

Treating inflammation with PRICE - immediately after injury and for 3-5 days afterwards

Tissue injury usually involves damage to small blood vessels that results in bleeding at the site of injury. This bleeding leads to the five main signs of inflammation: heat, redness, swelling, pain and loss of function. The inflammatory reaction is necessary as it is part of the natural healing process. However the body tends to overreact to sudden traumatic injury and as a result more inflammatory fluid accumulates than is necessary for healing. This fluid contains a protein that turns into replacement 'scar' tissue. Too much scar tissue may prevent the structure returning to normal function with reduced flexibility and increased risk of re-injury. The advice below should be followed for 3-5 days depending on severity. It can be remembered by the acronym **PRICE**.

- **PROTECT** - Protect the injured tissue from undue stress that may disrupt the healing process and/or cause further injury. Make sure the mode of protection can accommodate swelling.
- **REST** - This reduces the energy requirements of the area, avoids any unnecessary increase in blood flow, ensures protection of the area and optimises healing. For example using slings, crutches or static rest (ie. sitting or lying down).
- **ICE** - The ice helps constrict the blood vessels thereby limiting bleeding and reducing the accumulation of unnecessary scar tissue. Crushed ice wrapped in a damp towel (to prevent ice burn) is best (ice cubes can be wrapped in the cloth and smashed against a wall to crush the cubes). Ice should be applied immediately after injury for 20 minutes every 3-4 hours or no more than 5-10 minutes at a time on bony areas.
- **COMPRESSION** - Simple off-the-shelf compression bandages such as Tubigrip™ and adjustable neoprene supports are adequate. It is important to ensure the bandages are not too tight to cause pins and needles or any loss of feeling around the joint.
- **ELEVATION** - Lowers the blood pressure and helps limit bleeding and encourage drainage of fluid through the lymphatic system.

When following **PRICE** it is also important to avoid **HARM**, hence the saying: 'Give **PRICE** and avoid **HARM**'.

AVOID

H - Heat (eg. hot bath, sauna)

A - Alcohol

R - Running

M - Massage



these are counter-productive to **PRICE** treatment

Exercises for groin strain rehabilitation

Diagram showing the pelvis and thigh along with some of the muscles attached to each

Pelvis

Lumbar vertebra

Intervertebral disc

Inguinal ligament

Tendon and muscle junction of one of the adductor muscles that commonly causes groin pain

Quadricep muscles



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YOUR INJURY

As there are more than 22 muscles on each side of the pelvis along with their associated tendons, the term 'groin injury' is often used as a general description of injury to one of these structures. There are also overlying stomach muscles (not shown) which add further pulling forces to the pelvis.

FACTS

- The most common cause of groin pain in soccer players is strain of the adductor muscles of the leg at the tendon and muscle junctions
- Groin strains are common in soccer and in the 95/96 season sidelined more than four Premier League teams (over 45 people)

WARM UP & WARM DOWN

When injured it is particularly important that you warm up with a fast walk (at a pain free pace) for 3-4 minutes before you start your exercises. This increases your circulation and helps prepare your muscles for the activity to come. When you have finished your exercises, it is also important to allow your heart rate to slow down gradually by ending the session with a gentle walk for 3-4 minutes.

USEFUL RESOURCES

- SportEX Medicine magazine
www.sportex.net
- The Organisation of Chartered Physiotherapists in Private Practice -
www.physiofirst.org.uk
- General Osteopathic Council
www.osteopathy.org.uk
- The Sports Massage Association
www.thesma.org
- The Osteopathic Sports Care Association
www.osca.org.uk

Exercises for groin strain rehabilitation

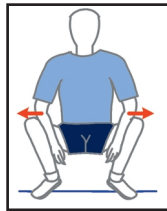
Your rehabilitation programme

This exercise programme has specific exercises to stretch tight muscles, improve flexibility and strengthen the muscles around the groin. In order to achieve proper rehabilitation of your injury it is important to ensure the exercises are performed with good technique. Poor practice leads to poor performance and potential strain on your injury. The following leaflet includes some exercises to help in your rehabilitation. Some exercises include the use of a football, this is voluntary and the exercises could be done without the football if preferred.

Warm-up exercises

Time	Activity
2 mins	Brisk walk/jog with ball across pitch, alternating touches on left and right feet
2 mins	Continue to jog/walk briskly with ball, introducing stretch exercises A and B
2 mins	Jog sideways with ball, alternating left and right leg lead
2 mins	Continue to jog with ball, introducing stretch exercises C and D
2 mins	Jog sideways rolling foot over ball, alternating left and right foot
2 mins	Continue jog with ball, interspersed with A-D stretching exercises

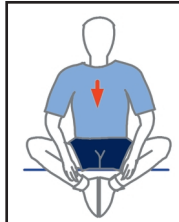
Stretching exercises Hold all the stretches for 20 seconds each and repeat them three times on each leg.



A Adductor muscle stretch (inside thigh muscles), squat position
In a squatting position, place the outside of both arms against the inside of both legs. Apply gentle pressure from the arms to gradually increase range of flexibility

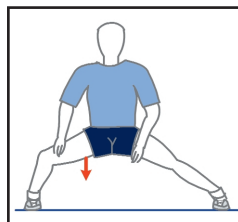
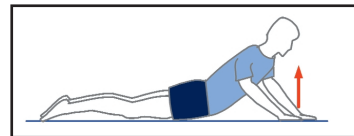
B Adductor stretch, (inside thigh muscles) sitting position

In the sitting position, place the soles of both feet together. Grasp both ankles and flex trunk forwards keeping a straight back, to feel the stretch in the inside of your thighs



C Abdominals, prone lying

Lying on your front, place the palms of both hands on the floor. Keeping your hips/pelvis on the floor, extend both arms to stretch the abdominals



D Adductor stretch, (inside thigh muscles) standing

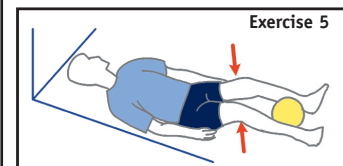
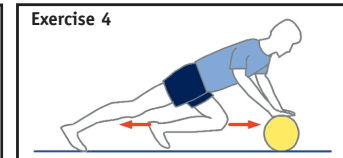
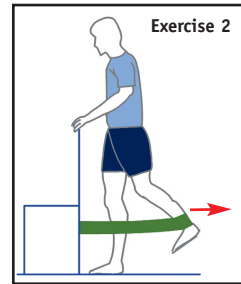
In the standing position, lift one leg to the side. Bend the knee of the weight-bearing leg, keeping the back straight to feel a stretch on the inside of the straight leg

Table of strengthening and balance exercises

- 1) In the lying position, place a ball between your knees and rotate legs from side to side.
Repeat 10 times to each side
- 2) Using rubber tubing fastened to your ankle, extend your leg backwards (hip extension) and control the return movement to the starting position. **Repeat 10-20 times per leg (see Ex.2)**
- 3) While standing, place a ball against the wall and push your leg into the ball with the leg turned out. Hold this contraction for 10 seconds (see Ex.3).
Repeat 10 times per leg
- 4) Take up a press-up position and bend alternate legs up to your hands. **Repeat 10 times per leg with a rest period between each.** To increase the difficulty of this exercise place your hands on a ball so you are balancing with your head over the ball (see Ex.4).
- 5) In the lying position, place a ball between the feet and tighten the inside thigh muscles. Hold this contraction for 10 seconds (see Ex.5). **Repeat 10 times.**
- 6) In the standing position, place rubber tubing around your ankle, fastening the other end behind you to a fixed object. Simulate a slow kicking action across the body. **Repeat 10-20 times on each leg.**
- 7) In the standing position, place one foot on top of the ball. **Perform 10 toe touches alternating feet.** This requires a quick adjustment of the weight bearing leg with the one controlling the ball

Strengthening and balance exercises

Progress from exercise 1 to exercise 7 in the table of exercises to the left. The images on the right of the page are visual illustrations of exercises 2-5.



Progression speed

Your therapist will advise you on the speed you should progress with your exercises. Progression is not just about being able to do the exercise but to do it correctly, with appropriate control. If at any time you feel pain or discomfort, stop the exercises and consult your therapist.

PRACTITIONER CONTACT DETAILS