

Cardiff Spinal Clinic

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Spinal deformity surgery

Spinal deformity is a term used for a spine that changes its shape into an abnormal pattern. This term covers scoliosis as well as kyphosis and their varying causes. The spine can curve in a frontal or side plane but can also rotate. Surgery to the spine depends on the nature of the condition as well as its location. The surgery is dependent on the patient's general health.

In the younger population, the surgery tends to involve screws and rods and occasionally hooks. Depending on the flexibility of the spine, then the surgery tends to straighten the spine back to its normal alignment as best able by gaining anchorage points with the pedicle screws.

In the older population, it is not uncommon to need to add cages from the side or from the front of the spine, ie extreme lateral interbody cages or anterior lumbar interbody cages to recreate the spinal alignment and to assist in fusing the spine in the appropriate position. These procedures can be done using minimally invasive techniques.

The addition of posterior pedicle screws and rods into the cages pulls the spine into the new position to allow it to fuse in the appropriate position.

There are many different ways to reconstruct the spine and this is dependent on if the patient has had previous surgery which has not been successful.

If a large area of a spine needs to be operated upon then occasionally the anterior and posterior parts to the operation would be staged on two different days.

Spinal deformity surgery is performed using spinal cord monitoring which allows safety during the procedure in relation to spinal cord functioning which allows real time feedback. The completion of deformity reconstruction will be guided by the spinal cord monitoring and if there are any alerts during the procedure then occasionally the procedure is abandoned and has to be restaged.

Before spinal deformity surgery: patients will have been assessed through a thorough history and evaluation of appropriate radiological investigations. A neurological examination will also be part of the assessment. It is not uncommon to require new imaging for patients who have had unsuccessful surgery previously. It is very common to do standing x-rays of the whole spine in the appropriate assessment. Further imaging including MRI scans, CT scans and SPECT scans are not uncommon.

The general health of the patient will need to be assessed with regards to anaesthetic risks.

The goals of treatment will be discussed and obviously expectations of the surgeon and patient will be explored.

If surgery is to be performed, then the risks and benefits of this surgery will be detailed in the consenting process. You should make sure you have discussed this procedure with your surgeon and have clear understanding of the risks and benefits.

Before surgery a pre-assessment attendance will be required where patients are cleared for surgery and the consent process addressed. If you are on anti-inflammatories or blood thinning medication, then this needs to be alerted to the surgeon and the hospital as these may need to be stopped several days in advance.

Due to the complexity of the surgery then it is not uncommon for the surgery and medications to alter your bowel habits and therefore suppositories may be required post operatively.

Before the surgery you should not have anything to eat six hours before but clear fluids, ie water, is permitted up to two hours before.

During spinal deformity surgery: before surgery can commence then all the instruments and implants will be opened in theatre to ensure sterility. You would then be taken to the anaesthetic room where the anaesthetist will perform a general anaesthetic and a spinal technician will place electrodes into the legs, hands and scalp in order to be able to monitor your spinal cord function during the procedure. Depending on the appropriate procedure then an incision through the side of the abdomen, front of the abdomen or along the posterior aspects of the spine will be performed and the appropriate surgery undertaken.

It is usual for a catheter to be placed into the bladder to monitor urine output post operatively.

The duration of surgery can be anywhere between four to six hours depending on the surgery to be undertaken.

After spinal deformity surgery: you will be transferred from the theatre to the recovery room where you will be stabilised and then it is likely that you will be transferred to a high dependency area for at least six hours or probably overnight. You will then be transferred back to your bed on the ward and will be mobilised with the physiotherapist. The catheter in your bladder will be removed when you are mobile as well as any surgical drains which tend to come out within two days.

Average stays in hospital after this type of surgery does vary to up to five days. You will be discharged home with appropriate medication. You may require a brace.

You will have physiotherapy to help you mobilise on the ward and also as an out-patient.

You will be seen over the first twelve months for follow-up in the out-patient clinic with appropriate x-rays taken.

Recovery can take between six to twelve months dependent on patient factors.

With regards to children, they would require approximately six weeks off school before returning. For adult patients, driving is dependent on the ability to do an emergency stop and depends on the medications taken at the time. Therefore, I would suggest it would be at least four weeks if not longer to return to driving. With regards to returning to work, it depends on the procedure that is undertaken but this can be between four to six weeks but for patients who have to perform manual lifting then this can be three to six months depending on the individual procedure.