

Compartment Pressure Testing (CPT) for Chronic Exertional Compartment Syndrome (CECS)

What is Compartment Pressure Testing?

This is a procedure to test the pressures in one or more of the lower limb compartments (often the anterior or deep posterior compartments) to diagnose or exclude chronic exertional compartment syndrome (CECS).

There are various ways of performing this and the interpretation of results can be challenging.

CECS is a known cause of **exercise-induced leg pain** (EILP). EILP typically occurs in sports which involve running, marching or jumping.

What preparation is required?

If this is the first time you are attending the clinic, your Consultant will need to take your medical history and perform an examination to rule out other causes of exercise-induced leg pain (this can include musculoskeletal, vascular, metabolic and neurological causes).

These discussions are helpful as patients with known severe clotting disorders, on anticoagulation medication, have metalwork from previous surgery to the area or are generally unwell may not be suitable to have this procedure performed.

As part of that initial clinic work-up, you may also need to have imaging investigations (e.g. X-rays, Ultrasound, MRI or CT scans) or blood tests.

You may have had some of these investigations already. If so, please bring along any previous clinic letters, imaging reports and images to your initial appointment with the Consultant in Sport, Exercise & Musculoskeletal medicine at Pure Sports Medicine.

If it is agreed that you should progress to compartment pressure testing, your Consultant will ask you to make an appointment (often for 60-90 minutes) to have this done. This will be performed on a separate day.

You should attempt to go for several runs over several days before you have the procedure done- this increases the likelihood of being able to reproduce your actual symptoms on the day, making the test results and interpretation more accurate.

What does the procedure involve?

You will be asked to sign a written consent form.

CECS testing is carried out using a handheld intracompartmental pressure monitoring system. This involves a small catheter inserted under local anaesthesia and aseptic conditions into the compartment to be examined.

Pressure measurements will be taken and a high pressure reading is suggestive of CECS. Pressure measurements may be repeated for between 1 to 5 minutes after exercise has stopped.

During the procedure, you will be asked to run on a treadmill in order to reproduce the symptoms of leg pain/ weakness / numbness that you may experience regularly on exercise.

You will need to bring your own running attire, running shoes and gym towel for this test.

Please ensure you have eaten and drank clear fluids beforehand to reduce the likelihood of feeling lightheaded from the exertion.

Please also ensure you are well rested before the test as you may be asked to run very vigorously on the treadmill in order to accurately reproduce your leg symptoms.

What happens after you have had the procedure?

A clean dressing will be applied over the site of injection.

Your results will be discussed with you after the procedure.

Your Consultant will write back to the referrer and your GP with the results to keep them informed.

Are there any risks?

This is generally a safe procedure. You may experience some bruising at the site where the needle has been injected.

Care is taken to do this under aseptic (clean) conditions but there is a very small risk of infection where the cannula is inserted. If you should experience severe pain, temperature or swelling in the days after the procedure, you should contact your doctor or attend the Emergency Department outside of normal working hours to have it checked.

There is a very small chance of getting an acute compartment syndrome if one of the blood vessels in your legs is damaged during the procedure. If you develop severe pain and swelling within 24 hours of the procedure, you should attend emergency department to have it checked. Incidentally, the treatment for this is the same operation (surgical release of the affected compartment) as CECS.

Should you rest after the procedure?

There is no specific need to rest after the procedure.

Hydrate well.

You can return to gentle exercise the following day.

Avoid strenuous exercise or impact (e.g. sprinting, aerobics) for 48 hours after the procedure.