Patient information for cervical spinal fusion.

Introduction

This booklet has been compiled to help you understand spinal cervical fusion surgery and post-operative rehabilitation.

Anatomy

The cervical spine, or neck, is composed of 7 bones, or vertebrae. These are numbered downwards from C1 – C7 and, because they are part of the cervical spine they are prefixed by the letter C. Hence, you will hear medical professionals refer to C3 - C4 or C4 - C5, for example.

The cervical vertebrae are numbered, with the first one (C1) at the top of the neck closest to the skull. The next vertebrae moving down from the skull to the shoulder area are C2-C7.
The first two vertebrae C1 and C2 are slightly different to the rest as they attach the spine to the skull and allow the head to turn from side to side.

What is cervical spinal fusion surgery?

A surgeon will operate to relieve a number of symptoms including pain, vertebrae instability correction of deformity (spinal curves or slippages) fractured or broken vertebrae. The operation is done under a general anaesthetic. This operation does vary from person to person.

Fusion is a surgical technique in which one or more of the vertebrae of the cervical spine are united together ‘fused’ so that motion no longer occurs between them. The concept of fusion is similar to that of welding in industry. Cervical spinal fusion surgery, however does not weld the vertebrae together immediately during surgery. The body then heals the grafts over the several months-similar to healing a fracture- which joins or ‘welds’ the vertebrae together. A bone graft is primarily used to stimulate bone healing. It increases bone production and helps the vertebrae heal together into a solid bone. Sometimes larger, solid pieces are used to provide immediate structural support to the vertebrae.

When is cervical spinal fusion recommended?

There are a range of non surgical options that may be considered before opting for surgery. These include physiotherapy, chiropractic manipulation, acupuncture, TENS machine, and other forms of surgery such as microdiscectomy or laminectomy.

There are many potential reasons for a surgeon to consider fusing the vertebrae. These include treatment of a fracture (broken) vertebrae, correction of deformity (spinal curves or slippages), elimination of pain from painful movement, treatment of instability and the treatment of some cervical disc herniations, cervical arm pain and cord compressions.

Instability refers to abnormal or excessive movement between two or more vertebrae.

Cervical disc herniations that require surgery usually need not only fusion surgery but discectomy (removal of the herniated disc).

What are the complications?

All operations carry some degree of risk. Risks of Cervical Spinal Fusion include:

- The risks associated with having a general anaesthetic. Modern anaesthetics are very safe, and serious complications are extremely rare. Common complications include a sore throat, minor bruising from the needle in your hand or arm. Nausea and vomiting may be a result of the anaesthetic, the surgery or the painkillers. About 1 in 5 people feel sick after an operation and anaesthetic. There are effective drugs to treat and prevent sickness. Shivering is also common after anaesthetic, and you may wake up with a special warming blanket covering you.

- Rarely teeth may be damaged during an anaesthetic (especially if they are loose, capped or crowned).

Serious complications are extremely rare for most people, but complications such as awareness, severe allergic reactions, nerve damage etc. may occur. All anaesthetics are trained to deal with these. The risk of death due t the anaesthetic alone is less than 1 in 250,000. However, if you have any serious medical problems (e.g. heart or breathing problems) then these conditions may make your anaesthetic and surgery more complicated or risky. Your anaesthetist will be happy to discuss your concerns with you.

- A blood clot in the legs that in rare cases, can pass to the chest and be life threatening.

- Infection, a deep wound infection that does not respond to antibiotic treatment is a serious problem that may ultimately require further surgery.

- There is small chance of injury to the nerves. The severity of this can vary from a small degree of numbness to complete loss of strength in the muscles supplied by the nerve involved. Severe nerve injury is extremely rare.

Graft Problems

Surgeons typically take a bone graft from another bone in the body, such as the hip bone, and use it to help keep the spine stable. There is a slight chance the graft can shift after surgery, causing

instability, which can cause damage to nearby tissue. Repeat surgery is often undertaken to correct this complication.

Pseudoarthrosis

This is also known as nonunion, and occurs when the bones do not fuse as intended by the surgeon. This can result in further joint motion that can cause pain and damage to nearby tissues. Repeat surgery is often done to correct this with further grafting or even insertion of metal plates and screws to rigidly secure the bones.

Swallowing and voice changes

These are rare and seldom permanent.

Pre-operative preparation.

Once that you have a date for your surgery an appointment will be arranged for you to attend for a pre-operative assessment. The pre-operative assessment nurse will help you with any worries or concerns you may have and will give you advice on any preparation needed for your surgery. Before your surgery read very carefully the instructions given to you. If you are undergoing a general anaesthetic you will be given specific instructions of when to stop eating and drinking. Please follow these carefully as this may pose an anaesthetic risk and may result in your surgery being cancelled. You should bath or shower before coming into hospital. On admission to hospital a member of the nursing team will welcome you. The nurses will look after you and answer any questions you may have. You will be asked to change into a theatre gown and slippers.

The surgeon and anaesthetist will visit you and answer any questions that you have. You will also be asked to sign a consent form. A nurse will go with you to the anaesthetic room and stay with you. A blood pressure cuff will be put on your arm, some leads on placed on your chest, and a clip attached to your finger. This will allow the anaesthetist to check your heart rate, blood pressure and oxygen levels during the operation.

What to expect after surgery.

Some people come round from the anaesthetic and feel an immediate relief of their symptoms. You may experience neck and shoulder pain, and pain around the incision site. Pain often settles fairly quickly. Numbness and tingling sensations in your arms and neck and usually take longer to settle though - this may be days, weeks or months. It varies considerably from person to person. You may also experience a sore throat or coarseness in the back of your throat this will settle.
Some people may always have an area of numbness that never fully recovers. Do not worry if your neck pain is still present - it is not a sign the surgery has failed. Nerves take a long time to recover. They also have a tendency to ‘remember’ what’s happened to them. Also, consider the fact a surgeon has opened you up. Bruising and swelling will be present which will settle, but can also irritate the delicate nerve tissue initially. You will also be shown some exercises by the physio. It is important that you try to do these.

You will also be advised about sitting. It is important to sit with good posture - your physio will advise you on this.

Following your surgery:

Day 1

The physio will come to see you and, if you are feeling well enough, then the plan will be to get you up and walking about.
You may feel a little light-headed or shaky on your legs initially, but this will settle.
You will be allowed to sit for a maximum 20 - 30 minutes at one time so you do not stiffen your muscles.
Once your wound has been inspected and you are comfortable you will be discharged home on day 1(depending on your home circumstances and your specific Consultant's instructions).
You can lie on your side, back or in a reclining position to sleep but must keep your head in a neutral position, keeping your head in line with the rest of your spine.

The first 4 weeks

Increase your level of activity week by week by taking walks outside. Sit for a maximum of 30 minutes at any one time, and ensure you move your position regularly and look after your posture.
Avoid heavy lifting for 12 weeks. Avoid all housework, hoovering, ironing etc. for the first two weeks.
You may resume light housework after three weeks.
You can begin to increase your level of physical activity to within your comfort zone. Your body will tell you when you are doing too much! Swimming may be resumed and is a good all round exercise.
No contact sports or heavy lifting until after 12 weeks.

Your post operative care will be guided by your Consultants specific instructions.

Commonly asked questions.

"I have had a neck surgery - surely I must rest completely?"

Your neck is designed to move and it's important to get it moving again as soon as possible. By stretching and moving you will encourage the scar tissue fibres to 'line up' where they are needed.
You may need to reassure your family that moving your neck is encouraged. Avoid being in any one position for a long time. Look after your posture. Avoid bending and twisting at the waist, it is better to bend your knees. You will feel twinges in your neck—this is perfectly normal and nothing to worry about.
It is simply your neck adjusting to being stretched and moved for the first time in a while. If you went running, and hadn't run for some time, the likelihood is you would ache after. It's not a sign you've damaged anything, just simply a sign you're not used to it. The same principal applies to your neck.

"When can I drive?"

You may resume driving six weeks following your surgery. Check with your insurance company.

"When can I return to work/sport?"

The earliest you can return to work is six weeks after your operation. If your job is very physically demanding, it may not be until twelve weeks.

Swimming and cycling are both excellent forms of exercise (as well as walking) and can be gently introduced once your wound is completely healed.

Where to find further information:

Your Consultant, GP and Pre-assessment Nurse who will see you prior to your admission will be able to answer most of your questions.

www.spinehealth.com

www.livestrong.com

www.backpain.org.uk

www.backcare.org.uk Helpline: 0845 1302704

Useful Contact Numbers:

Tyneside Surgical Services:
0191 4452474
Amanda Cavanagh Clinical Lead Nurse
0191 4453953
07837563351
amanda.cavanagh@ghnt.nhs.uk

Orthopaedic Nurse Practitioner:
0191 4452375

Level 1 Surgery Centre:
0191 4453040/3004
(24 HR HELPLINE)

QEH Main Switchboard: 0191 4820000
Patient Advice Liaison Service: (PALS) FREEPHONE: 0800 953 0667

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