

ROTATOR CUFF TENDINOPATHIES

Leaflet for patients

Épaule au TOP

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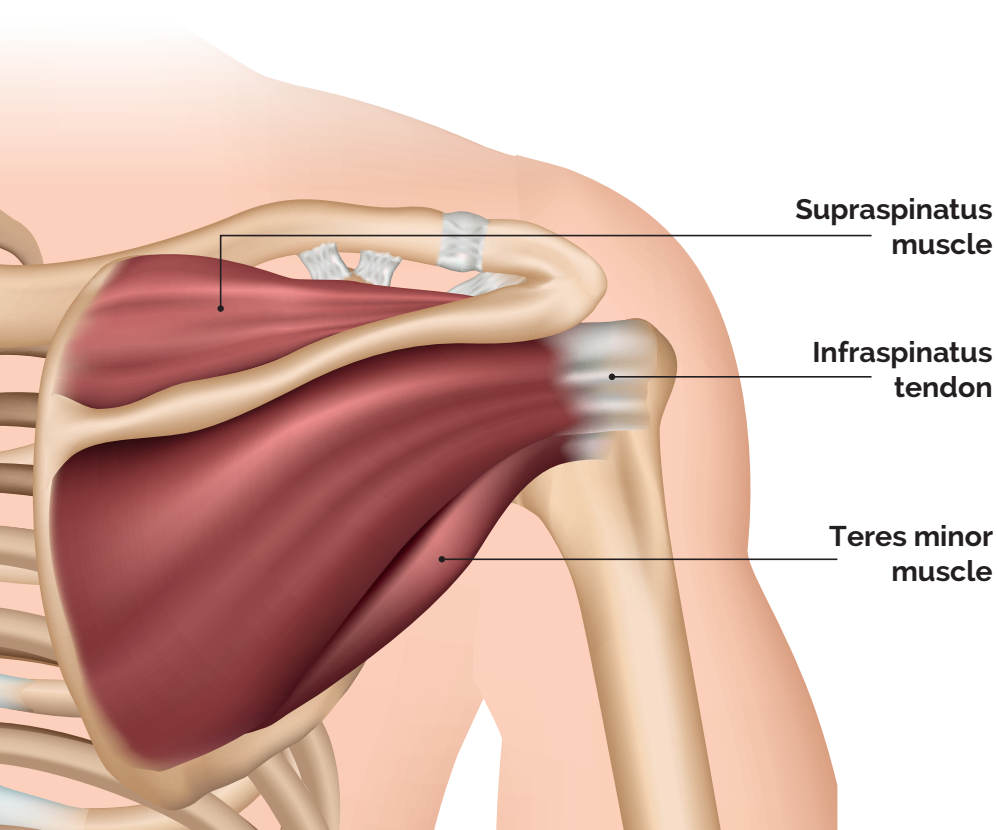
We would like to thank Lucile Langloff
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The tendon is a conjonctive tissue composed of moderately vascularized collagen fibers.

This poor vascularization accounts for its limited healing capabilities (i.e., self repair).

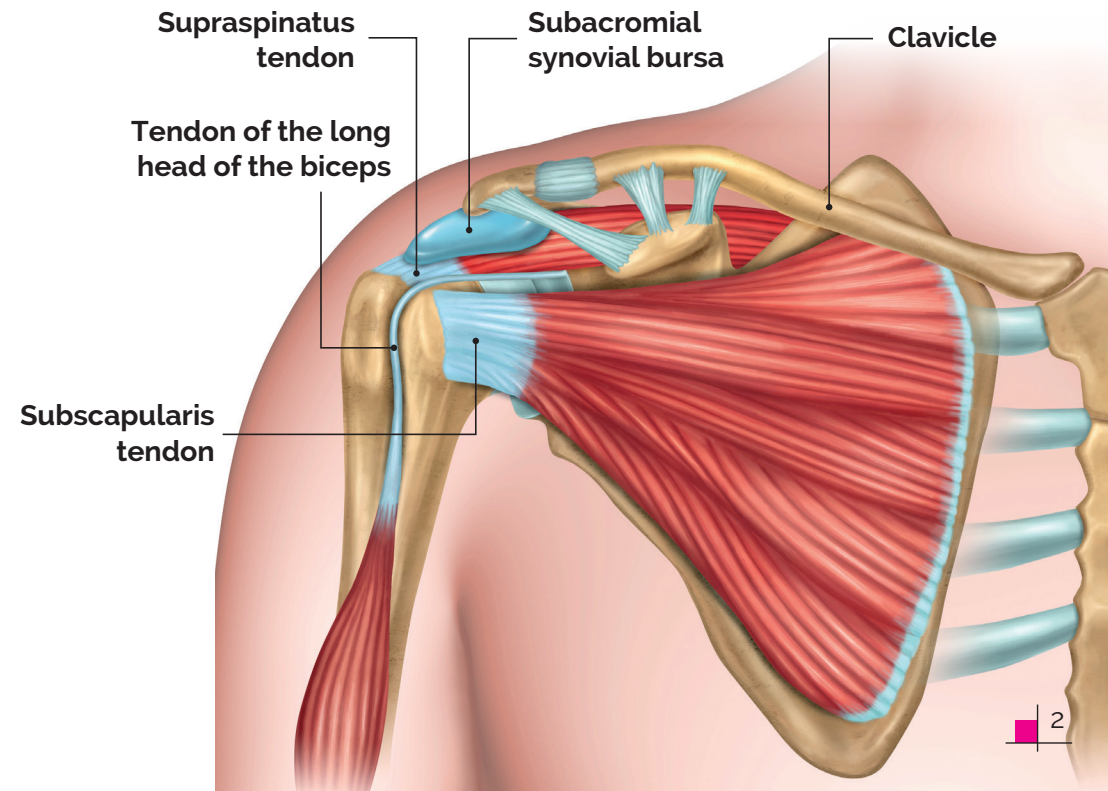
The tendon prolonges the muscle and is attached to the bone.

Back view



The rotator cuff is a 4-muscle-complex, each prolonged by its respective tendon : supraspinatus, infraspinatus, subscapulaire and teres minor. The long head of the biceps complements this complex.

Front view



Tendons are not equally important for the shoulder. **The supraspinatus tendon, most commonly involved in shoulder pain, is far from being the most crucial one.**

Rotator cuff tendons are not independent between each other. They form a « cuff » that covers the humeral head.

Rotator cuff tendinopathies are among the most common ones in the body. The term tendonitis is sometimes used but it is inappropriate since the «itis» refers to inflammatory conditions. Yet, **it seems that there is little or even no inflammation of the rotator cuff tendons.** The tendon of the long head of the biceps is a tendon more likely to suffer from an inflammation; it is then called a tendinitis of the long head of the biceps, or tenosynovitis.

A tendinopathy corresponds to a **modification of the structure of the tendon, but also of its function.** It is frequently **associated to pain and loss of strength.**

Rotator cuff tendinopathies can be more or less painful depending on the **presence or absence of an associated bursitis.**

Imaging may suggest tendinopathy without any shoulder function impairment being associated.

Some tendinopathies can cause mild or moderate pain triggered, essentially by movement. While others can cause more intense and constant pain that is present night & day.

Several types of tendinopathies, therefore, may exist. This is the reason why **diagnostic imaging** (ultrasound, CT scan, MRI) **is not sufficient** to confirm the origin of the pain or the most appropriate treatment.

TREATMENTS

The best treatment for rotator cuff tendinopathies is a **conservative approach** composed of a **medical component**, mostly for pain relief, and a **rehabilitation component** to regain shoulder and full arm function.

MEDICAL TREATMENT

The medical treatment depends on the level of pain and impairment. It consists of oral prescription medication, mostly analgesics of varying strength.

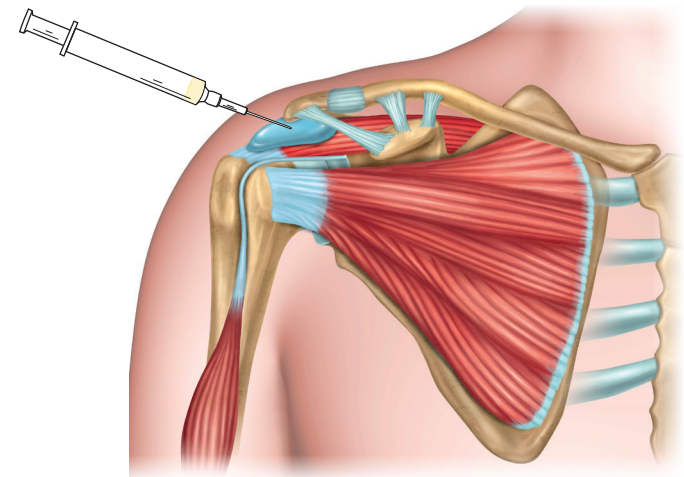
Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) are the least prescribed, considering the risk of possible adverse effects.

Your doctor can eventually prescribe imaging, depending on the outcomes of your clinical examination. **An xray and an ultrasound may be sufficient** to determine the medical diagnosis of a tendinopathy. **It is unnecessary to perform costly imaging such as CT scan or MRI.**

If a **significant bursitis** is visible on the ultrasound imaging, and it is **associated with severe pain** not relieved nor diminished by

a standard one-week analgesics treatment, then **a corticosteroid injection into the subacromial bursa can be considered** after 3 months of evolution.

An imaging-guided injection (ultrasound or xray) will be necessary.



Plasma-Rich Platelet (PRP) injections have shown no benefits.

Your doctor will prescribe rehabilitation sessions for your shoulder to regain function and strength and be painless again.

PHYSIOTHERAPY

Rehabilitation is the key to your treatment. If the medication has reduced your pain, the rehabilitation will target to maintain outcomes over time and prevent injury recurrence.

It is, essentially, based on **learning how to correctly perform the exercises detailed in this leaflet, and, eventually complemented by some manual techniques and mobilizations.**

Physical agents (ultrasounds, electric currents, laser, shock wave therapy...) have shown no benefits in the treatment of non-calcifying tendinopathies.

PREVENTION

Rotator cuff tendinopathy can develop after a trauma, or an important activity load on an insufficiently prepared shoulder (pruning, moving, heavy load carrying, inadapted physical activity or sport...); after repeated and micro-traumatic activities (sports or professional movements); or a chronic addiction like tobacco smoking, or, even some medication intake, like statins.

It can also be promoted by chronic diseases such as diabetes mellitus.

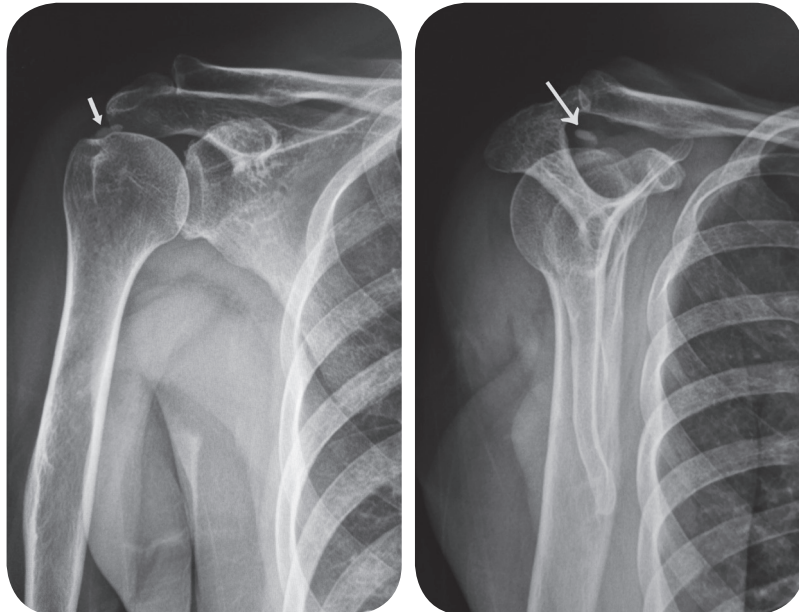
Like other tendons in the body, **the best tendinopathy prevention is to maintain a regular, moderate and adapted physical activity.**

Medication or chronic condition follow-up are also an important aspect to monitor.

SURGERY INDICATIONS

Similarly to surgery not being the first line treatment for headaches, **surgery is not the first line treatment for shoulder pain.** In most cases, tendinopathies are not associated to tendon ruptures, and symptoms naturally disappear without the need for surgery. Surgery can be a therapeutic option in cases of tendon tears. Exceptionally, surgery can be indicated to excise a painful bursa or realize an acromioplasty (cut off the inferior edge of the acromion when it irritates the tendon).

THE SPECIAL CASE OF CALCIFYING TENDINOPATHIES



Rotator cuff tendons can suffer from one or several calcifications.

Shoulder pain is not necessarily caused by these calcifications, that are usually painless. These calcifications disappear naturally. However, a specific treatment can be considered when they are associated to important and persisting pain.

In function of the calcification type, pain intensity and treatments already in place. **A physiotherapy treatment can be proposed for example with shock wave therapy, as well as synovial bursa infiltrations, or even trituration-aspiration.** In rare cases, surgery can be proposed to perform an excision of the calcification.

Painful calcifications often are associated with shoulder rigidity. Improving shoulder flexibility with an adapted physiotherapy treatment usually enables the reduction, or even disappearance, of the pain. **The exercises presented, hereafter, can be used in the case of calcifying tendinopathies after confirmation from your physiotherapist.**

EXERCISING MODALITIES

The exercises presented in this leaflet are only examples, and this list is not exhaustive. Your physiotherapist may propose different ones or adapt the ones hereafter. In any case, you should **follow your physiotherapist's recommendations regarding their frequency and implementation modality.**

Little material is needed for a shoulder tendinopathy rehabilitation program. Whether you are an athlete or sedentary person, one or two elastic bands, two dumbbells (or equivalent load such as water bottles), **motivation and perseverance!**

The rehabilitation will target pain relief, shoulder range of motion improvement, stabilization and/or injury recurrence prevention.

IMPORTANT

When exercising, shoulder pain can arise. Before stopping, it is important to consider the following:

- If the pain felt during exercise is different from the acute pain you usually experience
- If the pain intensity felt during exercise is acceptable
- Or, if the pain fades away and disappears after exercise

If you answer positively to these questions, it is probable that the pain felt while initiating the exercises will progressively disappear during the program and is mostly associated to the progressive reconditioning of your tendons & muscles.



Please tell your physiotherapist about it.

EXERCICES

& REHABILITATION

While performing your exercises, **keep inhaling & exhaling regularly.**

Do not forget to remain well hydrated by drinking regularly, e.g., one sip of water after every exercise series.

You can keep on performing some of the exercises prescribed by your physiotherapist after your rehabilitation program is over, in order to **prevent the risk of injury recurrence**, or even just as part of a sports training routine.

INDICATIONS RELATED TO THE EXERCISES

- ☐ Exercise that should NOT BE PERFORMED
- ☒ Exercise that should BE PERFORMED

Nb = Number of movement repetitions

Nb/D = Number of times per day

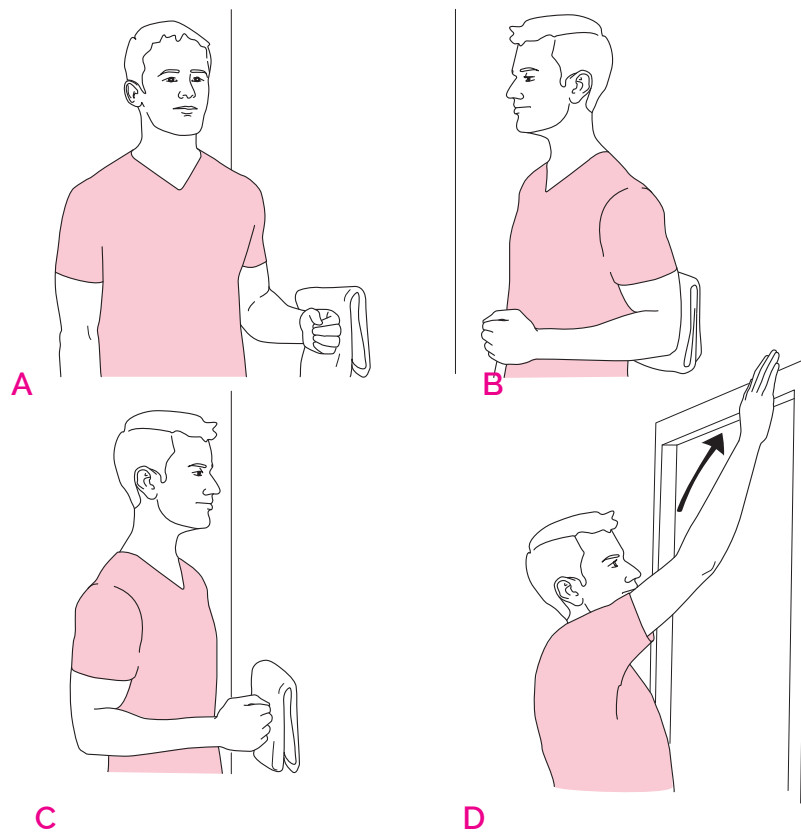
Example :

Nb	Nb/D
15	2

You should read :
Exercise to be repeated
15 times, 2 times per day



Position holding time



STATIC EXERCISES

1 - In upright standing position:


Push on the wall and maintain for  _____ seconds.

- ☐ A
- ☐ B
- ☐ C
- ☐ D

Nb	Nb/D

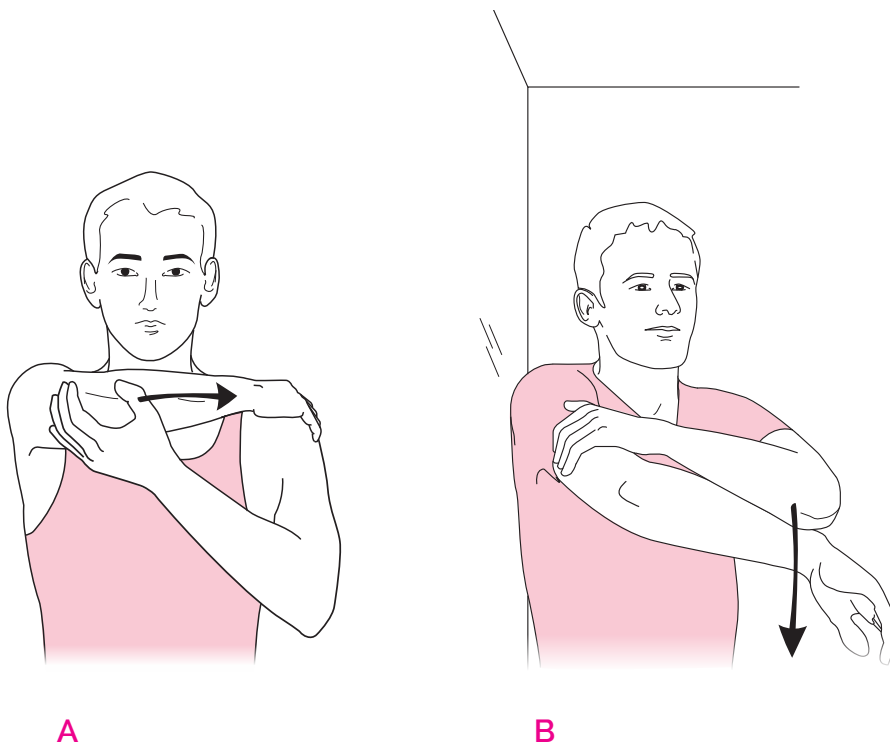
2 - Lying on your stomach:

You may place a cushion under your stomach if you feel more comfortable in that position.

Maintain the position A, B or C for,  _____ seconds.

- ☐ A
- ☐ B
- ☐ C

Nb	Nb/D



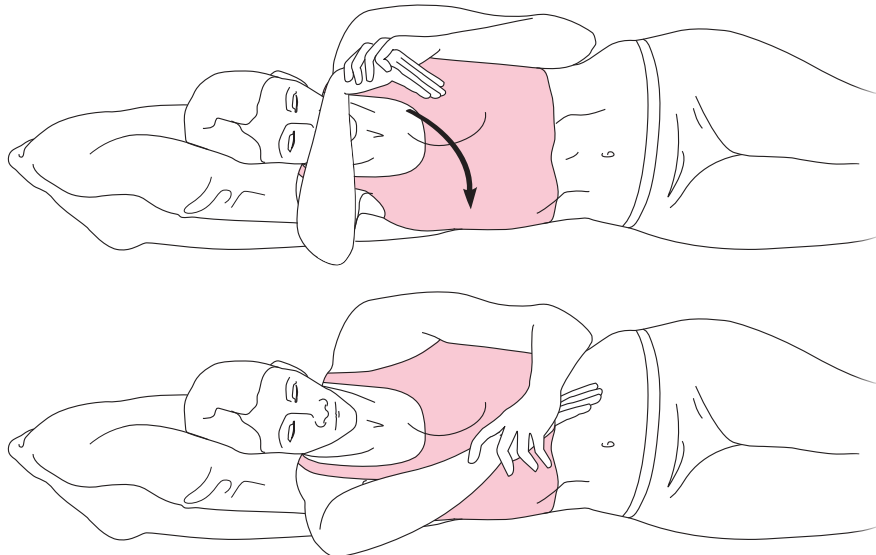
3 - Standing or sitting:

- A** - Straighten up and reach with your painful arm across your chest toward the opposite shoulder, keeping your affected shoulder as low as you can to stabilize your scapula. Maintain for _____ seconds.

Nb Nb/D

- B** - A variant consists in stretching while stabilizing your scapula against a wall, and eventually progress to pushing your affected forearm downward. Maintain for _____ seconds.

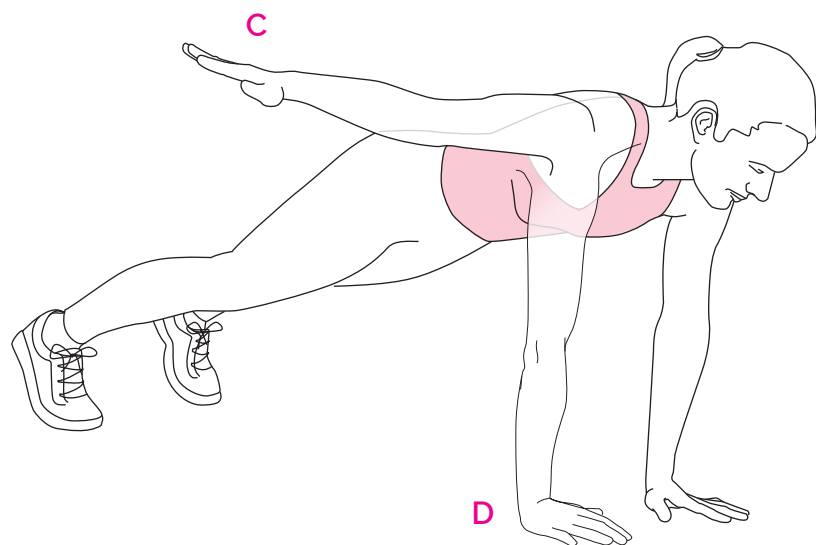
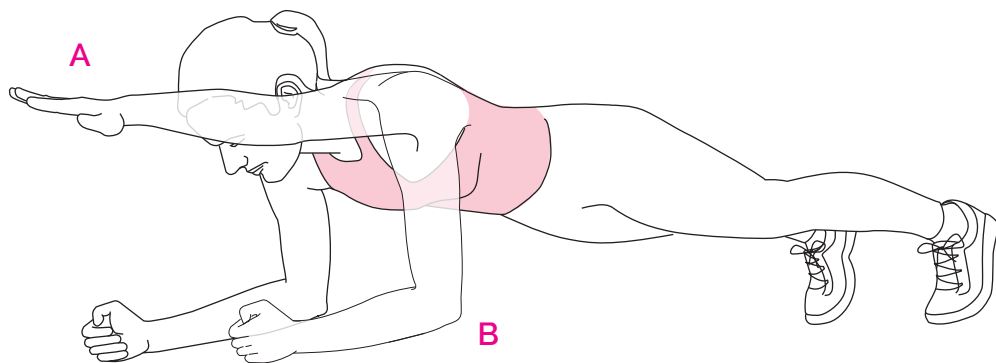
Nb Nb/D



4 - Side lying on your painful side:

- Push your hand of the affected arm downward as much as you can without triggering pain in your affected shoulder (red arrow). Maintain for _____ seconds.

Nb Nb/D



5 - In a plank position on hands or forearms:

Maintain the position A, B, C or D while contracting your abdominal muscles and looking downward.

Do not hold your breath!

Maintain the position A, B, C or D for



_____ seconds.



A



B



C



D

Nb	Nb/D

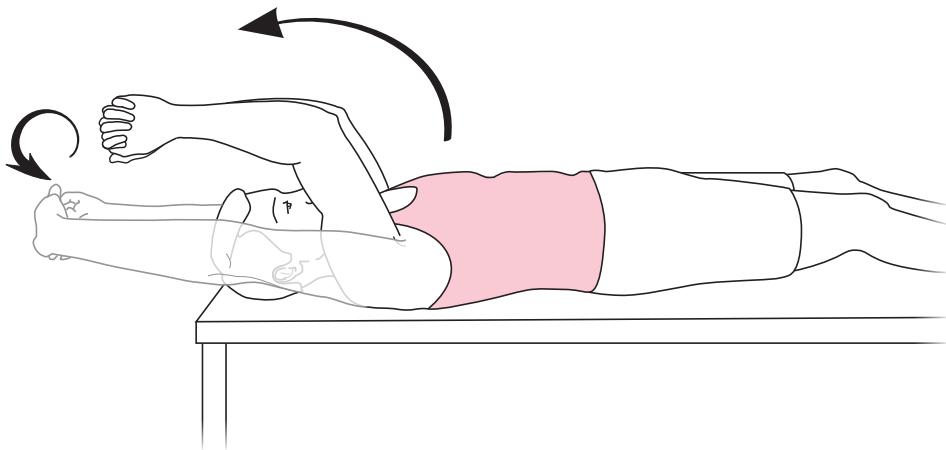
DYNAMIC EXERCISES

If your shoulder has lost mobility, you need to recover it.

You will progressively feel more confident with both static and dynamic exercises.

For this, **you should perform them several times a day.**

6 - In lying, sitting or standing position:

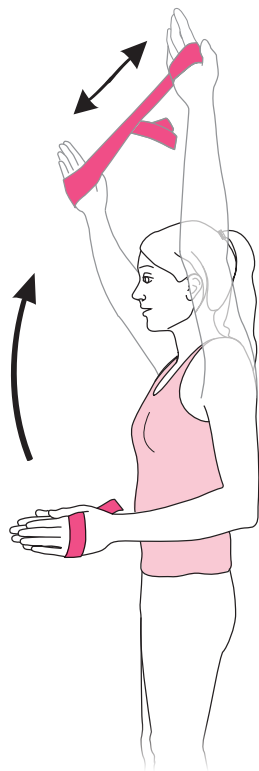


Join your hands, palms facing each other in front of you, and interlace your fingers. Reach above your head, extending your arms, as far you can, until feeling slight discomfort.

You may swap your hands for further stretch.

Nb Nb/D

Position : ☐ lying ☐ sitting ☐ standing position



7 - In lying or standing position:

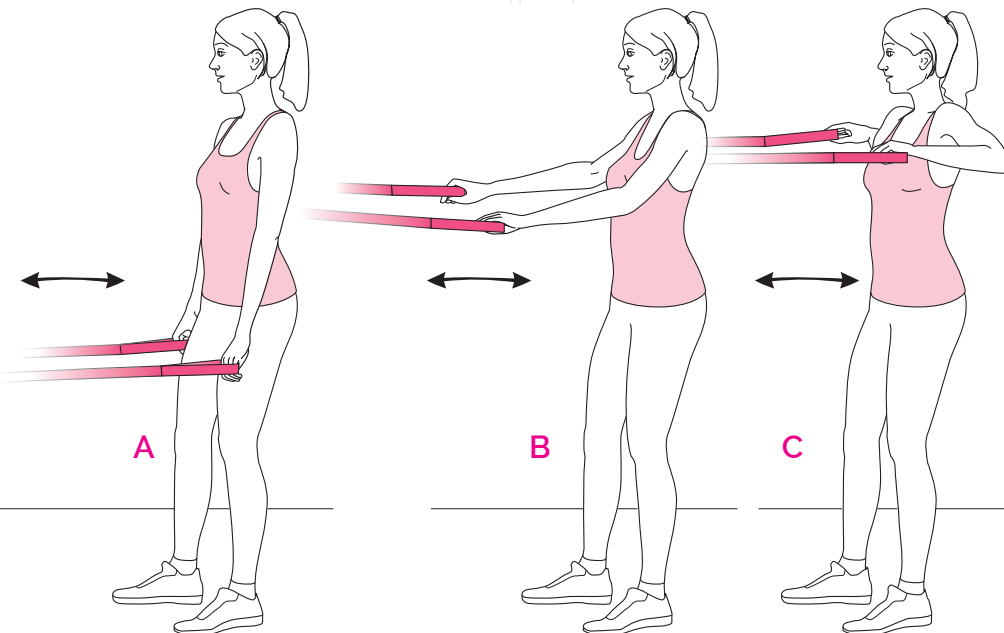
- ☐ Spread the arms away from each other against a mild elastic resistance.
- ☐ Extend your arms above your head and reach as far behind as you can, always controlling the speed of the movement.

Position : ☐ lying ☐ standing position

Nb	Nb/D
<input type="checkbox"/>	<input type="checkbox"/>

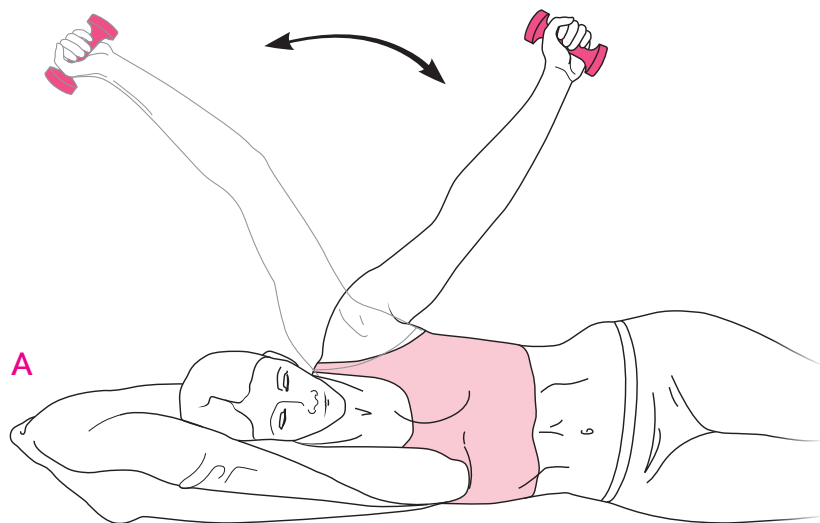
8 - In standing, after having firmly attached the elastic band on a support:

Pull laterally on the elastic band while positioning your arms in the position showed by your physiotherapist (closer to or further apart from your body).



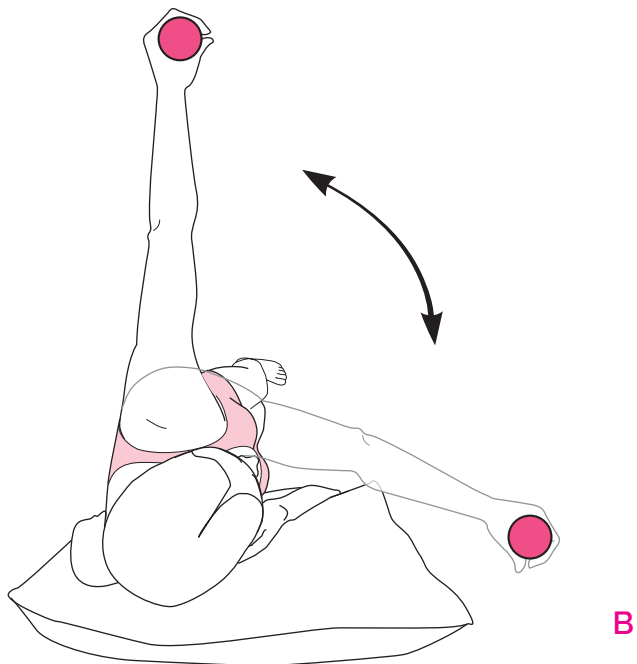
- ☐ A
- ☐ B
- ☐ C

Nb	Nb/D
<input type="checkbox"/>	<input type="checkbox"/>
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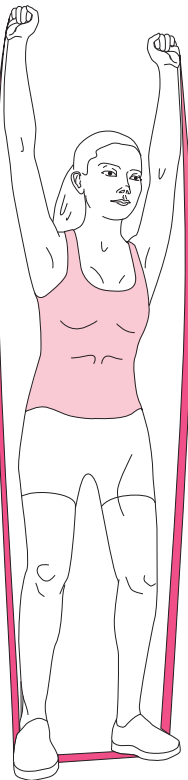
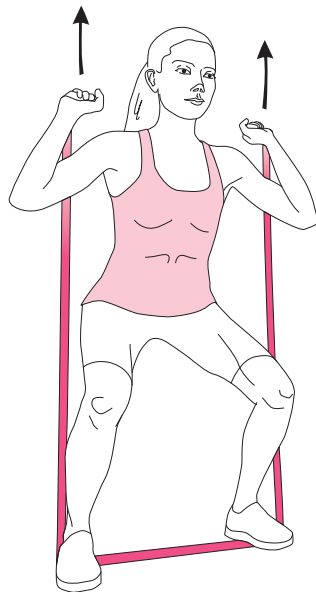
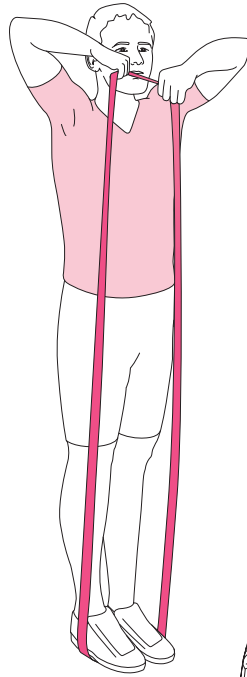
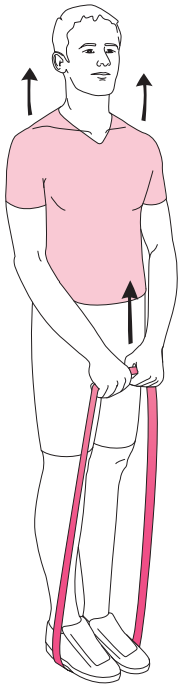
9 - Side lying on your unaffected side:

Lift a dumbbell (with the load indicated by your physiotherapist) in the direction A or B.



- ☐ A
- ☐ B

Nb	Nb/D
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>



10 - In upright standing position:

Nb	Nb/D

Place the elastic band under your feet and pull it until reaching your chin, always keeping it close to your body.

- If your physiotherapist recommends it, you may first elevate your shoulders before pulling on the elastic band.

11 - In standing position with feet apart:

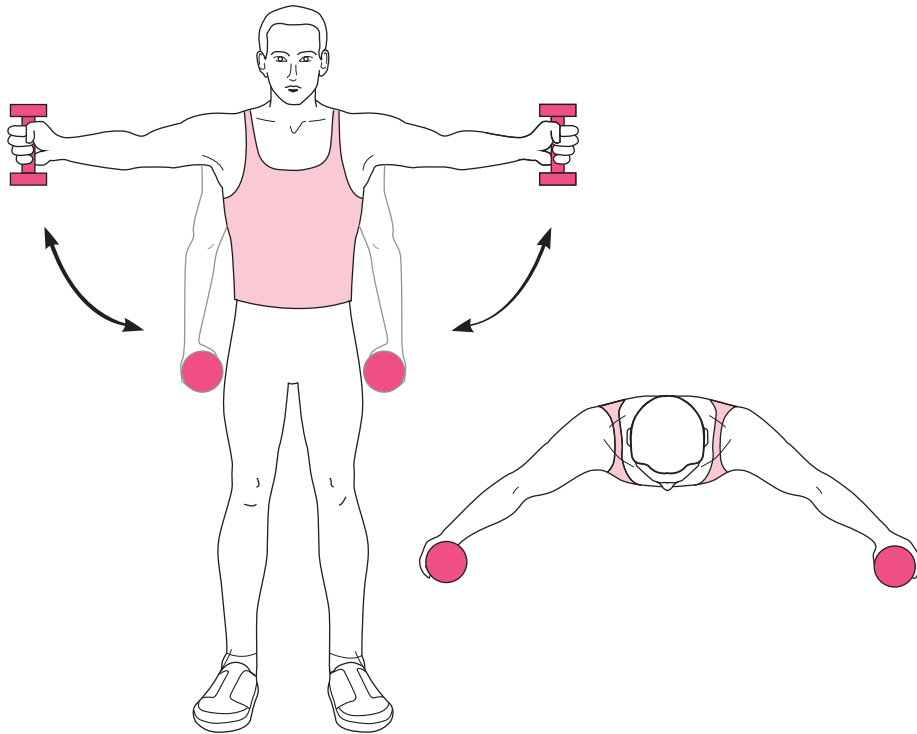
Nb	Nb/D

Place an elastic band under your feet and firmly hold its extremities.

Flex the knees into a squat position, placing your arms at 90°.

- Straighten up and extend the arms at the same time.

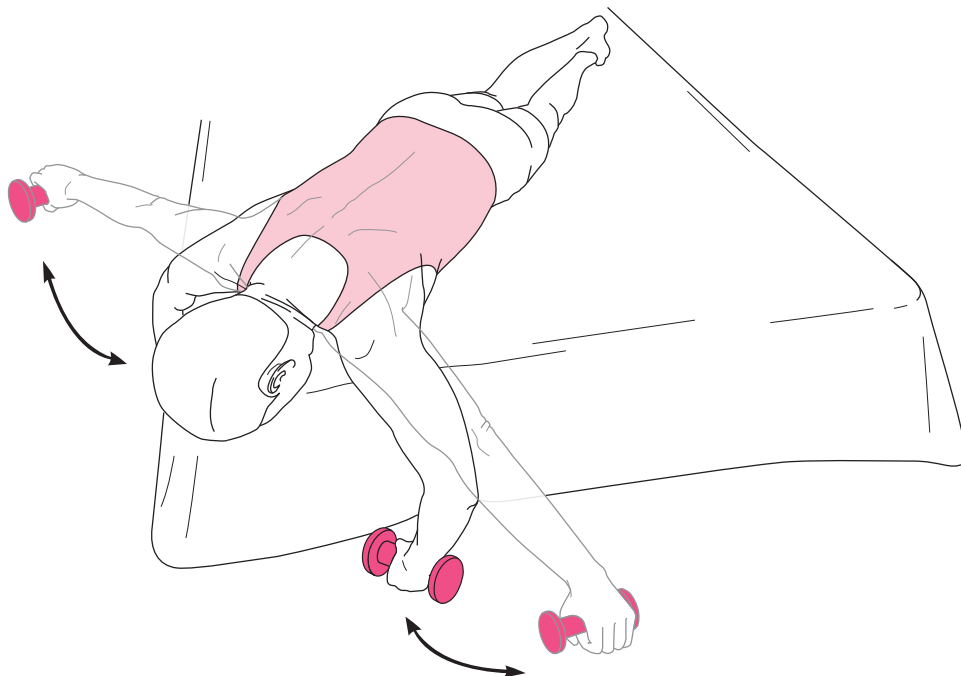
Ideally, the elastic band should remain under tension while you are in squat position and reach its maximal possible tension once standing.



12 - In standing:

- ☐ Lift up two dumbbells laterally.
- ☐ Check the dumbbell weight and arm position with your physiotherapist.

Nb	Nb/D



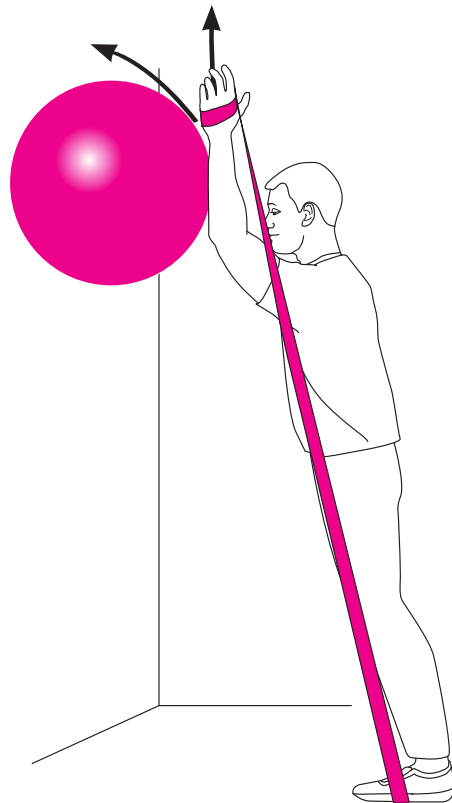
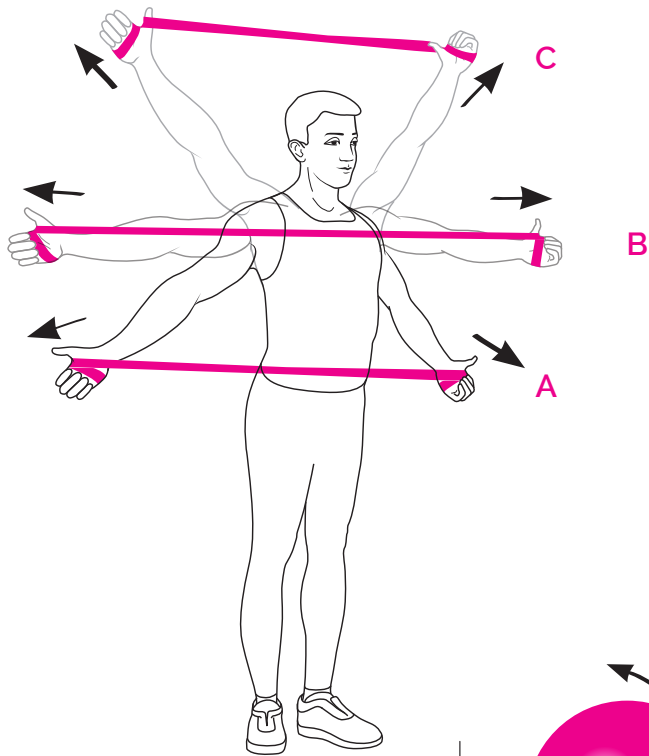
13 - Lying at the corner of your bed, with arms hanging down on each side:

- ☐ Spread the arms apart laterally, with a dumbbell in each hand of:

Nb	Nb/D



☐ 500g ☐ 1kg ☐ 1,5kg ☐ 2kg ☐ 3kg



14 - Standing, with an elastic band:

Hold the extremities of the elastic band in each hand. Spread the arms apart, pointing the thumbs backward. Adjust the level of tension according to the goal defined with your physiotherapist.

- ☐ A
- ☐ B
- ☐ C

Nb	Nb/D
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

15 - Standing, facing a wall with a Swiss ball®:



Have the Swiss ball® roll toward the ceiling, leaning on it as much as you need. Progressively increase your upward range of motion.

Nb	Nb/D
<input type="checkbox"/>	<input type="checkbox"/>

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