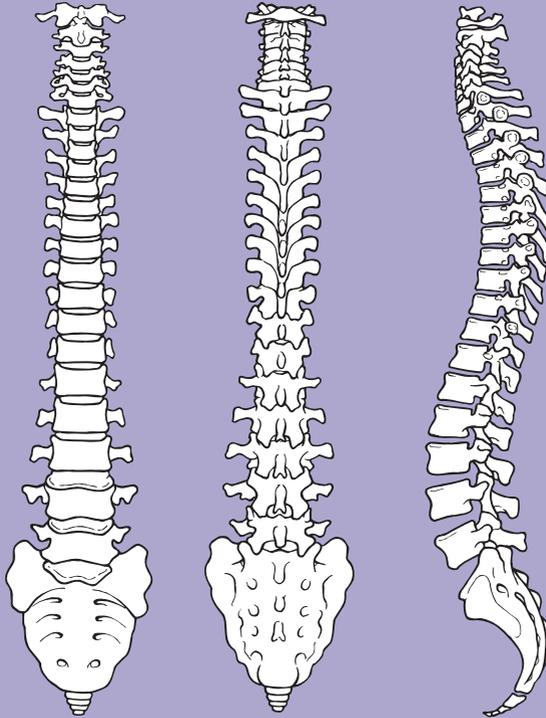




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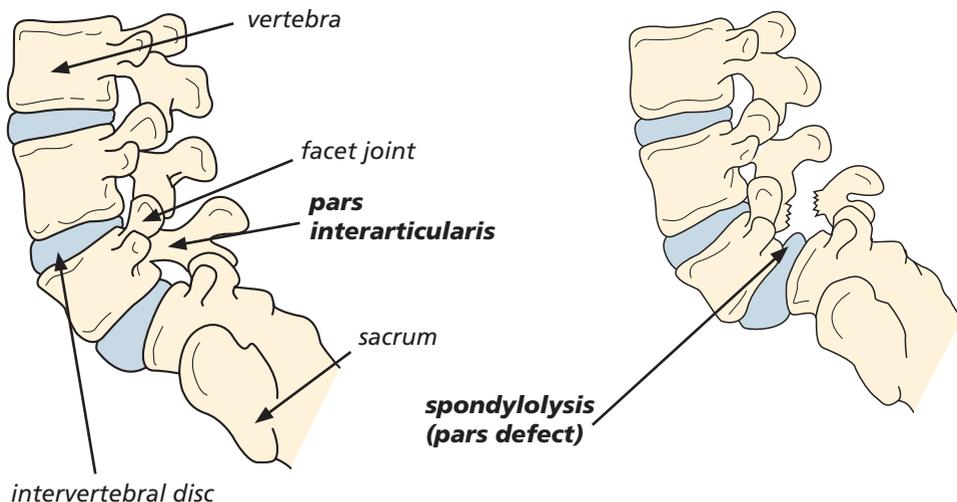
Lumbar Spondylolysis – Pars Injection



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Following your recent investigations and consultation with your spinal surgeon, a possible cause for your symptoms may have been found. Your X-rays and/or scans have revealed that you have a **lumbar spondylolysis**.

This is a stress fracture (break) of the narrow bridge of bone between the facet joints (pars interarticularis) at the back of the spine, commonly called a **pars defect**. There may be a hereditary aspect to spondylolysis, for example an individual may be born with thin vertebral bone and therefore be vulnerable to this condition; or certain sports, such as gymnastics, weight lifting and football can put a great deal of stress on the bones through constantly over-stretching the spine. Either cause can result in a stress fracture on one or both sides of the vertebra (bone of the spine). Many people are not aware of their stress fracture or experience any problems but symptoms can occasionally occur including lower back pain, pain in the thighs and buttocks, stiffness, muscle tightness and tenderness.

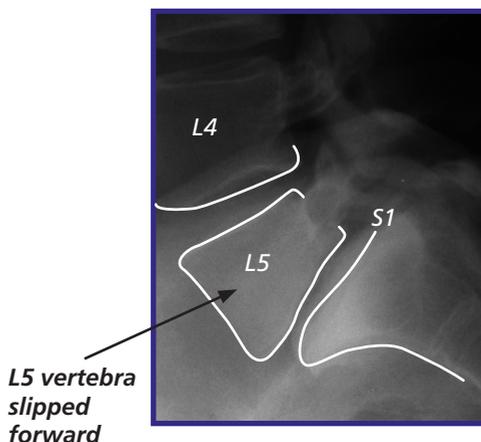
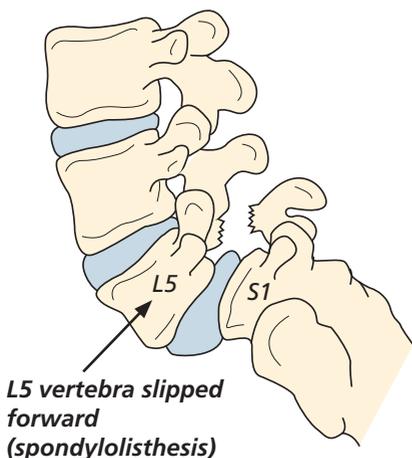


If the stress fracture weakens the bone so much that it is unable to maintain its proper position, the vertebra can start to shift out of place. This condition is called **spondylolisthesis**.

In spondylolisthesis there is a forward slippage of one lumbar vertebra on the vertebra below it. The degree of spondylolisthesis may vary from mild to severe but if too much slippage occurs, the nerve roots can be stretched where they branch out of the spinal canal. This can cause nerve symptoms.

A nerve is like an electrical wire. It tells your muscles to move and gives your brain information about various sensations such as pain, temperature, light touch, pressure sensation and position of your legs. Lumbar nerve root pain or radiculopathy (often called sciatica) generally goes below the knee and is felt in the area of the leg that the particular spinal nerve supplies. Symptoms also associated with sciatica include altered sensation, pins and needles, burning, numbness or even weakness of the muscles in the leg that the nerve supplies.

X-ray showing spondylolisthesis at L5/S1



Treatment varies depending on the severity of the condition. Most patients only require treatment such as physiotherapy, medication and manipulative therapy, combined with some lifestyle changes, like avoiding contact sports, weight lifting and leaning too far backwards (hyperextension). Being overweight will also increase the load and

pressure on the spine and therefore likely to increase the symptoms experienced, so losing weight can help significantly.

If the symptoms are severe and ongoing, and have not responded to treatment, the pars defect can be tested to diagnose whether it is the reason you are experiencing pain. The stress fracture (pars defect) is injected with local anaesthetic and a steroid. The local anaesthetic will reduce pain in the short term while the steroid injection reduces the inflammation in the surrounding area. This can reduce pain and other symptoms caused by inflammation such as nerve irritation. The pars injection, if followed by relief from pain, can then confirm the diagnosis that the stress fracture is the specific source of your pain. For some patients, the pain relief can be long-lasting.

Immediate spinal surgery is only necessary in cases of bladder or bowel incontinence (cauda equina syndrome) or progressive neurological problems such as paralysis or extreme weakness). In these cases, urgent medical assessment is required.

About the procedure

The procedure is carried out with either intravenous sedation (so the patient is asleep) or under local anaesthetic injection, to numb the injection site and surrounding area. You will be asked to lie down on a couch on your stomach, usually with your head facing to one side on a pillow. The skin on the back is cleaned with antiseptic solution. Live X-ray is then used as guidance to direct the needle into the Pars defect. A small volume of corticosteroid and/or local anaesthetic is injected. This usually only takes a few minutes to carry out.

This procedure is carried out as a day case (no overnight stay) and can lead to a rapid recovery. The local anaesthetic can cause some temporary numbness for a few hours after the injection. Once the numbness has worn off, it is not uncommon for the pain to return, occasionally slightly worse than before, until the corticosteroid takes effect. This can take several days or even a few weeks as anti-inflammatories take some time to reduce the inflammation surrounding the spine.

You should continue to take your usual pain relief medication until you begin to feel the benefit of the corticosteroid. It is important not to stop taking certain pain relief medication suddenly, such as, morphine or neuropathic medication (gabapentin, pregabalin or amitriptyline). It will be necessary to gradually 'wean' yourself off them – your GP can advise you if necessary.

For a considerable number of patients, the injections can provide excellent pain relief. However, the duration of benefit is variable and may last a few weeks, months or years. Some patients who have had an episode of pain are at an increased risk of having a further episode. It may be possible to repeat the injections, if the first has been helpful, although not straight away. Most surgeons would wait at least six months before repeating them.

If the symptoms have not improved after six weeks or the relief only temporary up to that point, then in certain circumstances, the next stage may be an operation to stabilise the spine by a spinal fusion and decompression of the nerve roots if necessary.

Risks and complications

Fortunately, there are very few risks associated with pars injections. Very uncommon risks include:

- bleeding. You must inform your consultant if you are taking tablets used to 'thin the blood', such as warfarin, rivaroxaban or clopidogrel. It is possible you may need to stop taking these before your injection. If your procedure is scheduled with less than a week's notice, please check with your consultant or nurse which drugs need to be stopped to prevent this being delayed;
- infection. Although this is rare, it is important that the skin on your back is clear of skin conditions like psoriasis or eczema as these can increase the risk;
- facial flushing or (ladies only) interference with the menstrual cycle or post-menopausal bleeding. This can be a temporary side effect of the steroid;
- a rise in blood sugar levels for a few days for people who have diabetes; or

- rarely, a needle injury to the dura (the membrane around the nerves). This is usually apparent at the time of injection and can result in a small leakage of the cerebrospinal fluid (CSF), which can lead to a headache (when standing and walking) for a few days afterwards. If this does occur, you may be advised to lie down for a few days until the leakage stops.

What to expect in hospital

After the injection, you will be helped back into bed and taken to the recovery ward for a short while, where a nurse will check your blood pressure and pulse. Oxygen may be given to you through a facemask to help you wake up, if you were given sedation. You will then return to the ward.

Going home

You will normally be allowed home within a couple of hours of having had the injections, once you are up and about.

If you have had intravenous sedation, you should not drive for 48 hours and a responsible adult **should** remain with you overnight. Please arrange for either a friend or relative to collect you from hospital.

If you qualify for patient transport and are likely to require this service, please arrange this through your GP before admission.

Work

You may be advised to take the next day off work, if you had intravenous sedation, however, you may feel that you need longer if the pain persists. It can take several weeks before the full benefit of the injection takes place. The hospital can give you an off-work certificate or you can ask your GP.

Follow-up

Your surgeon will advise you if you need to attend clinic after your procedure, or how to request a further clinic review if necessary. If you have any queries about the information in this booklet, please discuss them with the ward nurses or a member of your consultant's team.

Produced, researched and revised by spinal nurse specialist Helen Vernau on behalf of the BASS Consent and Patient Information Committee.

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