

**PROFESSIONAL AND HOME USE**

# **STRETCHING FOR PAIN RELIEF**

**SHOULDER & UPPER ARM**

**NIEL ASHER EDUCATION / LAWFORD COLLEGE**

## **Fitness and Flexibility**

An individual's physical fitness depends on a vast number of components, and flexibility is only one of these. Although flexibility is a vital part of physical fitness, it is important to see it as only one "spoke" in the "fitness wheel." Other components include strength, power, speed, endurance, balance, co-ordination, agility, and skill.

Whilst particular sports require different levels of each fitness component, it is essential to plan a regular exercise or training program that covers all the components of physical fitness. Rugby and American football (gridiron), for example, rely heavily on strength and power; however, the exclusion of skill drills and flexibility training could lead to serious injury and poor performance. Strength and flexibility are of prime concern to a gymnast, but a sound training program would also improve power, speed, and endurance.

The same is true for each individual: while some people seem to be naturally strong or flexible, it would be foolish for such persons to completely ignore the other components of physical fitness. And just because an individual exhibits good flexibility at one joint or muscle group, it does not mean that the entire individual will be flexible. Therefore, flexibility must be viewed as specific to a particular joint or muscle group.

## **The Dangers and Limitations of Poor Flexibility**

Muscles that are tight and stiff limit our normal range of motion. In some cases, lack of flexibility can be a major contributing factor to muscle and joint pain. In the extreme, lack of flexibility can mean it is difficult, for example, to even bend down or look over the shoulder.

Tight, stiff muscles also interfere with proper muscle action. If the muscles cannot contract and relax efficiently, the result will be a decrease in performance and a lack of muscle movement control. Moreover, short, tight muscles cause a dramatic loss of strength, power, and efficiency during physical activity.

In a very small percentage of cases, muscles that are tight and stiff can even restrict blood circulation. Good blood circulation is vitally important in helping the muscles receive adequate amounts of oxygen and nutrients. Poor circulation can result in increased muscle fatigue and, ultimately, will impede the muscles' repair process and the ability to recover from strenuous exercise.

Any one of these factors can greatly increase the chances of becoming injured. Together they present a package that includes muscular discomfort, loss of performance, an increased risk of injury, and a greater likelihood of repeated injury.

### **Causes of Restricted Flexibility**

The muscular system needs to be flexible in order to achieve peak performance, and stretching is the most effective way of developing and retaining flexible muscles and tendons. However, a number of other factors also contribute to a decrease in flexibility.

Flexibility, or range of motion, can be restricted by both internal and external factors. Internal factors such as bones, ligaments, muscle bulk, muscle length, tendons, and skin all restrict the amount of movement at any particular joint. As an example, the human leg cannot bend forward beyond a straight position, because of the structure of the bones and ligaments that make up the knee joint.

External factors such as age, gender, temperature, restrictive clothing, and of course any injury or disability will also have an impact on one's flexibility.

## **Flexibility and the Ageing Process**

It is no secret that with each passing year, the muscles and joints seem to become stiffer and tighter. This is part of the ageing process and is caused by a combination of physical degeneration and inactivity. Although we cannot help getting older, this should not mean that we give up trying to improve our flexibility.

Age should not be a barrier to a fit and active lifestyle, but certain precautions should be taken as we get older. Participants just need to work at it for longer, be a little more patient, and take a lot more care.

## **Stretching**

Stretching has a host of benefits, including:

- Improved range of motion
- Increased power
- Diminished post-treatment soreness
- Reduced fatigue

Stretching the muscles with trigger points, or the muscles that you are trying to strengthen, is important for breaking old holding patterns, restoring range of motion, and preventing injury. Gently stretching after a trigger point treatment session or after strengthening exercises can help reduce muscle soreness and keep your muscles long and flexible.

## **Types of Stretching**

There are many different ways to stretch, each with its advantages and disadvantages. The two most recommended techniques are: (1) passive/static stretching, best used at home or after treatment; and (2) proprioceptive neuromuscular facilitation (PNF), best used when working with a partner.

The effects of different techniques vary from person to person. It is advised to warm up for 10 minutes before stretching, whether with some cardiovascular exercises or a warm/hot shower.

### **Passive/Static Stretching Technique**

This technique is safe and effective for the novice:

1. Place the body in a position where the muscle you want to stretch can be put under tension.
2. Slowly and cautiously approach the stretch.

***Do not stretch to the point of pain—discomfort is expected, but be cautious not to force the stretch.***

3. Hold for a minimum of 20 seconds (45–60 is best) and allow the muscle to lengthen.
4. Breathe and relax
5. Gently come away and rest for 45–60 seconds.
6. Repeat the stretch 2–3 times
7. Repeat 2–3 times daily.

Increase efficiency by stretching the antagonist (the opposite muscle) straight afterwards.

## **Proprioceptive Neuromuscular Facilitation (PNF)**

This is a more advanced technique and may be used for obtaining more permanent results; it also improves muscular strength. There are several forms of PNF stretches, including “hold relax stretch” or “contract relax stretch.”

1. Position the muscle group so that it is under tension, and hold.
2. Contract the stretched muscle for 5–6 seconds while a partner resists you moving the joints.
3. Stretch the muscle again for approximately 30 seconds.
4. Rest/recover for 30 seconds.
5. Repeat the procedure 2–4 times (up to 10 minutes).
6. Repeat 2–3 times daily.

## **Protocol for Stretching**

As a rule any stretching program should be continued for four to six weeks, unless otherwise specified by your practitioner, doctor, or physical therapist. After your recovery, these exercises can be continued as a maintenance program for lifelong protection and health.

Performing the exercises two to three days a week will maintain strength and range of motion. A goal should be to make a regular time at home every day for stretching the affected muscles toward obtaining full range of motion. It is also advised to keep a diary of any stretches that aggravate your trigger point symptoms.

Remember to warm up before doing stretches: perform 5 to 10 minutes of low-impact activity, such as walking or riding a stationary bicycle.

NB: Do not ignore pain. It is important to be aware that overzealous stretching can reactivate latent trigger points. The advice is to progress

gradually from one stretch to another and listen to your body; different stretches work different types of fiber and afford the brain a better sense of self. You should not feel severe pain during or after a stretch: in general, if a stretch activates your trigger point pain, it should be stopped.

Pain on rest can indicate that the trigger points are very active. The advice here is either to rhythmically move the effected area in warm water or to apply moist heat and the gentlest of massage.

Talk to your practitioner, doctor, or physical therapist if you have any pain while stretching.

### **Foam Roller Stretching**

Foam rollers have been used since the 1950s to stretch ease and ‘rebalance’ muscular tension. Dr. Moshe Feldenkrais is credited with having been the first person to use them for therapeutic purposes. Foam rollers come in various shapes, sizes and densities; they are cheap to buy and easy to use. Selecting the best roller is down to personal choice. Often this depends on your height, weight and the area you are looking to stretch.

Rollers can be very effective at deactivating trigger points both on their own, after hands-on techniques, and after dry needling. Using a foam roller is simple; used properly they can be very effective for improving:

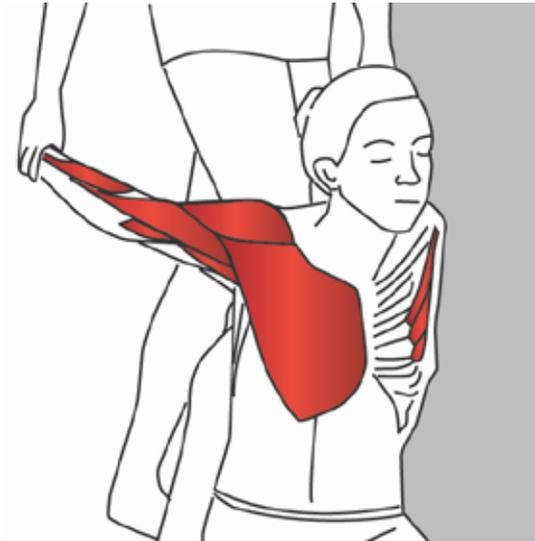
- Balance
- Flexibility
- Coordination
- Relaxation
- Range of motion

## **Medical Disclaimer**

The techniques offered in this book are not a substitute for proper therapy from a registered practitioner; although aches and pains from trigger points and muscle injuries are common, there can sometimes be an underlying pathology. It is advisable to always seek a proper diagnosis from a qualified medical practitioner.

### **You follow the techniques described in this book at your own risk.**

If you think you may be suffering from any medical condition you should seek immediate medical attention. You should never delay seeking medical advice, disregard medical advice, or discontinue medical treatment because of information provided herein.



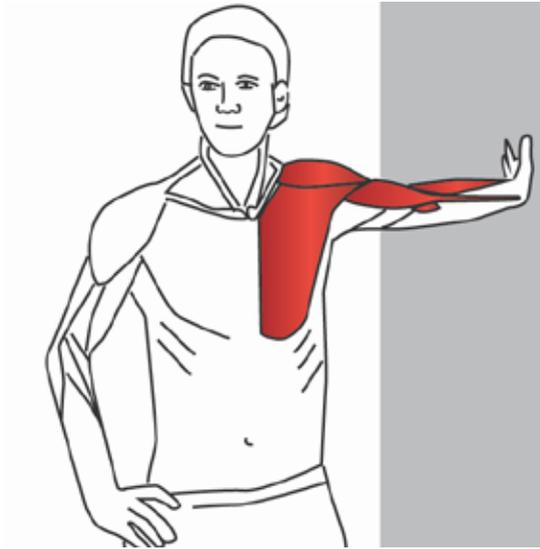
**TECHNIQUE:** Sit on the ground and have a partner stand behind you. Reach behind with both arms and have the partner further extend your arms.

**PRIMARY MUSCLES:** Pectoralis major and minor. Anterior deltoid.

**SECONDARY MUSCLES:** Biceps brachii. Brachialis. Brachioradialis. Coracobrachialis.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation. Subluxation. Acromioclavicular separation. Sternoclavicular separation. Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis). Biceps tendon rupture. Bicipital tendonitis. Biceps strain. Chest strain. Pectoral muscle insertion inflammation.

**NOTE:** Keep your palms facing outward and your arms slightly above parallel to the ground.



**TECHNIQUE:** Stand with your arm extended to the rear and parallel to the ground. Hold on to an immovable object and then turn your shoulders and body away from your outstretched arm.

**PRIMARY MUSCLES:** Pectoralis major and minor. Anterior deltoid.

**SECONDARY MUSCLES:** Biceps brachii. Brachialis. Brachioradialis. Coracobrachialis.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation. Subluxation. Acromioclavicular separation. Sternoclavicular separation. Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis). Biceps tendon rupture. Bicipital tendonitis. Biceps strain. Chest strain. Pectoral muscle insertion inflammation.

**NOTE:** Keep your arm parallel to the ground and your fingers pointing backwards.



**TECHNIQUE:** Stand with your arm extended and your forearm at right angles to the ground. Rest your forearm against an immovable object and then turn your shoulders and body away from your extended arm.

**PRIMARY MUSCLES:** Pectoralis major and minor. Anterior deltoid.

**SECONDARY MUSCLE:** Serratus anterior.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation. Subluxation. Acromioclavicular separation. Sternoclavicular separation. Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis). Chest strain. Pectoral muscle insertion inflammation.

**NOTE:** Keep your upper arm parallel to the ground.



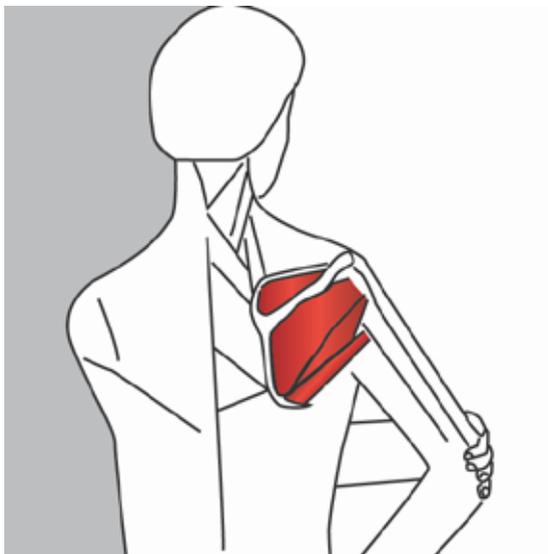
**TECHNIQUE:** Stand upright and place one arm across your body. Bend your arm at 90 degrees and pull your elbow towards your opposite shoulder.

**PRIMARY MUSCLES:** Trapezius. Rhomboids. Latissimus dorsi. Posteriordeltoid.

**SECONDARY MUSCLES:** Infraspinatus. Teres minor.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation. Subluxation. Acromioclavicular separation. Sternoclavicular separation. Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis).

**NOTE:** Keep your upper arm parallel to the ground.



**TECHNIQUE:** Stand with your hand behind the middle of your back and your elbow pointing out. Reach over with your other hand and gently pull your elbow forward.

**PRIMARY MUSCLES:** Infraspinatus. Teres minor.

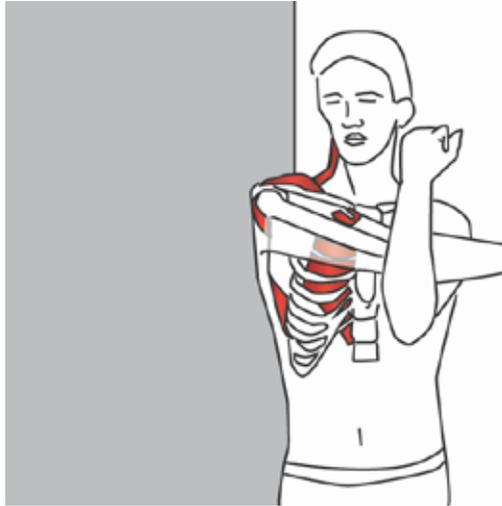
**SECONDARY MUSCLES:** Secondary muscle: Supraspinatus.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation.

Subluxation. Acromioclavicular separation. Sternoclavicular separation.

Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis).

**NOTE:** Many people are very tight in the rotator cuff muscles of the shoulder. Perform this stretch very slowly to start with and use extreme caution at all times.



**TECHNIQUE:** Stand upright and place one arm across your body. Keep your arm parallel to the ground and pull your elbow towards your opposite shoulder.

**PRIMARY MUSCLES:** Trapezius. Rhomboids. Latissimus dorsi. Posterior deltoid.

**SECONDARY MUSCLES:** Infraspinatus. Teres minor.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation. Subluxation. Acromioclavicular separation. Sternoclavicular separation. Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis).

**NOTE:** Keep your arm straight and parallel to the ground.



**TECHNIQUE:** Stand upright and wrap your arms around your shoulders as if hugging yourself. Pull your shoulders back.

**PRIMARY MUSCLES:** Trapezius. Rhomboids. Latissimus dorsi. Posterior deltoid.

**SECONDARY MUSCLES:** Infraspinatus. Teres minor.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation. Subluxation. Acromioclavicular separation. Sternoclavicular separation. Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis).

**NOTE:** Do not pull too quickly on your shoulders. Ease into the stretch by slowly pulling your shoulders back.



**TECHNIQUE:** Stand upright and let your chin fall forward towards your chest. Relax your shoulders and keep your hands by your side.

**PRIMARY MUSCLES:** Semispinalis capitis and cervicis. Spinalis capitis and cervicis. Longissimus capitis and cervicis. Splenius capitis and cervicis.

**SECONDARY MUSCLES:** Levator scapulae. Trapezius. Rhomboids.

**INJURY WHERE STRETCH MAY BE USEFUL:** Neck muscle strain. Whiplash (neck sprain). Cervical nerve stretch syndrome. Wry neck (acute torticollis).

**NOTE:** Some people are more flexible in the upper back and neck than others. Do not overstretch by forcing your head down: instead, relax and let the weight of your head do the stretching for you.



**TECHNIQUE:** Stand upright with your back towards a table or bench and place your hands on the edge of the table or bench. Slowly lower your entire body.

**PRIMARY MUSCLES:** Anterior deltoid. Pectoralis major and minor.

**SECONDARY MUSCLES:** Biceps brachii. Coracobrachialis.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation.

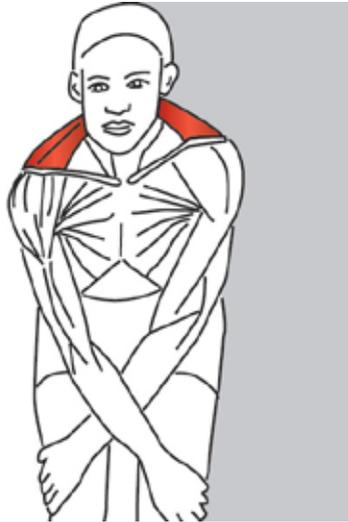
Subluxation. Acromioclavicular separation. Sternoclavicular separation.

Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen

shoulder (adhesive capsulitis). Biceps tendon rupture. Bicipital tendonitis.

Biceps strain. Chest strain. Pectoral muscle insertion inflammation.

**NOTE:** Use your legs to control the lowering of your body. Do not lower your body too quickly.



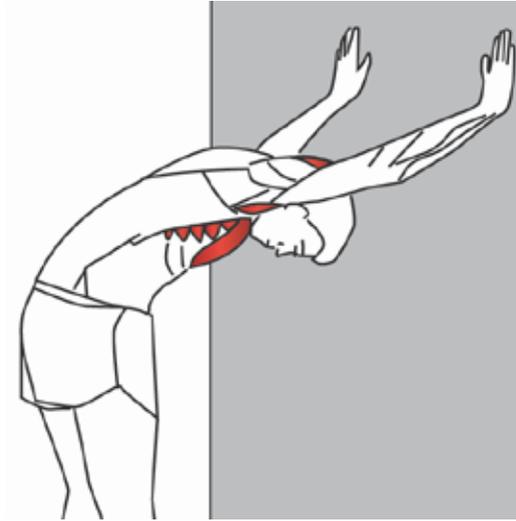
**TECHNIQUE:** Stand with your knees bent. Cross your arms over and grab the back of your knees. Then start to rise upwards until you feel tension in your upper back and shoulders.

**PRIMARY MUSCLES:** Trapezius. Rhomboids. Latissimusdorsi.

**SECONDARY MUSCLES:** Teres minor.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation. Subluxation. Acromioclavicular separation. Sternoclavicular separation. Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis).

**NOTE:** Keep your shoulders level to the ground and avoid twisting or turning to one side.



**TECHNIQUE:** Face a wall and place both hands on the wall just above your head. Slowly lower your shoulders as if moving your chin towards the ground.

**PRIMARY MUSCLES:** Pectoralis major and minor. Anterior deltoid.

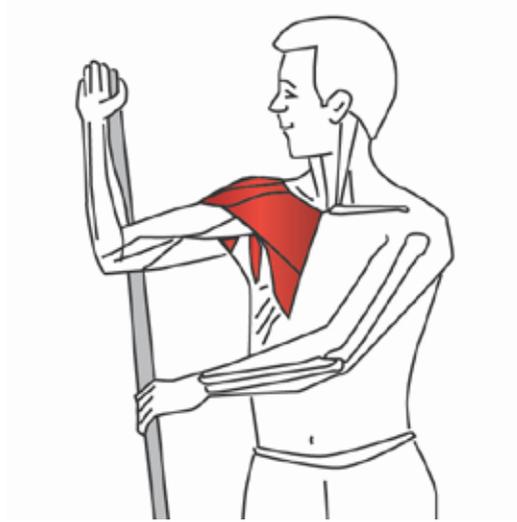
**SECONDARY MUSCLES:** Serratus anterior. Teres major.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation.

Subluxation. Acromioclavicular separation. Sternoclavicular separation.

Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis). Chest strain. Pectoral muscle insertion inflammation.

**NOTE:** Keep your arms straight and your fingers pointing straight upwards.



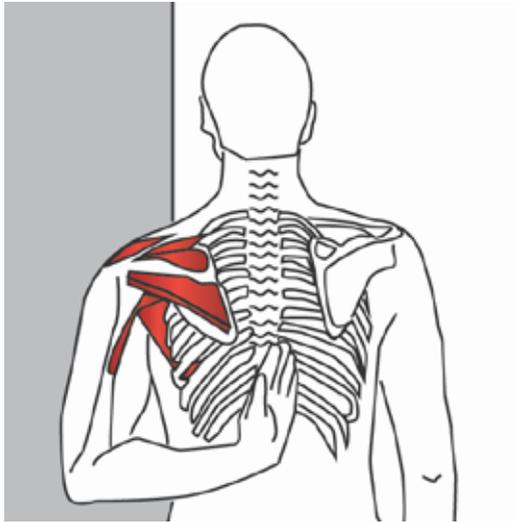
**TECHNIQUE:** Stand with your arm out and your forearm pointing upwards at 90 degrees. Place a broomstick in your hand and behind your elbow. With your other hand pull the bottom of the broomstick forward.

**PRIMARY MUSCLES:** Pectoralis major. Subscapularis. Teres major.

**SECONDARY MUSCLES:** Pectoralis minor. Anterior deltoid.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation. Subluxation. Acromioclavicular separation. Sternoclavicular separation. Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis).

**NOTE:** Many people are very tight in the rotator cuff muscles of the shoulder. Perform this stretch very slowly to start with and use extreme caution at all times.



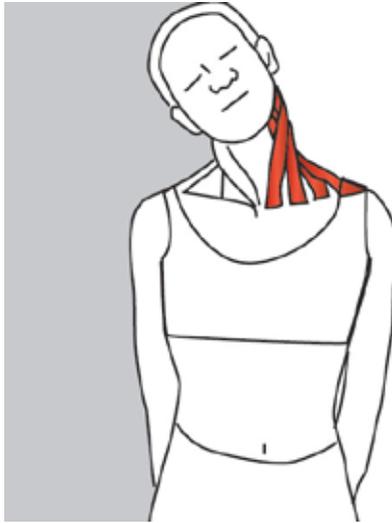
**TECHNIQUE:** Place one hand behind your back and then reach up between your shoulder-blades.

**PRIMARY MUSCLES:** Supraspinatus. Infraspinatus.

**SECONDARY MUSCLES:** Pectoralis major. Teres minor. Anterior deltoid. Coracobrachialis.

**INJURY WHERE STRETCH MAY BE USEFUL:** Dislocation. Subluxation. Acromioclavicular separation. Sternoclavicular separation. Impingement syndrome. Rotator cuff tendonitis. Shoulder bursitis. Frozen shoulder (adhesive capsulitis).

**NOTE:** Many people are very tight in the rotator muscles of the shoulder. Perform this stretch very slowly to start with and use extreme caution at all times.



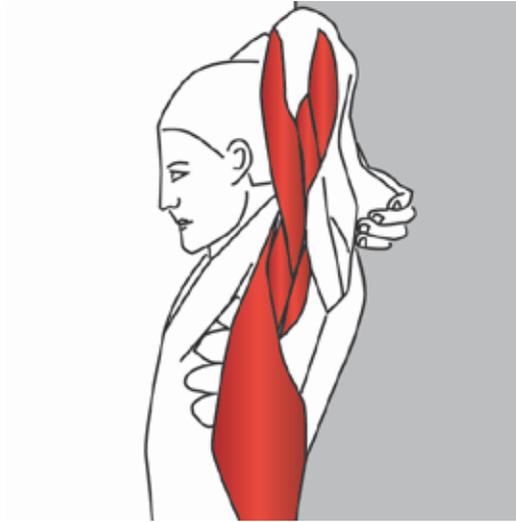
**TECHNIQUE:** Look forward while keeping your head up. Slowly move your ear towards your shoulder while keeping your hands behind your back.

**PRIMARY MUSCLES:** Levator scapulae. Trapezius.

**SECONDARY MUSCLES:** Sternocleidomastoideus. Scalenus anterior, medius and posterior.

**INJURY WHERE STRETCH MAY BE USEFUL:** Neck muscle strain. Whiplash (neck sprain). Cervical nerve stretch syndrome. Wry neck (acute torticollis).

**NOTE:** Keep your shoulders down and your hands behind your back. Do not lift your shoulders up when you tilt your head to the side.



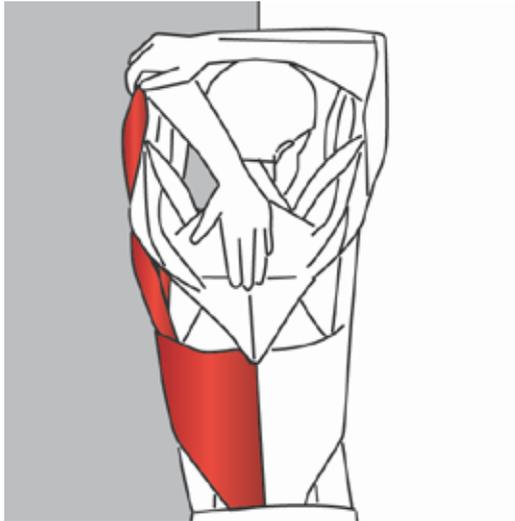
**TECHNIQUE:** Reach behind your head with both hands and your elbows pointing upwards. Then reach down your back with your hands.

**PRIMARY MUSCLES:** Triceps brachii.

**SECONDARY MUSCLES:** Latissimus dorsi. Teres major and minor.

**INJURY WHERE STRETCH MAY BE USEFUL:** Elbow sprain. Elbow dislocation. Elbow bursitis. Triceps tendon rupture.

**NOTE:** Do not perform for an extended period of time, as circulation is restricted in the shoulder during this stretch.



**TECHNIQUE:** Stand with your hand behind your neck and your elbow pointing upwards. Then use your other hand (or a rope or towel) to pull your elbow down.

**PRIMARY MUSCLES:** Triceps brachii.

**SECONDARY MUSCLES:** Latissimus dorsi. Teres major and minor.

**INJURY WHERE STRETCH MAY BE USEFUL:** Elbow sprain. Elbow dislocation. Elbow bursitis. Triceps tendon rupture.

**NOTE:** Do not perform this stretch for an extended period of time, as the blood circulation is restricted in the shoulder.

