Spinal deformity service

Adolescent idiopathic scoliosis – information about surgery

This information sheet has been prepared to help you understand as fully as possible about the operation for scoliosis. Please read this information carefully and if you have any further questions do not hesitate to ask.

Scoliosis is a curvature and rotation of the spine which is quite rare. Significant scoliosis affects about one in 2000 children. It usually occurs in girls, but can occur in boys as well. It can occur at any time from birth until the end of growth. The most common type develops in teenage years and may cause a visible curve of the spine and associated issues with the ribs, waist and shoulders. It often becomes worse as the child grows, but at the end of growth this deterioration largely stops. Sometimes this deformity is very obvious and sometimes it is barely noticeable. Surgery is considered in cases where there is risk of the curve progressing beyond 40 degrees.

Occasionally deformities become so severe that they do cause serious problems such as interference with the lungs and movement of the spine.

The surgery which is required to correct a scoliosis deformity of the spine is a major procedure. It is important to be aware of the risks of possible complications and that although the end result should be an improved appearance, the spine will still be far from normal and there may be further problems in the future.

The operation normally involves attaching the curved part of the spine to two metal rods and fusing the vertebrae in that part of the spine so that they eventually join together. The operation is usually performed on the back of the spine through an incision down the middle of the back. The operation itself normally takes four to five hours. The patient may however be in the operating theatre for the greater part of the day which includes the time it takes to set the patient up for surgery.

Risks of surgery

The main risk, of which you should be aware, is the possibility of damage to the spinal cord. If this happens it can result in paralysis of the legs and loss of control of the bowels and bladder. Fortunately this complication is rare. Worldwide it occurs in about 0.5 per cent (1 in 200) of cases. Special precautions are taken to protect the spinal cord. In particular spinal cord monitoring is used so that any problems can be detected as early as possible to minimise the risk of paralysis.
In the event that the spinal cord monitoring signals become a cause for concern during the procedure, it may be necessary to remove the implants to minimise the risk of paralysis with a view to returning to theatre a week or two later to complete the procedure.

The other risks are those which exist with any big operation. These include a very low risk of damage to the important blood vessels. Damage to one of the main blood vessels near the spine could result in life-threatening bleeding.

Wound infections can occur and these sometimes do not become apparent until several months or even years later. If this occurs then it may be necessary to remove the metalwork from the spine.

There will always be a large scar on the back, though it fades with time. Often the skin around the scar can feel numb or tender.

**Treatment after the operation**

After the operation patients will be closely monitored on either the intensive care/high dependency unit or the ward. There will also be a variety of wires for monitoring purposes and a tube in the bladder called a catheter. The various tubes and wires will be removed over the course of the next few days.

There are no restrictions with mobilising following the operation and patients are encouraged to reposition themselves regularly. It should be possible for the patient to get out of bed to stand on day one, and then gradually get more mobile on the ward. Patients are normally ready to leave hospital about five to seven days after their surgery.

After discharge from hospital the patient should be able to do everyday activities at home and should be able to return to school in four to eight weeks. It takes a few months for the spinal fusion to take place and the spine has to be considered somewhat weaker than normal until it is fused. The patient should be able to finally resume all everyday activities at about six months and sport after a year.

It is most important that you fully understand the nature of the operation which you are about to have. If you have any further questions after reading this leaflet the team will be only too happy to discuss them with you.

**Scoliosis team**

- Consultant orthopaedic spinal surgeons – Mr J Crawford and Mr D Hay
- Specialist registrar
- Consultant anaesthetist
- Specialist spinal deformity physiotherapists
- Inpatient physiotherapists covering wards
- Scoliosis nurse specialist – 01223 256658
Decision making process

- Counselling about scoliosis surgery
- MRI
- Lung function testing
- Medical risk assessment

Following these assessments, the case will be put forward for discussion at the scoliosis multidisciplinary team meeting. Once the case has been discussed, you will have an appointment with the consultant or nurse specialist to discuss the outcome of your assessments and the multidisciplinary team meeting. Occasionally, further investigations may be required prior to surgery and these will be discussed with you and planned if necessary. If the decision is made to proceed with surgery and you are in agreement with this, your name will then be placed onto the waiting list for surgery.

Before the operation

When we have a potential date for your surgery you will be asked to attend the clinic for a few hours for a ‘pre-operative assessment’. During this visit the following tests are likely to be done to help plan the operation and make sure that you are fit for surgery:

- X-rays of your spine to help plan the operation
- ECG (electrocardiograph) to assess your heart
- Blood tests also form part of the assessment of fitness for surgery. Blood will be cross-matched in case you should need a blood transfusion during surgery
- Spinal cord monitoring which will be used during surgery – this will be assessed in the neurophysiology department

Consent forms discuss and sign with consultant

Prior to your admission you are welcome to visit the ward to familiarise yourself with the set up.
Adolescent idiopathic scoliosis

Admission

Children under the age of 16 will be looked after on ward D2 (telephone 01223 217549). Each patient’s bed has a ‘pull out’ bed beside it that a parent/ carer or friend can stay on.

Relatives can also stay on site at: Pemberton House (01223 868300) or Acorn House (01223 586806 www.sickchildrenstrust.org)

You will stay on the hospital site, either on the ward or in accommodation on the hospital grounds, called Elsworth House, the night before your operation or you may be admitted on the morning of surgery.

Surgery will only proceed on the morning of surgery if the intensive care bed is available. Unfortunately if there are unforeseen emergencies, there is a chance that your operation may be cancelled.

Day of the operation

Pre operative checks are carried out and you will be taken to the operating theatre and anaesthetised.

The operation will take most of the day, and then you will be transferred to the intensive care/ high dependency unit or the ward in the evening. Observations will be done hourly and pain relief will be monitored.

After the operation

Day one

Drips and wires You will be attached to drips and wires. You will also have a catheter. These will gradually be removed as you recover.

Pain control You will be attached to a special pain controlling system called PCAS (patient controlled analgesia system) which allows you to control the amount of painkillers that you receive.

Physiotherapy

Breathing exercises – huffing & coughing
Circulation – foot and ankle exercises – static muscle exercises

You will be encouraged to roll from side to side in bed
Once trunk control has been achieved you will be helped out of bed to sit and then stand. You may feel a little unsteady at first and so this may not be achieved at the first attempt.

**Day two onwards**

You will be able to start sitting for short periods for functional activities such as toileting and eating. Progress varies from patient to patient.

**Once you are able to stand for short periods, a check x-ray of the spine will be performed to ensure that everything is still correctly in place.**

**Day three**

Start to mobilise (walk) around the ward with assistance. Walking little and often and gradually increase the time sitting.

**Day four onwards**

Mobilising out of the ward and practising stairs prior to discharge.

**Once safety and comfort allow, you will be discharged home.**

**Two to six weeks**

- Gradually increase the frequency and length of time spent sitting, standing and walking. Decrease the amount of time spent lying and resting.

If your back becomes more uncomfortable then you are probably doing too much. You will probably benefit from lying down for a rest in the early afternoon.

**Six weeks**

- Return to school part time (for example: half days or every other day)
- Attend outpatient physiotherapy/ hydrotherapy.
- Attend outpatient appointment with the consultant.

**Two to three months**

- Return to school full time.

**After three months**

- Increase time and distance walking, increase pace as able
- Aim to increase fitness
- Return to college or work full time
- Can go swimming and cycling
- Safe to fly on airlines
Six months

- Increase time and distance walking, increase pace as able
- Aim to increase fitness
- Non-competitive swimming for example lengths of a pool
- Cycling/ riding/ dancing/ jogging increasing to running.
- Acceleration/ deceleration and turning
- No contact sport

10 - 12 months

- Competitive contact sport
- Skiing/ trampolining
- Roller coaster rides

Patients have regular follow up in the clinic with x-rays for a minimum of three years.

Useful organisations

Scoliosis Association UK (SAUK) – leaflet from clinic 6 or [www.sauk.org.uk](http://www.sauk.org.uk)

Scoliosis Research Society – [www.srs.org](http://www.srs.org)

The British Scoliosis Society – [www.britscoliosissoc.org.uk](http://www.britscoliosissoc.org.uk)

If you would like to be put in touch with a patient who has had scoliosis surgery, please contact the scoliosis co-ordinator on 01223 216854.
We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

If you would like this information in another language, large print or audio, please ask the department where you are being treated, to contact the patient information team: patient.information@addenbrookes.nhs.uk.

Please note: We do not currently hold many leaflets in other languages; written translation requests are funded and agreed by the department who has authored the leaflet.