

Correction of Scoliosis

Scoliosis means a curve in the spine which is abnormal, bending the spine sideways and often causing pain as a result. If the curvature is very bad breathing can be affected due to the compression of the chest. This condition may run in families, females being more affected and often skips a generation. It typically starts in adolescence and may progress very rapidly over weeks or even days.

Another type of scoliosis affects adults later in life, known as degenerative scoliosis. This does not tend to progress as quickly as the adolescent form, but may still cause pain and postural problems.

The operation

This is one of the biggest challenges facing the spine surgeon. The exact operation will vary greatly with the site and extent of the curve, whether it is mobile or fixed and whether other considerations, such as chest problems, spinal cord compression or anatomical variations, such as abnormally formed vertebral bodies are present.

The operation involves straightening the spine, fixing it in a straighter position and allowing it to heal there by using bone graft. It can be performed anteriorly, through the chest (and/or abdomen), posteriorly through an incision over the spine or as a combination of the two in the more complex cases. During the operation the spinal cord function is routinely monitored to ensure that the changes in position do not adversely affect its function.

The fixation is performed using metalwork, usually a combination of rods supporting the position with screws, hooks or wires fixing the bones to the rods. A detailed discussion with the surgeon is required to understand the individual operations.

Results of Surgery

The correction of the spinal deformity is usually quite impressive. The patient notices that they are in a better alignment, but also that they are taller than before. The fusion needs to be supported by wearing a brace until the bone has healed. This may take several months, depending upon the extent of the surgery, after which physiotherapy is needed to regain power in the muscles of the spine.

What are the risks of this operation?

| Risk | Cause | % Risk (note figures vary) |
|---------------------------------------|---|-------------------------------------|
| Nerve or spinal cord injury/paralysis | Damage to the nerve or spinal cord whilst removing disc/bone or inserting fusion devices and correcting the curve | <1 |
| Fluid leak | Small tear in the nerve sheath allowing leakage of cerebrospinal fluid | <1 (But higher if previous surgery) |
| Infection | Contamination during surgery or, rarely, late infection via the blood | Approx 1 |

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|-----------------------|---|--|
| Back pain | Some patients will develop back pain due to the stretching of the spine | Transient and dependent upon fitness |
| Adjacent disc damage | The stiffening effect of the fusion puts more pressure on the disc above (or below) | Very variable, dependent upon the length of fusion |
| Failure of fusion | If the bone graft does not heal, the pain and deformity may return | Up to 30%, depending on technique used |
| Failure of metalwork | Occasionally the screw/rod systems will fail. This occurs when the bone has not healed and may need further surgery | Dependent upon length of fusion and technique |
| Bowel injury | Bowel is retracted during anterior surgery | <1 |
| Bladder/ureter injury | Structures are retracted during anterior surgery | <1 |
| Impotence | Retraction or injury to a small nerve in front of the spine leads to retrograde ejaculation in men (anterior lumbar surgery) | Approx 1 with the retro-peritoneal approach |
| Warm leg | The sympathetic nerve runs alongside the lumbar discs. If damaged the left leg (usually) will feel warmer for some months after the operation | 1 - 5 (but higher if previous surgery) |
| Wound pain | Surgery | All to some extent |