

Sacroplasty (treatment of sacral fracture with bone cement)

Introduction

This leaflet tells you about the procedure known as “sacroplasty”, explains what is involved, the benefits and possible risks. It is not meant to replace informed discussion between you and your doctor but can act as a starting point for such a discussion.

You should have plenty of time to discuss this procedure with the doctor who will be performing the procedure.

What is sacroplasty?

Sacroplasty is a non-surgical therapy used to ease pain from a fractured sacrum (bone in the lower spine) due to osteoporosis.

Sacroplasty is minimally invasive which means that patients suffer less disruption, face less risk and recover more quickly than with conventional open surgery.

Sacroplasty is accomplished by injecting orthopaedic cement through a needle into the fractured bone; essentially forming an internal cast to stabilise the fracture similar to the principle of using plaster cast on an arm fracture.

Typically, sacroplasty is recommended if simpler treatments, such as bed rest, back bracing or pain medication have been ineffective, or if the side effects of analgesia (pain relief) have become problematic, such as causing stomach ulcers or drowsiness.

Who is at risk of sacral fractures?

Osteoporotic sacral fractures are common in women who have undergone the menopause, which makes them especially vulnerable to bone loss and fractures. Older people suffering from sacral fractures tend to become less mobile, and decreased mobility makes bone loss worse. High doses of pain medication, especially narcotic drugs, can cause drowsiness and further limit functional ability. Sacral fractures can also occur in younger patients on long-term steroids.

What tests and preparation are necessary before the procedure?

Prior to the procedure patients will usually have an MRI scan to confirm that the fracture(s) is recent and unhealed and therefore will benefit from sacroplasty. Occasionally, if MRI is not suitable due to a permanent pacemaker for example, a CT scan or isotope bone scan can be done instead.

Anticoagulation medication (blood thinners such as Warfarin or Clopidogrel), will have to be stopped at least 5 days before the procedure. It may be necessary to use another form of temporary blood thinner for a few days if the clotting risk is high, but your doctor will discuss this with you if necessary. If Warfarin had been stopped, a blood test to check the clotting has normalised is performed just prior to the procedure. Aspirin can be taken as normal.

Patients are asked not to have any food for 4 hours or liquids for 2 hours prior to the procedure. All medications other than the blood thinners should be taken as normal.

How is the procedure performed?

The procedure is performed in the Radiology Department by a specially trained doctor called an interventional radiologist. Antibiotics are administered a few minutes beforehand to minimise the very small chance of infection.

The patient lies face down on the CT scanner and is given sedation to make them drowsy, but not completely asleep. A dedicated nurse will monitor the patient throughout the procedure and give further sedation if required.

Following the injection of both short- and long-acting local anaesthetic into the skin and around the sacrum, a hollow needle is passed into the fractured sacrum under CT guidance. Once in place, a medical grade cement mixture is injected. The cement mixture resembles toothpaste or epoxy resin when prepared but sets hard within 20 minutes. The interventional radiologist will monitor the entire procedure with the CT scanner to ensure the cement fills the fractured vertebrae adequately and does not leak into the spinal canal or adjacent channels containing nerves. Small cement leaks into the adjacent intervertebral disc or soft tissues may occur but very rarely causes any problems.

The procedure should take less than 60 minutes.

What do patients experience during/after the procedure?

Patients lie face down throughout the procedure. The sedatives will ensure patients are calm and drowsy, thereby minimising any discomfort during the procedure. Sacroplasty is generally well tolerated. You'll be able to hear what is said in the room, but because of the sedatives, you may not recall all of the procedure.

Bed rest is recommended for the first 2-4 hours following sacroplasty, although after 1 hour patients can get up to use the bathroom. Outpatients go home the same day. Inpatients usually remain in hospital while their pain medications are reduced and they have physiotherapy to regain mobility.

Following discharge, patients are advised to gradually increase physical activity and resume all regular medications. Blood thinners are usually restarted on the day of the procedure, but the doctor performing the procedure will usually advise you in more detail.

What are the benefits versus the risks?

Benefits

The main benefit is pain relief, although this is not guaranteed and approximately 70-80% of patients will have significant improvement. In patients in whom sacroplasty is successful, their mobility improves and they are able to reduce their pain relief medications.

Risks

Sacroplasty is low risk.

The main risk is of a cement leak that presses upon an adjacent nerve, causing pain, weakness or numbness. In the worst case, this could require a further operation. The risk of this occurring is small, approximately 1 in 200. There is a 1 in 500 risk of cement leaking into an adjacent vein and then being transported through the vascular system to the lungs potentially causing breathing problems,

Infection is another possible risk, but with the use of intravenous antibiotics and the procedure being conducted under sterile conditions, this is again unlikely approximately 1 in 500.

What are the limitations of sacroplasty?

Sacroplasty is intended to improve pain caused by an unhealed sacral fracture; however, this is not guaranteed and some patients will have no benefit from the sacroplasty. It is very unlikely the procedure will cause a worsening of their pain.

It may be difficult for someone with severe lung and heart disease to lie face down for the procedure. The healthcare team will try to make special accommodations for a patient with these types of conditions.

If you have any further questions please make a note of them and ask the doctor who will perform your procedure.

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RAD_0067 Dr Archie Speirs, September 2018
Review due: September 2020