

## **Neck Surgery**

Surgery can be performed on the spine from the front or the back, depending on where the problem is. Anterior approaches involve less muscle stripping from the spine and allow excellent access to the discs at the front of the spine. In the neck, surgery is often performed via an anterior approach to address a multitude of problems including degenerative problems, fractures or tumours.

In the vast majority of cases the disc will simply be excised and replaced with a spacer filled with local graft although in some patients a disc replacement that moves may be more appropriate. Less commonly, large portions of the anterior cervical spine may be removed to allow a decompression of the spinal cord and this requires a more extensive approach and reconstruction. The most commonly performed procedure is an 'anterior cervical decompression and fusion' or 'ACDF' and this is described below. The same approach is used for total cervical disc replacement (TDR) which is increasingly used instead of or as well as fusion. The indications for ACDF/TDR include a prolapsed cervical disc not responding to non-operative measures, cervical stenosis (central or foraminal due to degenerative changes) and occasionally neck pain due to degenerative changes.

Posterior neck surgery is sometimes needed to decompress a nerve from behind and comes in many shapes or forms. A posterior microforaminotomy makes a small tunnel for the nerve whereas a minimally invasive facet distraction cage aims to indirectly open up the tunnel like a jack holding a hole open. Sometimes these are used as well as anterior surgery for bad nerve compression.

### **The procedure**

A right sided approach is most commonly used, using an already present skin crease at the front of the neck if possible just to the side of the voice box – although this depends on the exact level to be operated upon. The incision will be transverse or slightly oblique 4-5cm long. Muscles are rarely cut in this approach but need to be separated apart to find the spine. The trachea(windpipe) and oesophagus (gullet) are retracted one way and the major blood vessel taking blood to the brain (carotid) the other. Sometimes blood vessels crossing the operative field need to be tied or cauterised but care is taken to avoid any nerves that may be in the area and in particular the ones that supply the voicebox. The level of surgery is checked with an xray and the disc removed together with spinal ligament to reveal the front of the spinal cord. The appropriate nerve is then decompressed to hopefully relieve the pain. A spacer (or cage) is inserted with small pieces of local graft from the front of the neck to attain a fusion at the level. Checks are made to make sure there is no bleeding and the skin is closed often over a drain which remains overnight. A collar is used for comfort and reassurance in the first post-operative period.

The posterior procedures can be more uncomfortable and wound may take longer to heal.

### **Complications**

Complications are rare from this surgery, but when they do occur some can be very serious. From the anterior approach it can be seen that many important structures are retracted and so there is a theoretical chance of damage to any of these during surgery. This includes the oesophagus, trachea, carotid artery, the spinal nerves and spinal cord. The posterior approach just goes near the nerve and cord but in theory all the same structures are at risk.

For any operation there is a risk of bleeding, infection, wound problems, anaesthetic complications and neck surgery is no different. Bleeding may present as an emergency with difficulty breathing which is why a drain is often used. Infection risk is very low and wounds are commonly invisible after a few months in most patients. If implants are used then they pose the risk of further problems as outlined on the website.

The BASS website has further information on consent and is very useful.

After anterior surgery, nearly all patients have some discomfort swallowing due to the swelling but this usually settles in 2-3 weeks. Some also have a hoarse voice due to swelling of the nerves supplying the voice box. If the latter is permanent then referral to an ENT surgeon may be necessary to check the vocal cords. Implant related problems are fortunately rare but if displacement or failure to fuse occurs then further surgery may be needed.

## Post-operative care

This is different for all patients but as a guideline:

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| Wound   | - normally no sutures, just paper strips. If clips, out at 10 days.  |
| Collar  | - often soft collar at most only for comfort. If hard collar needed then should be worn for 6 weeks except when washing/shower |
| Driving | - when safe and able to do emergency stop, look in mirrors, reverse. Usually 4-6 weeks and not possible in hard collar         |
| Work    | - depends on job. No heavy tasks 2-3 months. Admin 4-6 weeks   |