valve is labeled 'Closed valve' and is partially closed by the pressure of the contracting muscles. A black arrow points upwards through the vein, indicating the direction of blood flow. Labels with leader lines point to the 'Open valve', 'Skeletal muscles', 'Closed valve', and 'Vein'.	In the case of the veins, if the muscle is tense, it will also create pressure, thereby reducing blood flow. This means that less blood is returning to the heart.

If the blood flow is affected, it will result in a lack of oxygen in the body and a lack of energy. By performing myotherapeutic self-treatment, you get the muscles to relax, which greatly improves blood circulation.

The lymphatic system

Properties

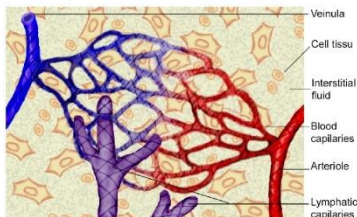


As we saw in the previous chapter, the pressures in the capillary beds push blood to the venous system and cause its reabsorption. **Non reabsorbed liquid (i.e. 3 L per day) integrates with the interstitial fluid.** The interstitial fluid and plasma proteins that escape from the bloodstream must return into the blood so the blood volume stays normal and maintains the blood pressure necessary for the proper functioning of the cardiovascular system. It is the lymphatic vessels that carry out this task.

They form an elaborate network that drains the interstitial fluid and protein content, and returns it to the blood.

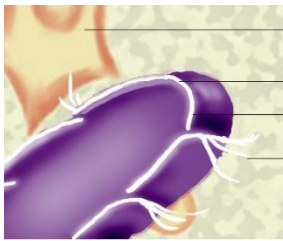
When the interstitial fluid enters the lymphatic vessels, it is then called “lymph”. Lymphatic circulation flows only in one direction, to the heart.

Lymphatic capillaries



Lymphatic capillaries are microscopic and end in a cul-de-sac. They insinuate themselves between cells and blood capillaries of the connective tissue.

They are absent from the bones and teeth, bone marrow and whole central nervous system, because in this system, interstitial fluid flows into the cerebrospinal fluid.



Fibroblast in the connective tissue
Endothelial cell
Disjunction
Union filaments anchored to the connective tissue

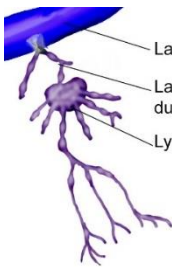
Endothelial cells form the walls of the lymphatic capillaries and are not securely fastened. Their edges overlap, which form the **disjunctions**, flaps which can be opened easily.

Bundles of **union filaments** anchor endothelial cells to the collagen fibres of the connective tissue.

Any increase in the volume of interstitial fluid pulls on the disjunction, allowing the interstitial fluid to penetrate the lymphatic capillary rather than crush it.

Thus, endothelial cells open up if the pressure is higher in the interstitial liquid than in the lymphatic capillaries. The opposite is also true: the cells close if the pressure is higher in the capillaries than in the interstitial fluid. Lymph cannot flow back into the interstitial fluid and has no other choice but to move into the lymphatic vessels.

Lymph nodes



Large vein
Large lymphatic duct
Lymph node

Normally, the proteins contained in the interstitial compartment cannot enter the blood capillaries, but they easily penetrate the lymphatic capillaries. When the tissues are showing inflammation, the lymphatic capillaries become pierced with openings that allow the capture of particles larger than proteins, such as cell debris, pathogens (bacteria and viruses) and cancer cell particles. Pathogens and cancer cells can reach the bloodstream and then spread in the body using the lymphatic vessels.

The lymph passes through the lymph nodes where it is purified by the immune system cells.

The lymphatic system does not have a natural pump at its disposal to move its fluid, unlike the circulatory system, which has the heart to perform the function.

Lymph moves as a result of muscle contractions. Its movement is very slow: it takes about 24 hours to complete a cycle.

If lymphatics are surgically removed, the result is a significant edema in the area normally drained by these vessels. Regeneration of the remaining vessels usually makes the situation subside.

Because this system relies solely on the contraction and relaxation of the muscles to function, performing myotherapeutic self-treatment greatly improves lymphatic circulation, since you get the muscles to relax.

Homeostatic imbalances

The body is meant to be in perfect balance. This state is called “homeostasis.” If this condition is altered, then we say that there is a “homeostatic imbalance.”

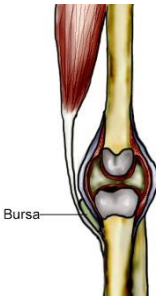
Articular imbalances



Rheumatoid arthritis

This is an inflammation of joint tissue.

Treat the affected zone(s)



Bursitis

Bursitis is the inflammation of a joint bursa.

Symptoms

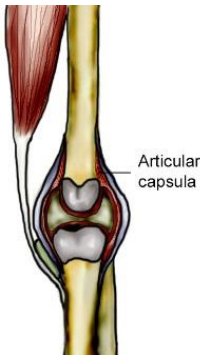
Pain felt at the joint (shoulder, elbow, hip, knee) that no longer allows the joint to perform all of its movements.

Causes

Tense muscles exert undue friction on the joint bursa. Inflammation then develops and each movement becomes painful. The joint may feel warm, red, swollen and painful. These are the normal manifestations of inflammation.

Refer to the *Articular System* section.

Treat the affected zone(s)



Capsulitis

Capsulitis is the inflammation of an articular capsule.

Symptoms

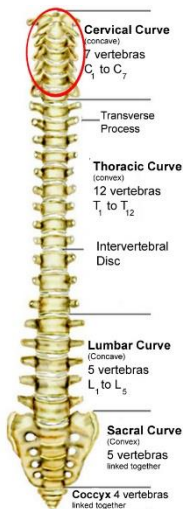
Pain felt at the joint (shoulder, elbow, hip, knee) that no longer allows the joint to perform all of its movements.

Causes

Tense muscles exert undue friction on the articular capsule. Inflammation then develops and each movement becomes painful. The joint may feel warm, red, swollen and painful. These are the normal manifestations of inflammation.

Refer to the *Articular System* section.

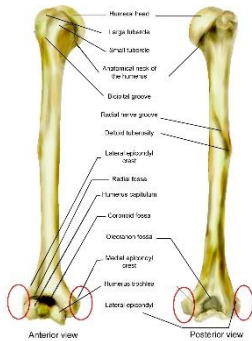
Treat the affected zone(s)



Cervical sprain (whiplash)

A sprain is the stretching or tearing of a ligament that reinforces the joint. It is called a cervical sprain or referred to as “*whiplash*” when it occurs at the cervical spine (neck) level. This situation is not a spontaneous occurrence, but usually the result of a fall or other type of accident.

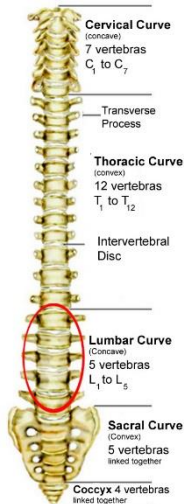
Treat the neck



Epicondylitis (tennis elbow)

(epicondyl = epicondyl; itis—inflammation)
This is inflammation of the muscle tendons that attach to the lateral epicondyle of the humerus (the bone tuberosity). The epicondylitis (tennis elbow). Only occurs in the elbow joint.

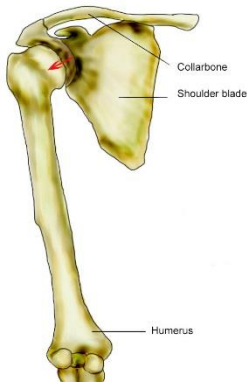
Treat the arm and the forearm



Lombal Sprain

A sprain is the stretching or tearing of a ligament that reinforces the joint. It's called a lombal sprain when it is at the level of the lumbar spine (lower back). This situation is not a spontaneous occurrence, but usually the result of a fall or other type of accident.

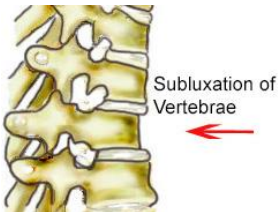
Treat the back



Luxation (dislocation)

A luxation is a displacement of a bone from its normal position. Even if the bone is put back in its place, pain can be felt from the inflammation to the tissues surrounding the joint. This condition occurs as a result of a fall or other type of accident.

Treat the affected zone(s)

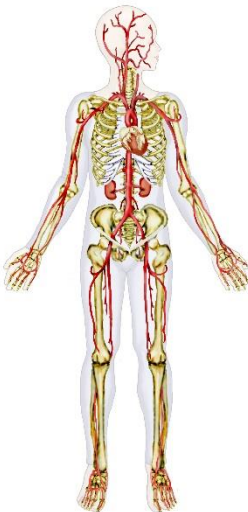


Subluxation (partial dislocation)

A subluxation is a partial displacement of a bone from its normal position. We find this problem mainly in the vertebrae. A tense muscle can often force a slight displacement of the vertebra.

Treat the affected zone(s)

Blood imbalances



Numbness

Numbness is caused by tight muscles that exert excessive pressure on the blood vessels, resulting in reduced blood flow.

Superior limbs:

Treat the arm and forearm

Inferior limbs:

Treat the thigh and leg



Varicose veins

Varicose veins are permanent dilatations of the veins. They are the site of a blood reflux. As the veins are not innervated, they can not cause pain. The pain is caused by a tense muscle situated underneath the varicose vein.

Treat the affected zone(s)

Bone imbalances



Fracture

A fracture is a complete break in a bone. A fracture occurs as a result of a fall or an accident. Bone is usually rewelded after 8 weeks. You no longer feel pain after this period.

Treat the affected zone(s)



Hairline fracture of a bone

This is a partial fracture of a bone. It occurs as a result of a fall or an accident. The bone will usually have rewelded after 4 weeks. You will no longer feel pain after this period.

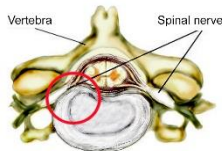
Treat the affected zone(s)



Heel spur

This is a calcification of part of a muscle tendon. It is found in the heel area as shown in the illustration. It is diagnosed by X-ray. It is not the spine itself that is painful, but the inflammation of the tissues that surround it.

Treat the foot



Herniated disc

A herniated disc is a deformation of the intervertebral disc that pinches a spinal nerve.

Treat the affected zone(s)



Osteoarthritis

Osteoarthritis is the deterioration of bone cartilage. It is related to the normal aging process. It does not cause pain, since the bone cartilage has no nerve. The pain comes from the inflammation of the muscle tendons that cross or attach near the joint. This inflammation is caused by muscular tensions.

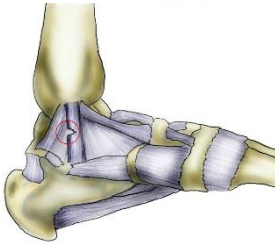
Treat the affected zone(s)



Osteoporosis

Osteoporosis is a degeneration of the bone, which has ceased to absorb calcium and becomes porous. This leads to increased bone fragility and risk of fractures.

Treat the affected zone(s)



Sprain

A sprain is the stretching or tearing of a ligament that reinforces a joint. This situation is not a spontaneous occurrence, but usually the result of a fall or other type of accident.

Treat the affected zone(s)

Muscular imbalances



Cramp

A cramp is an involuntary muscular contraction of short duration. The causes can be a lack of calcium, dehydration or cold. To defuse the cramp, you must stretch the muscle. Local myotherapeutic self-treatment is recommended. In addition, this helps fluid circulation. For leg, foot or toe cramps, putting on a good pair of wool socks is often enough to make them disappear.

Treat the affected zone(s)



De Quervain's tendinitis

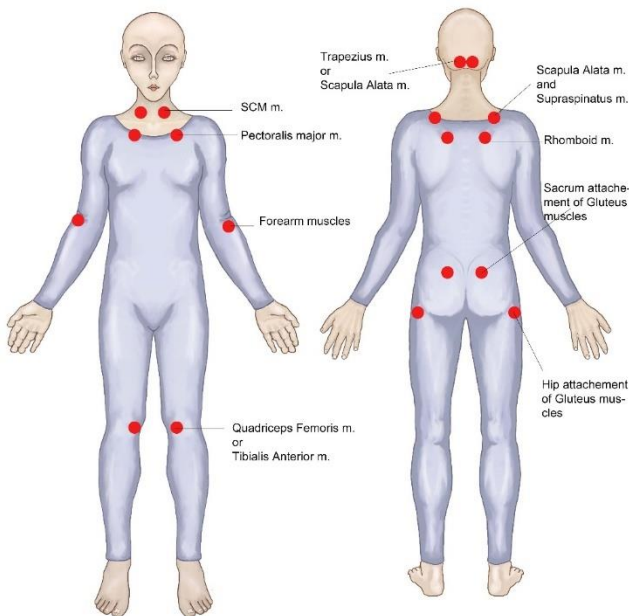
This is an inflammation of the thumb tendon, the abductor pollicis longus and/or extensor brevis, located on the outer edge of the wrist. This type of tendinitis causes pain at the base of the thumb.

Treat the forearm and the hand

Fibromyalgia

In cases of fibromyalgia, the muscles constantly remain in a spastic state. The person feels pain at 11 of 18 predetermined points, she is known to suffer of fibromyalgia. As a matter of fact, these points correspond exactly to muscle attachment. The body, which seeks to find a solution to this inflammation, draws energy from the afflicted person. If the condition persists over a long period of time, it causes exhaustion and the person becomes depressed. Myotherapeutic self-treatment gives excellent results by alleviating tension in these muscles.

Treat the affected zone(s)



Hiccups

Hiccups are caused by spasms of the diaphragm. In order to alleviate these spasms, perform self-treatment of the diaphragm.

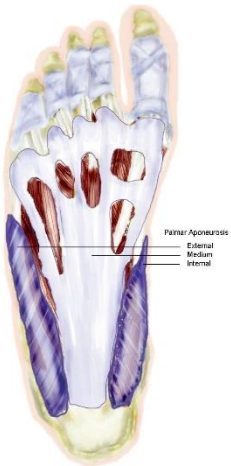
Treat the thorax



Muscle tear

A muscle tear occurs as a result of a fall or an accident. Tears will mainly occur in the tendon. Depending on the severity of the tear, it may be that only surgery can repair the injury. If the doctor decides not to do anything, it's that the tear is minor and will heal itself.

Treat the affected zone(s)



Plantar fasciitis

This is the inflammation of the plantar fascia. The fascia is similar to the tendon tissue and it covers the sole. Tension in the foot muscles is responsible for this imbalance.

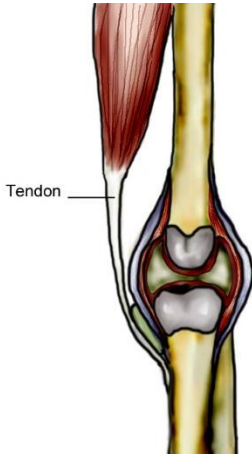
Treat the foot



Spasm

A spasm is an involuntary muscular contraction of long duration. Myotherapeutic self-treatment is the only medication-free treatment that can relax the muscle in a short period of time.

Treat the affected zone(s)



Tendinitis

Tendinitis is the inflammation of a muscular tendon.

Symptoms

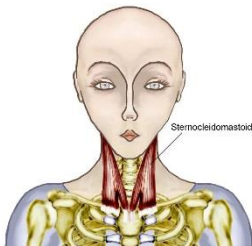
Pain felt at the joint (shoulder, elbow, hip, knee) that no longer allows the joint to perform all its movements.

Causes

Tense muscles exert undue friction on the muscular tendon. Inflammation then develops and each movement becomes painful. The joint may feel warm, red, swollen and painful. These are the normal manifestations of inflammation.

Refer to the *Articular System* section.

Treat the affected zone(s)

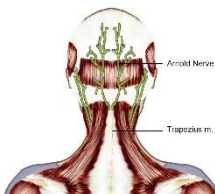


Torticollis (stiff neck)

Torticollis is a spasm of the sterno-cleido-mastoid muscle that prevents rotation of the head on the side of the spasmed muscle.

Treat the neck

Nerve imbalances



Arnold nerve inflammation

The greater occipital nerve originates between the C₁ and C₂ vertebrae. It is responsible for the innervation of four muscles in the neck. And at a sensory level, it innervates the scalp and the posterior

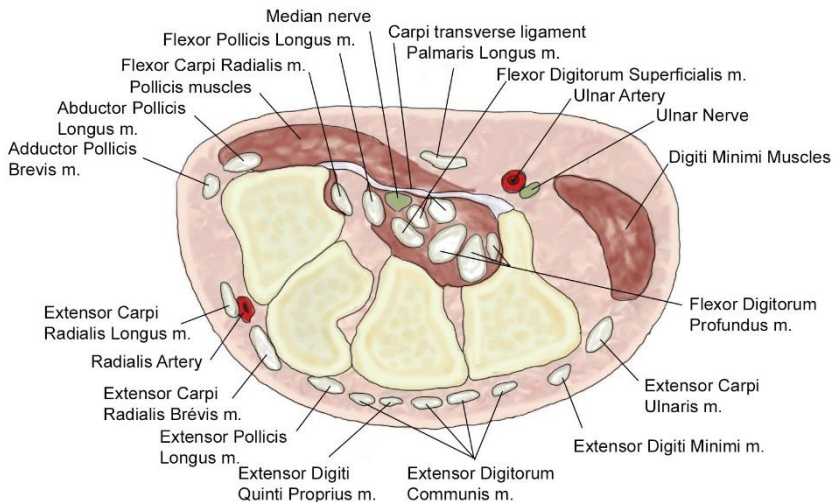
surface of the head. It crosses the tendon of the trapezius muscle.

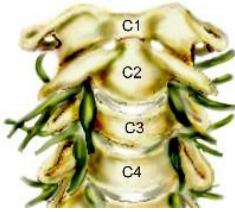
Treat the neck

Carpal tunnel (canal)—syndrome

This is the inflammation of the median nerve due to inflammation of the muscle tendons that surround it. The carpal tunnel is located in the central part of the wrist. This is a passageway for the muscle tendons of the lower arm that act on the wrist and fingers.

Treat the arm, forearm and hand





Electric shocks

Shocks are caused by the pinching or compression of a nerve, often due to a strained muscle.

Treat the affected zone(s)

Pain zones

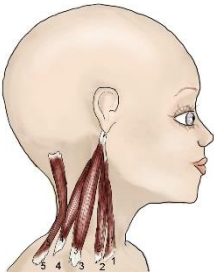


Sciatica

The inflammation of the sciatic nerve is a result of tightness in the muscles of the lower back or buttocks, which exerts undue friction on the nerve and causes inflammation. Although you may feel pain in the leg, it is in the lower back or buttocks areas that you need to perform self-treatment.

The sciatic nerve is the biggest and longest nerve in the body. It is in fact formed of two nerves wrapped in a single jacket. It emerges from the pelvis through the greater sciatic notch. It then runs under the gluteus maximus muscle and into the posterior portion of the thigh, just inside the hip joint. At this point, it sends motor branches to the muscles of the posterior compartment of the thigh to the adductor magnus muscle. Its constituent nerves just separate above the knee. One branch descends to the heel while the other runs to the little toe.

Treat the lower back and gluteal area



Tension migraine

This is intense pain felt on one side or the other of the head and which is not easily relieved by taking regular painkillers. This tension is felt at the base of the skull (occiput), behind the ear, and a sharp pain is felt on one side of the skull. It may be accompanied by hypersensitivity to noise and light as well as nausea, vomiting and blurred vision. The person can hardly function and seeks isolation. The neck muscles, mainly the scalenes m. (2–4) and scapula alata m. (5) are tight and exert undue pressure on certain nerves.

Treat the neck

Other imbalances



Digestion

Digestive ailments emanating from the stomach or the intestines can be greatly improved by massaging the viscera.

Treat the abdomen



Insomnia

Although this is not directly related to muscle tension, it often happens that sleep is disturbed by pain related to muscle tension.

Treat the affected zone(s)

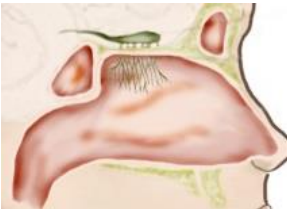
See prevention



Intestines

The most common intestinal disorders are irritable bowel syndrome, gas and constipation.

Treat the abdomen



Nasal congestion (sinusitis)

Nasal congestion can be alleviated by performing self-treatment in the specific area between the ear and the jaw joint.

Treat the face and neck



Tinnitus

Tinnitus are auditory sensations that are not caused by external vibrations. Self-treatment will yield different results for each person.

Treat the face and neck



Vertigo

Dizziness is often related to nasal congestion and fluid buildup in the ear canal.

Treat the face and neck

Myotherapeutic self-treatment technique

The head

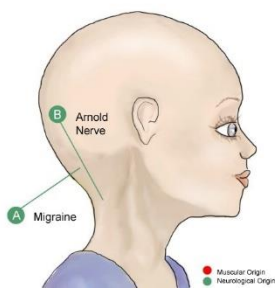
The pain caused by the muscles of the head is quite rare. However, some are subject to nerve pain such as headaches, migraines, or inflammation of the occipital nerve.

Self-treatment of the head muscles is almost certain to effectively provide relief.

Problems

Problems	Muscles involved
Difficulty turning the head to the right or left	Sternocleidomastoid m. on the side to which the head cannot rotate.
Difficulty bending the head forward	- Trapezius m. - Scapula Alata m.
Difficult bringing the head toward the shoulder	Scalenus m. the opposite side of the shoulder to which you want to tilt the head.

Pain zones



	Origin	Nerve	Muscles to treat
A	Neurological	Accessory nerve Vagus nerve	Scapula Alata m. Lateral and posterior neck muscles
B	Neurological	Arnold nerve	Trapezius Posterior neck muscles

Head muscles

The head has only one muscle divided into two heads. These are connected by a fascia, which is a thin membrane, like a tendon.



Frontalis



Occipitalis

Self-treatment

Adjacent zones to work.

For best results, it is recommended to also work:

- The **face** in the next chapter.
- The **neck**: *The neck* section.

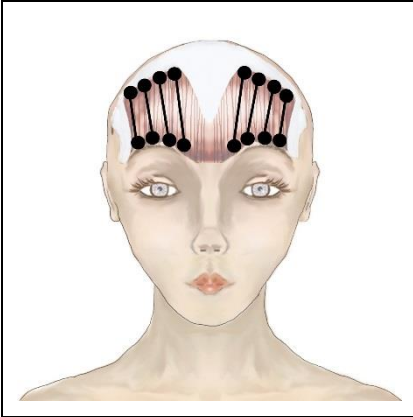
Oil

Put a few drops of oil in the palm of your hand and rub your hands together. Spread oil on the area you plan to work on. Don't put too much oil because the skin becomes slippery and it becomes difficult to make precise maneuvers.

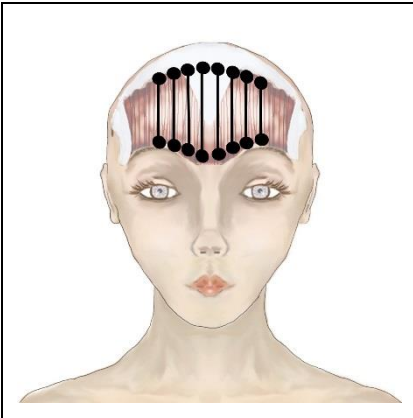
Pressure

It is very important to respect your tolerance to pain. We recommended you start with light pressure and increase gradually as long as you are able to tolerate it. For the head and face, it is not suggested to use the pressure guide.

Traitement of the frontalis m.

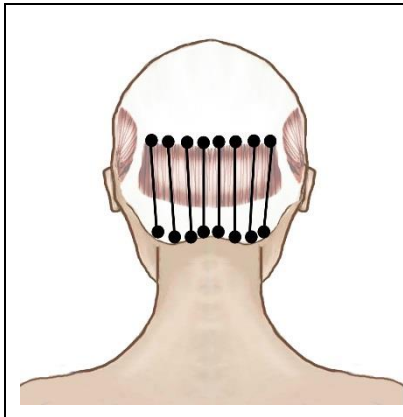


- Place the 4 fingers just above the eyebrows.
- Move your fingers upward up to the hairline, exerting tolerable pressure.
- Back down to the eyebrows.
- Repeat.

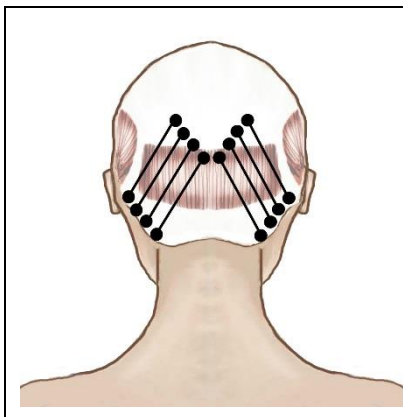


- Place your fingers together above the nose.
- Move your fingers upward up to the hairline, exerting tolerable pressure.
- Back down to the eyebrows.
- Repeat.

Treatment of the occipitalis m.



- Place 4 fingers at the base of the occiput.
- Move your fingers upward up to the round zone of the skull, exerting tolerable pressure.
- Back down to the occiput.
- Repeat.



- Place your fingers together near the ear.
- Move your fingers upward up to the round zone of the skull, exerting tolerable pressure.
- Back down to the occiput.
- Repeat.

The face

Facial pain caused by muscle tension occurs predominantly at the jaw joint. Stress causes many people to tighten the jaws. This results in strain to the muscles attached to the jaw. Several neck muscles attach there also. It is therefore recommended to perform self-treatment on them also.

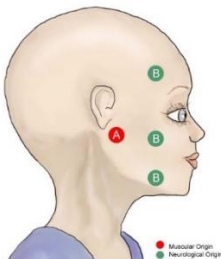
In the face, one can experience neuralgia, which is the result of inflammation that follows the path of a nerve.

This type of pain is not classified as being due to muscle tension and should be treated by placing heat on the face. However, if the nerve is inflamed, that means that it is probably subjected to excessive pressure caused by a tense muscle. By working the muscles specified in the table, the inflammation will disappear and so will the pain.

Problems

Problems	Muscles involved
Difficulty raising the eyebrows	• Corugator supercili m. • Frontalis m.
Tremor of the eyelid	• Orbicularis oculi m.
Difficulty smiling	• Levator labii superioris m.

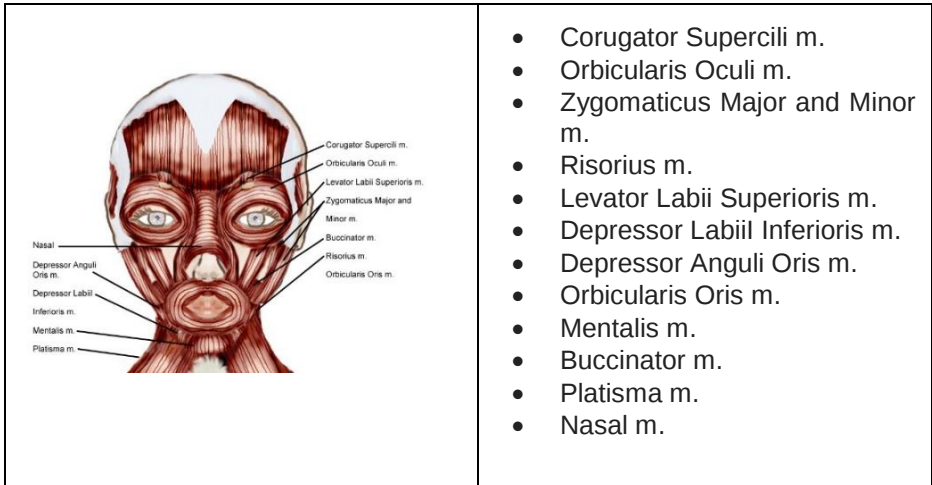
Pain zones



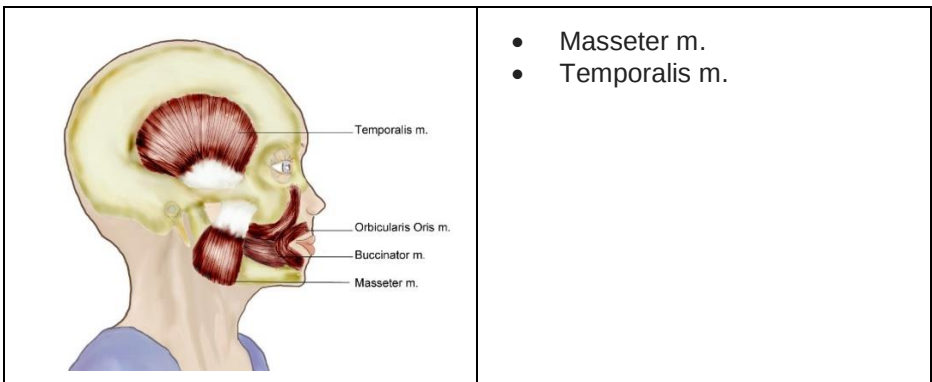
	Origin	Nerve	Muscles to treat
A	Muscular		Masseter m. Sternocleidomastoid m. Scalenus anticus m. Scalenus mediscalenus m.
B	Neurological	Trigeminal nerve Facial nerve	Masseter m. Temporalis m.

The face muscles

We will now look at the specific mechanics of the face muscles. This will help you understand the implications of muscle tension in this area of the body.



Mastication muscles



Self-treatment

Adjacent zones to work.

For best results, it is recommended to also work:

- The **head** in the previous chapter.
- The **neck** the next chapter.

Oil

Put a few drops of oil in the palm of your hand and rub your hands together. Spread oil on the area you plan to work on. Don't put too much oil because the skin becomes slippery and it becomes difficult to make precise maneuvers.

Pressure

It is very important to respect your tolerance to pain. We recommended you start with light pressure and increase gradually as long as you are able to tolerate it. For the head and face, it is not suggested to use the pressure guide.

Detection of the jaw muscles



- Place your fingers on the lower jaw, close to the jaw joint.
- Make small back and forth motions with your fingers.
- You will feel pain around the jaw and find a “bump”.
- You’ve just found a tense muscle.

Treatment of the Orbicularis Oculi m.

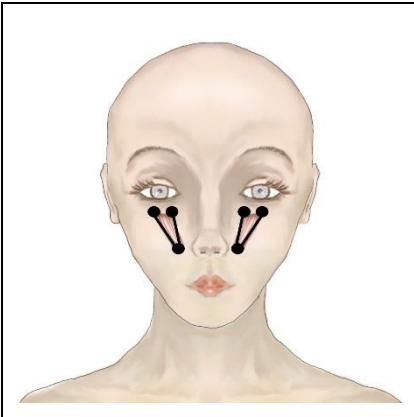


- Place your fingers in front of the ears.
- Go down slowly towards the nose following the cheek bone.
- Go up slowly towards the ears.
- Repeat.
- Put your fingers at the same point in front of the ears.
- Go slightly down the cheek.



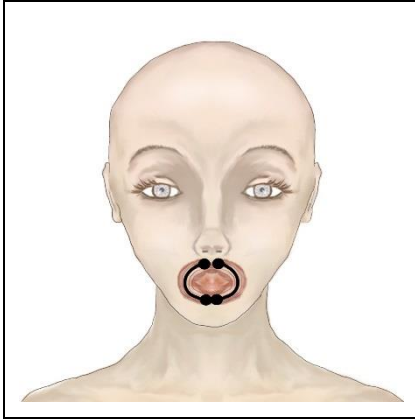
- Place the index and middle fingers under the eyebrows, around the nose.
- Slowly slide your fingers toward the temporal zone, along the bone.
- Since performing the maneuver in the opposite direction is unpleasant, place your fingers at the starting point.
- Repeat.

Treatment of the Levator Labii Superioris m.



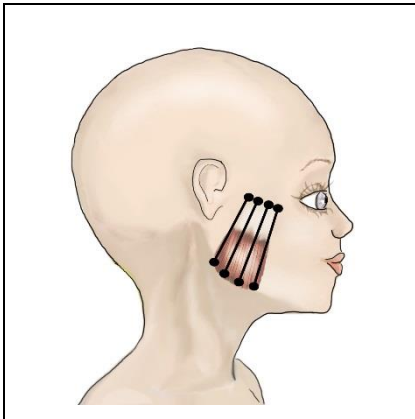
- Place three fingers on the round bone under the eyes.
- Go down slowly along the hollow of the cheek to the upper jaw.
- Since performing the maneuver in the opposite direction is unpleasant, place your fingers at the starting point.
- Repeat.

Treatment of the Orbicularis Oris m.



- Place the index and middle fingers under his nose.
- Descend slowly the chin following the contour of the mouth.
- Since performing the maneuver in the opposite direction is unpleasant, place your fingers at the starting point.
- Repeat.

Treatment of the Masseter m.



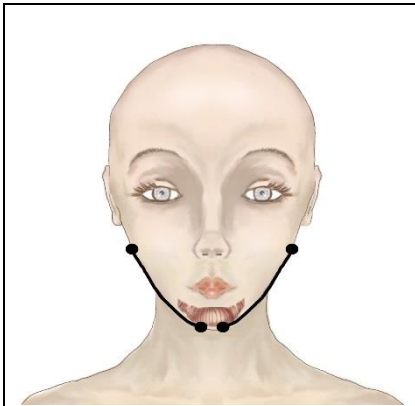
- Put your fingers to the cheek bone at the ear level.
- Slowly descent toward the lower jaw.
- Since performing the maneuver in the opposite direction is unpleasant, place your fingers at the starting point.
- Repeat.

Treatment of the Buccinator m. and the upper jaw



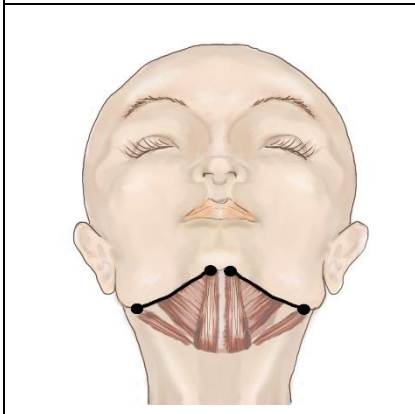
- Place your index finger on the jaw joint.
- Slowly descend remaining under the cheek bone or on the upper teeth.
- Since performing the maneuver in the opposite direction is unpleasant, place your fingers at the starting point.
- Repeat.

Treatment of the lower jaw muscles



Face side:

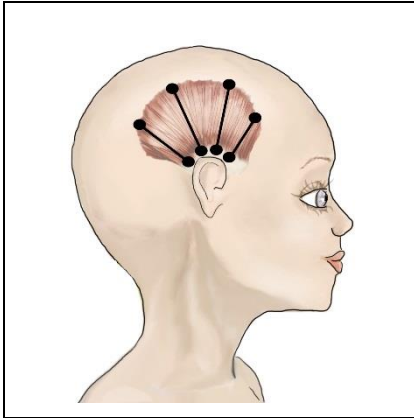
- Put your fingers on the jaw joint.
- Go down slowly along the lower jaw bone.
- Slowly return to the starting point.
- Repeat.



Neck side:

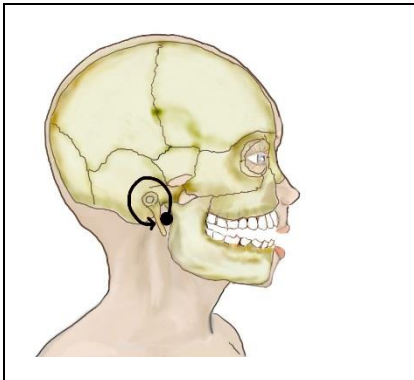
- Place your thumb near the ear, under the jaw joint.
- Slowly descend along the inside of the lower jaw bone.
- Slowly return to the starting point.
- Repeat.

Treatment of the Temporalis m.



- Place your fingers just above the ear.
- Move your fingers upward to the round area of the skull
- Slowly return to the starting point.
- Repeat.

Treatment of the muscles related to ear disorders (tinnitus, sinus pain, dizziness).



- Open your mouth.
- Place 1 or 2 fingers between the bones (jaw and skull), just below the ear. These muscles will be very sensitive on the first treatment.
- Make small rotational movements while keeping your fingers in the same place.
- Gradually increase the pressure.
- Repeat this movement all around the ear.

Recommended stretching exercises

- Whistling
- Large smile
- Opera

The neck

Neck muscles support the head, so they are always under tension. They are responsible for its rotation (to the left or right), flexion (bent forward or sideways) and its extension (bending backwards). Once one of these movements is incomplete or painful, it means that one or more muscles of the neck are tensed.

As for migraine headaches, each muscle responsible is attached to two or more vertebrae. When they get tense, they contract and draw the vertebrae closer together, which reduces the space from which the spinal nerves come out. This results in slight friction on the nerve, causing migraine. This condition will return as long as the tension in the muscles is not taken care of.

Refer to chapter: *The homeostatic imbalances—Migraine*

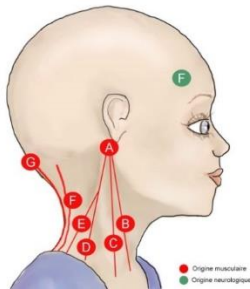
• Sternocleidomastoid m. on the side to which the head cannot rotate.
• Trapezius m. • Scapula Alata m.
• Scalenus m. the opposite side of the shoulder to which you want to tilt the head.

Problems

Problems	Muscles involved
Difficulty turning the head to one side (torticollis)	• Sternocleidomastoid m. on the side to which the head cannot rotate.
Difficulty bending the head forward	• Trapezius m. • Scapula Alata m.
Difficult bringing the head to the shoulder	• Scalenus m. the opposite side of the shoulder to which you want to tilt the head.
Migraine (Headache)	<i>Muscles are named in order of importance of their involvement in the case of migraines:</i> • Scapula Alata m. • Scalenus Anticus m. • Scalenus Mediscalenus m.
Numbness in the arm	<i>These muscles may be involved together with the arm muscles:</i> • Scapula Alata m. • Scalenus Mediscalenus m.
Trouble swallowing	• Suprahyoid m.

	• Infrahyoid m.
--	---

Pain zones



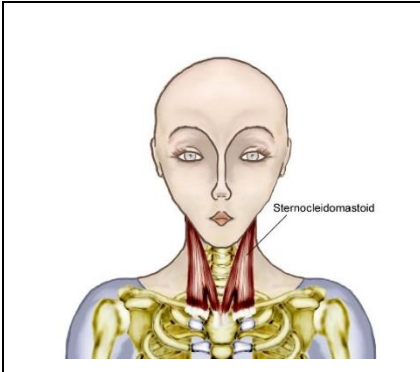
	Origin	Muscles to treat
A	Muscular	Masseter m. Sternocleidomastoid m. Scalenus Anticus m. Scalenus Mediscalenus m.
B	Muscular	Sternocleidomastoid m.
C	Muscular	Scalenus Anticus m.
D	Muscular	Scalenus Mediscalenus m.
E	Muscular	Scalenus Posterior m.
F	Muscular and neurological	Scapula Alata m.
G	Muscular	Trapezius m.

If, after performing self-treatment on several occasions, you feel that your muscles are relaxed, but that the situation doesn't improve, it is strongly recommended you consult your doctor for further evaluation.

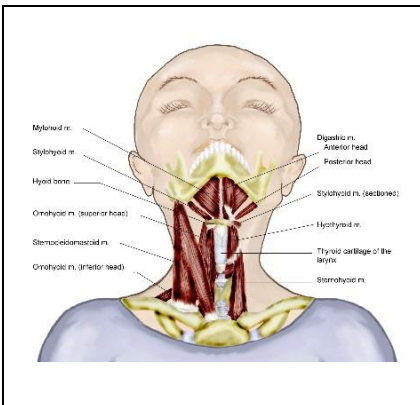
The neck muscles

We will take a look at specific neck muscles. This will help you understand the implications of muscle tension on this part of the body.

Anterior neck muscles



Sternocleidomastoid m.



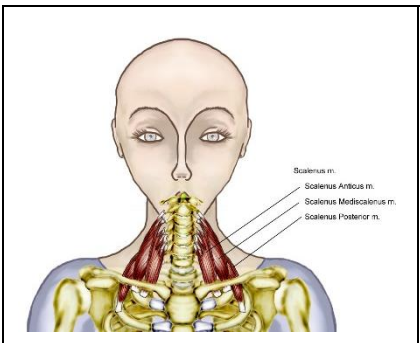
Suprahyoid muscles

- Digastric m.
- Stylohyoid m.
- Mylohyoid m.
- Geniohyoideus m.

Infrahyoid muscles

- Sternohyoid m.
- Sternothyroid m.
- Omohyoid m.
- Hyothyroid m.

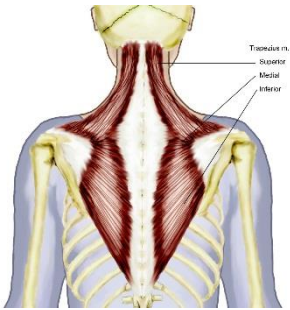
Lateral neck muscles



Scalenus muscles

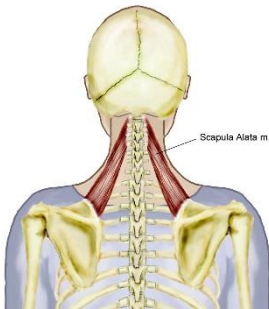
- Scalenus Anticus m.
- Scalenus Medialis m.
- Scalenus Posterior m.

Posterior neck muscles



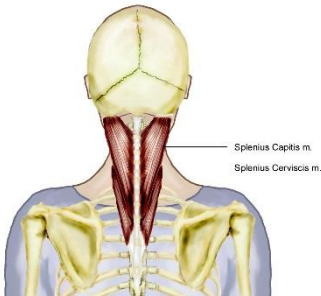
First layer

- Trapezius m.



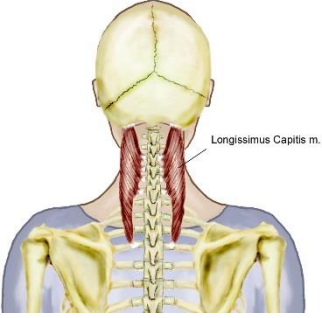
Second layer

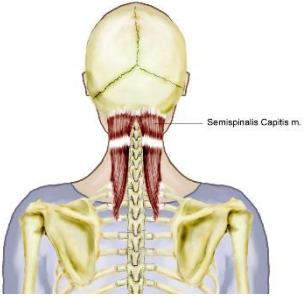
- Scapula Alata m.



Third layer

- Splenius Capitis m.
- Splenius Cervicis m.

	Forth layer • Longissimus Capitis m.
---	--

	Fifth layer • Semispinalis Capitis m. • Semispinalis Cervicis m.
---	---

Self-treatment

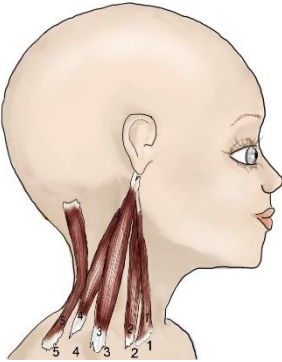
Adjacent areas to work.

For best results, it is recommended to also work:

- The **arm** in the next chapter
- The **Pectorasis Major m.**: *The thorax* section.
- The **Supraspinatus m.**: *The back* section.

Detection of tense muscles

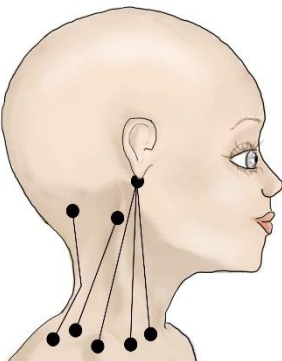
The muscles primarily responsible for pain and tension in the neck are located at the lateral and posterior levels.



1. Sternocleidomastoid m.
2. Scalenus Anticus m.
3. Scalenus Medius m.
4. Scalenus Posterior m.
5. Scapula Alata m.



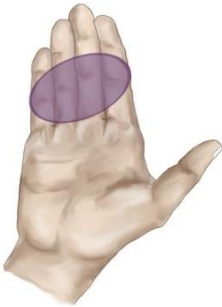
- Place your fingers at the base of the neck at point 1. This muscle is rarely tense, except in cases of torticollis where it is impossible to turn your head to the right or left.
- Move your fingers from the front to the rear of the neck.
- If you feel a “bump” and pain, that muscle is tense.



Do the same for all neck muscles.

Reminder

- Work with a little massage oil and put heat on the area, once the treatment is done.
- A tight muscle is hard to the touch and is touch sensitive.
- Pain immediately decreases as the muscle relaxes.
- Remember to gradually increase the pressure as specified on this chart:



Round of the fingers

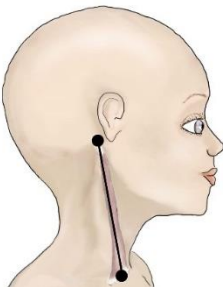


Finger pads



Thumb pad

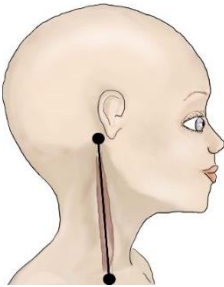
Treatment of the Sternocleidomastoid m.



Reminder: This is the large muscle that is apparent when turning the head sideways.

- Put your fingers behind the ear.
- Drag them toward the collarbone.
- Work the muscle downwards and upwards.

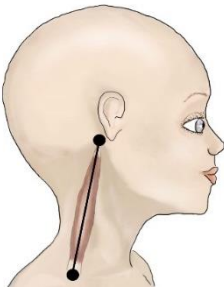
Treatment of the Scalenus Anticus m.



Reminder: It originates behind the ear and passes under the collarbone, just behind the Sternocleidomastoid m.

- Put your fingers behind the ear.
- Drag them toward the collarbone making sure that the fingertips touch the side of the Sternocleidomastoid m.
- Work the muscle downwards and upwards.

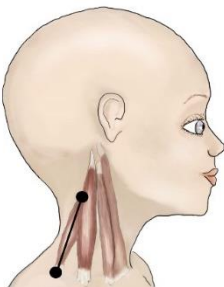
Treatment of the Scalenus Mediscalenus m.



Reminder: It originates behind the ear and descends toward the shoulder.

- Put your fingers behind the ear.
- Drag them toward the shoulder.
- Work the muscle downwards and upwards.

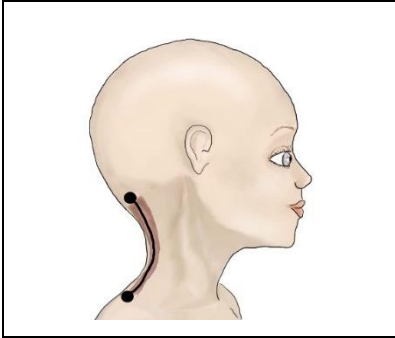
Treatment of the Scalenus Posterior m.



Reminder: It originates at the upper third of the Scalenus Mediscalenus m. and goes toward the upper part of the scapula.

- Put your fingers on the upper third of the medial scalene, then and descend toward the scapula.
- Work the muscle downwards and upwards.

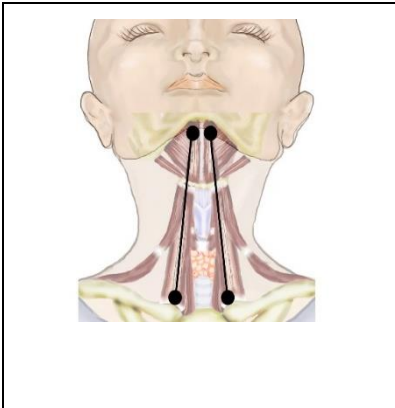
Treatment of the Scapula Alata m.



Reminder: It originates at the occiput and attaches to the tip of the scapula.

- Tilt your head forward.
- Place your fingers in the hole of the occiput at the base of the skull.
- Descend toward the scapula.
- Work the muscle downwards and upwards.

Treatment of the pharyngeal constrictor muscles



Reminder: They are located on each side of the esophagus next to the *Sternocleidomastoid m.*

- Tilt your head back.
- Place your fingers on either side of the esophagus.
- Go down with your fingers up to the collarbone, without touching the esophagus.
- Work the muscles downwards and upwards.

Recommended stretching exercises

- Plane
- GPS

The arm

The muscle pain that is felt in the arm is mainly located at the joints, at the level of the shoulder and the elbow joints, because it is there that the majority of the muscles attach. It is very rare that pain is felt in the middle of the arm, unless the deltoid or pectoralis major muscle is tense.

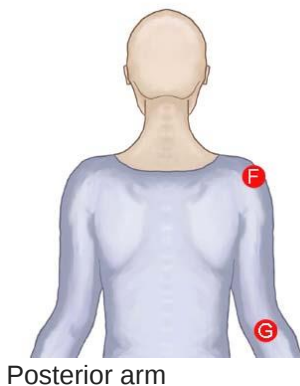
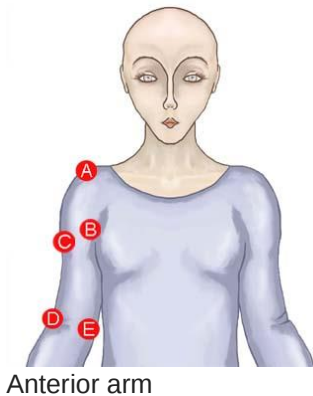
However, the arm muscles are mainly responsible for the pain in the joints of the shoulder and elbow. Therefore, myotherapeutic self-treatment of the arm is most appropriate in the treatment of inflammatory pain of these two joints.

The muscles of the arm being very solicited, tension can quickly degenerate into inflammation. Conditions include **capsulitis**, **bursitis**, **tendinitis** and **tennis elbow**. Refer to *The articular system*.

Problems

Problems	Muscles involved
Difficulty in raising the arm to the side	• Deltoid m.
Difficulty bending the arm backward	• Brachial m. • Deltoid m. • Biceps Brachii m.
Difficulty bending the forearm on the arm	• Biceps Brachii m. • Brachial m. • Brachioradialis m.
Difficulty to stretch the forearm	• Triceps brachii m.
Difficult bringing the arm forward	• Triceps brachii m.
Trouble bringing the shoulder to the back	• Pectoralis Major m.
Difficulty making circles with the arm	• Pectoralis Major m. • Rotator cuff muscles
Pain in the front of the shoulder joint	• Long head of the Biceps Brachii m.

Pain zones

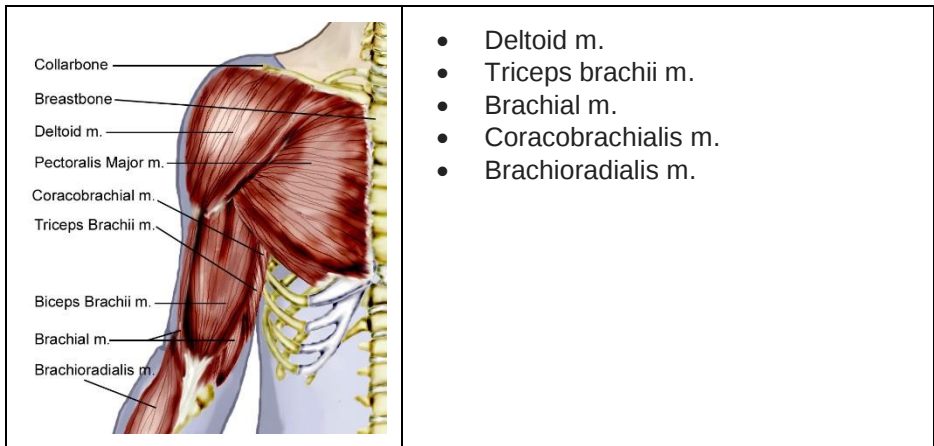


Muscles involved			
	Arm muscles		Forearm muscles
A	Biceps	Brachii m.	
B	Pectoralis Major m.		
C	Deltoid m.		
D			Extensor Carpi Radialis Brevis m. Extensor Digitorum Communis m. Extensor Carpi Ulnaris m.
E			Flexor Digitorum Profundus m. Flexor Carpi Radialis m. Flexor Digitorum Superficialis m. Flexor Carpi Ulnaris m. Extensor Carpi Radialis Longus m. Palmaris Longus m.
F	Rotator cuff muscles		
G	Triceps	brachii m.	

The arm muscles (grouped)

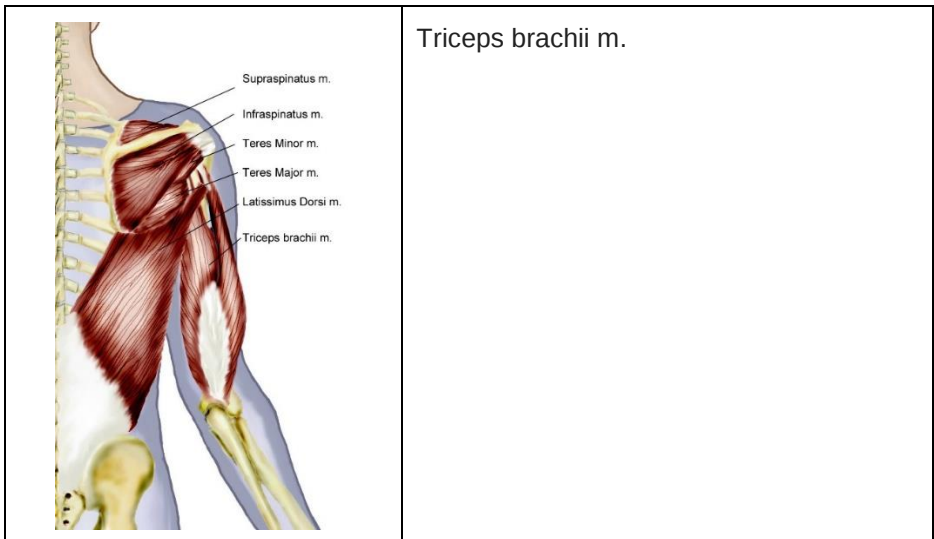
Let's now take a look at the arm muscles and the muscles of the rotator cuff, which are part of the back muscles, but act on the shoulder joint.

The anterior arm muscles



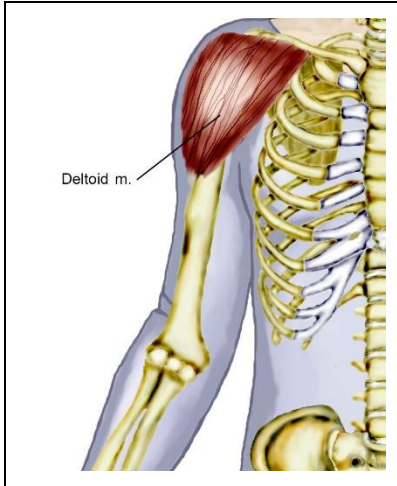
The muscles of the rotator cuff and the Latissimus Dorsi m. are back muscles but they attach to the upper arm.

The posterior arm muscles

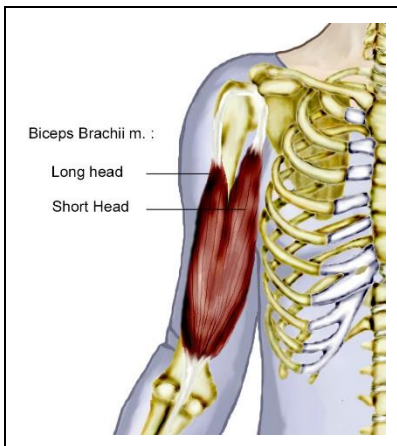


The arm muscles (individual)

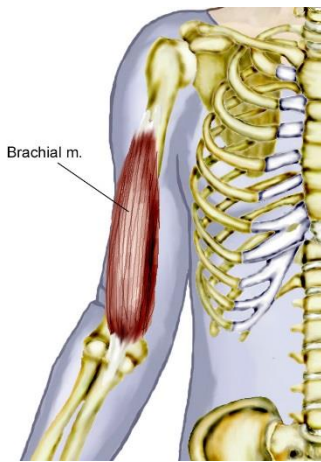
The anterior arm muscles



Deltoid m.



Biceps Brachii m.



Brachial m.

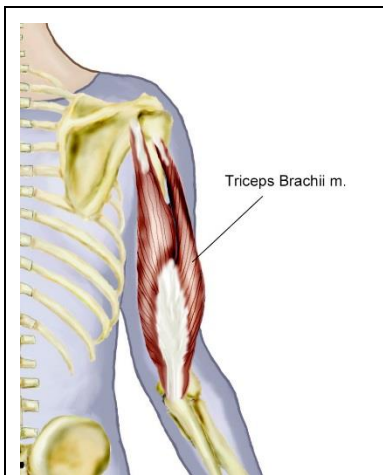


Coracobrachialis m.



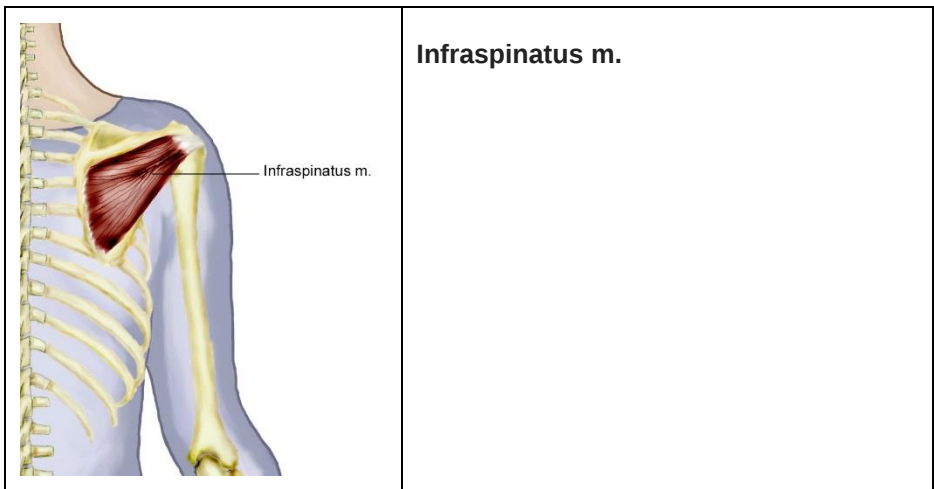
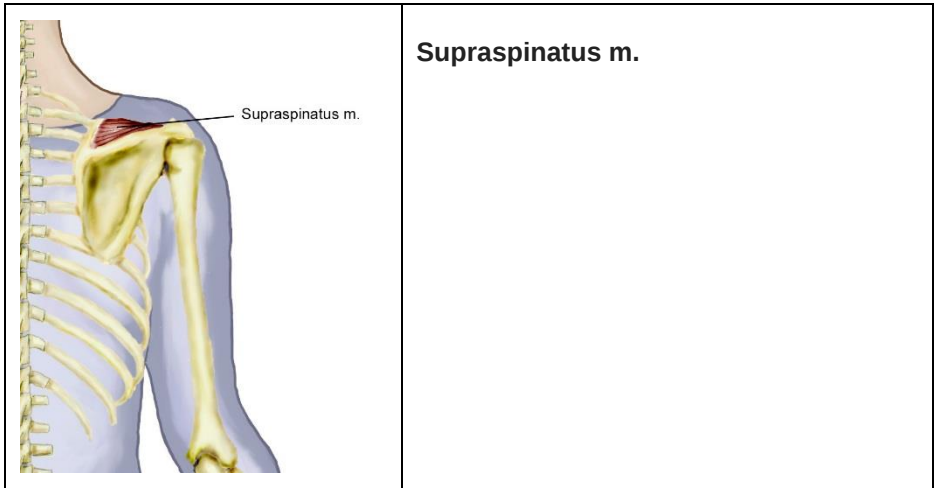
Brachioradialis m.

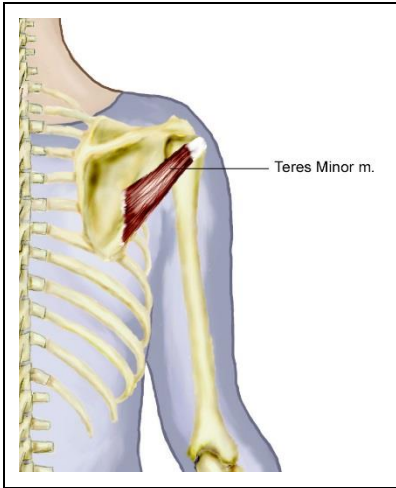
The posterior arm muscles



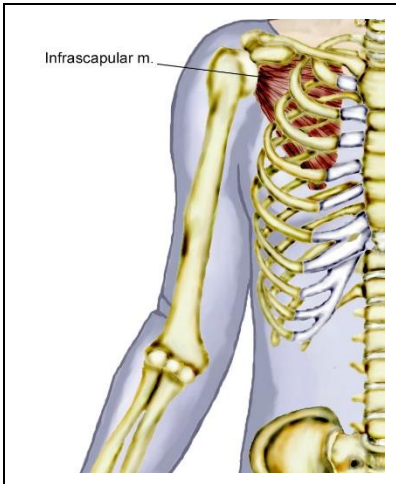
Triceps Brachii m.

The rotator cuff muscles





Teres Minor m.



Infrascapular m.

Self-treatment

Adjacent zones to work.

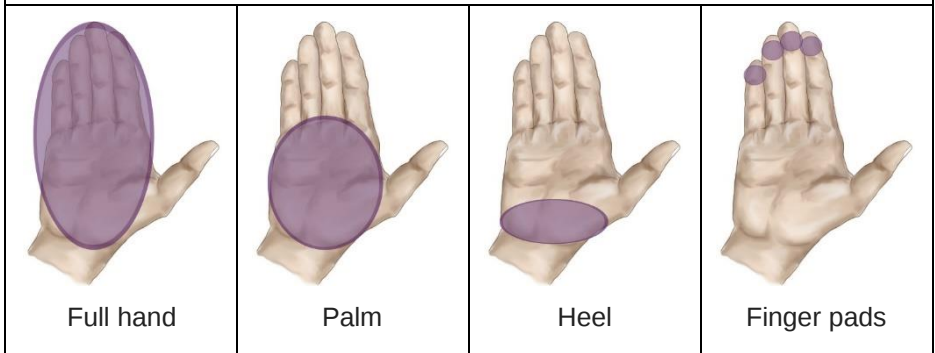
For best results, it is recommended to also work:

- The **Pectoralis Major m.**: *The thorax* section.
- The **forearm muscles** in the next chapter.

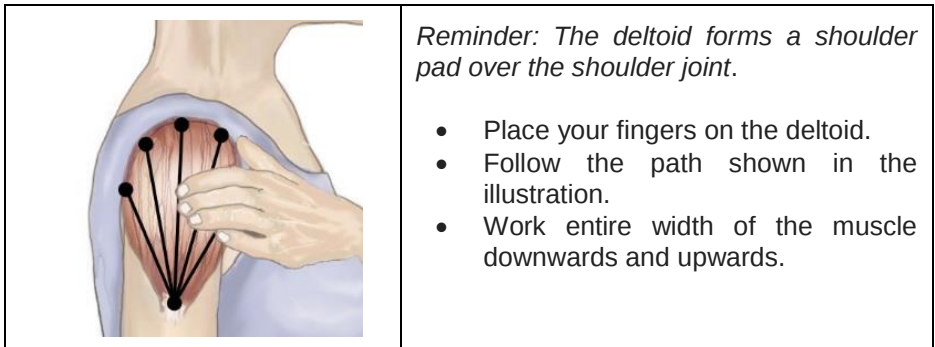
Reminder

- Work with a little massage oil and put heat on the area, once the treatment is done.

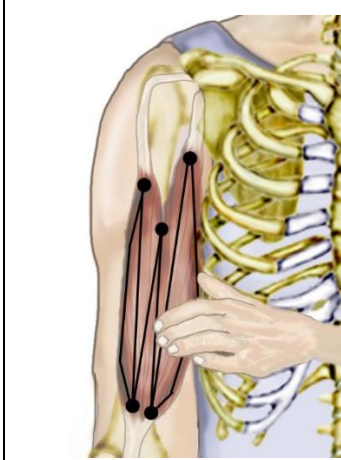
- A tight muscle is hard to the touch and is touch sensitive.
- Pain immediately decreases as the muscle relaxes.
- Remember to gradually increase the pressure as specified on this chart:



Treatment of the Deltoid m.



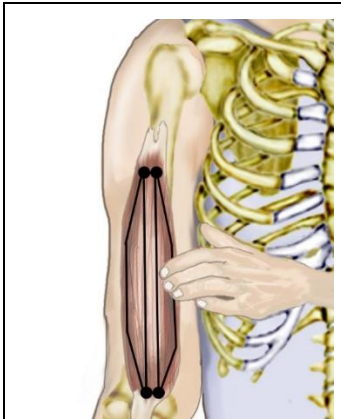
Treatment of the Biceps Brachii m.



Reminder: The Biceps Brachii m. is the muscle that becomes larger when the arm is folded.

- Let the arms fall along the body, palm facing forward.
- The Biceps Brachii m. has two heads that need to be worked on.
- Place your hand on one of the two heads.
- Follow the path shown in the illustration.
- Work the muscle downwards and upwards.

Treatment of the Brachial m.



Reminder: The Brachial m. is immediately adjacent to the Biceps Brachii m. on the lateral side.

- Let the arms fall along the body, palm facing forward.
- Place your hand on the muscle.
- Follow the path shown in the illustration.
- Work the muscle downwards and upwards.

Treatment of the Brachioradialis m.



Reminder: The Brachioradialis m. is forming the hump at the forearm just below the elbow muscle.

- Put your arm in front of you, flex the elbow, and palm facing inward.
- Place your hand on the protrusion below the elbow.
- Follow the path shown in the illustration.
- Work the muscle downwards and upwards.

Treatment of the Coracobrachialis m.



Reminder: The Coracobrachialis m. is the muscle that forms the bump in the armpit.

- Raise your arm backward.
- Place your hand on the bulge under the arm.
- Follow the path shown in the illustration.
- Work the muscle downwards and upwards.

Treatment of the Triceps Brachii m.



Reminder: The triceps is the only posterior muscle of the arm.

- Raise your arm backward.
- Place your hand near the shoulder joint at the armpit.
- Follow the path shown in the illustration.
- Work the muscle downwards and upwards.

Recommended stretching exercises

- Door frame
- Cross arm
- Round back in a sitting position
- Round back in a standing position

The forearm

Muscle pain felt in the forearm is primarily located at the elbow joint and, more rarely, the wrist joint. It is in these places that most muscles attach. This is why myotherapeutic self-treatment of the forearm is appropriate in the treatment of muscle pain in these two joints.

It should also be understood that the muscles of the forearm are the muscles that act on the movements of the wrist and fingers. Self-treatment of the forearm is therefore essential for pain felt in the wrist and fingers. Since the muscles of the forearm are often used, tension can quickly degenerate into inflammation. Conditions include **capsulitis**, **bursitis**, **tendinitis** and **tennis elbow**. Refer to the *Articular System* section.

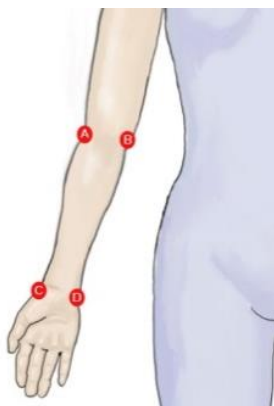
The forearm has 16 muscles. Some are not accessible for self-treatment, because they are located deep in the forearm, underneath the superficial muscles. That is why we will work areas of the forearm rather than specific muscles.

Problems

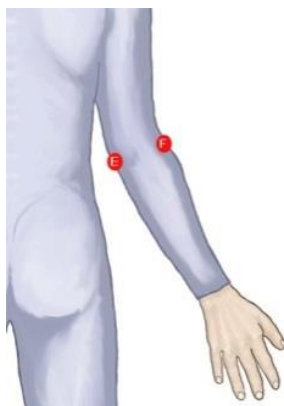
Problems	Muscles involved
Difficulty turning the hand, palm down	• Pronator Teres m. (superficial) • Pronator Quadratus m. (deep)
Difficulty turning the hand, palm up	• Supinator m. (deep)
Difficulty bending the wrist	• Flexor Carpi Radialis m. (superficial) • Palmaris Longus m. (superficial) • Flexor Carpi Ulnaris m. (superficial) • Flexor Digitorum Superficialis m. (superficial)
Difficulty stretching the wrist upwards	• Extensor Carpi Radialis Longus m. (superficial) • Extensor Carpi Radialis Brevis m. (superficial) • Extensor Digitorum Communis m. (superficial) • Extensor Carpi Ulnaris m. (superficial)
Difficulty bending the fingers	• Flexor Digitorum Superficialis m. (superficial)

	Flexor Digitorum Profundus m. (deep)
Difficulty stretching the fingers	Extensor Digitorum Cummunis m. (superficial)
Difficulty bending the thumb	Flexor Pollicis Longus m. (deep)
Difficulty stretching the thumb	- Abductor Pollicis Longus m. (deep) - Extensor Pollicis Longus m. (deep)
Difficulty stretching the index	Extensor Digiti Quinti Proprius m. (deep)

Pain zones



Anterior forearm



Origin		Muscles to treat
A	Muscular	Extensor Carpi Radialis Brevis m. Extensor Digitorum Cummunis m. Extensor Carpi Ulnaris m.
B	Muscular	Flexor Digitorum Profundus m. Flexor Carpi Radialis m. Flexor Digitorum Superficialis m. Flexor Carpi Ulnaris m. Extensor Carpi Radialis Longus m. Palmaris Longus m.
C	Muscular	Abductor Pollicis Longus m. Extensor Pollicis Longus m. Extensor Pollicis Brevis m. Flexor Carpi Radialis m.
D	Muscular	Extensor Carpi Ulnaris m.
E	Muscular	Flexor Carpi Ulnaris m.
F	Muscular	Extensor Carpi Radialis Brevis m. Extensor Digitorum Cummunis m. Extensor Carpi Ulnaris m.

Posterior forearm

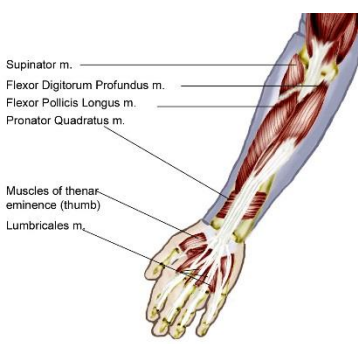
--	--	--

The forearm muscles (grouped)

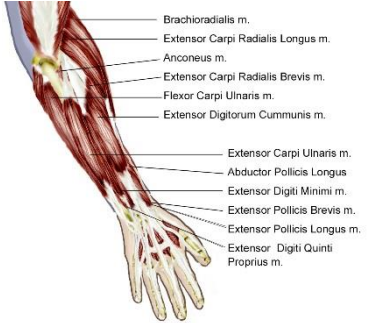
The forearm muscles that act on the wrist and fingers

The anterior muscles

	Superficial layer • Pronator Teres m. • Flexor Carpi Radialis m. • Palmaris Longus m. • Flexor Carpi Ulnaris m. • Flexor Digitorum Superficialis m.
---	--

	Deep layer • Flexor Pollicis Longus m. • Flexor Digitorum Profundus m. • Pronator Quadratus m.
--	---

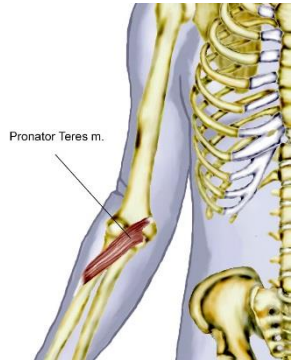
The posterior muscles

	Superficial layer • Extensor Carpi Radialis Longus m. • Extensor Carpi Radialis Brevis m. • Extensor Digitorum Communis m. • Extensor Carpi Ulnaris m.
---	--

	Deep layer • Supinator m. • Abductor Pollicis Longus m. • Extensor Pollicis Longus m. • Extensor Pollicis Brevis m. • Extensor Digiti Quinti Proprius m.
---	---

The forearm muscles (individual)

The anterior forearm muscles which act on the wrist and hand

	Pronator Teres m.
---	----------------------------

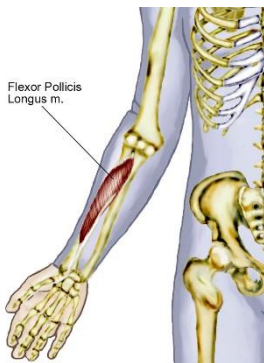
	Flexor Carpi Radialis m.
---	--

	Palmaris Longus m.
---	----------------------------------

	Flexor Carpi Ulnaris m.
--	---------------------------------------



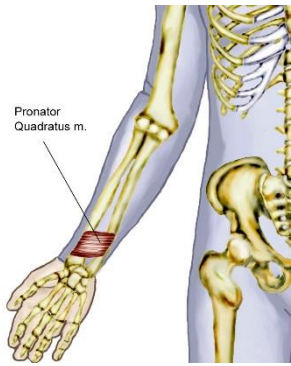
Flexor Digitorum Superficialis m.



Flexor Pollicis Longus m.

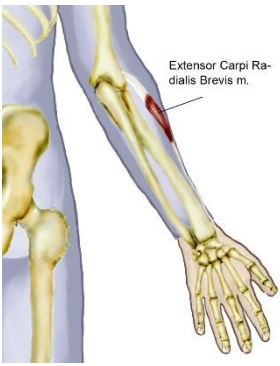


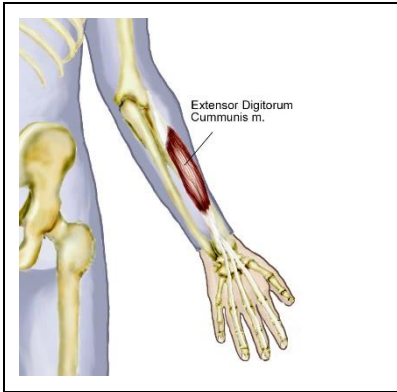
Flexor Digitorum Profundus m.

 Pronator Quadratus m.	Pronator Quadratus m.
--	-------------------------------------

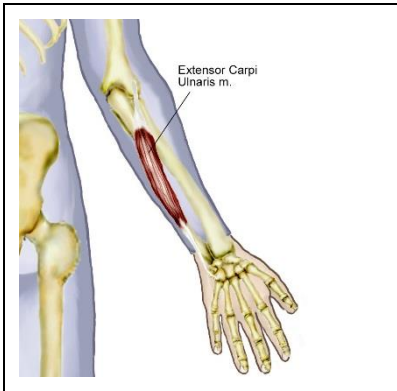
The posterior forearm muscles which act on the wrist and hand

 Extensor Carpi Radialis Longus m.	Extensor Carpi Radialis Longus m.
--	---

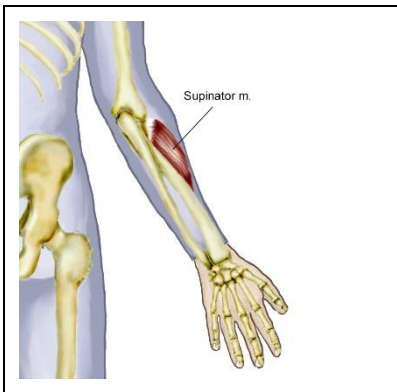
 Extensor Carpi Radialis Brevis m.	Extensor Carpi Radialis Brevis m.
---	---



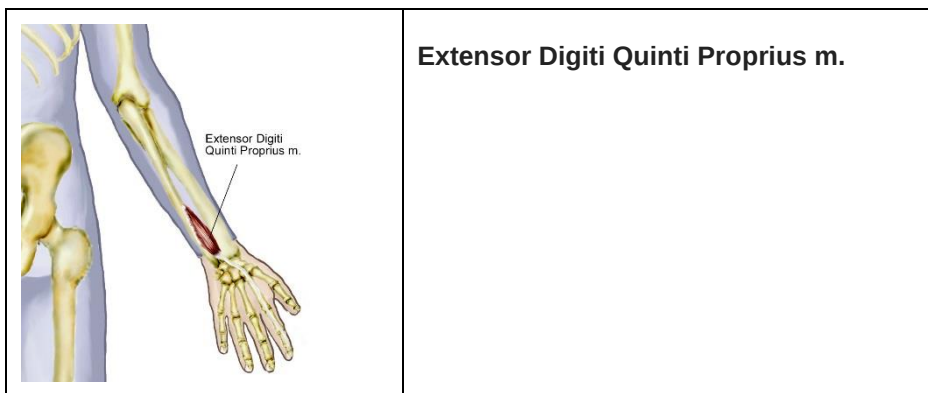
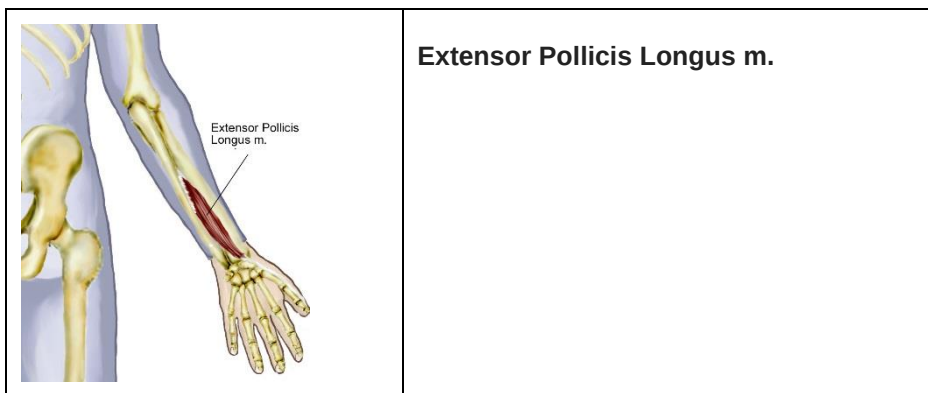
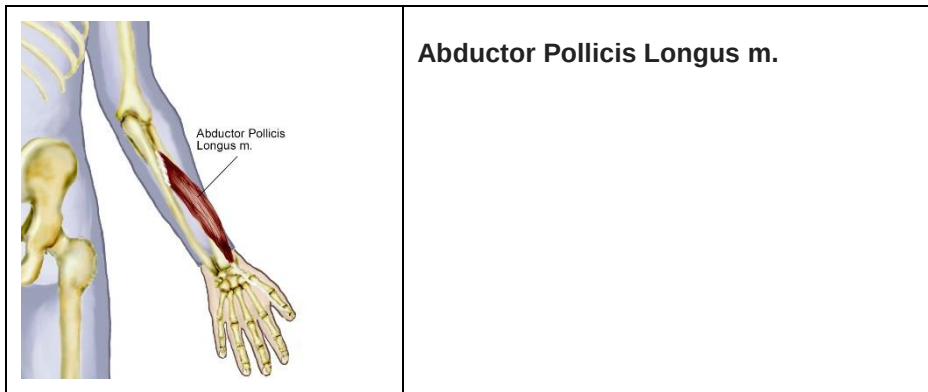
Extensor Digitorum Communis m.



Extensor Carpi Ulnaris m.



Supinator m.



Self-treatment

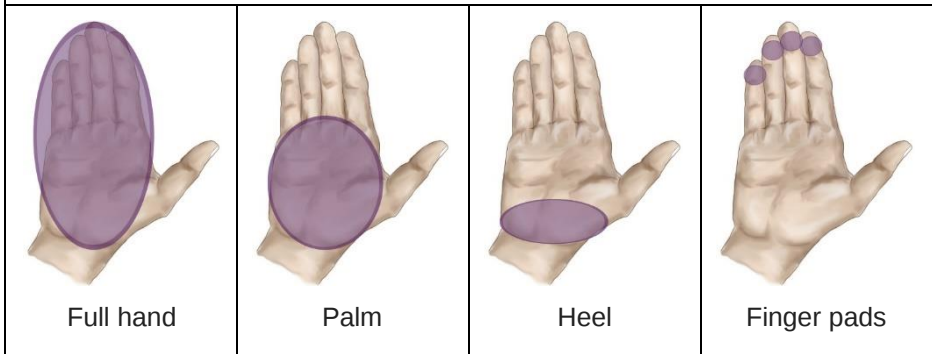
Adjacent zones to work.

For best results, it is recommended to also work:

- The **hand** in the next chapter.

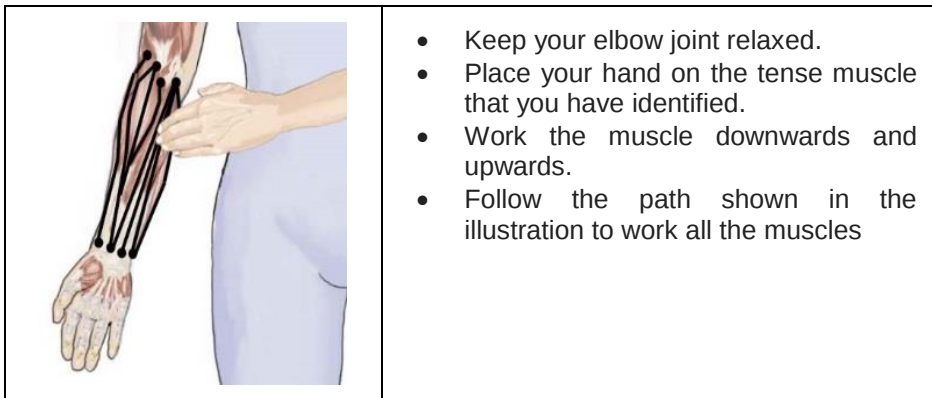
Reminder

- Work with a little massage oil and put heat on the area, once the treatment is done.
- A tight muscle is hard to the touch and is touch sensitive.
- Pain immediately decreases as the muscle relaxes.
- Remember to gradually increase the pressure as specified on this chart:



Since the muscles of the forearm are placed very close to one another, we suggest you just treat the tense muscles found at the detection stage instead of trying to identify them individually.

Treatment of the forearm anterior muscles



Treatment of the forearm posterior muscles



- Fold the forearm.
- Keep your elbow joint relaxed.
- Place your hand on the tense muscle that you've identified.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles.

Recommended stretching exercises

- Extension of the wrist — fingers bent
- Extension of the wrist — fingers stretched
- Extension of the wrist — hand flat
- Flexion of the wrist

The hand

Muscle pain felt in the hand is for the most part directly related to the muscles of the forearm, since they act on the wrist and fingers. If you feel pain in the palm of the hand or the thumb, it is then the intrinsic hand muscles that are involved. It is therefore recommended to practise self-treatment of the forearm and hand.

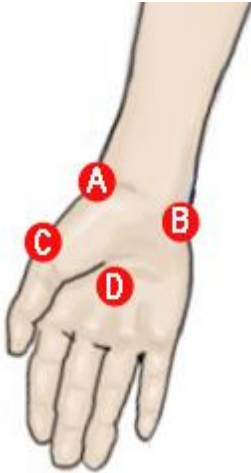
Problems

Problems	Muscles involved
Difficulty turning the hand, palm down	• Pronator Teres m. (forearm) • Pronator Quadratus m. (forearm)
Difficulty turning the hand, palm up	• Supinator m. (forearm)
Difficulty bending the wrist	• Flexor Carpi Radialis m. (forearm) • Palmaris Longus m. (forearm) • Flexor Carpi Ulnaris m. (forearm) • Flexor Digitorum Superficialis m. (forearm)
Difficulty stretching the wrist upwards	• Extensor Carpi Radialis Longus m. (forearm) • Extensor Carpi Radialis Brevis m. (forearm) • Extensor Digitorum Communis m. (forearm) • Extensor Carpi Ulnaris m. (forearm)
Difficulty bending the fingers	• Flexor Digitorum Superficialis m. (forearm) • Flexor Digitorum Profundus m. (forearm)
Difficulty stretching the fingers	• Extensor Digitorum Communis m. (forearm)
Difficulty bending the thumb	• Flexor Pollicis Longus m. (forearm)
Difficulty stretching the thumb	• Abductor Pollicis Longus m. (forearm) • Extensor Pollicis Longus m. (forearm) • Extensor Pollicis Brevis m. (forearm)
Difficulty stretching the index finger	• Extensor Digiti Quinti Proprius m. (forearm)

Difficulty stretching the thumb
on the side (open a jar)

- Abductor Pollicis Brevis m. (hand)
- Adductor Pollicis m. (hand)

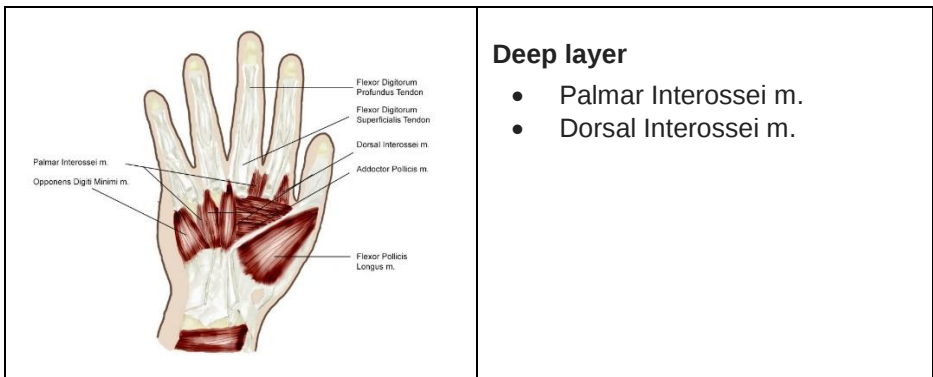
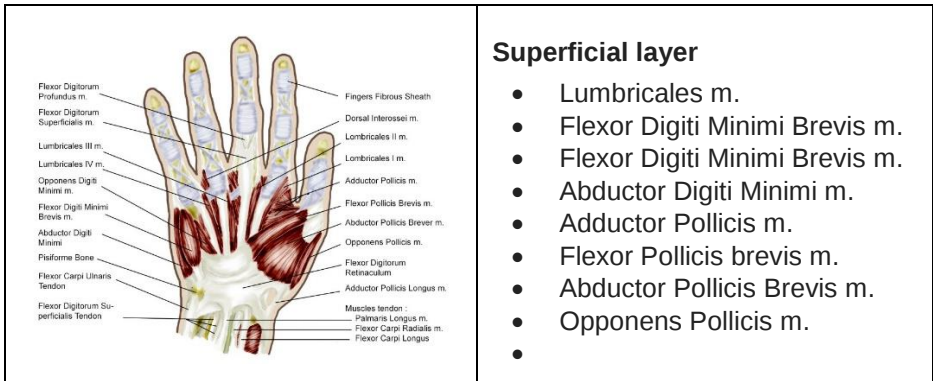
Pain zones



Muscles to treat			
	Forearm muscles		Hand muscles
A	Abductor Pollicis Longus m.	Extensor Pollicis Longus m.	Abductor Pollicis Brevis m.
B	Extensor Carpi Ulnaris m.		Abductor Digiti Minimi m.
C			Flexor Pollicis Brevis m.
D			Adductor Pollicis m.
			Abductor Pollicis Brevis m.
			Flexor Pollicis brevis m.
			Opponens Pollicis m.
			Lumbricales m.
			Palmar Interossei m.
			Opponens Digiti Minimi m.

The hand muscles (grouped)

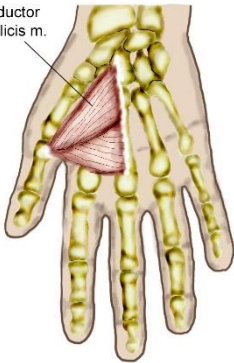
The intrinsic hand muscles



The hand muscles (individual)

The muscles for movement of the thumb

Adductor
Pollicis m.



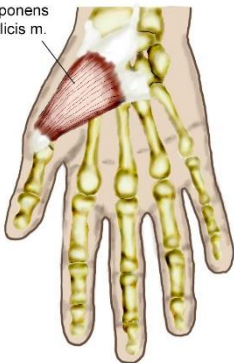
Adductor Pollicis m.

Flexor
Pollicis
Brevis m.



Flexor Pollicis Brevis m.

Opponens
Pollicis m.



Opponens Pollicis m.

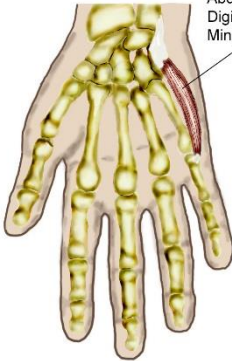
Abductor
Pollicis
Brevis m.



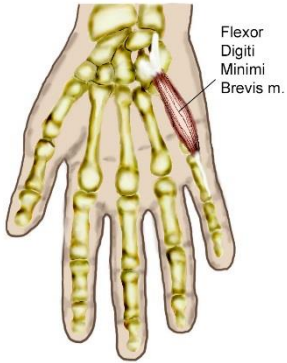
Abductor Pollicis Brevis m.

Muscles for the movement of the little finger

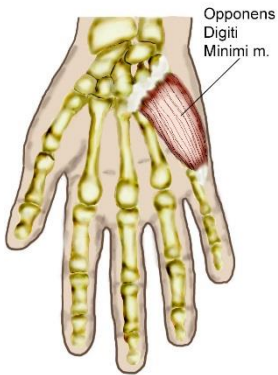
Abductor
Digiti
Minimi m.



Abductor Digiti Minimi m.

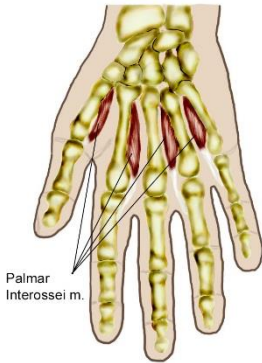


Flexor Digiti Minimi Brevis m.

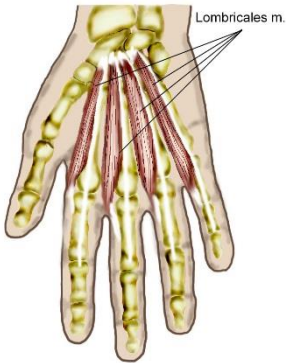


Opponens Digiti Minimi m.

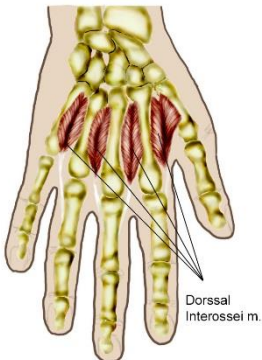
Deep intrinsic muscles of the hand



Palmar Interossei m.



Lumbricales m.



Dorsal Interossei m.

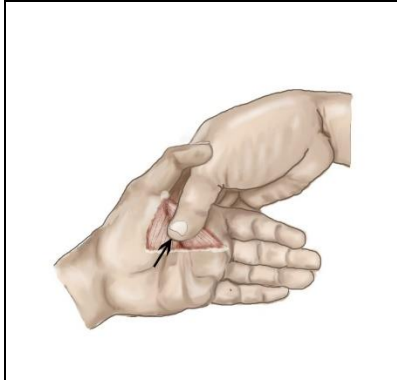
Self-treatment

Adjacent zones to work.

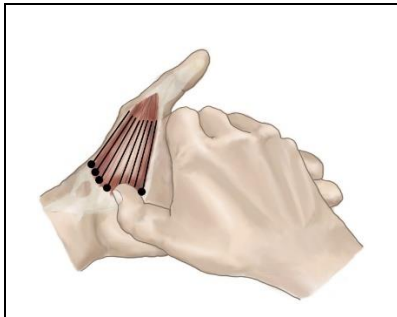
For best results, it is recommended to also work:

- The **forearm** in the previous chapter.

Treatment of the Adductor Pollicis m.

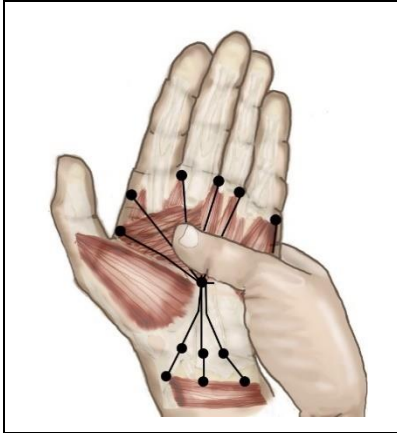


- Open your left hand and keep the thumb raised.
- Place your right thumb on the left hand and fingers behind the palm.
- Apply pressure with the thumb and fingers to roll the muscle. You can feel the tense muscles. It could be very tender.
- Release.
- Repeat.
- Work the other side.



- Open your left hand and keep the thumb raised.
- With your right thumb, work the muscle downwards and upwards.
- Follow the path shown in the illustration to work the muscle.

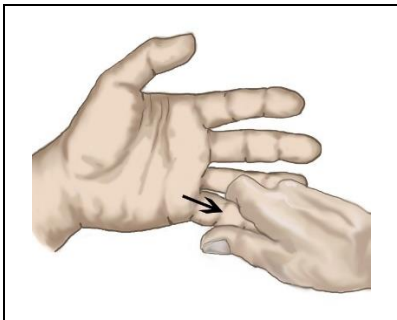
Treatment of the Lombricales m.



- Open your left hand.
- With your right thumb, work the muscle downwards and upwards.
- Follow the path shown in the illustration to work the muscle.

The lower part of the path deals more specifically with the carpal tunnel.

Elongation of the fingers



- Open the left hand
- Spread your fingers.
- Close firmly the right hand around a finger as shown.
- Pull the right hand slowly so the finger slides slowly.
- Repeat for all fingers.

Recommended stretching exercises

- Extension of the wrist — fingers bent
- Extension of the wrist — fingers stretched
- Extension of the wrist — hand flat
- Flexion of the wrist
- Pumping of the hand

The thigh

Muscle pain felt in the thigh originates mostly at the joints, at the of the hip and knee joints, since this is where most muscles attach. Therefore, myotherapeutic self-treatment of the thigh is recommended in the treatment of inflammatory pain of these two joints.

It also happens that we feel pain after overstretching the thigh muscles. Self-treatment is also recommended for this type of injury. You must, however, pay close attention to your tolerance to muscular pain, as it will be your indicator for the pressure to use.

The muscles of the thigh being highly solicited, tension can quickly degenerate into inflammation. Conditions include **capsulitis**, **bursitis**, and **tendinitis**. Refer to: *The Articular system*.

Problems

Problems	Muscles involved
Difficulty climbing stairs	• Quadriceps Femoris m.
Difficulty getting up while seated	• Quadriceps Femoris m.
Difficulty getting down the stairs	• Biceps Femoris m.
Difficulty stretching the thigh on the side	• Tensor Fasciae Latae m. • Adductor muscles
Difficulty remaining seated	• Gluteal muscles
Hip pain	• Gluteal muscles • Tensor Fasciae Latae m.
Groin pain	• Adductor muscles • Iliopsoas m.
Knee pain	• Quadriceps Femoris m.
Pain under the buttock	• Hamstrings muscles • Gracilis m.

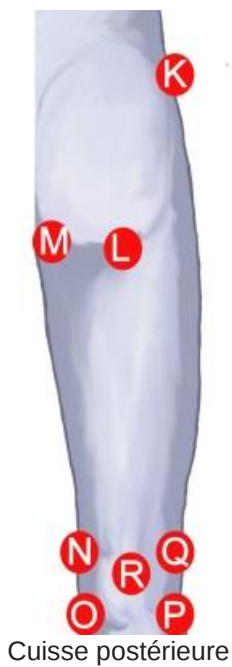
Pain zones

Muscles to treat		
Thigh		Other
A	Iliopsoas m.	



Cuisse antérieure

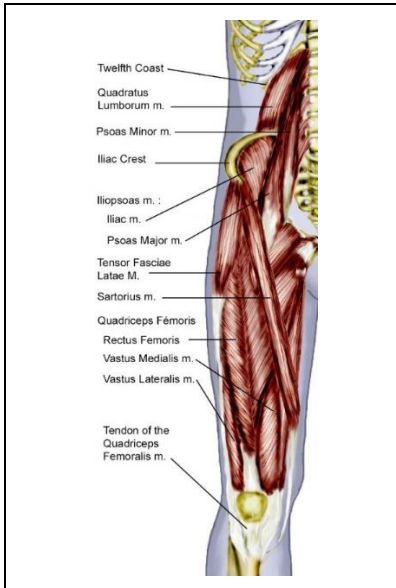
B – C – D	Pectineus m. Adductor muscles	
E	Gracilis m. Sartorius m. Quadriceps Femoris m.	
F	Quadriceps Femoris m.	
G	Quadriceps Femoris m. Tensor Fasciae Latae m.	Extensor Digitorum Longus m. (leg) Tibialis Anterior m. (leg)
H	Quadriceps Femoris - Vastus Lateralis m.	
I	Biceps Femoris m.	
J	Tensor Fasciae Latae m.	Gluteal muscles (buttock)
K	Tensor Fasciae Latae m.	
L	Semimembranosus m. Semitendinosus m.	
M	Semimembranosus m. Semitendinosus m.	
N	Semitendinosus m.	Gastronemius m. (leg)
O	Semimembranosus m. Semitendinosus m. Tensor Fasciae Latae m.	
P	Biceps Femoris m.	Fibularis Longus m. (leg) Soleus m. (leg)



Q	Quadriceps Femoris - Vastus Lateralis m.	Gastronemius m. (leg)
R		Popliteal m. (leg)

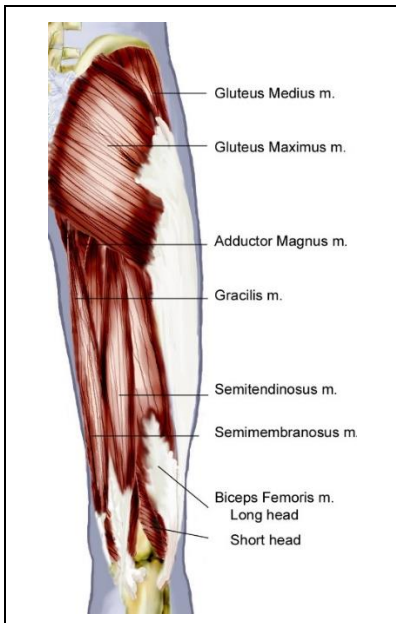
The thigh muscles (grouped)

The anterior thigh muscles



- Iliopsoas m.
 - Iliac m.
 - Psoas m.
- Tensor Fasciae Latae m.
- Sartorius m.
- Quadriceps Femoris m.
 - Rectus Femoris m.
 - Vastus Medialis m.
 - Vastus Intermedius.
 - Vastus Lateralis m.

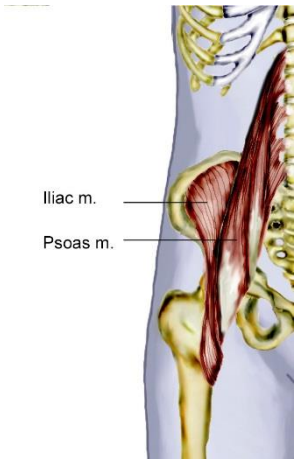
The posterior thigh muscles

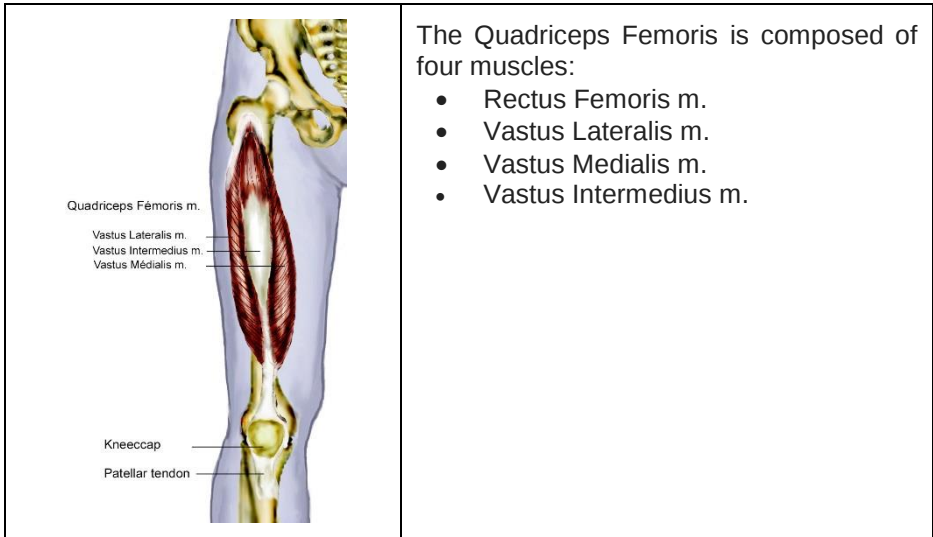


- Biceps Femoris m.
 - Long head
 - Short head
- Semitendinosus m.
- Semimembranosus m.
- Gracilis m.

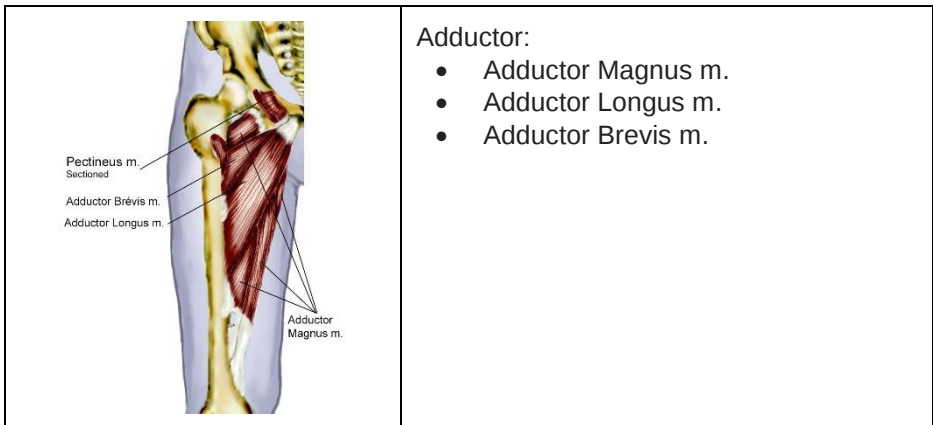
The thigh muscles (individual)

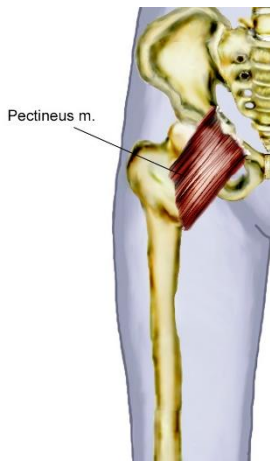
The anterior thigh muscles

 Iliac m. Psoas m.	Iliopsoas m.: • Iliac (iliac head of the iliopsoas m.) • Psoas (psoas head of the iliopsoas m.)
 Sartorius m.	Sartorius m.



The median thigh muscles





Pectineus m.

The lateral thigh muscles



Tensor Fasciae Latae m.

The posterior thigh muscles



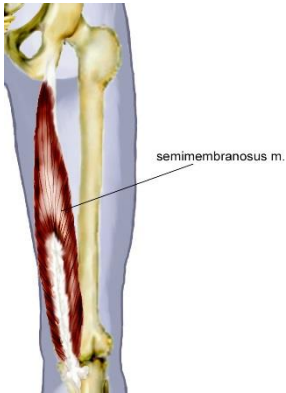
Biceps Femoris m.

Biceps Femoris m.



Semitendinosus m.

Semitendinosus m.



semimembranosus m.

Semimembranosus m.



Gracilis m.

Gracilis m.

Self-treatment

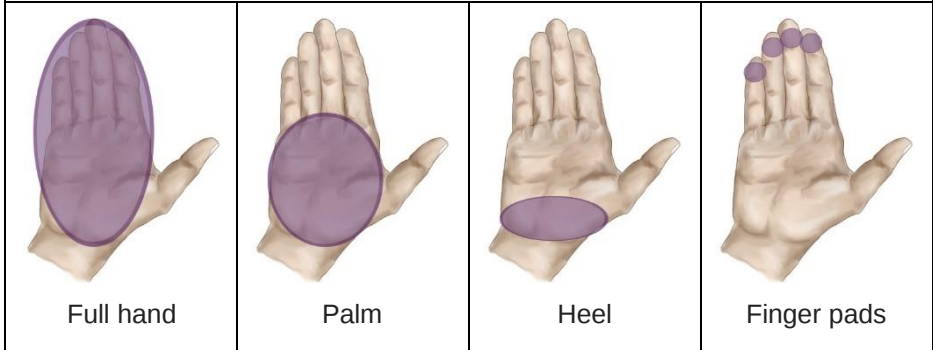
Adjacent zones to work.

For best results, it is recommended to also work:

- The **buttock**: *The gluteal region* section.
- The **Leg**, in the next chapter.

Reminder

- Work with a little massage oil and put heat on the area, once the treatment is done.
- A tight muscle is hard to the touch and is touch sensitive.
- Pain immediately decreases as the muscle relaxes.
- Remember to gradually increase the pressure as specified on this chart:



For the thigh, you can perform self-treatment in sitting or standing position, whichever you are most comfortable with.

Treatment of the anterior thigh



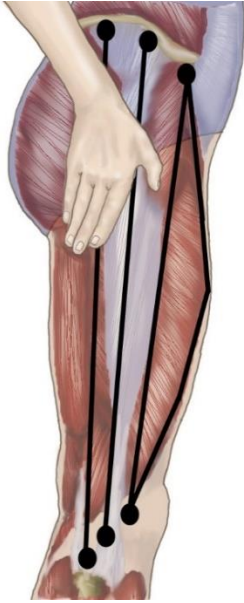
- Keep the thigh well relaxed.
- Place one or two hands on the tense muscle.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles.

Treatment of the medial thigh



- Keep the thigh well relaxed.
- Place your hand on the interior of your thigh.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles.

Treatment of the lateral thigh



- Keep the thigh well relaxed.
- Place one or two hands on the tense muscle.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles.

Treatment of the posterior thigh



- Keep the thigh well relaxed.
- Place one your hand on the tense muscle.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles.

Recommended stretching exercises

- Round back in a sitting position
- Round back in standing position
- Knee to shoulder
- Door knob

The leg

Pain in the leg itself will be felt mainly in the lateral and posterior levels. Since the leg muscles are heavily used, tension is very common.

A tense muscle becomes hard and can put pressure on the vessels or the nerve that crosses its path. If blood vessels are compressed, the result can be numbness in the foot or toes. A tense muscle can play an important role in hindering blood circulation in the legs. It can also be the root cause of varicose veins. Blood vessels are not innervated and therefore cannot cause pain. It is the muscles located underneath the varicose veins that are the cause of the pain.

When normal muscles contract and relax, they act as a pump that moves the lymph through the system. If they are tense, they can no longer play this role. The lymph having no longer means to go up to the groin, it will accumulate in the feet and cause swelling.

Since most of the leg muscles attach to the knee joint or cross it, when they are tense, they pull on their tendons, which triggers inflammation at the joint level. We can then observe imbalances such as **capsulitis**, **bursitis** and **tendinitis**. Refer to the *Articular System* section.

The muscles of the leg act on the ankle joint and movement of the toes. So, if there is an imbalance at this level, it is the muscles of the leg that you must treat.

Problems

Problems	Muscles involved
Difficulty raising the foot	• Anterior leg muscles
Difficulty in pointing the foot	• Posterior leg muscles
Pain at the heel	• Posterior leg muscles • Muscles under the foot

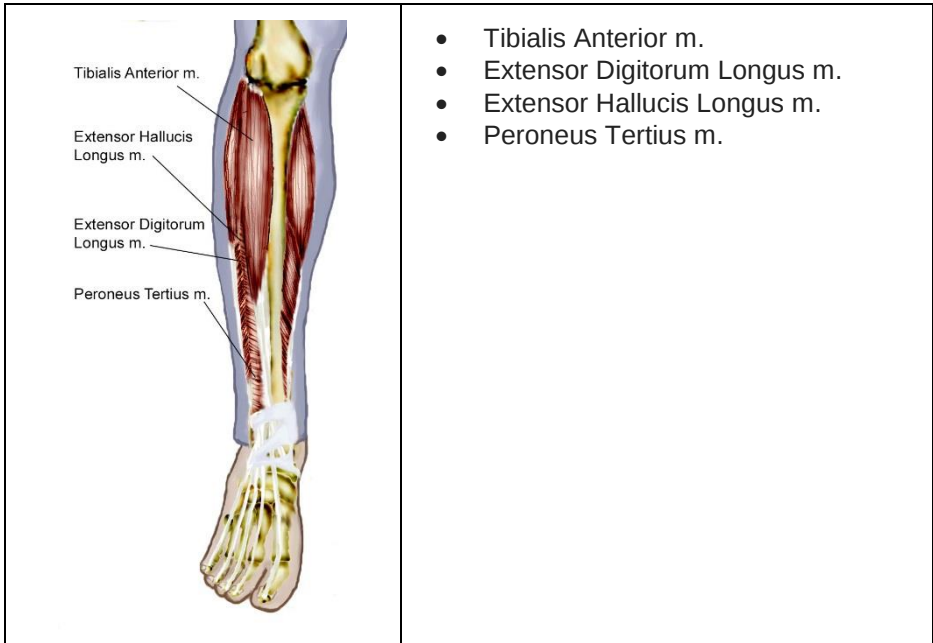
Pain zones

Muscles to treat	
A	Quadriceps Femoris Vastus Lateralis m.
B	Quadriceps Femoris m. Tensor Fasciae Latae m.

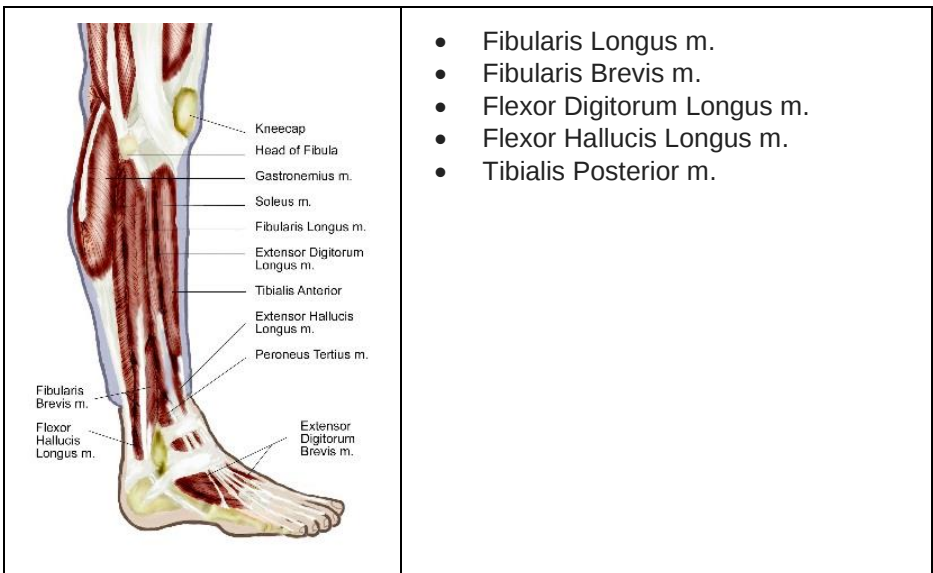
 Anterior leg		Extensor Digitorum Longus m. Tibialis Anterior m.
	C	Quadriceps Femoris m.
	D	Extensor Digitorum Longus m. Tibialis Anterior m.
	E	Fibularis Brevis m. Fibularis Longus m.
	F	Adductor m. Quadriceps Femoris m.
	G	Gracilis m. Sartorius m. Quadriceps Femoris m.
	H	Tibialis Anterior m.
	I	Fibularis Longus m.
 Lateral leg	J	Gastronemius m. Soleus m. Flexor Hallucis Longus m. Flexor Digitorum Longus m. Tibialis Posterior m.
	K	Gastronemius m. Soleus m.
	L	Popliteal m. Gastronemius m. Soleus m.
 Posterior leg	M	Gastronemius m. Soleus m.
	J	

The leg muscles (grouped)

The anterior leg muscles



The lateral leg muscles



The posterior leg muscles

 Gastrocnemius m. Soleus m.	• Gastrocnemius m. • Soleus m.
--	--

The leg muscles (individual)

The anterior leg muscles

 Tibialis Anterior m.	Tibialis Anterior m.
--	-----------------------------

Extensor
Digitorum
Longus m.



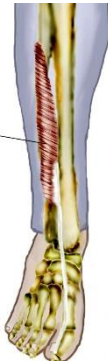
Extensor Digitorum Longus m.

Peroneus
Tertius m.



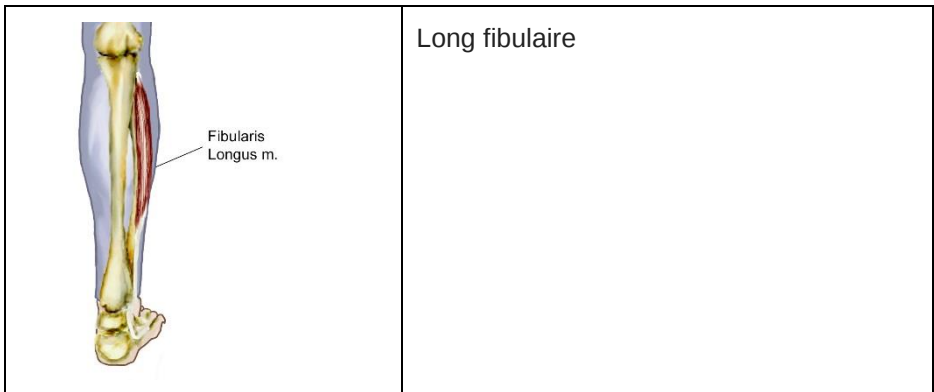
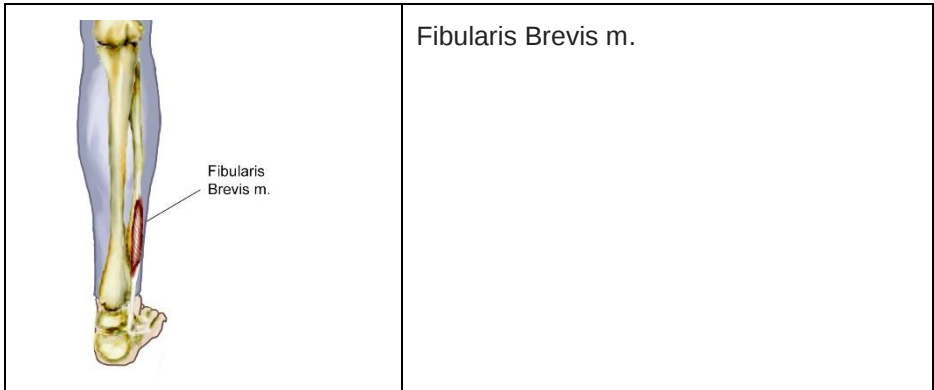
Peroneus Tertius m.

Extensor
Hallucis
Longus m.

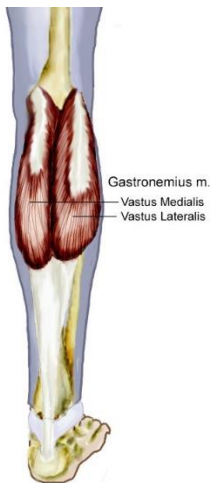


Extensor Hallucis Longus m.

The lateral leg muscles

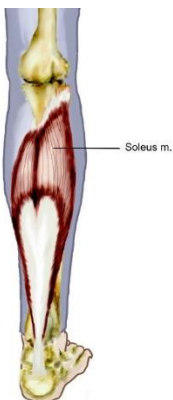


The posterior leg muscles



Gastrocnemius m.:

- Vastus medialis
- Vastus lateralis

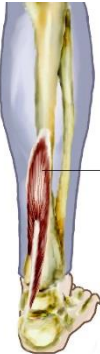


Soleus m.



Popliteal m.

Popliteal m.



Flexor Digitorum
Longus m.

Flexor Digitorum Longus m.



Flexor Hallucis
Longus m.

Flexor Hallucis Longus m.

	Tibialis Posterior m.
---	------------------------------

Self-treatment

Adjacent zones to work.

For best results, it is recommended to also work:

- The **thigh**, in previous chapter.
- The **buttock** at chapter: *The Gluteal Region*.

Reminder

- Work with a little massage oil and put heat on the area, once the treatment is done.
- A tight muscle is hard to the touch and is touch sensitive.
- Pain immediately decreases as the muscle relaxes.
- Remember to gradually increase the pressure as specified on this chart:

 Full hand	 Palm	 Heel	 Finger pads
--	---	---	---

You can perform self-treatment for the leg in sitting or standing position, whichever you are most comfortable with.

Treatment of the anterior leg muscles



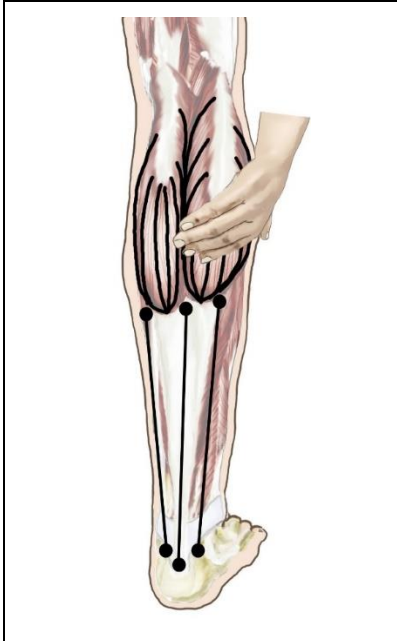
- Keep the leg well relaxed.
- Place your hand on either side of the bone (tibia).
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles.

Treatment of the lateral leg muscles



- Keep the leg well relaxed.
- Place your hand under the knee joint.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles.

Treatment of the posterior leg muscles



- Keep the leg well relaxed.
- Place your hand under the knee joint.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles.

Recommended stretching exercises

- Squatting
- Tip and heel
- Door knob

The foot

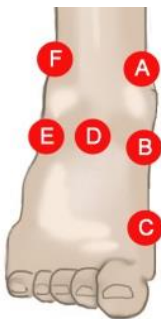
Muscle pain felt in the foot is mostly related to the muscles of the leg, since they act on the ankle joint and the toes.

If you feel pain under the foot, it is the intrinsic foot muscles that are involved. If you feel that your muscles are relaxed but the situation persists, it is strongly recommended you consult your doctor for further evaluation.

Problems

Problems	Muscles involved
Difficulty in raising the foot	Anterior leg muscles
Difficulty in pointing the foot	Posterior leg muscles
Difficulty in moving the toes	- Extensor muscles of the toes - Flexor muscles of the toes
Pain behind the heel	- Gastronemius m. - Soleus m.
Pain under the heel	- Heel spur - Intrinsic foot muscles
Pain under the foot	Plantar fasciitis

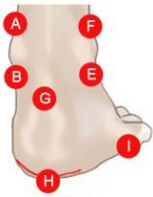
Pain zones



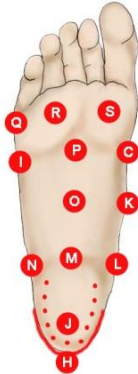
Anterior view

Muscles to treat			
Leg muscles		Foot muscles	
A B	Tibialis Anterior m.		
C		Abductor Hallucis m. Flexor Hallucis Brevis m.	
D	Extensor Longus m. Extensor Digitorum Longus m.	Hallucis Digitorum	Extensor Brevis m. Dorsal Interossei m.
E F	Fibularis Brevis m. Fibularis Longus m.	Extensor Brevis m.	Digitorum

Leg muscles	Foot muscles
-------------	--------------



Posterior view

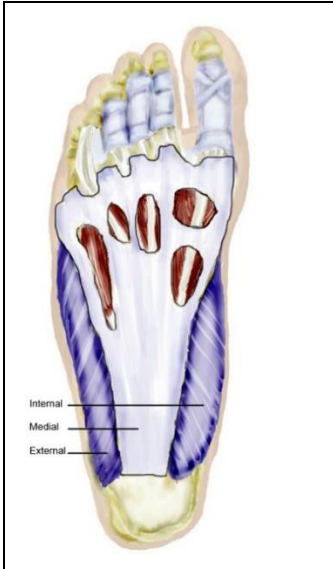


Plantar view

The dots on the heel represent the possible heel spur area

G	Gastronemius m. Soleus m. Flexor Hallucis Longus m. Flexor Digitorum Longus m. Tibialis Posterior m.
H	Flexor Hallucis Longus m. Tibialis Posterior m.
I	Abductor Digiti Minimi m. Flexor Digiti Minimi Brevis m.
J	Abductor Hallucis m. Flexor Digitorum Brevis m. Quadratus Plantae m. Abductor Digiti Minimi m.
K	Flexor Hallucis Brevis m.
L	Quadratus Plantae m.
M	Flexor Hallucis Brevis m. Flexor Digitorum Brevis m. Quadratus Plantae m.
N	Abductor Digiti Minimi m.
O	Flexor Digitorum Brevis m. Quadratus Plantae m. Lombrical m.
P	Flexor Digitorum Brevis m. Adductor Hallucis m.
Q	Flexor Digiti Minimi Brevis m.
R	Adductor Hallucis m.
S	Adductor Hallucis m.

Plantar fascia

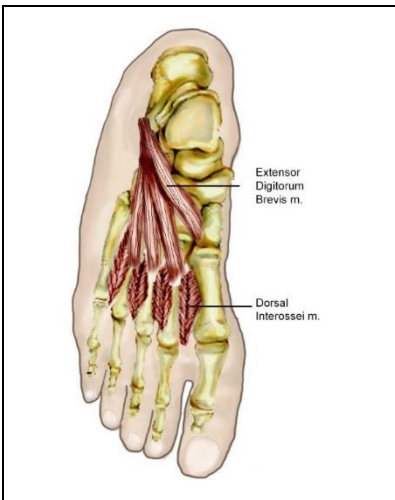


A fascia, is a tissue that resembles a tendon. Plantar fasciitis is an inflammation of this membrane.

Most often, it is the muscles located below the fascia that are tense and that produce inflammation and pain.

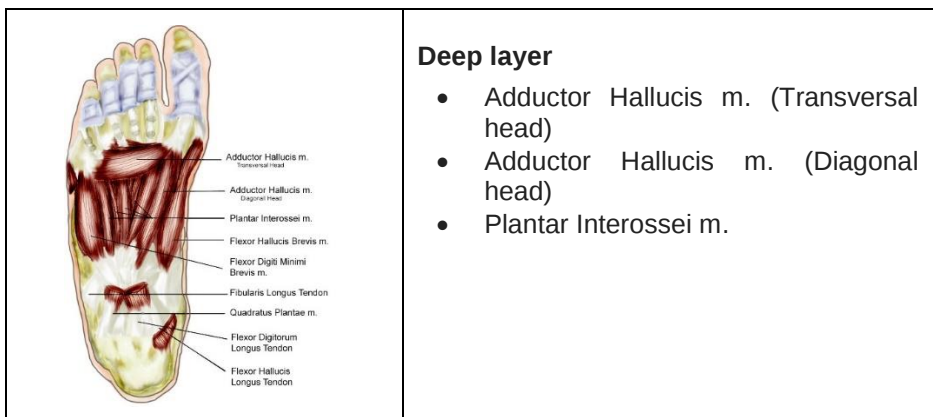
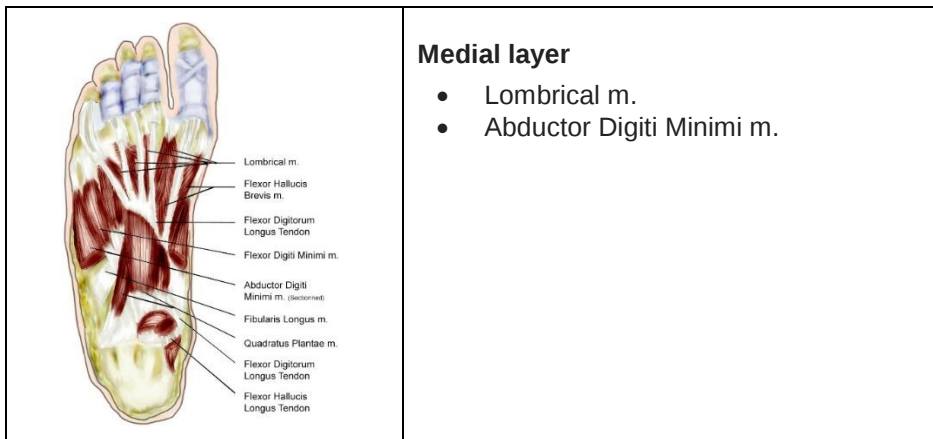
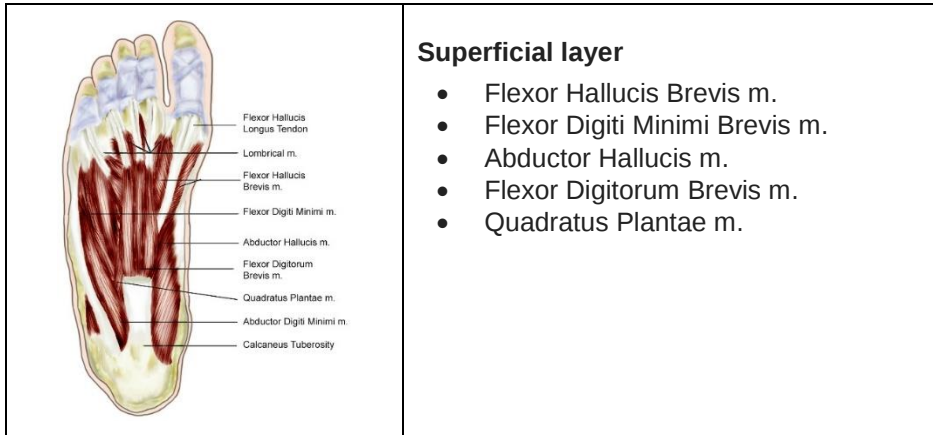
The foot muscles (grouped)

Dorsal muscles



- Extensor Digitorum Brevis m.
- Dorsal Interossei m.

Plantar muscles



The foot muscles (individual)

The intrinsic dorsal foot muscles



Extensor Digitorum Brevis m.



Dorsal Interossei m.

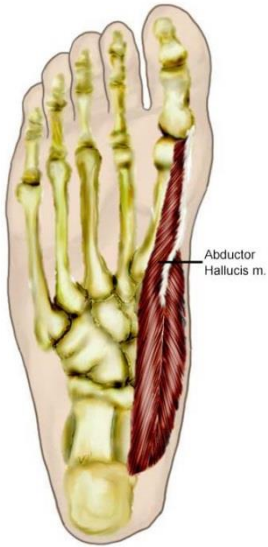
The intrinsic plantar foot muscles



Plantar Interossei m.



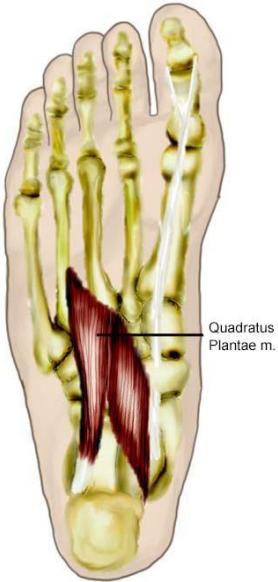
Flexor Digitorum Brevis m.



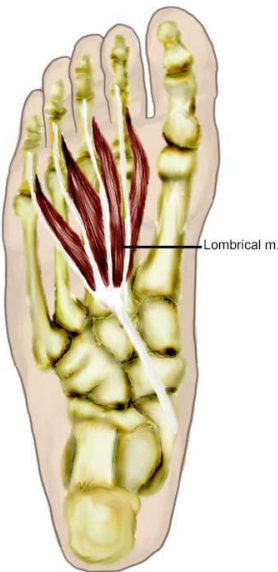
Abductor Hallucis m.



Abductor Digiti Minimi m.



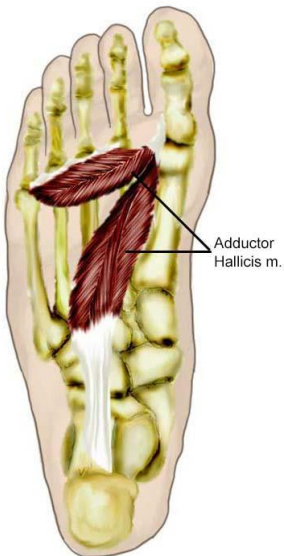
Quadratus Plantae m.



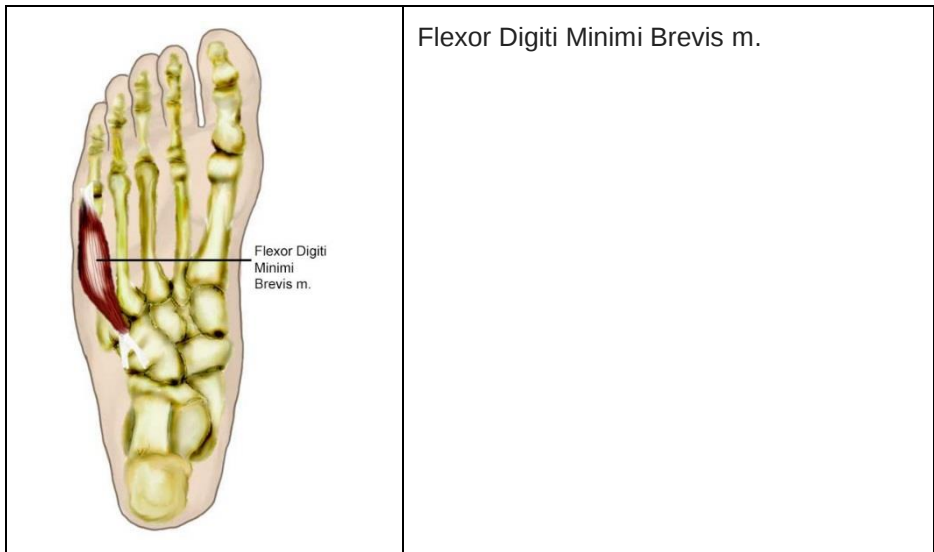
Lombrical m.



Flexor Hallucis Brevis m.



Adductor Hallucis m.



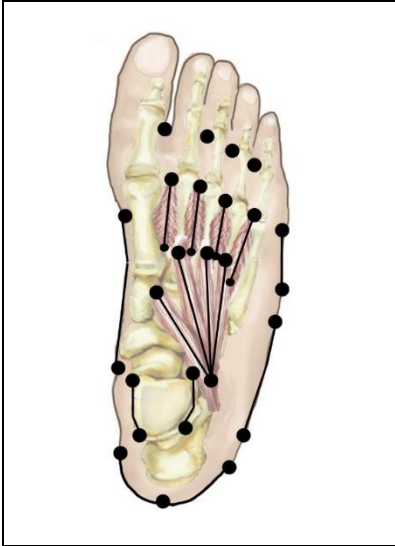
Self-treatment

Adjacent zones to work.

For best results, it is recommended to also work:

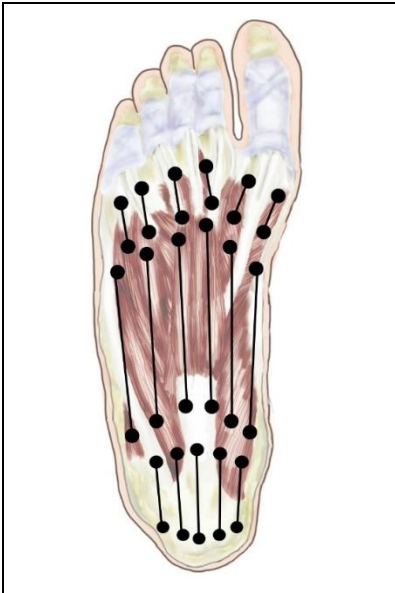
- The **leg**, in the previous chapter.

Treatment of the dorsal foot muscles



- Keep the foot well relaxed.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles

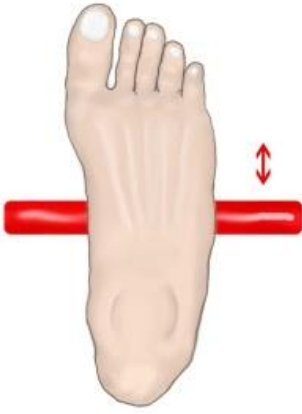
Treatment of the plantar foot muscles



- Keep the foot well relaxed.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles

A very effective way to treat the foot muscles, especially if you're experiencing pain in the soles or heel region, is to use a stick of wood or a metal vacuum cleaner hose. You can use any rigid cylinder as long as it's not too wide. For

example, a can of soup will not have the same effect because you won't be able to put all your weight on it.

	At first, the pain will be unbearable. Persist by taking deep breaths. The pain will decrease quickly. • Place the stick on the floor. • While standing, place the centre of the foot directly on the stick. • Gradually increase the pressure. • Do not move your foot, but rock it back and forth at the same place. • When pain is tolerable, move the cylinder forward or backward by about 1 cm. • Proceed the same way for the entire sole of the foot.
---	--

You can also move on to the elongation of the toes, based on the same principle as the elongation of the fingers.

Recommended stretching exercises

- Squatting
- Tip and heel

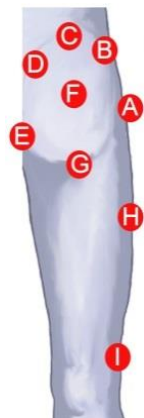
The gluteal region

The muscles of the gluteal region (buttocks) are involved in walking. They also help to keep us upright. When they are tense, people have difficulty remaining in standing or sitting position for long periods of time.

Problems

Problems	Muscles involved
Difficulty remaining in sitting position	• Gluteal muscles
Pain at the hip joint	• Gluteal muscles • Tensor Fasciae Latae m. (thigh)
Strained along the lower back	• Gluteal muscles
Inflammation of the sciatic nerve	• Quadratus Lumborum m. (back) • Gluteal muscles

Pain zones



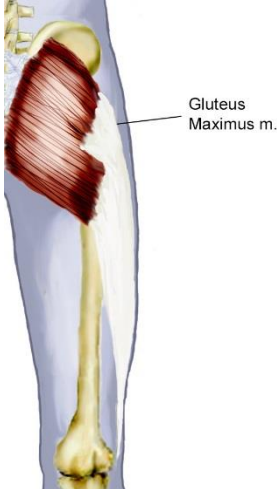
Gluteal muscles

Muscles to treat		
	Gluteal muscles	Thigh muscles
A	Gluteus Maximus m. Gluteus Medius m. Gluteus Minimius m. Quadratus Femoris m. Piriformis m. Gemellus Superior m. Gemellus Inferior m. Obturator Internus m. Obturator Externus m.	Tensor Fasciae Latae m.
B		Tensor Fasciae Latae m.
C	Gluteus Medius m.	
D	Gluteus Maximus m. Gluteus Medius m. Piriformis m.	
E	Obturator Externus m.	
F	Gemellus Superior m.	

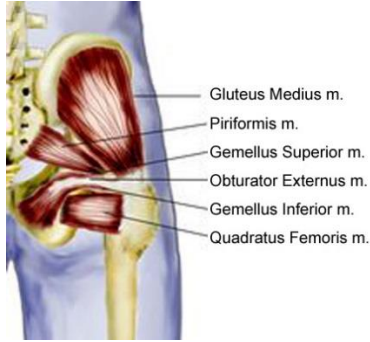
		Gemellus Inferior m.	
G	Quadratus Femoris m.	Biceps Femoris m. Semitendinosus m. Semimembranosus m. Gracilis m.	
H I	Gluteus Maximus m.	Tensor Fasciae Latae m.	

The gluteal muscles (grouped)

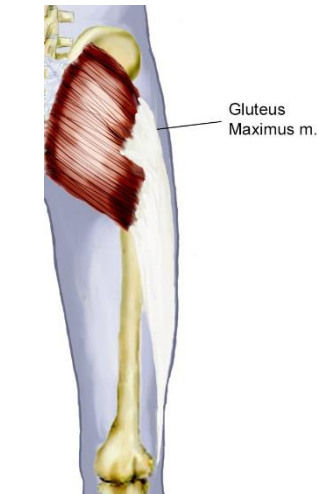
Superficial layer

	Gluteus Maximus m. (Covers the other gluteal muscles)
--	--

Deep layer

	The gluteal muscles situated under the Gluteus Maximus m. • Gluteus Medius m. • Gluteus Minimus m. • Piriformis m. • Gemellus Superior m. • Gemellus Inferior m. • Obturator Externus m. • Obturator Internus m. • Quadratus Femoris m.
---	--

The gluteal muscles (individual)

	Gluteus Maximus m.
--	---------------------------



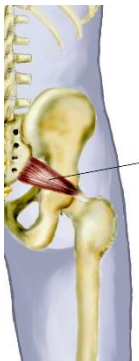
Gluteus Medius m.

Gluteus Medius m.



Gluteus Minimus m.

Gluteus Minimus m.



Piriformis m.

Piriformis m.



Obturator Internus m.

Obturator Internus m.



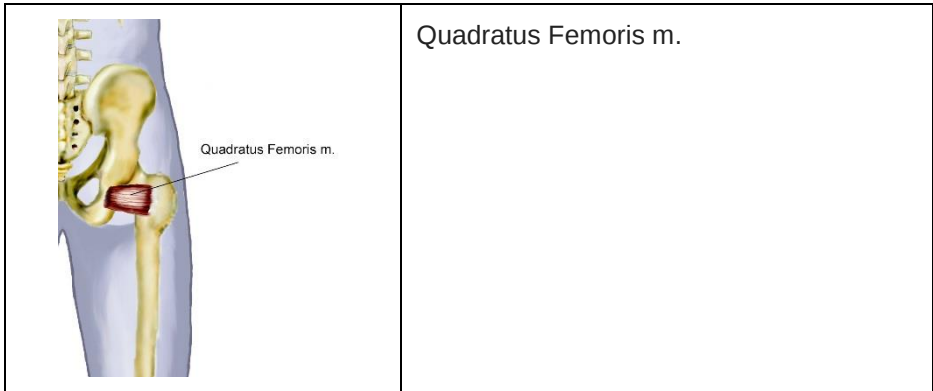
Obturator Externus m.

Obturator Externus m.



Gemellus Superior m.
Gemellus Inferior m.

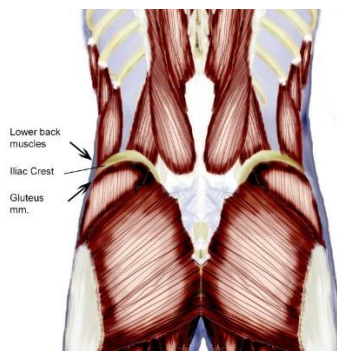
- Gemellus Superior m.
- Gemellus Inferior m.



Pain in the lower back

Pain in the lower back can come from two clearly defined places, either the lower back muscles that attach to the upper outer part of the hip bone, or the gluteal muscles that attach to the inner upper iliac bone.

Usually, if the gluteal muscles are involved, you feel like a solid bar of pain in the lower back. If the lower back muscles are tense, the pain is more pronounced on one side than the other. The two zones can be problematic at the same time.



Self-treatment

Adjacent zones to work.

For best results, it is recommended to also work:

- The **thigh**, the *Thigh* section.
- The **lower back**, in the next chapter.

Reminder

- Work with a little massage oil and put heat on the area, once the treatment is done.
- A tight muscle is hard to the touch and is touch sensitive.
- Pain immediately decreases as the muscle relaxes.
- Remember to gradually increase the pressure as specified on this chart:



Full hand



Palm

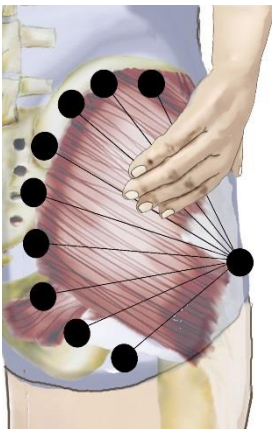


Heel

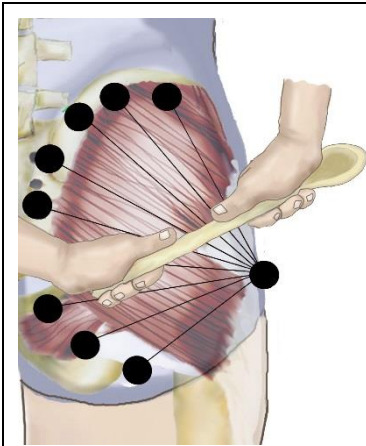


Finger pads

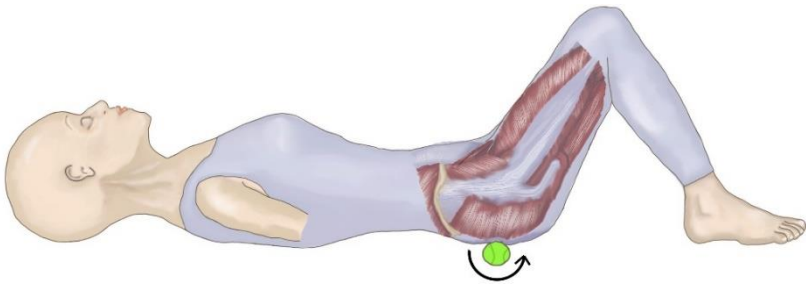
Treatment of the gluteus muscles



- In standing position, spread your feet slightly.
- Keep the gluteal muscles relaxed.
- Massage your muscles from the hip joint to the hip bone.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration to work all the muscles.



You can also take a round wooden stick, such as a wooden spoon, to work the region.



Tennis balls

- Lie on your back.
- Place a tennis ball under each buttock to avoid the risk of displacing the pelvis. Place them where the muscles are tense.
- Perform pelvis rotations.
- If the pain is tolerable, move the balls forward or backward by about 1 cm.

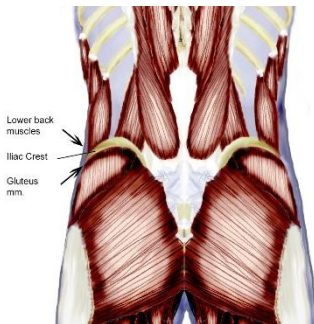
Recommended stretching exercises

- Round back in sitting position
- Round back in a standing position
- Knee to shoulder
- Door knob

The back

Who hasn't suffered from back pain at least once in their life? It is the most common of imbalances, but also the most misdiagnosed. Why? Because, very often, the pain felt in the back doesn't necessarily come from the back muscles. In fact, the pain may come from abdominal muscles that are attached to the lumbar spine. This is where the myth of developing the abdominal muscles to prevent back pain comes from. The problem is that if the abdominal muscles are tense and that you're working to make them stronger, the only thing you're doing is to cause more tension in the lumbar region and worsen the inflammation and pain.

The lower back is often painful. This is where the sciatic nerve originates. It is mainly the spinal nerves that are responsible for the pain in this area. That being said, the gluteal muscles can also cause pain that is also perceived as being back pain. So it is only through detection of the muscles that we can actually identify which muscles are tense and are actually causing the pain.



The muscles of the lower back are attached to the upper part of the external iliac bone.

The gluteal muscles are attached to the inside top of the hip bone.

Here's something that works pretty well in helping to identify which zone the pain emanates from. When the gluteal muscles are tense, people complain of having "tight bar" sort of pain all along the lower back. When it's the muscles of the lower back that are tense, people usually say they feel pain specifically on one side rather than both, unless they have tense muscles on both sides which is pretty rare.

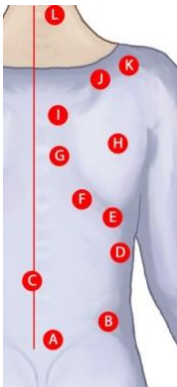
But both imbalances can cause inflammation of the sciatic nerve. Some back muscles are attached to the lumbar vertebrae, where the upper branches of the sciatic nerve exit, while the gluteal muscles are attached to the sacrum, where the lower branches of the sciatic nerve exit.

It is therefore recommended to perform detection and self-treatment of the two zones that are tense most of the time.

Problems

Problems	Muscles involved
Difficulty remaining in seated position	Gluteal muscles
Difficulty remaining in standing position	Gluteal muscles
“Tight bar” pain along the lower back	Gluteal muscles
Pain just above the hip bone	- Iliocostalis m. - Quadratus Lumborum m. - Iliopsoas m. - Abdominal muscles
Pain at the hip joint	- Gluteal muscles - Tensor Fasciae Latae m.
Inflammation of the sciatic nerve	- Quadratus Lumborum m. - Gluteal muscles

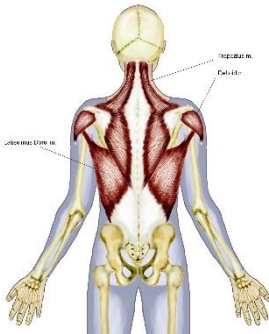
Pain zones



Muscles to work on		
	Back Muscles	Abdominal Muscles
A	Iliocostalis m. Quadratus Lumborum m.	Iliopsoas m. Abdominal muscles
B		Exterior Abdominal Oblique m.
C	Iliocostalis m. Longissimus m. Spinalis m. Semispinalis m.	
D	Latissimus Dorsi m.	
E	Teres Major m.	
F	Trapezius m.	
G	Thorax Iliocostalis m.	

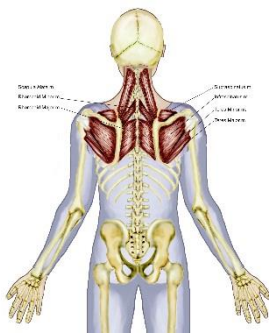
	Rhomboid Major m.
H	Rotator Cuff m.
I	Rhomboid Minor m.
J	Scapula Alata m.
K	Supraspinatus m. Trapezius m.
L	Scapula Alata m. Trapezius m.

The back muscles (grouped)



First layer:

- Trapezius m.
- Deltoid m.
- Latissimus Dorsi m.



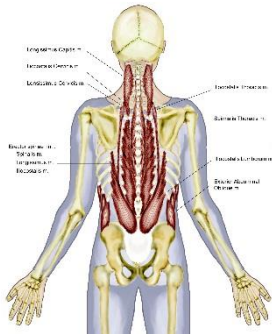
Second layer:

- Scapula Alata m.
- Rhomboid Minor m.
- Rhomboid Major m.
- Supraspinatus m.
- Infraspinatus m.
- Infrascapular m.
- Teres Minor m.
- Teres Major m.

The rotator cuff muscles are:

- Supraspinatus m.
- Infraspinatus m.
- Infrascapular m.

- Teres Minor m.

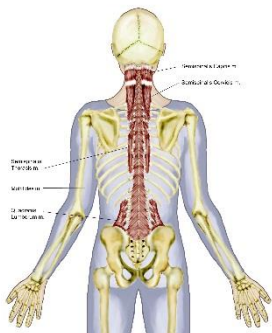


Third layer:

- Longissimus Capitis m.
- Iliocostalis Cervicis m.
- Longissimus Cervicis m.
- Iliocostalis Thoracis m.
- Spinalis Thoracis m.
- Iliocostalis Lumborum m.
- Exterior Abdominal Oblique m.

Erector spinae muscles are:

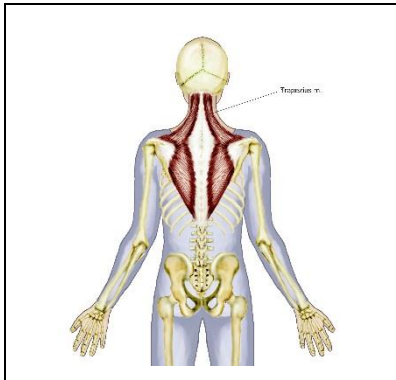
- Spinalis m.
- Longissimus m.
- Iliocostalis m.



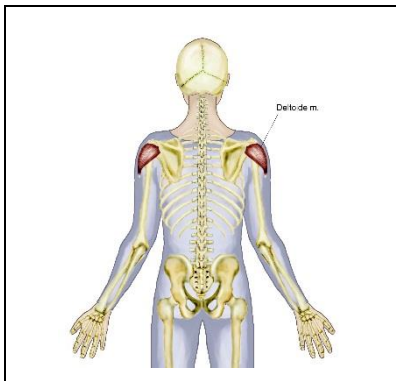
Fourth layer:

- Semispinalis Capitis m.
- Semispinalis Cervicis m.
- Semispinalis Thoracis m.
- Multifidus m.
- Quadratus Lumborum m.

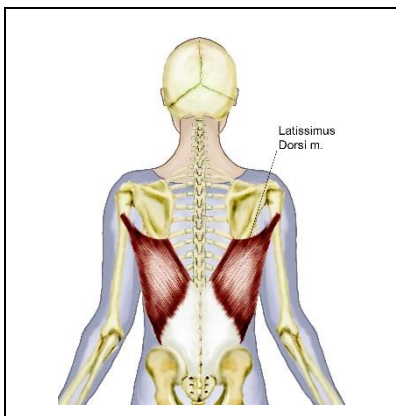
The back muscles (individual)



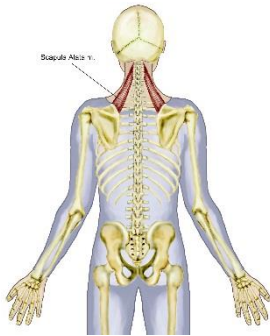
Trapezius m.



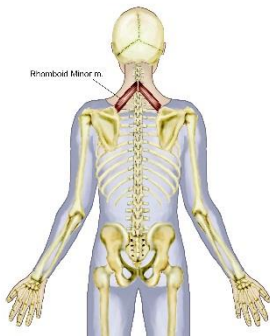
Deltoid m.



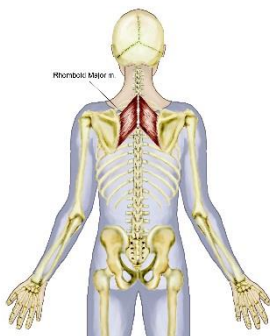
Latissimus Dorsi m.



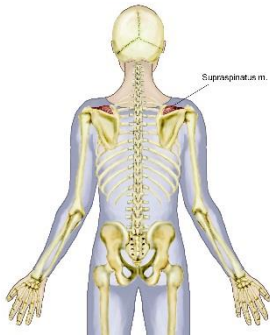
Scapula Alata m.



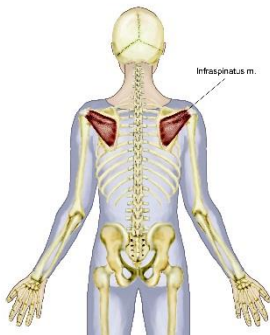
Rhomboid Minor m.



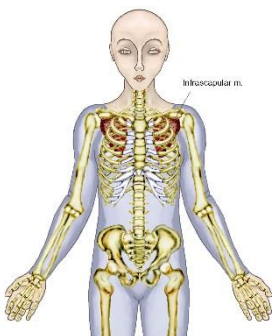
Rhomboid Major m.



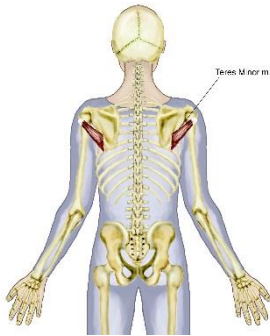
Supraspinatus m.



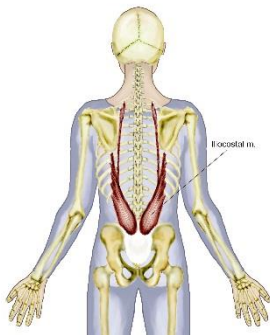
Infraspinatus m.



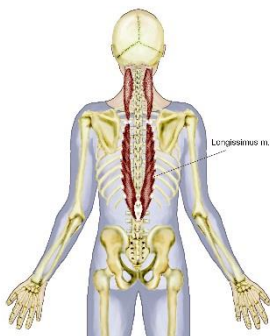
Infrascapular m.



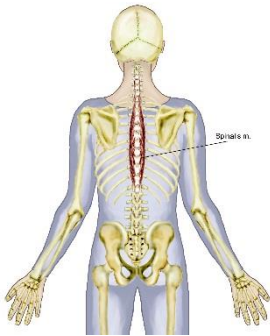
Teres Minor m.



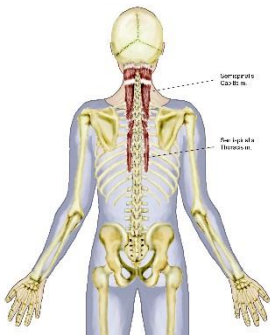
Iliocostal m.



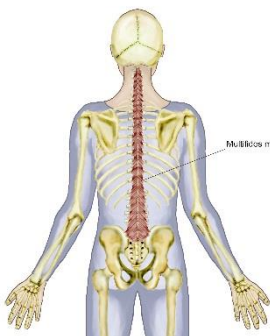
Longissimus m.



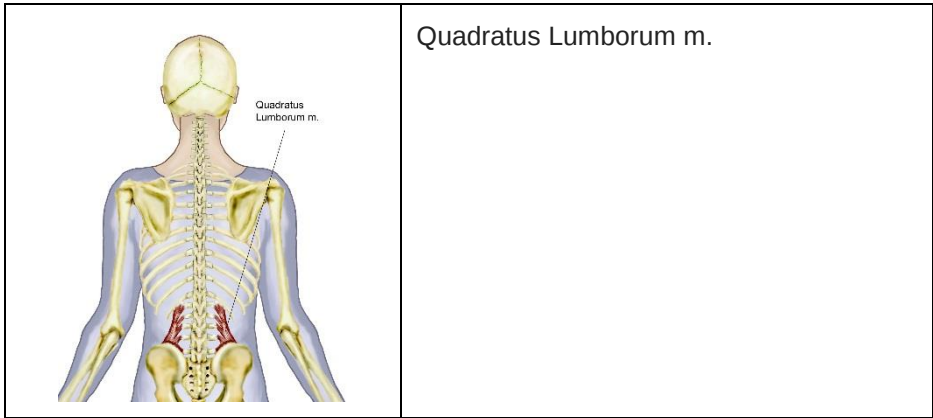
Spinalis m.



Semispinalis m.



Multifidus m.



Self-treatment

Adjacent zones to work.

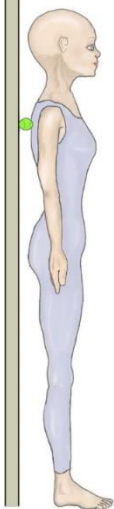
For best results, it is recommended to also work:

- The **gluteal region**, in the previous chapter.
- The **Abdomen**: *The abdomen* section.

It is obvious that this area is difficult to work on one's own body. The maneuvers are mainly performed with tennis balls. You will proceed in the same way you do for detection and treatment of the back muscles. Let's take a general look at how to work the back muscles.

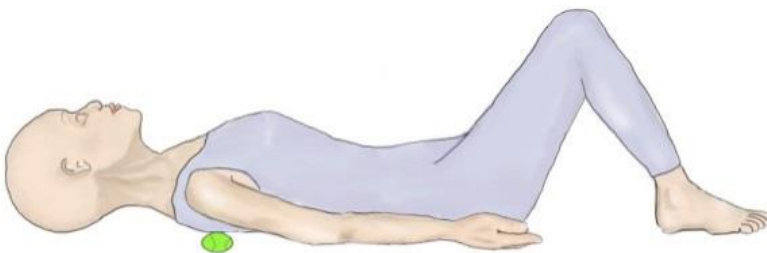
Important Note:

Always work both sides of the back to avoid creating an imbalance. Tennis balls should never be placed on the vertebrae, something that could potentially cause major problems.



Standing position

- Stand near a wall.
- Spread your legs slightly.
- Place a tennis ball on each side of the spine.
- Press on the balls.
- Drop your arms on each side of the body.
- The balls must remain at the same place throughout the maneuver.
- Do rocking motions by slightly bending the torso forward and backward until the pain subsides, indicating that the muscles have relaxed.
- You can also stand still and simply put pressure on the painful areas.



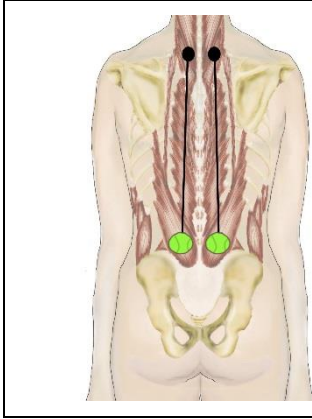
Laying down position

When you begin, it is recommended to lie on a mat rather than on a hard surface.

- Place the balls on the mat where you will lie down.
- Lie down slowly on them, making sure they are perfectly positioned on each side of the spine.
- Spread your legs slightly and bend your knees.
- Extend your arms on each side of your body.
- The balls must remain in the same place throughout the maneuver.
- Do rocking motions by slightly bending the torso forward and backward until the pain subsides, indicating that the muscles have relaxed.

- You can also lie still and simply put pressure on the painful areas. The weight of the body is often enough to supply adequate pressure.

The lumbar muscles



Erector Spinae m.

- Choose a standing or lying position.
- Place the tennis balls on each side of the lumbar vertebrae.
- Use light pressure.
- Move the balls along the spine following the path shown in the illustration to work all the muscles.
- If there is a painful area, concentrate on it more specifically.

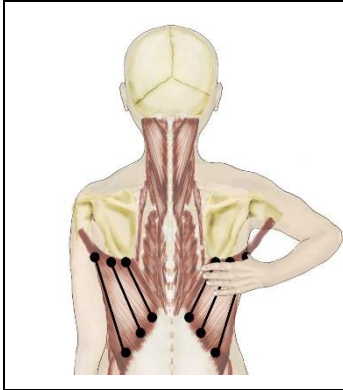
The lower back muscles



Quadratus Lumborum m.

- Bend your arm backwards.
- Put your fingers along the spine, just below the last rib and above the hip bone.
- Slide your fingers to the side following the sunken area (soft tissue).
- If there is a painful area, concentrate on it more specifically.
- Repeat on the other side.

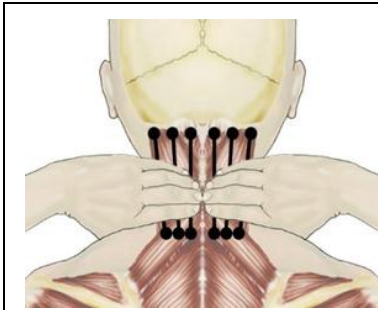
The middle back muscles



Latissimus Dorsi m.

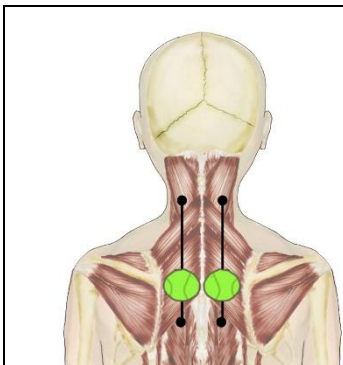
- Bend your arm backwards.
- Put your fingers along the spine, just below the lower tip of the scapula.
- Slide your fingers following the path shown in the illustration to work all the muscles.
- If there is a painful area, concentrate on it more specifically.
- Repeat on the other side.

The upper back muscles



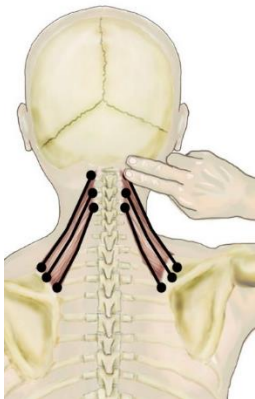
The neck muscles

- Place your fingers on each side of the spine.
- Start at the occiput (hole just below the skull) and slide your fingers following the path shown in the illustration to work all the muscles.
- If there is a painful area, concentrate on it more specifically.



The rhomboids muscles

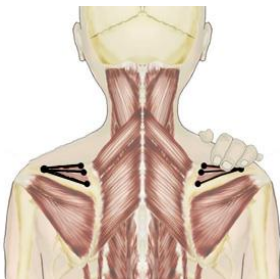
- Choose a standing or lying position.
- Place the tennis balls on each side of the spine. Although the muscles are positioned diagonally, you will work them up and down.
- Move the balls along the spine following the path shown in the illustration to work all the muscles.
- If there is a painful area, concentrate on it more specifically.



Scapula Alata m.

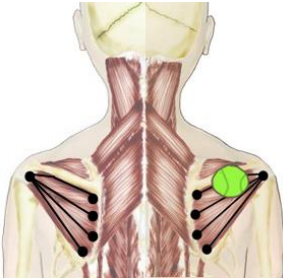
- Place your fingers at the base of the occiput (hole just below the skull), and then press them on the vertebrae.
- Go down diagonally toward the upper edge of the scapula. This muscle is usually very painful.
- Follow the paths shown in the illustration.
- If there is a painful area, concentrate on it more specifically. Also work the Supraspinatus m., as these two muscles work together.

The rotator cuff muscles



The Supraspinatus m.

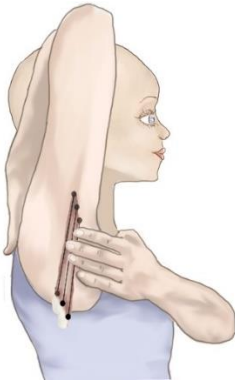
- Cross the arms on the chest and place your fingers on the opposite shoulder.
- Start at the upper tip of the scapula and slide your fingers toward the neck.
- This muscle is usually very tense and painful.
- Repeat on the other side.
- Also work the Scapula Alata m., as these two muscles work together.



Infraspinatus m. and Infrascapular m.

The Infrascapular m. is located on the inner side of the scapula. While working the Infraspinatus m., the pressure of the ball will cause friction of the Infra-scapular m. on the ribs. This will result as his treatment.

- Choose a standing or lying position.
- Place a tennis ball on the scapula.
- Turn the shoulder slightly so that the ball has good contact with the scapula.
- Perform diagonal movements.
- If there is a painful area, concentrate on it more specifically.
- Repeat on the other side.



Teres minor m.

- Raise your arm.
- Start at the lower tip of the scapula and slide your fingers to the underside of the arm.
- If there is a painful area, concentrate on it more specifically.
- Repeat on the other side.

Recommended stretching exercises

- Round back in sitting position
- Round back in a standing position
- Knee to shoulder
- Door knob

The thorax

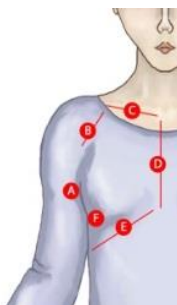
Pain in the thorax usually comes from the pectoral muscles. When the pectoral is tense, it causes pain at the height of the sternum and near the shoulder joint. Pain in the sternum area is quite stressful, since we often confuse it with heart pain. Here is one way to determine the source: if the pain increases to the touch, then it is muscle pain.

You may feel muscle pain in the ribs, which is caused by the Serratus Anterior m. or the Intercostal muscles. This pain may occur after excessive upward stretching of the arms or, very often, after a period of excessive coughing.

Problems

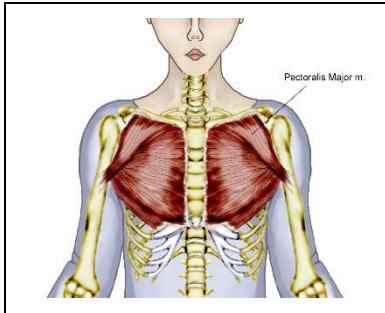
Problems	Muscles involved
Shoulders pulled forward	• Pectoralis Major m.
Difficulty in raising the arm to the side	• Pectoralis Major m.
Difficulty bending the arm backward	• Pectoralis Major m.
Difficulty breathing	• Exterior and interior Intercostal m. • Diaphragm m.
Hiccups	• Diaphragm m.

Pain zones

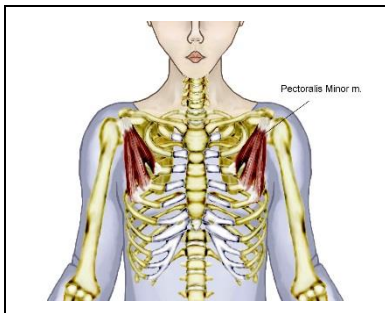


Muscles to treat	
A	Pectoralis Major m.
B	Pectoralis Major m. Pectoralis Minor m.
C	Pectoralis Major m.
D	Pectoralis Major m.
E	Exterior and interior Intercostal m.
F	Exterior and interior Intercostal m. Serratus Anterior m.

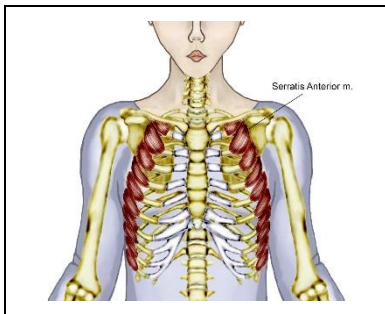
The thorax muscles (individual)



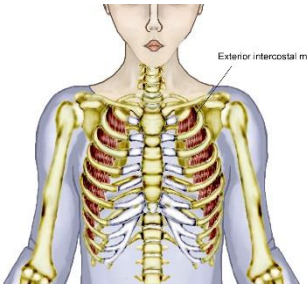
Pectoralis Major m.



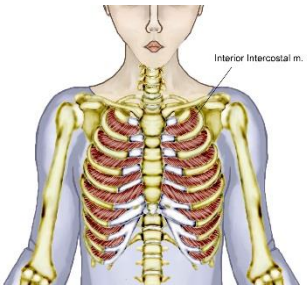
Pectoralis Minor m.



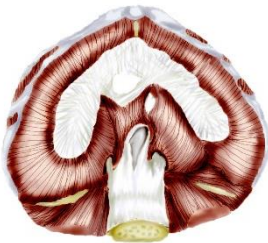
Serratus Anterior m.



Exterior Intercostal m.



Interior Intercostal m.



Diaphragm m.

The diaphragm is responsible for hiccups. To alleviate this condition, perform self-treatment of the diaphragm.

Self-treatment

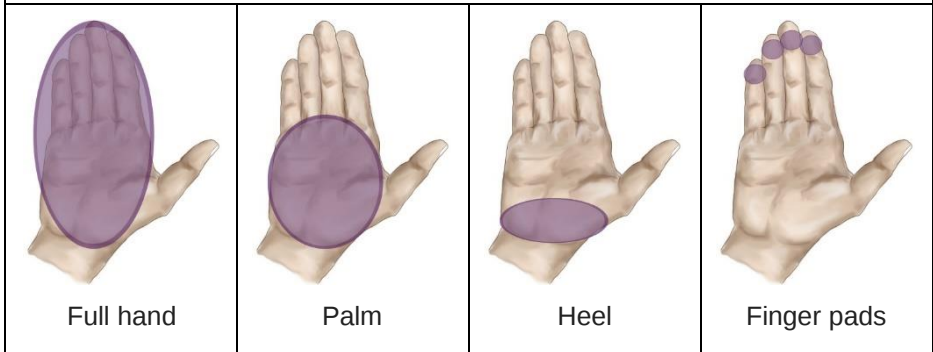
Adjacent zones to work.

For best results, it is recommended you also work:

- The **arm**: *The arm* section.
- The **back** in previous chapter.
- The **abdomen** in the next chapter.

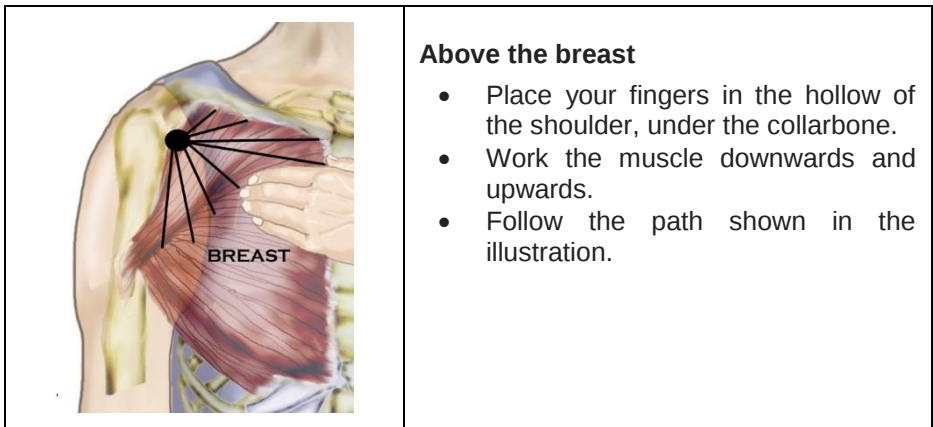
Reminder

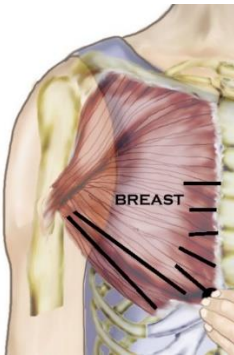
- Work with a little massage oil and put heat on the area, once the treatment is done.
- A tight muscle is hard to the touch and is touch sensitive.
- Pain immediately decreases as the muscle relaxes.
- Remember to gradually increase the pressure as specified on this chart:



Since the muscles of the thorax are layered, you will be working the Pectoralis Major m.

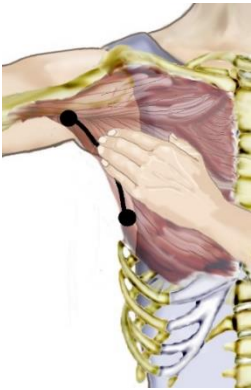
Treatment of the Pectoralis Major m.





Under the breast

- Place your fingers just below the sternum.
- Raise the breast with the free hand.
- Slowly go up toward the breast.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration.



At the humerus

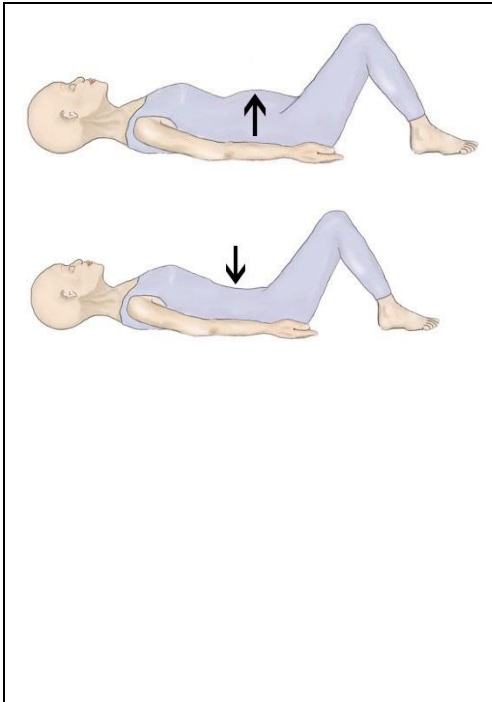
- Raise your arm on the side.
- Place your fingers at the bottom, just below the breast.
- You will feel the extended muscle between the arm and chest.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration.

Treatment of the Intercostal m.



- Raise the arm above your head.
- Start at the lower tip of the scapula and place your fingers between the ribs.
- Go down while following the path of the ribs.
- Go back up to your starting point.
- Work the muscle downwards and upwards.

The diaphragm



The diaphragm is treated through breathing.

This technique may be performed in any position.

- Inhale through your nose and inflate your abdomen as much as possible.
- Keep the air in for a few seconds.
- Exhale through the mouth and deflate the abdomen as far as possible toward the inside.
- Keep this position for a few seconds.
- Repeat.
- Once you've finished, lie on your left side. This position helps stimulate digestion and elimination of gases.

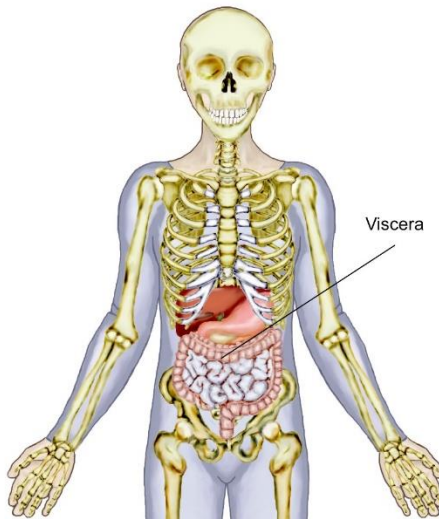
Recommended stretching exercises

- Door frame
- Lateral flexion
- Hyperextension of the torso
- Door knob
- Towel

The abdomen

The abdomen rarely is the object of muscle tension, since its muscles are very strong. You will sometimes see problems in people who have a prominent belly. In cases like this, the muscles have lost their natural tone and have difficulty supporting the excess weight in awkward positions. For example, a “plump” person who spends a few hours on all fours to paint a floor or do gardening will certainly feel pain at the attachment of the external oblique, or in the lower back. It is then considered a lower back pain, even if the pain is caused by the abdominal muscles.

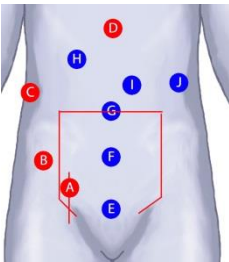
The abdomen does not contain any bones and acts as an envelope for several internal organs. Since the abdominal wall is flexible, it is easy to massage these vital organs. Some believe the abdomen to be something like a second brain that manages various functional systems. In fact, many people experience problems with their abdominal organs when they experience unusual stress levels. Treatment of the abdomen brings relaxation and stimulates these organs.



Problems

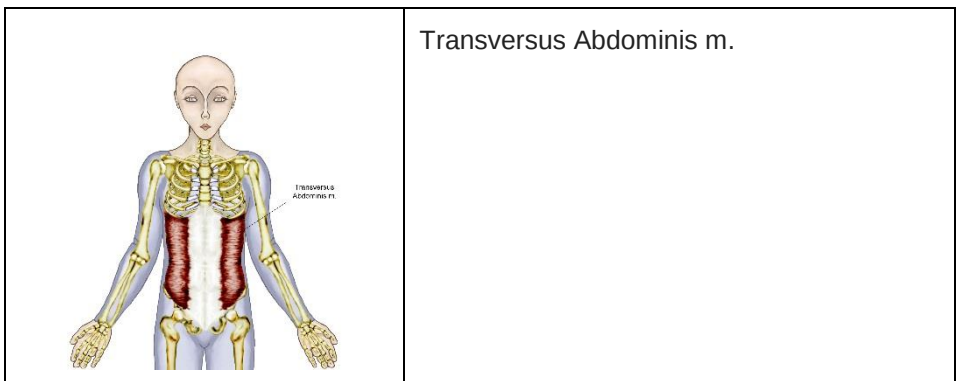
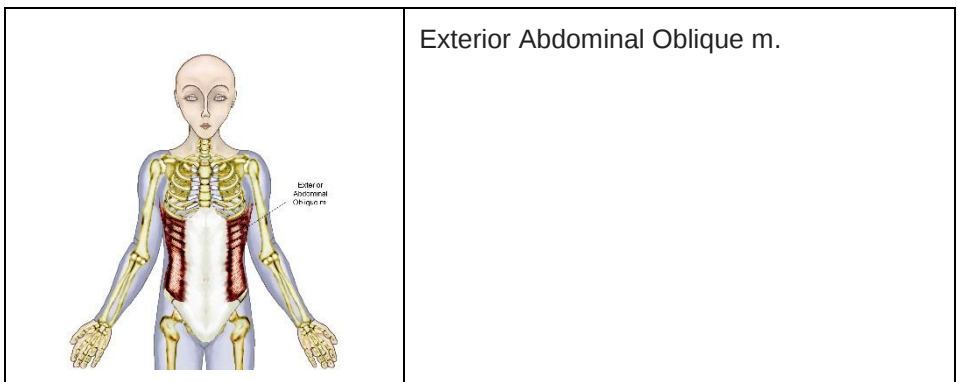
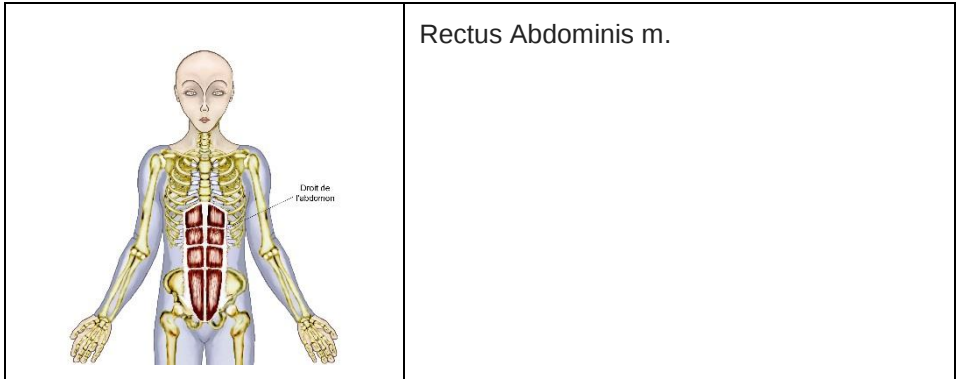
Problems	Muscles involved
Difficulty turning the trunk sideways	• Interior Abdominal Oblique m. • Exterior Abdominal Oblique m. • Transversus Abdominis m.
Difficult to bend the trunk forward	• Rectus Abdominis m.
Problems	Viscera involved
Difficulty digesting	• Stomach • Colon
Abdominal cramps	• Colon
Constipation	• Colon
Gas	• Colon

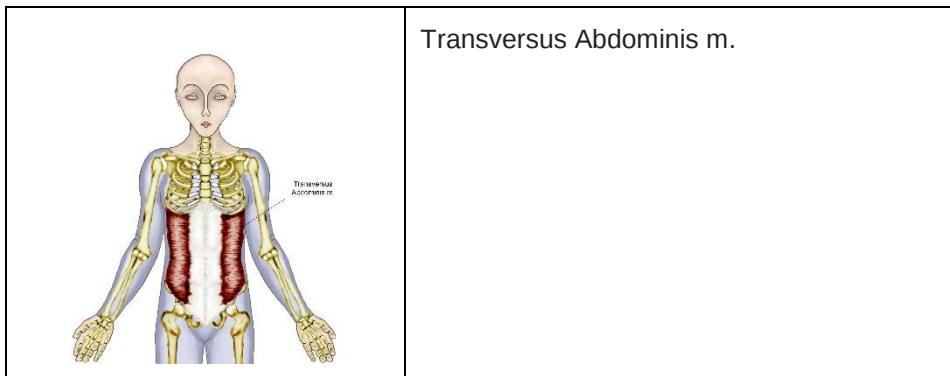
Pain zones



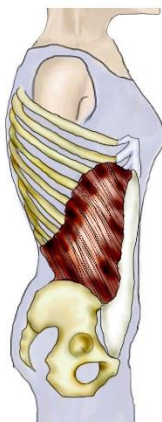
Muscles to treat	
A	Psoas m.
B	Iliac m.
C	Exterior Abdominal Oblique m. Transversus Abdominis m.
D	Rectus Abdominis m.
Viscères et organes internes	
E	Bladder
F	Uterus
G	Colon
H	Liver
I	Stomach
J	Spleen

The abdominal muscles (individual)

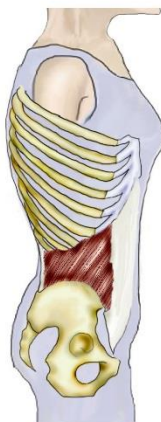




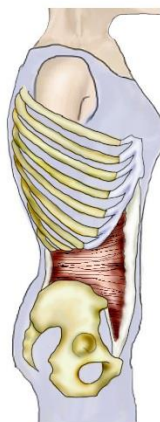
Lateral view



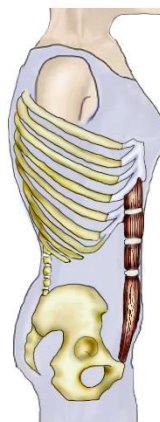
Extensor Abdominal
Oblique m.



Interior Abdominal
Oblique m.



Transversus Abdominis m.



Rectus Abdominis m.

Self-treatment

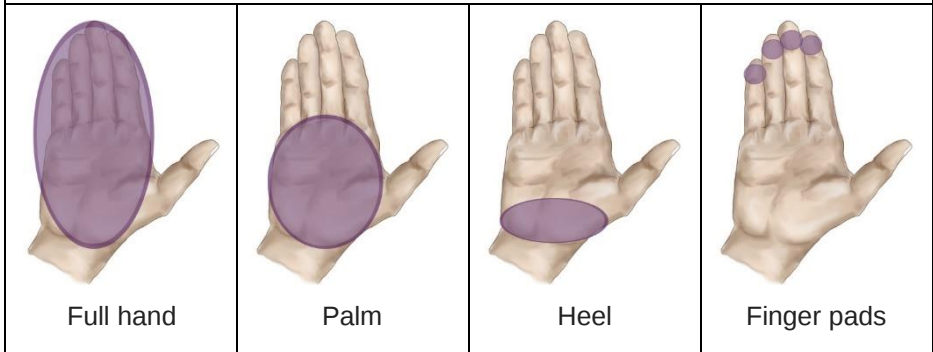
Adjacent zones to work.

For best results, it is recommended to also work:

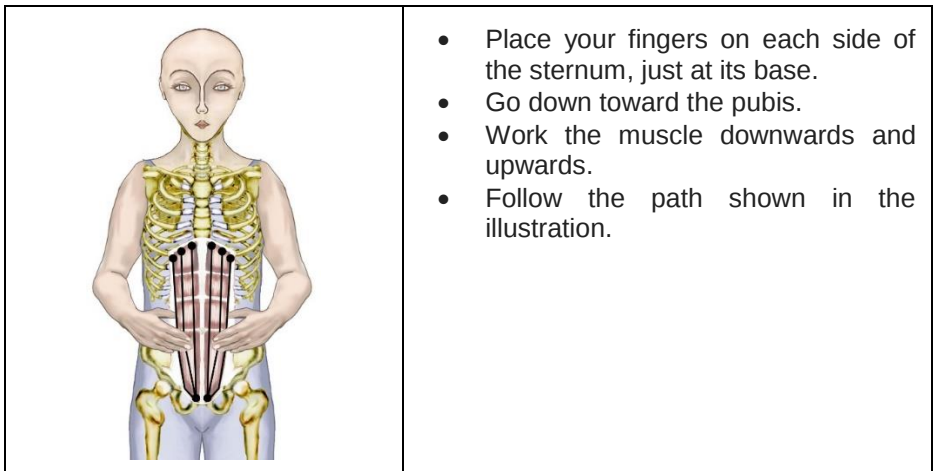
- The **thorax** in the previous chapter.
- The **back**: *The back* section.

Reminder

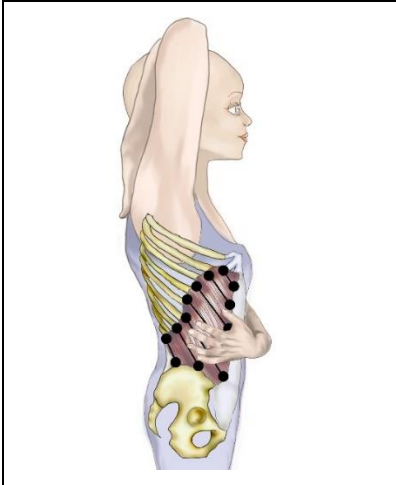
- Work with a little massage oil and put heat on the area, once the treatment is done.
- A tight muscle is hard to the touch and is touch sensitive.
- Pain immediately decreases as the muscle relaxes.
- Remember to gradually increase the pressure as specified on this chart:



Treatment of the Rectus Abdominis m.

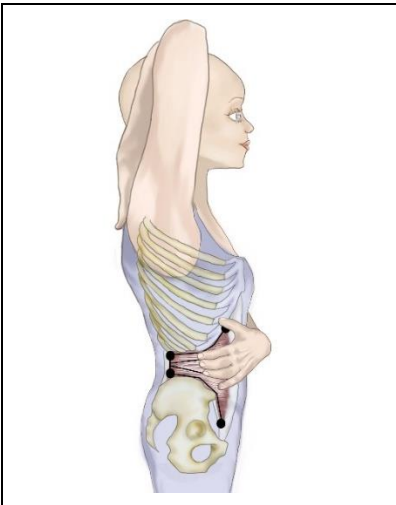


Treatment of the Exterior Abdominal Oblique m.



- Raise the arm above your head.
- Start at the lower tip of the scapula and place your fingers between the ribs.
- Go down while following the ribs.
- Work diagonally to the hip bone.
- Ascend up to your starting point.
- Work the muscle downwards and upwards.
- Follow the path shown in the illustration.

Treatment of the Interior Abdominal Oblique m. and Transversus Abdominis m.



- Raise the arm above your head.
- Put your fingers in the triangle formed by the last rib, spine and hip bone.
- Slide the fingers forward following the last rib.
- Work the muscle forwards and backward.
- Follow the path shown in the illustration.

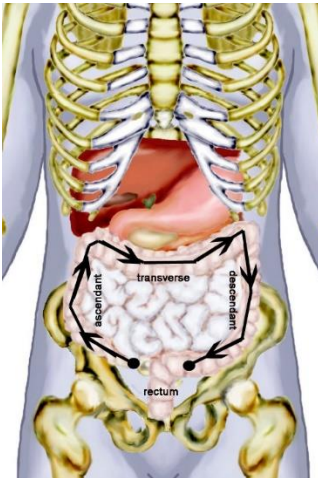
Viscera



To perform the viscera massage, you can make and use a rice “bundle”.

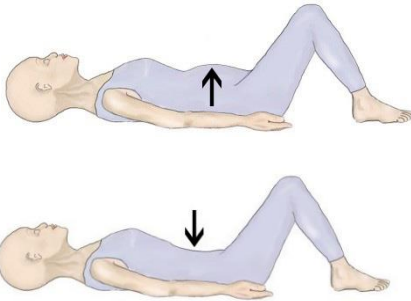
- Take a washcloth.
- Place half a cup of rice in the centre.
- Lift the corners and tie with a rubber band or tape.
- Place in the microwave for 30 seconds.

Colon massage



With the “bundle”

- Lie on your back.
- Raise your knees.
- Place the “bundle” on the lower right edge of the abdomen.
- While applying medium pressure, make a circle from right to left without moving the “bundle”.
- Move the “bundle” a little higher on the ascending colon.
- Repeat along the whole colon, following the direction shown in the illustration.
- You can repeat the procedure, but always in the same direction, in accordance with the way the colon naturally works.
- Once you’ve finished, lie on your left side. This position facilitates digestion and the elimination of gases.



By breathing

This technique may be performed in any position.

- Inhale through your nose and inflate your abdomen as much as possible.
- Keep the air in for a few seconds.
- Exhale through the mouth and deflate the abdomen as far as possible to the inside.
- Keep this position for a few seconds.
- Repeat.
- Once you've finished, lie on your left side. This position facilitates digestion and the elimination of gases.

Recommended stretching exercises

- Lateral flexion
- Hyperextension of the torso
- Door knob

Stretching exercises

It is important to perform stretching exercises in order to maintain the flexibility you've gained by treating yourself. We suggest you do them when your muscles are tense, or in the morning upon waking up. The number of repetitions isn't specified. You be the judge of what is good for you.

Zones	Recommended exercises
Abdomen	Lateral flexion — Hyperextension of the torso — Door knob
Forearm	Door frame — Cross arm — Round back in sitting position — Round back in standing position — Towel
Arm	Door frame — Cross arm — Round back in sitting position — Round back in sitting position — Towel
Ankle	Squatting — Tip and heel
Neck	Plane — GPS
Elbow	Cross arm — Round back in sitting position — Round back in standing position — Towel
Thigh	Round back in sitting position — Round back in standing position — Knee to shoulder — Squatting — Door knob
Lower back	Round back in sitting position — Round back in standing position — Knee to shoulder — Door knob
Upper back	Door frame — Cross arm — Round back in sitting position — Round back in standing position — Towel
Middle back	Door frame — Cross arm — Round back in sitting position — Round back in standing position — Door knob — Towel
Shoulder	Door frame — Cross arm — Round back in sitting position — Round back in standing position — Towel
Gluteal region	Round back in sitting position — Round back in standing position — Knee to shoulder — Door knob
Knee	Knee to shoulder — Squatting — Door knob

Hip	Round back in sitting position — Round back in standing position — Knee to shoulder — Door knob
Jambe	Squatting — Door knob — Tip and heel
Hand	Extension of the wrist — Flexion of the wrist — Pumping of the hand
Foot	Squatting — Tip and heel
Wrist	Round back in sitting position — Round back in standing position — Extension of the wrist, fingers bent — Extension of the wrist, fingers stretched — Extension of the wrist, hand flat — Flexion of the wrist
Thorax	Door frame — Lateral flexion — Hyperextension of the torso — Door knob — Towel
Face	Whistling — Wide smile — Opera

Crossed arm

	• Fold the right arm in front of you. • Place your left hand just below the right elbow. • With your left hand, pull the right elbow toward the left shoulder. • Hold for a few seconds. • Release. • Repeat. • Repeat on the other side.
--	---

Door frame



- Stand in a door frame.
- Spread your legs slightly.
- Press your forearms on each side of the door frame. The arms must form an angle of 90°.
- Turn your head to one side.
- Push only the shoulders forward.
- Hold this position for a few seconds.
- Release.
- Repeat.
- Repeat, turning the head to the other side.

You should feel tension in the chest (front shoulder), neck, and upper and middle back.

Stop the exercise if you feel pain.

Door knob

Warning:

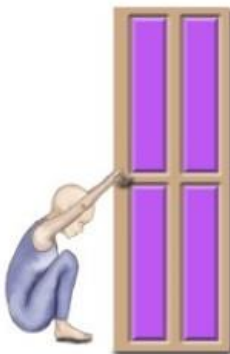
This exercise should only be performed if the muscles of the thighs and legs already have good elasticity. It is not recommended for people who have chronic pain in the knee or hip joints.



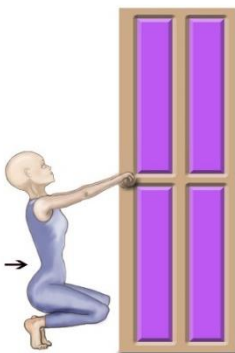
- Stand in front of an open door.
- Spread your feet slightly.
- Place your hands on both knobs.



- Keep your back straight.
- Squat.



- Drop down and extend your arms completely.
- Bend back.
- Tilt your head forward.
- Hold for a few seconds.
- Go to the next position.



- Bring the knees forward.
- Push the abdomen forward and your shoulders backward.
- Hold for a few seconds.
- Alternate between the last two positions.

Extension of the wrist — fingers bent



- Stretch the forearm in front of you.
- Stretch the wrist upward as far as it can go, keeping your fingers bent.
- Hold for a few seconds.
- Release.
- Repeat.
- Work the other side.

Extension of the wrist — fingers stretched



- Stretch the forearm in front of you.
- Stretch the wrist upward as far as it can go, keeping your fingers stretched.
- Hold for a few seconds.
- Release.
- Repeat.
- Work the other side.

Extension of the wrist — hand flat



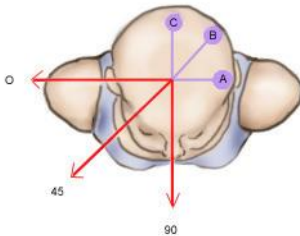
- Place your hand flat on a table.
- Bring the forearm toward the fingers.
- Hold for a few seconds.
- Release.
- Repeat.
- Work the other side.

Flexion of the wrist

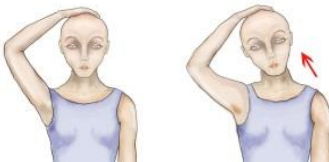


- Stretch the forearm in front of you.
- Stretch the wrist downward as far as it can go, keeping your fingers relaxed.
- Hold for a few seconds.
- Release.
- Repeat.
- Work the other side.

GPS

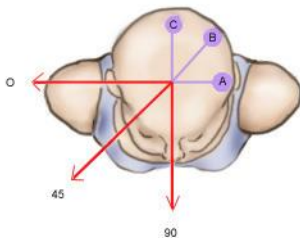


- If you're standing, spread your feet slightly.
- Relax the shoulders.
- Look in front of you and maintain throughout the exercise.



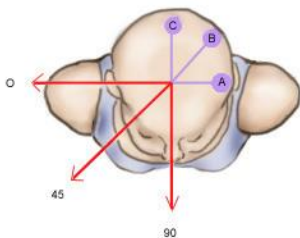
Stretching the left scalenus muscles

- Raise your right arm and place your hand on position A.
- Exert slight pressure to move your head towards your right shoulder to point 0 (see above figure).
- Hold this position for a few seconds. You will feel tension in the left Scalenus muscles.
- Release.
- Repeat.



Stretching the Scapula Alata muscles

- Raise your right arm and place your hand on position B.
- Exert slight pressure to tilt the head to the point located at 45° .
- Hold this position for a few seconds. You will feel tension at the left Scapula Alata m.
- Release.
- Repeat.



Stretching the posterior neck muscles.

- Raise your right arm and place your hand on position C.
- Exert slight pressure to tilt the head forward to the point located at 90° .
- Hold this position for a few seconds. You will feel tension at the posterior neck muscles.
- Release.
- Repeat.
- Repeat on the other side.

Hyperextension of the torso



- In standing position, spread your feet slightly.
- Bend the trunk backward, letting the arms drop freely.
- Hold for a few seconds.
- Repeat.
- Work the other side.

Knee to shoulder



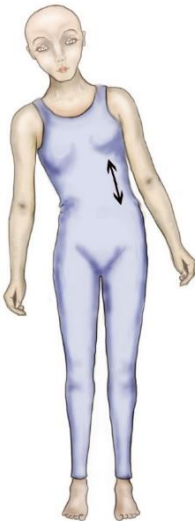
- Lie on your back.
- Bring your knee toward the shoulder, holding the leg with your hands.
- Hold for a few seconds.
- Bring the leg back down.
- Repeat.
- Work the other side.

Variation:

- Raise the right knee.
- Direct the right knee towards the floor at your right to increase the hip angle.
- Hold for a few seconds.

- Bring the knee back up.
- Direct the right knee over the left leg to decrease the hip angle.
- Hold for a few seconds.
- Bring the thigh back up.
- Bring the leg back down.
- Do some repetitions.
- Repeat on the other side.

Lateral flexion



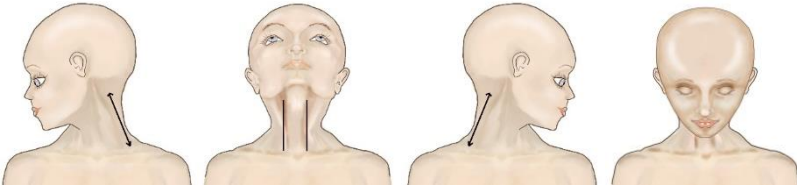
- In standing position, spread your feet slightly.
- Bend the body to the right side and let the right arm droop freely.
- Hold for a few seconds.
- Repeat.
- Work the other side.

Opera



- Open your mouth as wide as you can.
- Hold this position for a few seconds.
- Release.
- Repeat.

Plane



- Be careful not to move your shoulders.
- Turn your head to the right and look toward the floor as if a plane were about to take off. You should feel that the left scalenus muscles are stretched.
- Follow the flight of the plane with your eyes. Get it off and make it pass over your head. You will feel the anterior muscles of your neck tighten.
- Continue to watch the plane. Make it land on the floor to your left. You should feel some tightness in the right scalenus muscles.
- Make the plane run on the tarmac at your feet. You should feel the back neck muscles tighten.
- Repeat the exercise in the opposite direction.

Pumping of the hand



- Relax the hand completely.
- Form a fist and squeeze.
- Spread and stretch the fingers.
- Repeat.
- Work the other side.

Pumping the thighs



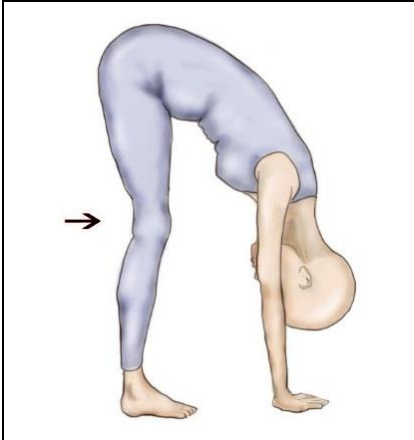
- Sit back in your chair.
- Spread your legs as much as possible.
- Tighten the muscles of the thighs and buttocks.
- Hold for a few seconds.
- Release.
- Bring the thighs together.
- Tighten the muscles of the thighs and buttocks
- Hold for a few seconds.
- Release.
- Repeat.

Round back in sitting position



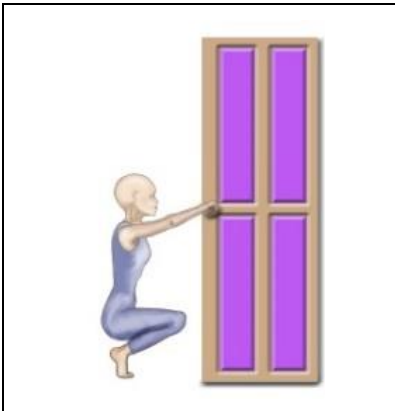
- Sit well back in your chair.
- Spread your legs.
- Lean forward.
- Go down slowly.
- Let your arms drop down freely.
- Take deep breaths.
- Go back up slowly.
- Repeat.

Round back in standing position



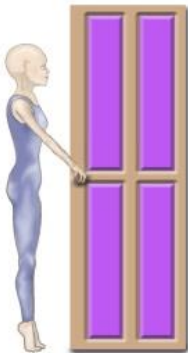
- In standing position, spread your feet slightly.
- Bend your knees slightly.
- Bend the body forward.
- Go down slowly.
- Let your arms drop down freely.
- Take deep breaths.
- Go back up slowly.
- Repeat.

Squatting

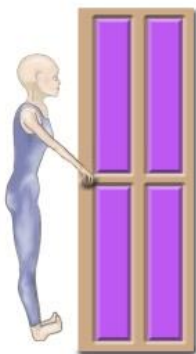


- Stand in front of an open door.
- Spread your feet slightly.
- Place your hands on both knobs.
- Keep your back straight.
- Squat.
- Hold for a few seconds.
- Slowly rise to the standing position.
- Repeat.

Tip and heel



- Stand in front of an open door.
- Spread your feet slightly.
- Place your hands on both knobs.
- Rise on the tip of your toes.
- Keep your back straight.
- Maintain this position for a few seconds.
- Lower yourself slowly.
- Transit to the next position.



- Transfer your body weight to your heel by bringing your toes up.
- Keep this position for a few seconds.
- Go down slowly.
- Alternate between the two positions.

Towel



- Place the towel in the right hand.
- Raise the arm and place the towel in the back.
- Grab the other end of the towel with your left hand.
- Tilt your head forward.
- Pull the towel with your left hand.
- Hold the tension a few seconds. Release.



- Pull the towel with your right hand.
- Hold the tension a few seconds. Release.
- Repeat.
- Work the other side.

You should feel tightness in the shoulder and centre back.

Whistling



- Pucker your lips.
- Hold this position for a few seconds.
- Release.
- Repeat.

Wide smile



- Smile as widely as you can.
- Hold this position for a few seconds.
- Release.
- Repeat.

Prevention

Prevention plays an important role in managing muscle tension. It is the role of the myotherapist to inform people about the small actions they can take to prevent the imbalances that cause muscle tension so they do not resurface.

This part of Technique Rollin® aims to raise awareness about your body and to environmental factors that are detrimental to your well-being. Many health professionals are reluctant to give preventive advice for fear that the patients will not feel the need to use their services. For my part, I truly enjoy it when people are able to understand the source of their imbalance and take corrective measures with lasting effects.

Postural Stress

Here are some tips on good posture to avoid postural stress that leads to muscle tension.

A person prone to develop muscle tension should pay particular attention to the positions he/she adopts throughout the day.

Usually, people instinctively recognize the positions that are adverse to their condition. A chair that is too tilted, a keyboard that is too high, a mattress that is too soft, etc.

Whether at home or at work, once the postural factors have been identified, people generally manage to avoid developing muscle tension from then on.

Posture: straight back without muscular stress



- Sit in the centre of the seat.
- Spread your legs slightly.
- Put your back straight.
- Relax the shoulders.
- Perform a backward shoulder rotation until you feel that all the weight of the trunk is aligned with the spine.

Your chest will automatically swivel back and your head will return to an upright position. You should feel that your weight rests on the ischia (lower pelvic and posterior bone).

You should not feel tension in the back or neck muscles. These are not working and should not be unnecessarily tense.

To help you maintain this position, you can also cross your arms behind your back. Finally, absolutely do not cross your legs!

At home

Sitting position

When you suffer from back pain, you should always pay particular attention to the chairs you choose to sit on. In fact, from now on, this should be your priority. It could be at home, at the office, in a restaurant, a theatre or even in a car.

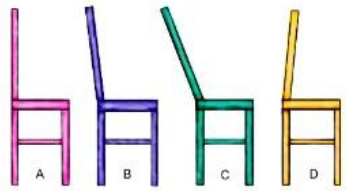
We often find ill-adjusted chairs in the office, even though this type of chair provides all the necessary adjustments to suit our needs. It is necessary to take a few minutes to adjust them, since this where we spend the majority of our day.

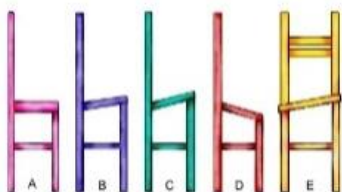
Each person is different and it is your responsibility to find a way to adjust these seats so you don't have to suffer negative side effects—even more so if you share the same chair with a co-worker.

The examples shown below are exaggerated. Yet in everyday life, the slopes can be very subtle and still cause a lot of discomfort.

Pay special attention to:

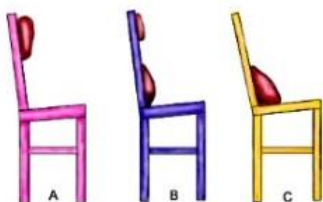
- The inclination of the backrest
- The inclination of the seat
- The backrest cushion

	Backrest • Chair A has a backrest that is too straight. • Chair B has a slightly curved backrest, which is recommended. • Chair C has a backrest that is tilted too far back. • Chair D has a backrest that is too tilted forward.
---	---



Seat

- Chair A has a seat that is too straight.
- **Chair B has a seat that is slightly tilted back, which is recommended.**
- Chair C has a seat that is too tilted toward the back.
- Chair D has a seat that is too tilted toward the front.
- Chair E has a seat that is tilted to one side.



Backrest cushion

- The upper back padding on chair A's backrest is too thick.
- **Chair B's backrest padding is perfect.**
- Chair C's backrest lower back padding is too thick.

You can easily adapt to a chair without any backrest padding.



Seat cushion

- Chair A's seat padding is too thick in the back.
- **Chair B's seat padding is perfect.**
- Chair C's seat padding is too thick in the front.

If you suffer from inflammation of the sciatic nerve, in no case should you choose a chair without any seat padding.



The ideal chair must have:

- A backrest slightly tilted toward the rear.
- A seat slightly inclined toward the rear.
- A padded backrest that provides supports at shoulder-blade level and at the lumbar curvature.
- A padded seat that is of equal thickness on the whole surface of the seat.



Sitting position in a chair

- Sit at the back of the chair.
- Press your back to the backrest.
- The back should be straight and the shoulders relaxed.
- Place your forearms on the armrests.
- The thighs should be slightly apart.
- The legs should be at right angles to the thighs.



Sitting position in a chair with feet elevated

- Sit at the back of the chair.
- Press your back to the backrest.
- The back should be straight and the shoulders relaxed.
- Place your forearms on the armrests.
- The thighs should be slightly apart.
- Place your legs on a foot-rest; this helps with blood and lymphatic circulation.



Sitting position in an armchair

- Make sure the armchair is not too soft nor too hard.
- Sit at the back of the armchair.
- If the armchair is too deep, place a cushion or a pillow in your back.
- Your back should be straight and the shoulders relaxed.
- The fold of the knees should reach the edge of the seat cushion and the feet should touch the ground.
- The thighs should be slightly apart.
- Place forearms on the armrests. If the armchair does not have one, place a pillow under the forearm.
- If the chair has a cushion at the head level, make sure it is not too big for you. Your head should not be tilted forward. If this is the case, put a pillow behind your back to compensate for the curvature of the head cushion.



Sitting position in a recliner

- Sit at the back of the chair.
- If the chair is too deep, place a cushion or a pillow in your back.
- The back should be straight and the shoulders relaxed.
- The fold of the knees should reach the edge of the seat cushion and the feet should touch the ground.
- Spread the legs slightly. Place forearms on the armrests.
- Make sure the cushion at the head is not too big for you. The head should not be tilted forward. If this is the case, put a pillow behind your back to compensate for the curvature of the cushion.
- Raise the footrest; this helps with blood and lymphatic circulation.

Standing position

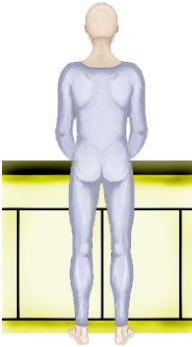
The standing position can become unbearable for people who suffer from muscle tension, mainly in the back and buttocks. Unfortunately, there are situations where you can't avoid remaining standing. By paying special attention to the muscles that tend to tense up in this position, you can easily remain standing and feel less pain.



Static standing position

- Spread the feet hip-wide.
- Distribute your weight on both legs.
- Relax your buttock muscles.
- Relax the shoulders.
- Perform a back shoulder rotation to align your weight on your spine.
- Relax the neck muscles.
- When you feel discomfort, shift your weight from left to right.
- Perform slight rotations with the hips.

You can also fold your arms in your back.



Dishwashing

- Spread the feet hip-wide.
- Distribute your weight on both legs.
- Relax your buttock muscles.
- When you feel discomfort, shift your weight from left to right.
- Perform slight rotation with the hips.

If the counter is too low for you and you want to avoid having to bend your back, use a plastic dish in the sink; you can adjust it to your height by placing folded dish towels underneath.

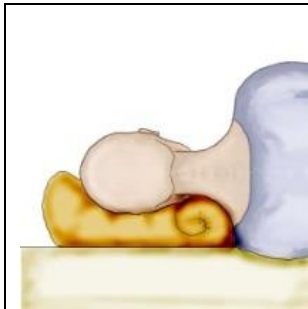


Vacuum cleaner

- Keep your back straight.
- Relax the shoulders.
- Relax the buttocks.
- Keep the head of the vacuum cleaner near you so you don't have to bend your back.
- Frequently change the hose from one hand to another.
- Take regular breaks.

Lying position

Is there anything more frustrating than knowing that because of our pain, there's a good chance that your sleep will be disturbed? In addition to suffering all day, it's impossible for you to get a good night's rest, because you don't know what position to take to alleviate your pain. Fortunately, there are tricks to avoid postural stress during our sleep.



Pillow

- Take an ordinary pillow with medium support. No need to buy an expensive orthopedic pillow.
- Roll the edge and place it in the neck.
- Neck muscles should be well supported so they can relax.
- Make sure the head is perpendicular to the shoulders.



On the back

- Lie on your back.
- Spread the legs so that the knees are aligned with your hips.
- If you use a pillow, roll it up and place it at neck level to properly support the neck muscles.
- If you do not use a pillow, place a small rolled towel at neck level.
- Place a cushion or pillow under the knees.
- Avoid lifting the arms above the head.



On the stomach

- Lie on your stomach.
- Place a small rolled towel under the forehead.
- Place a pillow under your feet.
- Place your arms along the body.

Lying on your stomach with the head turned to one side or the other is very bad for the neck muscles.



On the stomach

- Place a chair or a bench beside your bed.
- Place cushions or towels on it until the forehead is the same height as the bed.
- Lie down, placing only your forehead on the cushions or towels. Make sure that it is the forehead that supports the weight of the head, not the neck muscles.
- Place a pillow under the ankles.
- Place your arms along the body.



On the side

- Lie on your side.
- If you use a pillow, roll it up and place it at neck level to properly support the neck muscles.
- If you don't use a pillow, place a small rolled towel at neck level.
- Place a cushion or pillow under the arm.
- Place a cushion or pillow between the legs.



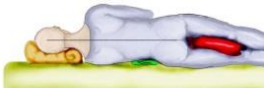
On the side – Shoulder toward the back

- Lie on the shoulder opposite to the one causing pain.
- Find the balance point. Rest the folded arm on the rib cage.
- Push the shoulder toward the back.
- You will feel that the muscles are not pulling on the joint.
- Place a cushion or pillow between the legs.



On the back — Backaches

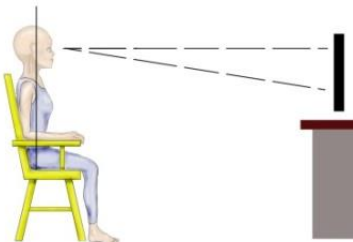
- Lie on your back.
- Spread your legs so that the knees are aligned with your hips.
- If you use a pillow, roll it up and place it at the neck level to properly support the neck muscles.
- If you do not use a pillow, place a small rolled towel at neck level.
- Place a large towel folded in four, at lumbar level to keep the spine straight.
- Place a cushion or pillow under the knees.
- Avoid lifting the arms above the head.



On the side — Backaches

- Lie on your back.
- If you use a pillow, roll it up and place it at neck level to properly support the neck muscles.
- If you do not use a pillow, place a small rolled towel at neck level.
- Place a large towel folded in four at lumbar level to keep the spine straight.
- Place a cushion or pillow under the arm.
- place a cushion or pillow between the legs.

Television position



In front of the TV

- Sit in front of the TV to avoid having your head turned or rotate the TV in your direction.
- Make sure the TV is at eye level to avoid having to raise or lower your head to look.
- Keep your back straight.

Reading position



Sitting position

- Sit back in your chair.
- Keep your back straight.
- Relax the shoulders.
- Perform back rotations with your shoulders.
- Place cushions on your knees and drop your book on them.
- Keep your arms on the armrests.
- Tilt your head as little as possible to the front.
- Move your eyes only, not the whole head.
- As soon as you feel tension in your neck, go to the next position.



- Lift your book and hold it with both hands. Press both arms against the sides of your body.
- Relax the shoulders.
- Your head will put itself upright, but continue to read with only your eyes.
- When you feel tired at the shoulder, arm or forearm level, go back to the previous position.



Lying position

- Place two pillows at the head of your bed.
- Place a third one over, but perpendicular to the other two.
- Roll up the third pillow and place it at neck level to support your neck muscles.
- Place a pillow under your knees.
- Lie down and put your book on your abdomen.
- Make sure your neck is supported and that your head is not excessively bent forward.
- Cast only your eyes downward, not the whole head.

At the office

Sitting position



- Spread your legs so your knees are aligned with the hips.
- Sit directly on the hipbone. You will feel that your whole weight rests on your bones, not your muscles.
- Get up frequently and rotate the pelvis.

Choice of the chair

	Sitting position Choice of the chair • For people suffering from bursitis at the shoulder or elbow joint, it may be a good idea to use a chair with armrests. • Pay special attention to its height. • Make sure your forearm is at a 90° angle relative to your arm when you are working on the keyboard. In this way, the muscles of the arm and forearm are not under tension. • Relax the shoulders. • Pay special attention to the height and angle of the seat, as well as to the backrest and armrests. • You should also know when it is time to change your chair, since as its ergonomics will deteriorate with age.
---	--

Ergonomic



Chair

- Make sure your chair is at the correct height. Your shoulders should not be over-elevated when you type.
- Your legs should form a right angle with the thigh.
- Make sure that the lumbar region is well supported.
- If the chair has armrests, make sure they are not too high nor force your arms upwards.

Computer screen

- Avoid any position that requires you to have your head turned in one direction.
- Place your computer screen in front of you.
- Make sure the screen is at the same height as your field of vision. If too low, place a book below to adjust it.
- Your head must always be aligned with the torso.
- Perform back rotations with your shoulders to find your natural balance points.

Document holder

- Use a document holder for the document you are working from.
- Place it at the same level as your screen to avoid turning your head.
- Only your eyes should move to go from the sheet to the screen.

Keyboard and mouse

- Adjust the height of the keyboard so that the forearm is at a right angle with the arm.
- Place your mouse at the same level.

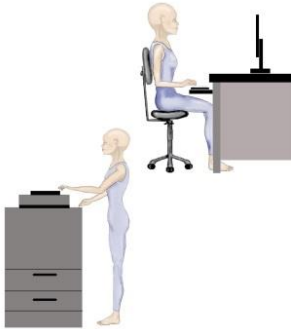
Footrest

- Use a footrest so that the legs are stretched, which promotes better blood and lymphatic circulation.

Breaks

- Take frequent breaks.
- Do stretching exercises.

Planning tasks



Plan your tasks so as to ensure that you don't stay in the same position for long periods.

Example:

Type a report for fifteen minutes. Go to the copying machine for another fifteen minutes. Return to the report for fifteen minutes, then return to complete your copies.

If you type the entire report and that this task takes you an hour, you will remain seated for too long. If you make all your copies, you will remain standing for too long. Alternating tasks helps prevent muscle strain.

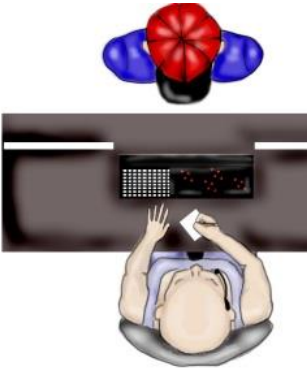
If you cannot do otherwise, take frequent breaks and do stretching exercises.

At the phone



- Use a headset, which prevents stress to the neck, the shoulder and the arm.

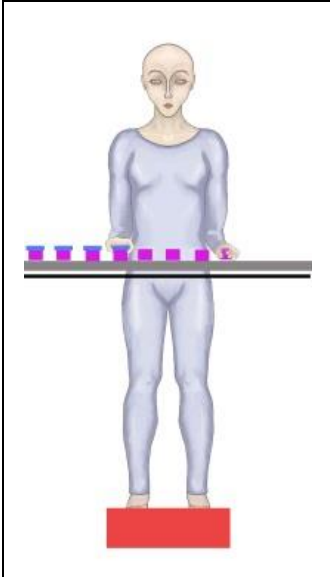
Position at the front desk

	• Use a headset, which prevents stress to the neck, the shoulder and the arm. Place the telephone console directly in front of you. • Place your message booklet between you and the console and keep the back straight when you write. • If you are also greeting clients, make sure the window that directs customers is directly in front of you.
---	--

Prevention of stress on the joints

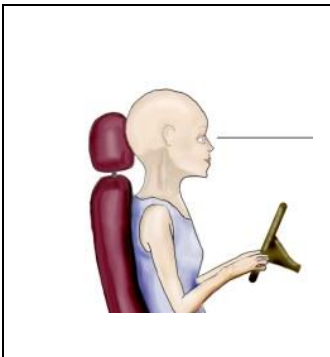
	• Place a small box in front of your feet if you must remain standing for a long period. • Put one foot on it to allow the muscles of the leg to rest. • Change legs frequently.
--	--

In industrial environments



- Make sure your workspace is at the right height for you.
- Stand on a box to elevate yourself to the correct height.
- If your workspace is too low, it is better to work in seated position.

In the car



Seat positioning

- Adjust the seat height so that your vision is parallel to the road and that the head remains in an upright position.

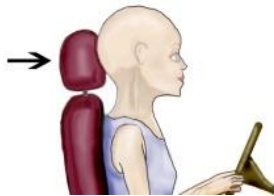


Backrest

- Tilt the seat back a notch.

If the seat remains at an upright position, the shocks will affect each intervertebral disc.

If the seat is reclined, the entire spine will move, with no stress to the vertebrae.



Headrest

- Position the headrest so that the middle portion is in contact with the curved part of your skull.



Lumbar support

- If your seat has a lumbar adjustment, inflate it until you no longer feel any muscular tension.
- If your seat does not have one, place a small pillow or a small folded towel at lower back level.

When the lumbar region is pushed forward, the shoulders move toward the rear, which causes the head to remain upright.



The seat

- If you feel that the front of your seat is cutting your circulation in the thighs and your feet tend to go numb, it's that the seat is tilted too far back.
- If you always seem to slide forward in the seat and you have to continually correct your posture, it's that the seat is tilted too far forward.
- If your seat has a tilt adjustment, adjust it to correct one situation or the other.
- If your seat doesn't have one, place a small pillow or folded towel at the rear or the front of your seat to correct the situation.



Cervical support

In the car, people who suffer from migraines or have muscular tension at the neck level, it is important that the neck be well supported.

- Fold a small hand towel in three, lengthwise.
- Roll the towel and fasten it with two elastic bands at each end.
- Place the roll just under the headrest behind your neck.

Since your head is resting on the towel and that it is supported on your shoulders, the neck is protected from shocks. It's the towel that absorbs them.



Hand positioning

- The ideal position of the hands on the wheel so you don't feel tension in the shoulders and neck, is to hold it by the bottom.
- Relax the shoulders and perform a backward rotation to align the spine.



Leg positioning

- It is difficult to change the position of the right leg if the car is not equipped with a speed regulator.
- You should plan pit stops at regular intervals. As for the left leg, alternate between the “bent at right angle” position and the “extended” position by placing the foot on the footrest.

Conclusion

Muscles, the forgotten ones...

The body has more than 640 skeletal muscles. They are the ones responsible for movement and balance of the human body in all positions. We went over their influence on the various systems that surround them, whether it be the bones, the nerves or the lymphatic and blood systems.

It is not in our culture to worry about them. However, their role in our survival is essential. By understanding in detail how they are structured and how they work, we can maintain their flexibility and ensure that they are able to play the role that was assigned to them, and this, for our whole lifespan. If there is one thing we must bear in mind, it is the fact that age has nothing to do with muscle tension. Even if the muscle has been tense for several years, it has the ability to regain its flexibility, provided we know how to restore it. The muscle does not require a strenuous exercise regimen: just learn to listen to it. Its way of communicating with us is through pain.

If you take the time to perform self-treatment maneuvers and small stretching exercises when pain arises, you will be preventing the problem from getting worse.

Everyone deserves to live life to the fullest. Nothing is more important than health. I hope this guide will have helped you achieve this goal.

If your muscles are relaxed and healthy, the rest will follow!

Jocelyne Rollin

www.techniquerollin.com

