

Preparing for your spinal fusion

Patient Information



Spinal Surgery –
Specialist Care
Centre

What is the problem?

The spine is made up of a large number of bones called the vertebrae. Between each pair of vertebrae is a large intervertebral disc at the front and two small joints, the facet joints, at the back. Sometimes problems arise at the junction between two vertebrae. There are three main problems which occur.

A weakness may allow the upper vertebrae to slip forward on the lower one. This is called spondylolisthesis. The commonest causes for this are a crack in the bone near the joints or wear and tear of the joints and disc themselves.

A narrowing of the spinal canal where the nerves pass through may develop. This may cause significant pain and sometimes funny feelings in the legs. These symptoms are usually worse when walking.

Following careful investigations, it may be found that one particular junction or level appears to be the cause of most of the back pain that you may be suffering.

In order to control these problems spinal fusion surgery may be undertaken. In spinal fusion surgery, bone graft is placed in-between the two vertebrae. When the bone graft heals the vertebrae are then joined together by bone, or "fused" together

By stabilising the junction or level, a slip can be reduced or stabilised, nerve roots can be protected and pain can be reduced.

If you have a narrow spinal canal then this will be widened, or decompressed, at the same time to free the nerve roots.

Spinal fusion surgery may be undertaken from the back, through a cut in the middle of the back, or from the front, through a cut in the lower abdomen. If nerve roots need decompressing then surgery will take place from the back. The approach in your case will be discussed with you by your surgeon.

In many cases the operation is stabilised with screws and rods from the back and sometimes cages full of bone graft are placed between the vertebrae in the disc space. This is called instrumentation and is designed to hold the bones steady while the bone graft heals. Not all fusion surgery needs instrumentation and you will be able to discuss this with your surgeon.

What does the surgery involve?

If the operation is being done from the back, then a cut is made in the middle of the back to allow the surgeon to see the vertebrae involved. Next, the small facet joints are opened and the parts of the vertebrae called the transverse processes are prepared to bare bone. Then the screws are placed using x-rays to check the position. If decompression of the nerve roots is needed, this is then carried out. Bone graft is then carefully packed in and around the facet joints and between the transverse processes. The wound is closed.

The intervertebral disc at the affected level is removed completely, with the exception of the outer most part of the case at the back (next to the spinal nerves) and sides. The surfaces of the vertebrae in the disc space are cleaned to bare bone and bone graft is inserted into the disc space.

Often the bone graft is placed in a cage which supports the vertebrae while the bone graft is healing. The wound is then stitched up. Often a drain will be used.

Often the plastic drainage tube is left in the operation site to prevent blood clots forming in the wound. If the operation is being performed through the front, then a cut is made in the lower abdomen. The spine is then exposed.

What are the benefits of the surgery?

In patients with narrowing of the spinal canal causing nerve trapping the nerves are released. This has a good chance, about 85%, of relieving leg pain and improving walking. If there is any slippage or instability of the vertebrae then this will be stabilised.

If the operation is being undertaken for back pain alone then approximately two thirds of patients will get good improvement of back pain. One third of patients will also experience significant improvements in abilities such as work, sport, domestic chores and DIY.

What are the risks?

The specific risks of the surgery relate to the nerves themselves. There is always the risk of damage to the nerve because of the operation. The risk of damaging one nerve is approximately two or three per cent. If this happens the leg can be more troublesome than it was before and the pain in the leg can be permanent rather than just intermittent.

There is also a risk of damage to more than one nerve particularly if the canal is very tight. This can result in paralysis of some of the muscles of the legs and paralysis of the bowel and bladder, which is of course very troublesome. The risk of this happening is low, perhaps one in 200.

Sometimes a hole is made in the tube which contains the spinal fluid. If that happens a severe headache can occur and you will need to lie flat in bed for a few days until it heals.

The general risks are discussed in the leaflet preparing for your spinal surgery

General anaesthetic

Don't smoke at least 24 hours after your anaesthetic as it may cause nausea, vomiting, dizziness or fainting. Do not make important decisions or sign important documents for 24 hours after your anaesthetic.

You may suffer from a sore throat which may last several days.

You may experience bruising and discomfort where the drip went into, this will get better in seven-ten days.

What should I expect after the operation?

From Day One

You will see the physiotherapist today and they will help you to get out of bed and walk for a short distance with help if needed. Nursing staff will continue to make sure that you are getting enough painkillers. They will also check the drain bottle if you have one in your wound. This is usually removed between 24-48 hours after your operation. You will probably find it easier to have a wash today rather than a shower as you may feel a little faint or dizzy when you first start getting up.

From Day Four

You will have had some x-rays taken by today to make sure the metal we have put in you back is stable. By now you should be walking on your own, increasing your distance each day. If you had a drain or catheter this will usually have been removed by today. It is normal to still be taking painkillers at this stage although usually these will be as tablets rather than injections or PCA (patient controlled analgesia). You might find you are constipated, to stop this try to drink plenty of fluids and have a good diet. Medications can be given if needed if constipation is a problem. Some patients will be ready to go home today.

From Day Seven

By now most patients will have been discharged and will be at home. It is important that you keep going with your exercise programme to keep you back muscles fit and strong. Remember it may be painful but you are not doing any damage to the structure of your spine. Don't forget to keep using your painkillers regularly.

At home

When you go home you may still feel tender and sore, this is normal. It is very important for you to keep taking your painkillers regularly. These will help to control your pain to allow you to exercise and keep active. Unfortunately strong painkillers may make you constipated so make sure you drink plenty of water and a good varied diet to avoid this.

You will have a dressing on your wound and it is important to keep this clean and dry. The dressing is to protect your skin as it heals so it should be left in place and not disturbed if possible. You will have some spare dressings to go home with but remember these should only be used if the dressing is wet or dirty.

After the operation it is important that you exercise to strengthen the muscles in the back. The operation cannot strengthen the muscles in the back so it is important that you exercise often to help your recovery. Ideally you should walk every day, walking a little further each time so the muscles get stronger and help to support your back.

The ward will make arrangements for your wound to be checked and clips taken out if necessary. Once your wound has been checked and it is healing well, you may also start swimming as part of your exercise.

Later on

Your surgeon will tell you whether he is happy with the stability of the fusion operation. Normally if instrumentation is used this is adequate to allow you to undertake activities of daily life.

You should resume your normal activities of daily life as soon as you feel comfortable. As soon as you feel in control you may drive a car. Simple domestic chores may be undertaken.

As far as sport and exercise are concerned, you are encouraged to swim and walk as soon as you feel comfortable to improve the spinal muscles. However, training with significant impact, such as running, or contact sports should be avoided until your surgeon gives you the go ahead.

As far as employment is concerned you may resume work as soon as you feel comfortable enough to do so. However, heavy lifting, repetitive bending and heavy manual work should be avoided until your surgeons gives you the go ahead.

It may be that initially you might return to work on a part time basis.

You will be coming back to hospital about six weeks after your operation. When you are seen in clinic you will be asked about any pain you may have and where that pain is. We may perform x-ray at this appointment. We will continue to see you in clinic regularly, usually at three months, six months, one year and two years after your operation. X-rays will be performed to make sure the metal in your back is stable and the bones have healed properly.

When the surgeon is happy that you are fully healed he/she will discharge you back to the care of the GP.

General advice

Stay active

Although the pain can make this seem difficult, maintaining and gradually increasing your daily activity can help your back. Rest when you need to, but avoid excessive bed rest because this will not help your recovery.

Regular medication

Taking painkillers will allow you to remain active - don't wait until the pain gets too much. Painkillers will not mask your body's warning signals or increase the risk of damaging your back.

Regular exercise and physical activity

This helps to keep your back fit and healthy. Walking, swimming and yoga are popular, but it is important to do an enjoyable activity that you can benefit from. Your physiotherapist, exercise professional, osteopath, chiropractor or GP can help you choose an exercise programme that suits you.

Change lifestyle factors

Check for everyday things that may be aggravating your back. These might include stress, repetitive and/or uncomfortable postures at work, at home or while driving, or long periods of sitting.

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Comments, compliments, concerns or complaints

South Tees Hospitals NHS Foundation Trust is concerned about the quality of care you receive and strives to maintain high standards of health care.

However we do appreciate that there may be an occasion where you, or your family, feel dissatisfied with the standard of service you receive. Please do not hesitate to tell us about your concerns as this helps us to learn from your experience and to improve services for future patients.

Patient Advice and Liaison Service (PALS)

This service aims to advise and support patients, families and carers and help sort out problems quickly on your behalf.

This service is available, and based, at The James Cook University Hospital but also covers the Friarage Hospital in Northallerton, our community hospitals and community health services. Please ask a member of staff for further information.

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