

Proximal Medial Gastrocnemius Release (PMGR)



Physiotherapy and Orthopaedic Department

Date:

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This leaflet has been designed to provide information, advice and exercises post Proximal Medial Gastrocnemius Release (PMGR) in short Gastroc release.

What is the Gastrocnemius muscle?

The **Gastrocnemius muscle** is a very powerful, superficial muscle that is in the (posterior) back part of the (calf) lower leg.

It runs from its two heads just above the knee to the heel and is involved in standing, walking, running and jumping.

Deep to the Gastrocnemius is the **Soleus** muscle.

The Gastrocnemius forms a common tendon with the Soleus; this tendon is known as **Achilles tendon** and inserts into the (posterior) back surface of the calcaneus or heel bone.

Because the Gastrocnemius crosses both the knee and the ankle joint, it will limit ankle (dorsiflexion) upward movement when it is tight.

Tight Gastrocnemius is associated with a number of foot and ankle problems.

Limited ankle motion can disrupt your normal walking cycle and result in pain, as your foot compensates for the muscle tightness.

Gastrocnemius tightness increases:

- **Forefoot** (front of the foot) **pressure** – this in turn can cause: Hallux Valgus or “bunion”, Metatarsalgia (pain in the foot), Neuroma (swollen nerve), and Ulcers.
- **Tension in Plantar Fascia** (a tight band running from the heel to the ball of the foot) – causing **Plantar fasciitis/fasciopathy** (or “policeman foot”).
- **Tension in Achilles Tendon** – can lead to tendinopathy (“crumbling Achilles”).
- **Dysfunction of a Tibialis posterior** muscle – this can lead to weakness and a flat foot deformity.

Why should I have Gastrocnemius release?

You and your physiotherapist/doctor may have explored non-surgical options such as traditional stretching exercises or leg splinting with little or no improvement.

They can determine that surgery to address your symptoms may be the best option for you.

The benefits of Gastrocnemius release:

Gastrocnemius release improves patient function, normalises joint kinematics and reduces (forefoot) front of the foot pressure.

What is Gastrocnemius release?

To address Gastrocnemius tightness your surgeon must lengthen your muscle/tendon complex.

This is achieved by cutting a tissue band known as the Gastrocnemius aponeurosis (a sheet like fibrous membrane that covers muscles).

What will the procedure involve?

Your surgeon will make a small (approximately 2cm long), horizontal incision on the medial part (inside) of your leg just below a knee joint crease.

The entire procedure usually takes 15-30 minutes.

Is Gastrocnemius release a safe procedure?

The procedure is safe and has the advantages of being performed under a local anaesthetic using adrenaline (to minimise bleeding) and a sedative.

Are there any complications?

There is about a 1% risk of DVT (Deep Vein Thrombosis) and superficial wound infection.

You may experience some bruising down to your calf.

Will it hurt and how will I feel after the procedure?

Incision site will be sore, but there is no post-operative immobilisation, so early active movement can be implemented.

The wound generally heals very well.

To ensure maximal healing potential, please adhere directly to your doctors post operative instructions.

Will I lose muscle strength?

You should not notice any loss of strength and have active use of muscles and tendons after this procedure.

Will I be able to walk immediately after this procedure?

You may be issued with a walking aid and should be able to weight bear as comfort allows.

When can I start driving after this procedure?

You can drive an automatic car using left calf after 48 hrs.

You can drive a manual car, if you had left or right Gastrocnemius release, 1-2 weeks after the procedure.

When can I start a scar tissue massage?

Stitches should be kept clean for two weeks.

You will have an appointment at your GP practice or hospital clinic at 2 weeks to check your wound.

Stitches are usually dissolvable.

Once the scar is healed – you can commence scar tissue massage.

Will I have physiotherapy following this procedure?

You will not have a routine physiotherapy appointment after this procedure.

Allow 2-7 days for inflammatory process to settle.

You should mobilise as comfort allows with or without a walking aid.

Once your symptoms settle (1- week post operation) you can start non weight bearing stretches.

In a sitting position with your knee straight place a rolled up towel behind your foot and apply pulling force until you feel a comfortable stretch, but no pain in your calf muscle.

Pull and hold for 30 seconds, repeat 4-6 times. **Repeat 3 times a day.**



Direction of pulling



You can commence weight bearing stretches 2-3 weeks after your Gastrocnemius release.

Stretching will ensure maintenance of tissue elasticity, therefore better outcomes of the procedure and prevention of your symptoms.

You may try the following stretching exercises for your Gastrocnemius.

1. Gastrocnemius stretch on a slant board

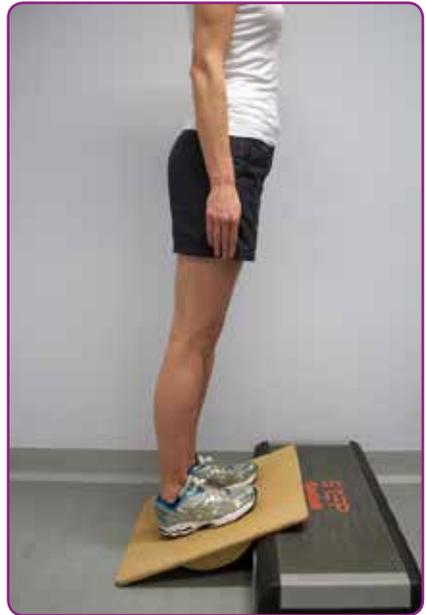
This stretch will allow you to control tension in your muscles without overstraining them. You can simply use a piece of board and place it against the edge of the step to form an incline.

Wearing trainers stand on a slope/ incline/slant board. Make sure your feet are facing forward (parallel to each other). Lean your whole body slightly forward, keeping straight.

Hold for 3 minutes.

Repeat 3 times a day.

You should feel a comfortable stretch at the back of your calf muscles. Control the stretch by changing a degree of an incline or your body's forward posture.



Some patients may also have tight Hamstrings (back of thigh) muscles.

If you are among these patients you may try the following exercise.

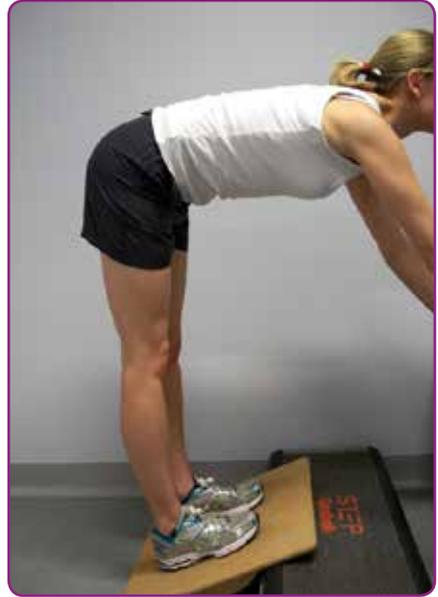
Use **Exercise 1** as a starting point. Slowly bend forwards keeping your back straight until you feel Hamstrings stretch.

Make sure that your knees remain straight.

Aim to reach the step (or the top of a slant board) you are standing on with palms of your hands.

Hold for 30 seconds, repeat 3 times.

Repeat 3 times a day.



Caution: this stretch may be quite uncomfortable and provocative to neural tissues, so care must be taken especially if you have a history of a back pain.

If unsure – do not proceed with this exercise

Reference sources

Abbassian A, Kohls-Gatzoulis J, Solan M C 2012., 'Proximal Medial Gastrocnemius Release in the Treatment of Recalcitrant Plantar Fasciitis' *Foot & Ankle Int*; 33:14-19,

Porter D, Barrill E, Oneacre K, May BD 2002. The effects of duration and frequency of Achilles tendon stretching on dorsiflexion and outcome in painful heel syndrome: a randomised, blinded, control study. *Foot & Ankle Int.*; 23:619–624.

Contact details

For further information, please do not hesitate to contact physiotherapy

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Royal Surrey County Hospital (RSCH) NHS Foundation Trust fully subscribes to the National Patient Safety Agency (NPSA) *Being Open* best practice framework, November 2010.

PALS and Advocacy contact details

Contact details of independent advocacy services can be provided by our Patient Advice and Liaison Service (PALS) who are located in far left corner as you enter the main reception area. PALS are also your first point of contact for health related issues, questions or concerns surrounding RSCH patient services.

Telephone: 01483 402757

Email: rsc-tr.pals@nhs.net

Opening hours: 9.00am–4.00pm, Monday to Friday

If you would like information documents in large print, on tape or in another language or form please contact PALS.

Review date: June 2017
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PIN140627–043

