Anterior cervical discectomy and replacement / fusion

Advice sheet for patients

by

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This advice sheet is intended specifically for patients of Mr Alexander Montgomery, and is intended as an aid for patients either undergoing or considering anterior cervical procedures. The information in this sheet is specifically to supplement the advice that you either will or have received from your consultant in clinic. If you have any queries or concerns arising from the guidance in this advice sheet then you should discuss these directly with your consultant.

INTRODUCTION

Anterior cervical discectomy is a procedure involving removal of a disc (or discs) within the neck. Following discectomy, the vertebrae either side (above and below) the disc are then either fused (to prevent further movement at this level) or the disc is replaced.

This procedure is performed in patients with compression of either the nerve roots in the cervical spine or compression of the spinal cord itself. Compression of the nerve roots may cause pain radiating down one or both arms, and may be associated with weakness or numbness. Compression of the spinal cord can cause pain or weakness in either the arms or legs and can be associated with difficulty in walking.

Compression of a nerve root will often settle down of its own accord. An operation is an option if this does not occur. Compression of the spinal cord is much more likely to require an operation.

Cervical disc replacement can preserve some movement in the cervical spine, but can only be used in specific situations. The choice between disc replacement and fusion depends on a number of factors, including number of

levels requiring decompression, degeneration at other sites of the cervical spine, previous surgery, deformity or instability. This will be discussed with your surgeon in the clinic.

EXPECTED BENEFITS

This procedure is associated with an 80% to 90% rate of improvement in symptoms of pain radiating down the arms. Potential success is, however, influenced negatively by the length of time the symptoms have been present.

If numbness or weakness is present, either from nerve root or spinal cord compression, then these symptoms might not improve. The operation will aim to prevent progression of these symptoms. Some patients may experience a degree of improvement over time, although this is not predictable.

RISKS

Paralysis: The risk of paralysis, which means loss of use of the legs, loss of sensation and loss of control of bowels and bladder, is thankfully low, occurring in less than 1 per 100 operations. It can occur because of bleeding into the spinal canal after surgery (an extradural spinal haematoma). The risk of paralysis is higher if patients are taking blood thinning medication (warfarin) or if there is an incidental durotomy (leakage of spinal fluid). If an adverse event of this nature were to occur, every effort would be made to reverse the situation. Sometimes paralysis can occur as a result of damage to the blood supply of the nerves or spinal cord, and this is not reversible.

Injury to Major Vessels: The carotid artery and the jugular vein both lie close to the approach for this procedure. Injury to these vessels is rare, but if it does occur it can be significant, and may be associated with a risk of life threatening haemorrhage or stroke.

Infection: Superficial wound infections are not rare and may occur in 2% to 4% of spinal operations. Risks of infection are increased in diabetic patients, patients on steroids or those with lowered resistance to infection.

Deep spinal infections are much more serious but less common. A deep spinal infection occurs in less than 1% of cases. Antibiotics are often given to reduce the risks of infection and the surgery is performed in ultra-clean airflow theatres. If a deep infection occurs it can require repeat operations to washout the spine and a prolonged and extensive course of antibiotics.

Damage to spinal nerves: The spinal nerve causing the pain may have been already damaged by the compression caused by the prolapsed disc. The disc prolapse can cause scarring within the

nerve such that it may be unable to recover, despite technically successful surgery. The nerve can be stretched in trying to remove the disc and the nerve can also potentially be damaged by direct surgical trauma or by pressure effects necessary to control bleeding.

Hoarseness: There is frequently some degree of hoarseness of voice immediately following the operation. Rarely, this can be caused by injury to the recurrent laryngeal nerve, which supplies the vocal cords. This does not cause a significant problem unless both sides are injured (left and right); however, in this situation the hoarseness can persist.

Injury to the oesophagus (wind pipe): It is frequent to experience some soreness of the throat and difficulty swallowing after the surgery; partly due to the tube used to help you breath with the anaesthetic, and partly due to pressure of retraction during the operation. This usually improves over a few days. Rarely, the oesophagus can be injured (perforated). This would be more serious, possibly requiring a further procedure and a longer stay in hospital.

BEFORE YOUR OPERATION

You will be contacted by a member of the team to discuss your pre-admission process, and to ensure you are fit to go ahead with the procedure.

Please inform the team if you are:

- Diabetic
- Have a cough, cold, or any kind of infection.

You must also inform us prior to attending if you are taking any of the following medications:

- Aspirin, warfarin, clopidogrel (these are likely to need to be stopped some days before the surgery).
- Antibiotics

Information for females: We will need to know the start date of your last menstrual period due to the use of X-ray equipment. If you think you might be pregnant, please contact us for advice.

Blood tests and blood matching: You will need a routine blood test prior to your procedure. You will also get a blood match in case you need a blood transfusion during or after the operation.

ON THE DAY OF THE PROCEDURE:

- Ensure that you do not have anything to eat after midnight the night before your surgery. You may drink water only till 2 am.
- Bring a list of your medications with you. When you arrive at the hospital, a nurse will complete your admission details and check that you are fit for your procedure.
- You will see your surgeon on the ward prior to being taken down to theatre. You will be asked to sign a consent form, which details the risks and benefits of the procedure, and you will have an opportunity to ask any further questions you may have at this time. You will get a 'mark' on your back with a pen. Though the site of the operation is obvious, this is still a requirement.
- The anaesthetist will also see you on the ward prior to the operation, to explain the anaesthetic and to answer your questions.
- From the ward you will be taken down to the theatre where the anaesthetist and the team await you. You will then be given the anaesthetic.

THE PROCEDURE:

- This procedure is performed under a general anaesthetic and is performed in the operating theatres. It is always carried out using fluoroscopy (live X-ray) to ensure that the right levels are done and that the implants are correctly inserted.
- You are positioned on your back, lying down. The surface of your skin is always cleaned thoroughly with antiseptic. Sterile drapes are used to protect the whole field. The theatres have laminar flow to direct particles out of the theatre and not in. Antibiotics are given to help prevent infection.
- Once the X-ray has been used to locate the relevant level, a horizontal incision is made in the relevant area on the front of your neck. The muscle is dissected with as little blood loss as possible.
- The spine is approached between the oesophagus (food pipe), the trachea/larynx (voice box) and the major vessels of the neck (carotid artery and jugular vein). The correct disc to remove is identified with X-ray.
- Retractors are then inserted and a microscope is then used to do the rest of the procedure. The diseased disc will be removed to relieve the pressure on the nerves. The disc replacement is then placed at that level. If a fusion is performed, a small cage will be placed into the

space along with either artificial bone graft or a small piece of bone taken from your pelvis. A plate is sometimes required to provide additional stability. If a replacement is used, then there will be no requirement for a plate. X-ray is used at all times to ensure correct placement of the implant.

- The skin is closed with a suture (stitch) under the skin. It is likely that a drain will be inserted to help drain blood from the operation site for the first few days. You will see the outside of the drain next to you on the ward.

- You will wake up in the recovery area. You will be quite sleepy and may not remember this part afterwards. In recovery you will be asked to move all your limbs to ensure that all your nerves are all working properly.

BACK ON THE WARD:

- Once back on the ward, you will be allowed to sit up and out when you are ready. You will be given something to eat when you feel up to it. You may have a sore throat, hoarse voice or even have some difficulty in swallowing immediately after the operation.

- The next day, the physios and nurses will indicate when they feel you are ready to sit out, stand and then start walking (if you have an incidental durotomy (see above) you will be expected to stay flat). You may well receive a visit from the pain team to help you control your pain.

- Your drain will be removed after a day or two depending on how much it is draining. Your catheter will be removed once you are mobile enough.

- Once your pain is under control and the physiotherapists and nurses are happy that you are mobilising safely and your wound is dry, you will be allowed to go home. This is normally after just 1 or 2 days.

- The area around the operation site may cause discomfort to varying levels for the first six weeks after the procedure. The team will ensure that you have adequate painkillers to take home with you plus spare dressings for the wound, just in case of any leakage. The dressings should be kept on and left alone unless there is wound fluid (diluted blood) coming through. You may potentially be given a collar to wear for a period of time, depending on the exact procedure performed.

ONCE BACK HOME:

- Keep your wound dry at all times, including when washing.
- Keep yourself mobile, but do not undertake any strenuous activity for the first three weeks, and in particular do not lift anything heavy.
- If you have a journey to work and have a desk job, it may be 4 to 6 weeks before you can fully get back to work. You can start intermittently working from home when you feel comfortable to sit for short periods of time. A manual job may require 12 weeks off work.
- Do not drive for 6 weeks following the procedure.

FOLLOW-UP BACK IN CLINIC

At 2 weeks:

- An appointment will be made for you to come to the clinic to have your wound inspected. You are likely to still be uncomfortable from the procedure, and may not at this stage be feeling the benefits of the operation.
- If all is well, a physiotherapy appointment will be made at this point. If you don't have a physiotherapist assigned to you we will be able to arrange this for you.

At 6 weeks:

- You will have another check in the clinic at the 6-week post-op point. This is to ensure that you have made a good recovery and to answer any further questions that you might have. It is also to ensure that you are engaged in an appropriate physiotherapy exercise regime.
- You will have an X-ray at this appointment. <u>This should be done prior to your appointment, so it is advisable to arrive half an hour earlier for this.</u>
- You should now be ready to return to your desk job.
- You can commence driving if all is well.
- You can now start gradually increasing your activity levels.

At 4 to 6 months:

- You will have a further appointment to check your progress and to obtain an X-ray. Again, it is advisable to arrive half an hour before your appointment for the X-ray.
- If all is well, you may not be seen for a further 6 to 12 months, to X-ray

your neck again.

- Your physiotherapist will monitor your progress until they feel that you are able to continue the regime at home without their assistance.

OVERALL PROGRESS:

There will be some improvement over the first 3 months, but it can take up to a year to see the full benefit of the surgery.

Cigarette smoking and certain medications (such as anti-inflammatories) can delay the implant settling into the bone or fusion taking place.

During these healing stages it is important to keep mobile but avoid excess stresses or sudden movements of your neck. Do not lift anything heavier than 1kg (imagine a 2lb bag of sugar).

CAN SIMILAR PROBLEMS OCCUR AGAIN?:

Yes. Even if your operation is successful, we do know that the adjacent levels (above and below the operated level) can develop accelerated wear and tear following a fusion procedure.

The theory behind a disc replacement is that by providing greater movement at the operated level, the stresses on the adjacent levels are less, and hence the adjacent segment degeneration is less. The natural history of your spine may also be such that the other levels would wear down regardless of whether or not you had surgery.

IMPORTANT INFORMATION:

You will have several chances to discuss the operation with the healthcare professionals looking after you. You must make sure that explanations are given in terms you understand, and if there is anything that you are not entirely clear about then you must ask.

Some of the above information has been used courtesy of The British Association of Spinal Surgeons (BASS) - http://www.spinesurgeons.ac.uk

For further information please contact us at –

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