



# Lumbar fusion: operation and hospital admission

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Welcome to our spinal surgery ward.

You will soon undergo spinal surgery to treat lumbar discarthritis with or without spinal canal stenosis and/or foraminal stenosis. This brochure provides more information about the planned procedure, your hospital stay and the most important points of attention after the procedure.

This brochure provides general information. However, the procedure is different for every patient, in other words your procedure and hospital admission may depart from what the brochure says.

We wish you a speedy recovery and a comfortable stay in our hospital. Together we'll make sure you recover well and get out of bed better.

The medical team and the people at the spinal surgery ward

## BETTER RECOVERY THANKS TO THE 'BETTER-OUT-OF-BED' PRINCIPLE

Your preparation, the operation and recovery programme for this procedure were organised according to the better-out-of-bed-principle. This principle is aimed at a smooth return to your fixed diet and movement patterns. It will result in a better recovery and a lower risk of complications which means you will spend less time in hospital.

During your admission you also have an important, active role in your recovery. Quite soon after surgery you will be stimulated to start eating, drinking and moving. Your recovery is actively stimulated and your general condition supported. In this brochure you can read how we do this.

We work as a team for this procedure. You and your loved ones will be supported by all the staff. Together we'll make sure you recover well and get out of bed better!

## BETTER-OUT-OF-BED CHECKLIST



The various applications of the better-out-of-bed-principle can be recognised by this symbol in this brochure. The checklist below lists all the aspects. To ensure a smooth recovery we take the following steps together:

### ✓ BEFORE THE PROCEDURE

- **Better-out-of-bed-screening questionnaire:** Together with you, the nurse goes over a questionnaire to find out about limitations of movement and self-reliance and/or the need for medical aids, expansion of volunteer care, recovery in a care facility, nutritional advice or spiritual guidance before and after the operation.
- **Preoperative education sessions:** during an individual session or group session we give you extra information about your spinal disorder, planned hospital admission, operative procedure, rehabilitation and discharge planning.
- **Preoperative anaesthesia consultation:** we go over a questionnaire, check your state of health and discuss anaesthesia and pain relief.
- **Stop smoking:** not smoking, preferably at least three months before the procedure, speeds up your recovery.

- **Day-to-day exercise:** moderate intensity exercises every day before your procedure, with exercises suited to your situation.
- **Breathing exercises:** practising your breathing beforehand will help you breathe more easily after the procedure.

## ✓ DURING YOUR ADMISSION

- **Good pain relief:** tell us when you're in pain.
- **Exercise:** sufficient exercise helps to prevent loss of muscle power and stimulates your bowel function and appetite.
- **Sleeping routine / sleeping at night:** make sure you have a regular day-night rhythm and sufficient rest.

## ✓ AFTER YOUR DISCHARGE

- Keep exercising and gradually build your condition to a healthy exercise pattern.
- Eat healthy.



The various **better-out-of-bed-tips** can be found in different places in this brochure. You will recognise them by the **better-out-of-bed-symbol**.

## BEFORE THE OPERATION: A BETTER PREPARATION WITH BETTER-OUT-OF-BED



### STOP SMOKING

If you smoke, it is important you stop as soon as possible for your recovery. The longer you are smoke-free before the operation, the smaller the chances of respiratory problems during and following the operation. Not smoking only has benefits in the short term as well. The first effects are already noticeable after one to two weeks. No smoking three months before the operation is preferable.

Not smoking will improve your blood circulation and allows your body to recover quicker. Smoking also produces more mucus. This means your lungs are not free, making it harder for you to breathe and recover. If you stop smoking, less mucus will form after the procedure. Discuss with your GP what means are available to help you stop smoking or ask for a referral to a tobaccologist.

Also consult the UZ Leuven brochure 'Stoppen met roken? Het kan!' ([www.uzleuven.be/brochure/700393](http://www.uzleuven.be/brochure/700393)).

### DAILY EXERCISE

It is good for your recovery if you also exercise daily (moderate intensity) prior to the operation. How much and how long you are able to exercise every day depends on your condition before the operation and how you feel during the possible pre-treatment. Enough daily exercise will make you feel fitter before the operation and speed up your recovery after the procedure.

A simple guideline for sufficient exercise is:

- At least 10,000 steps a day

OR

- Moderate intensity exercise at least thirty minutes a day

OR

- Very intensive exercise for at least thirty minutes three times a week

Moderate intensity activities can be broken down into intervals of at least ten minutes. Intervals shorter than ten minutes are too short to have any health benefits.

For the best result, supplement moderate intensity activities with muscle strengthening activities at least twice a week. Examples include taking the stairs or walking uphill. Are you older than 65? You should supplement your daily exercise with activities to train your balance, muscles and flexibility three times a week.

Examples of daily activities to stimulate your heart, lungs and muscles and lower the risk of chronic illness include:

- X Walking (for example thirty minutes every day or brisk walking for ten minutes three times a day)
- X Going up and down the stairs
- X Cycling (for example thirty minutes of cycling twice a week)
- X Dancing
- X Washing the car
- X Gardening

A good way to assess the intensity of your exercises is to listen to your breathing. When you start breathing faster and deeper, but are not completely out of breath, you are at an ideal intensity level. Make sure you don't cause any (additional) complaints when exercising.

## **BALANCE TRAINING**

People with chronic pain in the lower back regularly have poor balance that can affect smooth and safe movement during daily activities. You should combine your daily exercise with balance and fall prevention training, possibly with the help of a physiotherapist.

## **BREATHING EXERCISES BEFORE YOUR OPERATION**

With a long procedure under general anaesthetic, you may produce more mucus than normal. This means your lungs are not free, making it harder for you to breathe and recover. As soon as you wake up again, it is important you cough up the mucus as well as possible to clear the lungs again.

Breathing exercises will help to open up your lungs and cough up any mucus. It is best to start these breathing exercises before the operation already. You will be familiar with the exercises and it will be easier to do them after the operation. Do the following series of exercises three times a day.

On [www.uzleuven.be/beteruitbed](http://www.uzleuven.be/beteruitbed) you will find instruction clips that can help you with the exercises.

- 1 Breathe in deeply through your mouth or nose. Hold your breath for three seconds and calmly breathe out through your mouth. Repeat this exercise four to five times and try to breathe in deeper than the last time.
- 2 Then breathe normally for thirty seconds. Make sure your shoulders are relaxed.
- 3 Now take a deep breath and push the air out of your lungs quickly and vigorously through your open mouth, as if trying to fog up a mirror. Do this exercise three times in succession.
- 4 Cough vigorously once. Make sure the cough is coming from your chest and not your throat.
- 5 Take a rest and repeat step one to four twice.

## DIET

A healthy lifestyle means a healthy body weight which is very important for this procedure. Find out about a healthy diet on [www.uzleuven.be/voeding](http://www.uzleuven.be/voeding).

After the procedure, you quickly return to a normal diet.

If you have questions about nutrition or a specific diet during your admission, you can always ask the nurses to see a dietician.

If the better-out-of-bed questionnaire shows that you are at risk of malnutrition or overeating, the dietician will contact you to improve your diet before the procedure.

## WHAT SHOULD YOU BRING?

Because the storage space at the ward is quite limited, please only bring essentials to the hospital. Please leave valuables at home.

You should bring the following to the hospital:

- All medication you are currently taking in the original packaging. Give this medication to the nursing staff who will look after it for you.
- Clothing to move easily and freely during the exercises on the ward and to go home in.
- Pyjamas, robe
- Sturdy, closed slippers or trainers
- Toiletries, towels and flannels
- Razor
- Books and/or magazines
- Change to buy magazines, for example.
- Charger for your mobile
- Insurance certificate

## WHAT ARE DISCARTHROSIS AND SPINAL CANAL STENOSIS?

The main characteristic of discarthrosis is wear and tear of the intervertebral disc. The adjacent vertebrae can be deformed, for example by osteophytes (better known as parrot beaks). Wear and tear often also lead to a thickening of the ligamentous structures, such as the yellow ligament, and a thickening of the joints between the vertebrae. In addition, the worn intervertebral disc may begin to bulge in the spinal canal, possibly resulting in a hernia.

This wear process can lead to a narrowing of the spinal canal and is referred to as spinal canal stenosis. In addition, a narrowing of the opening where the nerve exits the spinal canal may occur, which is referred to as foraminal stenosis. The disc-arthrosis and possible stenosis may be limited to 1 or 2 levels (2 or 3 adjacent vertebrae) or may affect more than 2 levels (more than 3 vertebrae).

Because the spinal column continues to wear, you may suffer backache. The stenosis may result in nerve pain in your torso, a leg or both legs. The pain is caused by pressure or irritation of the nerves in the spinal canal and/or which leave from the spinal column. Depending on which nerve is irritated, the pain will radiate to a certain part of the body, for example via the front of the thigh or the back of the thigh to the ankle. In addition, the position of the vertebrae can change, causing the upper vertebra to slip in relation to the lower vertebra. This phenomenon is called spondylolisthesis and can contribute to the development of spinal canal stenosis and/or foraminal stenosis. In old age, on top of the wear and tear of the spine, there may even be a dent in the vertebra due to osteoporosis.

## PREPARATORY EXAMINATIONS

To get an idea of the discarthrosis with or without spinal canal stenosis and of your general health, a number of tests are necessary. The doctor will discuss with you which tests are necessary.

### EOS-X-EAY

An EOS X-ray image uses X-rays, which provide simultaneous imaging of the spine and pelvis in forward, backward and lateral directions. This examination is important to understand the influence of the present discarthrosis and possible spinal canal stenosis on the position of the vertebrae in relation to each other and on the relationship between the spinal column and the pelvis in standing position. You don't have to do this examination on an empty stomach. Notify your nurse if you (think you) are pregnant.

#### Different steps:

- ✗ Position yourself in the EOS machine.
- ✗ Stand in a relaxed and natural way and place your fingertips on your collarbone.
- ✗ Meanwhile the X-rays are made. While the images are being made, stand still and hold your breath.
- ✗ The full examination takes 30 seconds.

## CT-SCAN / SPECT-CT-SCAN

A CT-scan uses X-rays which make detailed cross-sections of the spinal column. The computer converts the cross-sections to images from different angles and to 3D images. When this examination is combined with a nuclear scan, it is called a SPECT-CT scan. Both scans provide information about the bone.

### Different steps:

- X A contrast fluid may be injected into a vein in your arm before the examination.
- X You lie down on the examination table, usually on your back.
- X The table is slid through a wide dome. Meanwhile the X-rays are made. While the images are being made, lie still and hold your breath.
- X The whole examination takes about an hour and a half. The CT-scan itself takes about a quarter of an hour.

Points of attention:

- ✓ You do not have to do this examination on an empty stomach. Before the examination notify the nurse about:
  - asthma or allergies.
  - reactions to contrast fluids in earlier examinations.
  - pregnancy (or suspected pregnancy).



## MRI-SCAN

The MRI-scan also makes cross-sections of the spinal column. This scan uses short radio waves that generate signals in the body which are processed into images. The MRI-scan provides information about the spinal cord, nerves and muscles.

### Different steps:

- X Lie down on the examination table.
- X A contrast fluid may be injected into a vein in your arm before the examination.
- X The table slowly slides into a big tunnel. It is open on both sides and is well lit and ventilated.
- X While the images are being made, you will hear a throbbing sound. You will be given headphones or earplugs to cancel out the noise.
- X Try not to move. During the scan you are usually asked to briefly hold your breath.
- X The medical team is outside the examination space but can see you at all times through a window and a camera. During the examination you can always reach them with a push button. They can also hear you through an intercom.
- X The examination takes 20 or 30 minutes to an hour in certain cases.

### Points of attention:

- ✓ Fill out the questionnaire on the appointment letter beforehand and take it to the examination. If something is not clear, please contact your GP. Do not hesitate to contact the medical imaging department if you have any questions about the safety of the examination, for example if you have certain implants (hearing implant, pacemaker, etc.).
- ✓ You don't have to do this examination on an empty stomach. Come to the hospital 45 minutes before your appointment.
- ✓ Do not wear any metal objects (jewellery, piercings, hairpins).
- ✓ Do you have custom-made earplugs? Bring them to the examination.
- ✓ Before the examination notify the nurse about:
  - pregnancy (or suspected pregnancy);
  - piercings or jewellery you cannot remove.

## EMG (ELECTROMYOGRAPHY)

An EMG measures the functioning of the muscles and nerve pathways in the limbs.

The test almost always comprises two parts:

- X **Nerve test:** electrical impulses are given to the nerves, you will feel small shocks. It accurately measures how the nerve reacts.
- X **Muscle test:** a very thin needle is inserted through the skin into the muscle. Nothing is injected, you just feel a little prick. Depending on the muscle that is tested, you will be asked to make a particular movement to allow the doctor to see how the muscle works on a computer screen.

The examination takes thirty to forty minutes.

### Points of attention:

- ✓ Make sure you're at the hospital 25 minutes before your appointment so that you can report to the department 10 minutes before your appointment at the latest.
- ✓ An empty stomach is not necessary.
- ✓ Before the examination, clean your skin well with water and soap, but don't use skin creams.
- ✓ Before the examination, let us know if:
  - you take blood thinners and which ones.
  - you take medication containing cortisone (for example puffers, skin creams, Medrol®, etc.).
  - you received injections in the back or joints over the past two to three months.
- ✓ Bring a list with the names of all the medication you use.

## MOVEMENT EXAMINATION BY PHYSIOTHERAPIST

A trained physiotherapist measures the speed with which you perform a number of simple exercises, such as walking and standing upright from a seated position. These tests are carried out under safe conditions.

The tests provide useful information about any limitations you may experience in your daily life which we can work on during your rehabilitation after surgery.

### BEFORE THE OPERATION: BETTER PREPARATION WITH BETTER-OUT-OF-BED



## NOTES AND SCREENING

After a decision has been made on your treatment, you will receive information about the different steps of your admission. Sometimes you receive this information in group, sometimes individually sometimes immediately and sometimes a separate moment will be organised. This depends on the specific procedure. The goal is to provide better information about your admission to allow you to prepare for the procedure.

We expect you to spend less time in the hospital and that you will have fewer complications thanks to the better-out-of-bed programme. This is why it is important we prepare you as well as possible for your discharge. During the consultation we will go over a short questionnaire with you to see if it is necessary to refer you to a social worker, occupational therapist, physiotherapist or dietician, for example. They can already prepare you to go home before the operation. Please don't hesitate to ask spiritual support if you need it.

## ANAESTHESIA CONSULTATION

You have a consultation with an anaesthetist before your procedure. To prepare for this consultation you must fill out a questionnaire. This covers possible allergies and other conditions, your lifestyle and past operations. You must also make a list of the medication you use. If you had any recent blood, heart or lung examinations, bring the results. You can also bring your blood group card, if you have one.

During the consultation, we will go over the questionnaire with you. Your state of health is checked, the type of anaesthesia and pain relief is discussed, including possible risks. Agreements will be reached about the medication you can and cannot take before the operation.

Extra tests will be carried out if necessary. If the tests cannot be carried out immediately, an appointment will be made at the consultation.

When the anaesthetist gives his approval, the admission date can be confirmed. Usually this is by letter.



### PREPARING FOR YOUR DISCHARGE FROM HOSPITAL

To make your return home as comfortable as possible after your hospital stay, we advise you to prepare your discharge from the hospital properly. This preparation already starts before you were admitted.

- ✗ Ask the doctor treating you how long you will have to stay at the hospital.
- ✗ Find out if there will be any limitations or inconveniences after your hospital admission.
- ✗ Discuss with family, friends and acquaintances what help you may need in terms of transport, visits, housework, etc.
- ✗ Go to your health insurance and ask for more information about hospital admissions, additional insurances, certificate of incapacity for work, recovery in a care facility after a hospital admission, etc.

#### Important points of attention:

##### ✓ Home nursing

It is best to arrange home nursing before your hospital admission. Also tell them what your probable date of discharge will be. Usually your stay in hospital is five to six days. During the education session you can obtain the contact details of the home care nurses affiliated with your health insurance from the nurse. If you would like help of a self-employed nurse, we advise you to contact them prior to your hospital admission. In that case, also bring the necessary contact details to the hospital.

### ✓ Domestic help

Organise all the necessary domestic help for the first three months after your procedure before your hospital admission. If you're unable to get the necessary help from family or friends for cleaning, shopping, washing, ironing, cooking, etc. you can contact the home care services. Request information from your health insurance, the Public Centre for Social Welfare (OCMW) or UZ Leuven's social services department.

### ✓ Care after your hospital admission

Organise the necessary care after your hospital admission before the operation. If necessary, see whether it is possible to stay with family or friends for a while. There are also possibilities at care facilities which you can discuss before the operation with the social worker of the ward to which you are admitted. The waiting periods for the facilities are long, in other words it is important to submit your request beforehand. Our social worker will gladly help you with this.

### ✓ Equipment

During the education session, ask what equipment you need on you return home, such as a hospital bed, walker, toilet chair, wheelchair or crutches. It is best to organise all this before your hospital stay.

### ✓ Transport

You are not allowed to drive after the operation. Ask a family member or friend to pick you up at the hospital or ask the nurse to help you organise transport through your health insurance.

## GENERAL STATE OF HEALTH

Good general health will make the procedure and your recovery easier. If you know you have a heart condition, vascular disease, lung disease, neurological disease, diabetes, high blood pressure, or tooth and gum disease, please arrange a check-up with the doctor treating you to ensure the condition is under control prior to the operation.

Also treat any infections. Always notify your surgeon prior to your hospital admission if you had an infection shortly before the operation (e.g. bladder, tooth, skin, intestine, airways) or if you have acne in the body area where you will be operated. It may be better to postpone the operation until these problems have been treated.

## YOUR ADMISSION TO THE WARD

The nurse will welcome you and take you to your room, where you will receive practical information. The nurse will ask you some general medical questions. Usually, a blood test is also necessary.

### SPECIFIC PREPARATION FOR THE OPERATION

- ✓ **Shaving:** the hair on your abdomen and back is shaved by the nurse. Your skin has to be as smooth as possible for disinfection purposes before the operation. Do not shave these areas yourself.
- ✓ **Skin preparation:** have a shower before the operation with normal soap. The nurse can help you with this.
- ✓ **The following drinks are permitted up to two hours before the operation:**  
clear drinks, water, fruit juice without pulp, carbohydrate drinks, carbonated drinks, tea or black coffee. To avoid delays, ask the nurse or doctor on the ward when the operation is planned.
- ✓ **You are not allowed solid food or drinks, bar those listed above, up to eight hours before the operation.**

After the nurse has given you the necessary information, the physiotherapists and the doctor on the ward will visit you. All involved care providers will organise your preparation, procedure and recovery programme as well as possible according to the better-out-of-bed principle.

After the operation, most patients have trouble getting out of bed easily and finding their balance. If possible, the physiotherapist will teach you some mobilisation techniques the day before the operation. The physiotherapist can also help you to get out of bed and find your balance again.

The doctor on the ward will visit you to complete the medical dossier and may also provide more information about the planned operation, the time of the operation and the duration of the operation.

## **SOCIAL SUPPORT**

A lumbar fusion operation is a serious procedure. The rehabilitation period after the operation is very important for your recovery. To bring the procedure and rehabilitation to a successful conclusion, proper support is important.

We therefore advise you to prepare your discharge from the hospital well before your operation to ensure a speedy recovery. If you are going to recover in a care facility, it is best to contact our social services as soon as possible to make the transition from the hospital to the care facility as smooth as possible.

## DAY OF THE OPERATION

- When you are the first patient of the day to be operated on, the night nurse will wake you up around 6 a.m.
- If you have your operation later in the morning, the morning nurse will wake you up.
- You will be given a surgical gown.
- Remove jewellery, glasses, contact lenses, make-up, dentures, hearing aids, piercings and possible wig and store them safely.
- They will check if you have an identification bracelet around your wrist.
- The nurse will tell you which medication you may take before the operation (with a small sip of water).
- You are taken to the operating theatre.
- After the operation, you will stay in the recovery room (post-anaesthesia ward or PAZA) or, if necessary, one or more days in the intensive care unit. During the operation and your stay at the PAZA, your immediate family can contact the nurses of the hospitalisation ward day and night.

X Orthopaedics A (E 211):	tel. 016 33 81 10
X Orthopaedics B (E 212):	tel. 016 33 81 20
X Neurosurgery (E 452):	tel. 016 34 45 20

## FIRST DAYS AFTER THE OPERATION

### First two days

Usually you return to the ward on the day of the operation. You will still be connected to several tubes:



Nasal cannula

- ✓ Nasal cannula to deliver oxygen (for as long as necessary).
- ✓ Two tubes (redon bottles) to draw off wound secretions from the spinal column and from under the skin.

- ✓ Bladder catheter to remove and collect urine, so you don't have to urinate yourself. The catheter remains in place until the pain pump is removed.
- ✓ Catheter to administer medication or blood products, usually a deep vein catheter in the neck.
- ✓ If you have an incision near the chest: a tube in the chest (thorax drain) to drain wound secretions and air. The tubes are removed when they no longer drain wound secretions and air.
- ✓ Pain pump to ensure you are in as little pain as possible. If you still have severe pain, let the nurse know.

Pain pump





During your admission please let us know when you are in pain or when pain symptoms persist despite the administered pain relief.

Pain management is very important for your recovery. If you're in pain, it will be more difficult to breathe comfortably, cough or even move. This can lead to breathing problems or pneumonia, which can prolong your hospital stay considerably. Less pain will allow you to move and breathe better. This reduces the risk of complications and speeds up your recovery.

### Daily care

- ✓ Daily follow-up by a nurse
  - Measurement of oxygen concentration in the blood, temperature, blood pressure and heart rate.
  - Check to see if you have feeling and strength in arms and legs.
  - Inspection of all tubes.
- ✓ Blood test (usually in the morning) on day one.
- ✓ Help of the nurse for your daily hygiene.
- ✓ Wound check and care.

The day of the operation you will be put upright in a chair or seat. This is important for your blood circulation. It is up to you how long you sit upright, but the first times it is best not to sit too long (about 15 minutes).

The next days you can already wash yourself partly and stay in the chair a bit longer. You can brush your teeth or rinse your mouth while sitting upright. The occupational therapist may come by to teach you some techniques that will help you go to the toilet and wash and get dressed easily and safely.

We advise you to wear your nightwear only at night and to wear comfortable clothing and sturdy, sports shoes during the day as soon as possible. Loose slippers are not recommended. Wearing normal clothes will make your rehabilitation easier.



The physiotherapist will visit you during the week for breathing and movement exercises. The physiotherapist will also help you with balance training according to the better-out-of-bed rehabilitation schedule and move route.

The doctors come by twice a day (usually in the morning and evening) to see if you are recovering well from the operation and to adjust the treatment if necessary.

Do not hesitate to ask questions. All care providers are on hand to help you.

## MOVING AND EATING



It is important you move sufficiently to speed up your recovery. This helps to prevent any loss of muscle strength and stimulates your bowel function and appetite.

Move routes on the ward offer an appropriate programme. We advise you to use them in consultation with your physiotherapist. You can also ask the nurses on your ward for tips on how to get more exercise.

Until the doctors or nurses are sure your bowel function has been properly restored, you should only drink clear liquids and not eat solid food. Specific diets adapted to your procedure exist. Individual needs are also taken into account. If you have questions about this or you need support, please speak to a nurse.

## NIGHT'S REST



Apart from sufficient exercise, rest is also very important for your recovery. A good night's rest will speed up your recovery.

Do certain discomforts, such as noises, prevent you from sleeping? Speak to a nurse on the ward.

### Third day after the operation

After two days, the pain pump and bladder catheter are usually removed. You will be given other pain medication instead of the pain pump. The type of medication, the dosage and the time schedule will be adjusted as much as possible to your needs. Notify a care provider if you are still in pain.

Tubes to drain blood and secretions are removed when they no longer secrete anything. Usually the deep tube at the vertebra and then the superficial tube under the skin are removed first.

When most of the tubes have been removed and you can walk again, the physiotherapist will walk with you in the hallway. You will receive walking and balance training using the move route on the ward. In addition, you will gradually take over your own daily hygiene and activities (such as washing and dressing).

At your request, the social worker can review the pre-arranged agreements concerning your hospital discharge and make the necessary practical preparations for your recovery at home or in a care facility after your hospital admission. If you need psychological support, ask the nurses to see a psychologist. The pastoral service can also provide spiritual support.

## Fourth to fifth day after the operation

You continue to work on walking and balance training with the physiotherapist. You will also practise taking the stairs again. If necessary, the occupational therapist can provide extra training and advice on your self-reliance in domestic and professional activities. We continue to work towards your date of discharge. Usually you're allowed to leave the hospital between the fourth and fifth day after the operation.

It's important your bowels function properly again before you leave the hospital. If you have not yet been able to make a firm bowel movement, we will give you the necessary medication. If necessary, you can continue to take this medication at home. After your discharge, your bowel function will have to be monitored by your GP.

During the last days of your hospital stay, images of your spinal column are made.

## PROCEDURE

During the operation, the surgeon stabilises the spinal column. The pinched nerves are released.

To get to the spinal column, the surgeon makes an opening through your back, abdomen or loins. Your surgeon will discuss with you exactly which access will be used in your case. Sometimes several access routes need to be combined during one or more surgeries.

## REMOVAL AND REPAIR OF THE INTERVERTEBRAL DISC

Depending on the nature and stiffness of the spine, it may be necessary to remove parts of the vertebrae.

Sometimes it is also necessary to remove the intervertebral disc (the discus) and replace it with a block containing small pieces of bone. Over time that block fuses with the vertebrae. The block can be inserted via one of the three access routes.

During the procedure extra pieces of bone (bone grafting) may be removed from the pelvis through a separate incision. This allows the vertebrae to fuse with your own bone (vertebral fusion). If this is not possible, bone from a donor or artificial bone is used.

## STABILISING THE SPINAL COLUMN

The surgeon then stabilises the spine with metal screws and rods. The rods are connected to the special screws that were placed in the spinal column at the start of the operation. If necessary, the surgeon may also correct the mutual position of the vertebrae, for example in the case of spondylolisthesis.

## MONITORING AND SAFETY DURING THE OPERATION

During the operation, the anaesthetist provides comfort and pain relief. The anaesthetist also monitors and supports the functioning of important organs, such as the heart, lungs and kidneys, as well as blood coagulation.

## POSSIBLE RISKS

Every operation involves a number of risks. Some of the most common complications in lumbar fusion surgery are:

- X Bleeding (<1%)
- X Wound infections (1%)
- X Infections caused by the implanted material (2-3%)
- X Paralysis symptoms (<1%)
- X Insufficient bone growth (pseudoarthrosis) (10-15%)
- X Problems with the material (breaking or loosening) (1-2%)

For each of the aforementioned complications, a new operation, urgent or not, may be necessary. Some complications are rare, others occur more frequently. Your surgeon will discuss the possible complications with you at the consultation.

Many of the complications are related to respiratory tract infections, urinary tract infections, obesity, poor skin and muscle quality, or poor bone quality. To reduce the risk of these complications, it can help to maintain a healthy body weight, stop smoking altogether, prevent or treat osteoporosis, and follow movement therapy.

After the operation, timely removal of the bladder catheter, good pain relief, movement rehabilitation, and good body hygiene are important.

## DISCHARGE FROM HOSPITAL

When you have recovered sufficiently from the operation, the doctor will suggest a date for your discharge from the hospital. The doctors, nursing staff and therapists will prepare everything for your discharge.



Depending on the nature of the procedure, you will need to be careful the first few months with housework and lifting light and heavy loads or children.

However, it is important you keep moving after your discharge. Intensive exercise is not always recommended, but you can rebuild your condition to a healthy exercise pattern by, for example, walking, cycling on an exercise bike or swimming.

In some cases you will go to a dietician for dietary advice.

You will be given the necessary discharge documents:

- ✓ A letter for the GP with a short, provisional report of the operation and your stay in the hospital
- ✓ A letter for yourself with any medication you may need to take (e.g. pain medication).

If you need to take any other medication, we will give you a small amount so you don't have to go to the pharmacist on the day of your discharge.

- ✓ A prescription for the pharmacist (if necessary)
- ✓ A prescription for physiotherapy (if necessary)
- ✓ A prescription for home nursing (if necessary)
- ✓ A letter for the check-up appointment with your surgeon as well as a medical imaging appointment to monitor your healing process. This appointment is usually four to six weeks after your discharge.

If you need any other forms (e.g. for your insurance, health insurance or your employer), ask the nurses or doctor-specialists in training at least the day before your discharge. This way we can have them ready for when you are discharged. Forms that were not requested or submitted on time will be provided after your discharge.

## POINTS OF ATTENTION AFTER DISCHARGE

### Wound care

Sometimes stitches (hooks or threads) still need to be removed. This will be done within two weeks after the operation by your GP or home visit nurse. The nurse will give you this information again when you are discharged and it will also be in the letter for your GP.

In the beginning it is best to wash yourself at a wash basin, possibly with the help of a nurse. In case of a lumbar fusion on 1 or 2 levels, you can take a shower four days after the operation at the earliest, and the shower is best followed by sterile wound care with a physiological serum and dry aseptic dressing. Please only shower every four days so as not to compromise wound healing. In case of a lumbar fusion on more than 2 levels, please shower after the stitches have been removed. This is usually two to three weeks after the operation. The reason for this is that with longer fusions the wound is also larger and therefore takes more time to heal. Bathing is allowed at the earliest from three weeks after surgery and 48 hours after the stitches have been removed to prevent the wound from becoming soft.

## Wound inflammation

The following signs may indicate wound inflammation:

- red, warm, swollen skin around the wound.
- increasing wound pain.
- wound secretions.
- fever.

## Seating position

If the spinal column is fixed to the pelvis after lumbar fusion surgery, no movement is possible anymore between the spinal column and the pelvis. Your seating position will therefore change. Your doctor will let you know if this applies to you.

In this case, you must avoid bending your hips more than 90 degrees (straight angle) the first three months after the operation. This will affect your toilet visits, eating meals, resting in a seating position, putting on and taking off shoes and sexual activities. After some time, the spine is sufficiently attached to the pelvis. From then on you're allowed to bend your hips more. Usually, putting on and taking off shoes remains more difficult than before.

The therapists of the ward will discuss the movement recommendations with you. If you have any questions, you can reach the therapist of the orthopaedics ward at tel. 016 33 81 37 or tel. 016 33 83 44. The therapist of the neurosurgery ward can be reached at tel. 016 34 24 25.

## Movement

During the lumbar fusion operation, the spine is fixed in a new position. Movement between the fixed vertebrae is no longer possible. As a result, your spinal column will feel stiffer after the operation. You will have to change how you move accordingly.

You must avoid bending forward or twisting your torso strongly. This affects how you move, for example how you lift something. A physiotherapist will guide and train you during your admission and if necessary after your discharge as well.

## Resuming activities

At home, you can gradually resume your daily activities. Don't force yourself, rest regularly and gradually push your limits. Start with a short walk a few times a day. Listen carefully to your options and the needs of your body. Keep in mind that the entire healing process may take up to six months.

During the first six weeks you should avoid physical labour, such as lifting weights, housework, carrying shopping bags, etc. Driving a car or cycling is not recommended either. After six weeks you will receive further instructions at the consultation. If you do lift something, keep the load close to your body. Light housework is allowed, but avoid vacuuming or cleaning. This is too much for your spinal column and muscles in this phase of your recovery.

Depending on your job and general condition, you can go back to work after about 12 weeks (light work, desk work), provided you can change your posture regularly (walking, standing, sitting, etc.). If you do heavy work, it may take longer before you can go back to work.

## Sports

Avoid contact sports for the first twelve months. Walking is allowed as soon as you can but push your limits gradually. Swimming (crawl and backstroke) is allowed from six weeks after surgery. Breast stroke is not recommended the first three months. Cycling on your own bike is only allowed after consultation with the physiotherapist or doctor and when there is no risk of falling.

## Travel

You can be a passenger in a normal car (low seats may be difficult at first). From six weeks after the operation, most patients are allowed to drive again. This will be discussed with the doctor during the consultation after the operation. Try to avoid long trips and if necessary, stop regularly and get out of the car to change your posture.

## WHEN DO YOU NEED TO CONTACT US AGAIN?

Severe complications are rare.

However, in the following cases you will need to contact us:

- New or increasing neurological dysfunctions such as:
  - ✗ loss of strength in the legs;
  - ✗ loss of sensation or abnormal feeling in the legs or around the pubic area;
  - ✗ problems walking, an unstable feeling;
  - ✗ urinary or bowel problems.
- Worsening back pain
- A wound problem (e.g. discharge, blood loss, swelling, redness, opening of the wound edges)
- Fever in the first three weeks after surgery

Of course, you can always contact the nurses if you are worried for any other reason. At night and in the weekend there is an on-call duty service if you have spinal problems. For acute problems you can go to the emergency department.

## CONTACT DETAILS

### Doctors

prof. dr. Bart Depreitere  
prof. dr. Joost Dejaegher  
prof. dr. Lieven Moke  
dr. Sebastiaan Schelfaut  
dr. Sam Thomas (consulent)  
dr. Thibault Dewilde (consulent)

### Head nurses

Hospitalisation orthopaedics A - E 211:	Tel. 016 33 81 10
Hospitalisation orthopaedics B - E 212:	Tel. 016 33 81 20
Hospitalisation neurosurgery - E 452:	Tel. 016 34 45 20

### Social worker

Tel. 016 34 86 20

### Physiotherapists

Hospitalisation orthopaedics A - E 211:	Tel. 016 33 81 37
Hospitalisation orthopaedics B - E 212:	Tel. 016 33 83 44
Hospitalisation neurosurgery - E 452:	Tel. 016 34 24 25

### Occupational therapist

Hospitalisation orthopaedics A and B - E 211 and E 212:	Tel. 016 34 28 51
Hospitalisation neurosurgery - E 452:	Tel. 016 34 05 79

**Pastor**

Tel. 016 34 86 20

**Secretariat orthopaedics**

Tel. 016 33 88 27

[orthopedie@uzleuven.be](mailto:orthopedie@uzleuven.be)

**Secretariat neurosurgery**

Tel. 016 34 42 90

[neurochirurgie@uzleuven.be](mailto:neurochirurgie@uzleuven.be)

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#### Design and implementation

This text was written by the orthopaedics, neurosurgery and physical medicine and rehabilitation departments in conjunction with the Communications Department.

You can also find this brochure at [www.uzleuven.be/en/brochure/701272](http://www.uzleuven.be/en/brochure/701272).

Comments or suggestions pertaining to this brochure can be submitted via [communicatie@uzleuven.be](mailto:communicatie@uzleuven.be).

Published by  
UZ Leuven  
Herestraat 49  
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