

Resection of spinal tumour

Thankfully tumours in the spine are rare, but when they do occur can cause devastating problems for the patient. It is essential therefore that they are diagnosed and treated quickly, to reduce the risk of permanent damage to the spinal cord.

Where do they come from?

These tumours can be primary or secondary. Primary ones have evolved in the spine, either in the spinal cord itself, or from the lining membranes of the spinal canal. They may be benign or malignant, but all can cause pressure on the spinal cord, preventing its normal function and leading, if untreated to paralysis. Secondary tumours are ones which arise from tissues elsewhere in the body and then spread to the spine. Many types of cancer can do this.

How are they treated?

These tumours almost always need surgical removal. The type of surgery depends upon the site of the tumour and the extent of the problems from which the patient is suffering.

What if the spinal column is damaged?

Many tumours in the spine will affect the bone of the vertebral body, causing it to weaken, and occasionally collapse. This is known as a crush fracture. When this happens it may be necessary to perform surgery to "re-build" the broken bone(s), but there are other techniques which can sometimes be used, which do not involve an operation.

The operation

To remove a tumour in the spinal cord, considerable surgical preparation is required. The assistance of a neurophysiologist is arranged, so that the function of the spinal cord can be monitored throughout the operation.

The spine is usually approached through an incision on the back, overlying the site of the tumour, and the muscles are retracted, to allow clear visualisation of the spinal bones. A portion of the bone is then carefully removed, to expose the lining of the spinal canal, a tissue called the dura mater. This can then be opened and the surgeon can then see the spinal cord and the tumour.

Using an operating microscope, the surgeon removes the tumour tissue, causing as little damage to the normal spinal cord as possible. This process can take many hours. Once removed, the tissues are sutured back together and under certain circumstances the bone may be replaced.

What are the results like?

This depends upon three factors: how bad was the damage before the operation; how extensive was the tumour; how easy was it to remove the tumour from the normal tissue. With any of these operations there is a significant risk of paralysis afterwards, which becomes higher if the three variables above are all adverse. The patient must discuss all these issues with the surgeon before the operation and should only sign the consent form for the surgery when he or she understands the likely and rare complications.

The operation for damage to the spinal column

There are many different ways of repairing damaged bones in the spine, ranging from the technique of injecting cement into the bone to toughen it up, to large operations to remove a broken bone and replace it with either a metal supporting cage, or bone graft, or, usually, both. Some surgeons prefer to put a screw and rod system into the back of the spine to support a damaged bone, without removing the bone itself. These are called Pedicle Screw systems.

The precise operation depends upon the site of the bone which has collapsed and the nature of the tumour, in particular, whether it is compressing the spinal cord. Tumours in the bone in the neck are usually approached through an incision in the front of the neck; those in the chest (thoracic spine) through an incision on the side along one of the ribs; those in the lumbar spine either from the front through the abdomen, or through the back, or, occasionally both together, to allow better access.

Once removed, a variety of mechanical systems can be employed to make the bone stable again. To view these systems please visit our picture gallery.

How soon will I recover from this surgery?

These are big operations, and take time to recover from. If the spinal cord has been badly damaged before surgery, recovery may be incomplete or take a considerable time, even a year or two. Some patients do not recover, especially when the spinal cord has been severely compressed beforehand for a long time. Most patients, however, will make a slow but steady recovery over a few weeks. How complete a recovery is ultimately made, depends upon the severity of the spinal problems beforehand (i.e. how badly the tumour had damaged the spinal cord), the duration of the problem and a variety of patient variables, such as age and smoking status.

During the recovery extensive physiotherapy may well be required, to get the muscles working properly again and to attend to any problems with posture.

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 the tumour or insertion of fixation system if required (See Posterior Spinal Fusion)	Dependent upon tumour site
Fluid leak	Small tear or opening of the dura allowing leakage of cerebrospinal fluid	1-5 (But higher if previous surgery)
Infection	Contamination during surgery or, rarely, late infection via the blood	Approx 1
Back pain	Some patients will develop back pain due to the weakening of the spine	Transient and dependent upon fitness
Wound pain	Surgery	All to some extent