



Back Surgery

A Guide for Patients and Their Coaches

ACKNOWLEDGEMENTS

This booklet was edited and compiled by the multidisciplinary Saskatchewan Spine Pathway Working Group of the Saskatchewan Ministry of Health, with significant input from neurosurgeons, orthopedic surgeons, nurse practitioners, physical therapists, and other therapists.

The contributions of everyone involved, especially patients who reviewed the content in draft form, helped ensure this resource will serve the needs of patients.

Regina Qu'Appelle Health Region's Medical Media Services shot most of the photographs, which are used with permission. Special thanks to the people who volunteered to be photographed demonstrating the exercises! Some images are used with permission from the digital image libraries of 123RF and Doctor Stock.

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Page 1: (Healthy Spine/Lower Back)

Page 2: (Disc Herniation)

Images used with permission of Doctor Stock

Page 3: (Portion of lamina removed)

Page 4: (Incision on lower back/Spinal Fusion)

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■ Introduction

The purpose of this booklet is to provide information for you and your support person before your back surgery. You will find instructions on preparing for surgery and what to expect after surgery.

You have chosen to have a spinal surgery. Your health care team will do all they can to make your surgery a success. We hope that keeping you informed helps you understand what to expect and know how you can take an active role in your care. How well you prepare for surgery and the efforts you make after surgery are important factors in your recovery. A healthy back is strong and flexible – doing the exercises in this booklet will help you regain strength and flexibility, allowing you to return to your normal activity level. You need to change your habits and develop new ones to maintain what we call “a neutral position” in order to control your back mechanics. **These changes are a lifetime project, Your success depends on your willingness to follow through.**

Expectations

1. Surgery may not totally remove the pain.
2. Pain is not always a sign of dysfunction or damage but may also be a sign of recovery of function, motion, and/or strength.
3. Getting back into performing activities may hurt after surgery. There may be discomfort but there is not any harm done to your healing back if you work with control, stop repetitive poor postures and poor work habits and perform your exercises properly.
4. Repetitive poor positioning is the most consistent cause of back problems. It can take three to six months of focus and work on your part to develop a new habit.

Choose a support person

It is important that you choose a support person to be with you throughout your spinal surgery journey. A support person is a person who supports you prior to surgery, during your hospital stay, and at home with your recovery. This person can be a family member, friend or caregiver. Please review this booklet with your support person before your surgery so you have a common understanding of the care you will be receiving.

What does a support person do?

- Attends an education session with you prior to your surgery.
- Supports and works with you during your hospital stay.
- Supports you with your rehabilitation once you have been discharged.
- Translates for you – if English is not your first language.

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More information: www.sasksurgery.ca/patient/spine.html

About Your Spine

Anatomy

The **spine** is a column of bones called **vertebrae**, which supports your body, allows movement, and protects the spinal cord.

In between each bone is an **intervertebral disc**. Each disc allows for shock absorption and flexibility and works with the spine joints, muscles and ligaments for movement.

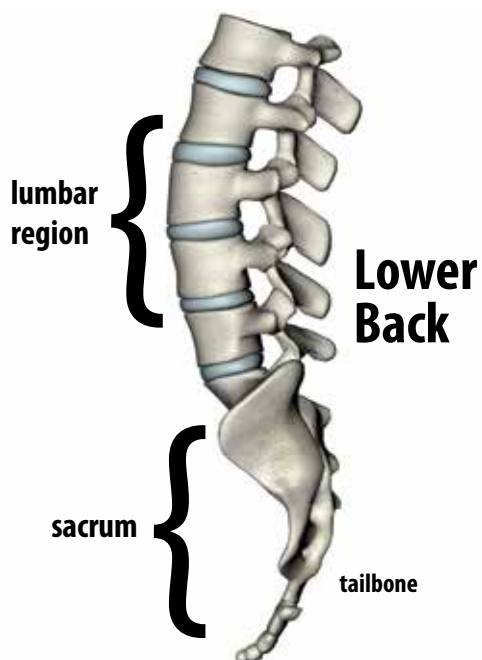
The area of the spine we will focus on is the **lower back or lumbar region**. The lumbar region is made up of five large vertebrae and normally has an inward curve called a **lordosis**.

The lumbar spine sits on top of the **sacrum**, which is a solid triangular bone in the pelvis. On either side of the sacrum are the large pelvic bones called ilia. Strong ligaments hold this junction called the sacroiliac joints together.

Healthy Spine

vertebrae

disc



Many other structures act on the bones of the spine to provide stability and allow movement. A series of **ligaments** run from vertebrae to vertebrae, while others run along the entire length of the spine. These ligaments are designed to prevent extreme movement of one vertebrae on another. The **back muscles** that help to move the spine can run from one vertebrae to the next, or travel over many vertebrae so you can move many segments at one time. The **abdominal muscles** affect movement of the lumbar spine, and they provide support in the front of the spine almost like a girdle.

The **spinal cord** is a series of nerves that branch out to your body, carrying messages to and from your brain.

Your spine supports your body, allows movement, and protects the spinal cord.

What Causes Back Pain?

Back pain is very common. Many factors can contribute, including:

- Poor posture
- Excess body weight
- Lack of physical activity leading to muscle weakness and fatigue
- Emotional stress/tension
- Reaching / lifting beyond safe base of support
- Poor repetitive lower back movement habits
- Trauma (e.g. a fall or a car accident)

It may help you to realize that you have control of some (or most) of these factors contributing to back pain. Taking care of your back may help reduce your pain before and after surgery.

Other factors that may cause back pain are from age-related changes in your lumbar spine. These include:

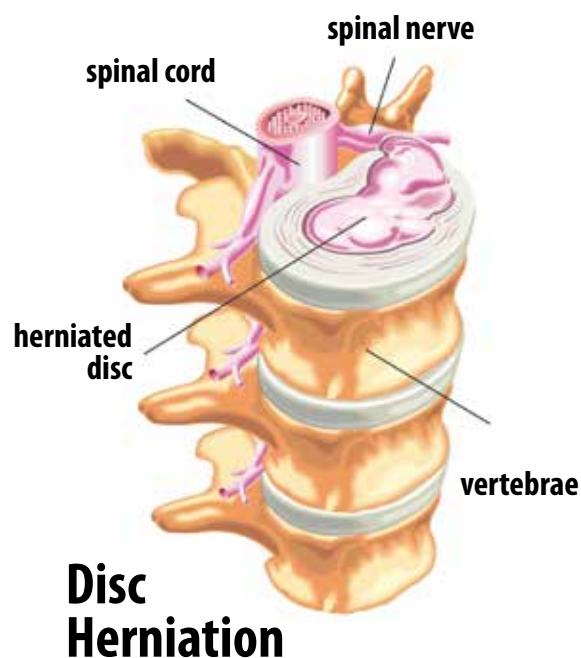
- Loss of intervertebral disc height. As a result, the bones in the spine become closer, causing the nerve openings in the spine to become narrower.
- Joint inflammation (arthritis); causing stiffness and pain in the lower back.
- Intervertebral disc ruptures in the lumbar spine. The ruptured material can put pressure on one or more nerve roots or on the spinal cord, causing pain and other symptoms in the back and legs.

Degenerative Disc Disease: A medical term for wear and tear on the **spinal intervertebral discs**.

Degenerative Joint Disease: A medical term for wear and tear on the **spinal joints**.

Disc Herniation: Intervertebral discs are small cushions which separate each spinal vertebrae. They are made up of a tough outer shell (annulus) and a jelly-like centre (nucleus). Due to wear and tear, the outer shell can weaken, allowing the jelly centre to push through. This protruding material can put pressure on the **spinal nerve root** and may cause pain, numbness and/or weakness.

Stenosis: A narrowing of the **spinal canal** where the **spinal cord runs**, and of the spaces in the bone where the **nerve roots** exit from the **spinal cord**. The narrowing can be caused by poor postural positioning, arthritic changes, inflammation or swelling, and loss of height of the vertebrae and the intervertebral discs due to aging or injury.



Non-Surgical Treatments

Many people with age-related changes in their lumbar spine can respond to a non-surgical approach that includes:

- Physical therapy and exercises to strengthen back and abdominal muscles;
- Improved work/home/leisure ergonomics;
- Discussions with a mental health therapist to assist in addressing emotional stress;
- Anti-inflammatory medication;
- Avoidance of repetitive activities;
- Ice; and
- Control of weight.

Surgical Treatments

When is surgery needed?

Back surgery may be considered to alleviate pain and prevent nerve damage when conservative measures have failed with the following conditions:

- Compression on the spinal nerves
- If the spine is unstable due to injury (spinal fracture)
- If the spine is unstable due to slippage of one spine bone on another (spondylolisthesis)

Risks and complications of spine surgery

Your spine surgeon will review the risks and complications of surgery with you:

- Infection
- Bleeding or blood clots
- Nerve damage
- Spinal fluid leak
- Paralysis (very rare)
- No improvement of pain or worsened pain
- The need for a second surgery
- Bones not fusing or bone graft shifting out of place after a spinal fusion

Surgical Terms

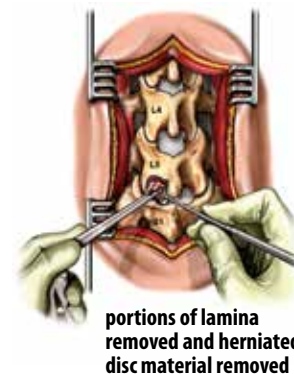
Discectomy: Involves removal of a protruding part of a disc to relieve pressure on the nerve. In most cases, a laminotomy must first be done to expose the disc. Then any part of the disc that presses on a nerve can be removed. Disc matter that is loose or may cause problems in the future is also removed. After surgery, there is usually enough disc remaining to cushion the vertebrae.

Microdiscectomy: The removal of part of the disc is performed through a smaller incision and with the use of a surgical microscope to see the nerve root and disc material.

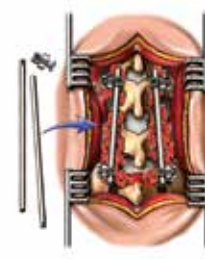
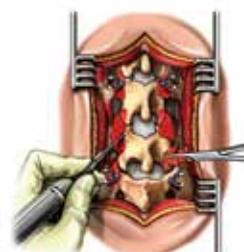
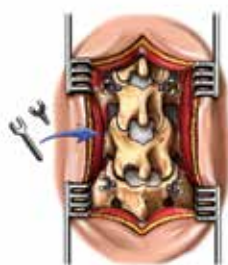
Laminotomy: Involves removal of a portion of the lamina – the bone at the back of the spinal canal. The small opening that is created is sometimes enough to take pressure off a nerve. But in most cases, part of a disc or a bone spur that is pressing on a nerve is also removed.

Laminectomy: Involves removal of part or all of the lamina of the vertebrae, this is part of the vertebrae that overlies the spinal canal. Removing it enlarges the spinal canal, thereby relieving pressure on the nerves. A laminectomy may be done at one level or multiple levels. If needed, your surgeon can also remove any part of the disc or bone spur that presses on a nerve. He or she may also enlarge the space to decrease pain caused by stenosis. After the procedure, the new opening in the spine is protected by the thick back muscles. A fusion may need to be done at the same time to make the spine more stable.

Spinal Fusion: This is a surgical technique in which one or more of the vertebrae of the spine are joined together (fused) to prevent motion between them, sometimes caused by decreased disc height or slipping of one vertebrae. This may be done to stabilize broken vertebrae, or to decrease excessive movement between vertebrae (also known as spondylolisthesis), or to increase stability following a laminectomy. A spinal fusion inserts material, called bone grafts, between the vertebral bones to encourage the body to grow new bone and fuse the spinal bones together. The donor bone may be taken from your pelvis or from a bone bank. These grafts heal over several months, fusing or welding the vertebrae together, similar to healing a fracture. Other metal hardware may be used to stabilize your spine while the bones fuse and your body heals.



Spinal Fusion



■ Preparing for Spine Surgery

What to Do While You Wait

Immediately do the following:

1. Get thinking and feeling your best

- Emotional preparation is very important for your surgery. Sometimes it is difficult to deal with pain while waiting for surgery. You can experience problems sleeping and may become anxious or frustrated. It is important to deal with these feelings. Here are some suggestions:
 - Practise formal relaxation techniques such as deep breathing, visualization/visual imagery and progressive muscle relaxation.
 - Speak to your doctor about using anti-inflammatory medications and/or ice to help with the pain.
 - Be active. Continue your usual daily activities. Use your pain-controlling exercises and prescribed medications to self-manage your pain. (If you have not been regularly active, speak to your family doctor or health care professional before starting a new exercise program).
 - Discuss concerns with your coach or other support person.
 - Be informed and prepared prior to your surgery. This helps decrease anxiety and makes you more hopeful.

2. Improve your physical health

- Manage your weight. Eat a well-balanced diet as recommended by Canada's Food Guide.
- Before your surgery, consult with your family doctor to ensure that health issues are addressed as needed.

3. Quit smoking. Smoking delays healing and slows your recovery from surgery

- If you cannot quit, ask your physician for help or contact Smokers Helpline 1-877-513-5333.
- The benefits of quitting smoking begin the day you quit.

4. Stay active! Exercise and do your regular activities

- Research shows that exercise can help decrease pain, increase flexibility, and keep your heart healthy before surgery. Exercising for longer periods of time can benefit your heart, lungs, circulation, and muscles. Good endurance exercises include walking, swimming, or stationary cycling.

5. Be proactive

- What you do on a daily basis before and after surgery helps your recovery time and the overall success of the surgery. Research shows that well prepared patients participate better in their care, have a better and faster recovery, experience fewer problems with pain, and feel better overall.
- Set up your home and work environments prior to surgery, so that you are ready for discharge after surgery into a safe environment.

6. Change how you do things

- Stop and take time to analyze how you move. Minor changes in technique can make a drastic difference in the amount of pain the activity causes. Whether it is work, home, or leisure, all activities of daily living need to be looked at and possibly changed.
- How you do things on a daily basis may be the main cause of the continued irritation in your back.
- Changing how you do things does not mean stopping what you are doing but it means to physically changing how you perform the activity.

Pre-Surgery Exercises

General instructions

- Be aware of your posture and spine position at all times during the exercises. Your goal is to keep your spine in a neutral (good postural) position. A neutral spine is the proper postural position of the spine (as seen in the picture at right).
- Move to the point of stretch and hold as prescribed – do not force movements (stretching may be uncomfortable and should only cause mild to moderate discomfort, not pain).

Always breathe normally when doing your exercises.



POSTURE CORRECTION EXERCISES

■ SITTING

1. Support your lower back with a towel or lumbar roll.
2. Keep your feet flat on the floor and knees relaxed.
3. Avoid “head forward” posture by keeping your chin from protruding forward.
4. Vary your posture as you sit, and avoid sitting for long periods without getting up and moving around.
5. Breathe normally when doing the exercise.



■ STANDING

1. Start with your feet kept about shoulder width apart with equal weight on each leg.
2. The knees are slightly bent (enough to feel the thigh muscles working).
3. The abdominal muscles are contracted until the most comfortable (neutral) position of the back is felt.
4. The shoulders are pulled back over the hips and then relaxed.
5. The head is moved back over the shoulders as far as is comfortable.
6. Breathe normally when doing the exercise.



RESTING AND MOBILIZING EXERCISES

Z-LIE POSITION

1. Lie with back flat on floor, head supported by a pillow.
2. Place feet on a chair.
3. Bend knees at more than a 90 degree angle.
4. Support buttocks with a pillow if needed.
5. Breathe normally when doing the exercise.



GETTING IN AND OUT OF BED

1. Sit on edge of bed.
2. Lay down on your side, use your arms to lower your body.
3. Bring your feet up onto bed at the same time.
4. Then move into your comfort position.
5. Reverse the process to get out.
6. Roll onto your side near the edge of the bed.
7. Gently swing both legs off the bed.
8. Use your arms to raise your body.



1.



2.



3.

Getting out of bed 1 → 2 → 3

Lying down 3 → 2 → 1

Breathe normally when getting out of bed.

STRENGTHENING AND FLEXIBILITY EXERCISES

■ POSTURAL WALL EXERCISE

1. Stand with feet 10 to 11 inches away from wall.
2. Place buttocks and shoulders against the wall.
3. Place rolled towel between lower back and wall.
4. Place back of hands against the wall.
5. Place back of head against the wall – eyes level.
6. Tilt your pelvis to push your lower back against a rolled-up towel.
7. Breathe normally when doing the exercise.



■ BUTTOCK SQUEEZE

1. Lie on your back with your legs straight.
2. Tighten your buttock muscles.
3. Hold for five to 10 seconds.
4. Do not hold your breath. Relax.
5. Repeat 10 times.
6. Breathe normally when doing exercise.



RESTING AND MOBILIZING EXERCISES

■ ABDOMINAL TIGHTENING

1. Lie on your back with your knees bent.
2. Tighten your stomach muscles so that you flatten your back against the bed or supporting surface.
3. Hold five to 10 seconds.
4. Do not hold your breath. Relax.
5. Repeat 10 times.
6. Breathe normally when doing the exercise.



■ KNEE TO CHEST

1. Lie on your back with your knees bent and feet flat on the bed.
2. Lift one leg, knee to chest, pulling gently with your hands.
3. Hold for 30 seconds
4. Return to starting position.
5. Repeat three times with each leg.
6. Breathe normally when doing the exercise.



■ CALF STRETCH

1. Stand against a wall as shown.
2. Point toes directly toward wall and hold heel of back foot down.
3. Lean into wall as shown so that you feel a stretch in the back calf.
4. Hold for 30 seconds. Relax.
5. Repeat three times on each leg.
6. Breathe normally when doing the exercise.



Appointments

Spine Surgeon Consultation

When you meet your spine surgeon, your surgical procedure will be explained. The surgeon will discuss the risks and benefits of surgery and gets consent from you to book your surgery date.

Pre-Admission Clinic (PAC)

The Pre-Admission Clinic (PAC) is an outpatient clinic that is the final step in preparing you for surgery.

- Basic tests may be done such as an electrocardiogram (ECG), blood test, and X-rays.
- This appointment generally happens a few weeks before surgery.
- If you have any last-minute questions, this is an excellent time to ask. Write your questions down ahead of time and bring them with you.
- You will be given the date and time to come to the hospital for your surgery.

When you are contacted by the clinic, they will set up:

a) An appointment date and time for a PAC clinic visit

- If your surgeon requests a consultation for you with an anaesthetist or other medical specialist, it is done at this time.
- It is a good idea to bring one friend or family member for your PAC clinic visit.
- Bring all prescription medication in original containers or bubble packs, herbals, vitamins, and over the counter medications in their original containers.

b) Or a telephone interview appointment

- Have your prescription medication in original containers or bubble packs, herbals, vitamins and over-the-counter medications close at hand when you take part in this interview.

Between your PAC Visit and Day of Surgery

Important: What if my health changes before my surgery?

If you do not feel well, or if there is a change in your health, let your surgeon know at least 24 hours before your surgery.

Some important changes could be:

- A new cough; or a cough that is getting worse
- Fever, or chills, or both (temperature 38.5 °C or 100.4° F)
- Diarrhea
- Shortness of breath (worse than your usual)
- Severe headache (worse than your usual)
- Muscle aches
- Extreme fatigue or feeling very tired
- Vomiting (throwing up)

If you develop a fever, infection, cold, flu, or gastric symptoms (such as diarrhea) before your surgery, please call your surgeon's office as this may mean **your surgery needs to be rebooked**.

Medications that May Increase your Bleeding Time

Some herbals, vitamins and over-the-counter medications increase your bleeding time and therefore may need to be stopped several days before surgery.

Ask your doctor when and if you should stop these medications

Medications you may be asked to stop before surgery include:

- Warfarin (Coumadin®, Taro-Warfarin®)
- Clopidogrel (Plavix®)
- Midol®
- Ibuprofen (Motrin®, Advil®)
- Novasen products
- Robaxisal® products
- Herbal medications
- ASA (acetylsalicylic acid), Aspirin®, Entrophen® or medications containing this product
- 222® tablets
- Pradox (Dabigatran)
- Xarelto (Rivaroxaban)

Some Canadian products containing ASA (acetylsalicylic acid):

(not a complete list)

- A.C. and C. (various manufacturers)
- Alka-Seltzer®
- Anacin® products
- ASA ECT (various manufacturers)
- Asaphen products
- ASA tablets (various manufacturers)
- Aspirin® products
- Bufferin products
- Coricidin®
- C2 products
- Entrophen® products
- Herbopyrin
- Instantine
- Methoxisal products
- Midol® regular
- Midol™ traditional
- MSD® enteric coated ASA
- Norgesic
- Norgesic Forte™
- Novasen products
- Obusforme
- Pain aid
- Robaxisal® products
- 222® tablet

Be sure to check the labels of all medications to see if they contain ASA.

If in doubt ask a pharmacist or your doctor.

Pre-Surgery Checklist

Advance Preparations

Items you need in the hospital may include:

- This booklet
- Your Saskatchewan Health Services card number
- Your current prescription medications in their original container or bubble pack and a list of any herbal, vitamins, and over-the-counter medications
- Loose comfortable clothing; button or zip-up tops are easier than pullovers
- One small suitcase

DO NOT BRING valuables, large sums of money or medications.

In a small suitcase:

- Closed-heel, rubber-soled shoes/runners
- Cotton t-shirt
- Any necessary items such as dentures, eyeglasses, hearing aids
- Any special equipment or aids you use at home such as a CPAP machine, crutches, walkers, wheelchairs and braces. Label them with your name and address
- A small amount of cash if you wish (coffee shop/newspaper)
- Something to read, or puzzle book
- Personal care items as:
 - Toothbrush/toothpaste
 - Comb/brush
 - Razor, if required
 - Deodorant/soap/shampoo if desired

DO NOT USE scented personal care products (can aggravate health problems for some people).

A hospital gown and housecoat are provided. You may bring your own, but you are responsible for the care of these items.

Before your surgery, have these ready:

- A support person
- A ride to the hospital
- A ride home from the hospital
- A support person available to assist and support you when you get home
- Your cane or walker, if you normally use one
- Your back brace, if surgeon has prescribed one
- Some meals prepared for when you get home
- One week of groceries

Before your surgery, make sure you:

- Have practised exercises in this booklet.
- Arranged your home environment to minimize bending, reaching, and lifting.
- Talked to your doctor about medication issues.

The Day before Surgery

Skin preparation:

- Shower or bathe using unscented or non-perfumed soap (the night before or morning of surgery).
- Shampoo your hair.
- Remove fingernail and toe polish.
- Remove all body piercings and jewellery.

Nutrition preparation:

- Continue to follow your regular diet.
- Avoid eating a heavy meal the day before surgery.
- No alcohol for 24 hours before your surgery.

After midnight:

- Do not** drink fluids.
- Do not** eat any food.
- Do not** smoke.
- Do not** chew gum or suck on candies.

Any medication your doctor has instructed you to take should only be taken with a sip of water.

■ The Day of Your Surgery

What to Expect

- Have someone drive you to the hospital.
- Register at Admitting when you arrive.
- You will be directed to the pre-surgical area where the preparation is done for your surgery.
- You and the doctor responsible for anesthesia will decide together what type of anesthetic is best for you.
- An intravenous line (IV) will be started in one of your arms.
- You may be given sedation and other medication before surgery.
- You will be taken to the operating room.
- You will be given an anesthetic.

Clothing and Belongings

- Remove** all jewellery, piercings, dentures, glasses, contact lenses, artificial body parts, nail polish and make-up before surgery.
- Send** all valuables home with your family/support person.

Your health care facility is not responsible for lost items.

All belongings will be taken to the surgical unit that you will be going to after surgery.

Types of Anesthesia

Anesthetist

- An anesthetist is a doctor with specialized training in sedation for surgery and pain control. This doctor gives you the medication that allows you to sleep for your surgery, if required. A member of the anesthetic team stays with you and monitors you closely throughout your surgery. The anesthetist is responsible for helping you manage your pain after the surgery.
- The anesthetist discusses with you the type of anesthesia you will be having with your surgery.

General Anesthetic

- The medication will put you to sleep during the surgery. A breathing tube is placed in your mouth and throat to assist with your breathing. The tube is removed once the surgery is done. After surgery, you will be taken to the post anesthetic care unit where you will wake up.
- Possible side effects: nausea, drowsiness, and mild sore throat.

In-Hospital Recovery After Surgery

What to Expect

Immediately after surgery you will be taken to the Recovery Room

- Your nurse checks your circulation and the sensation in your legs.
- You will be monitored for breathing, pulse, blood pressure, oxygen and pain levels.
- You will have a dressing on your lower back.

You will then be taken to your hospital room

- The nurse continues to monitor your status.
- The nurse asks you to do deep breathing, foot and ankle exercises.
- If you are having difficulty urinating, a nurse inserts a tube into your bladder to drain the urine.
- You can expect to see some bruising and swelling develop in your lower back.
- The side rails on your bed may be raised for safety.

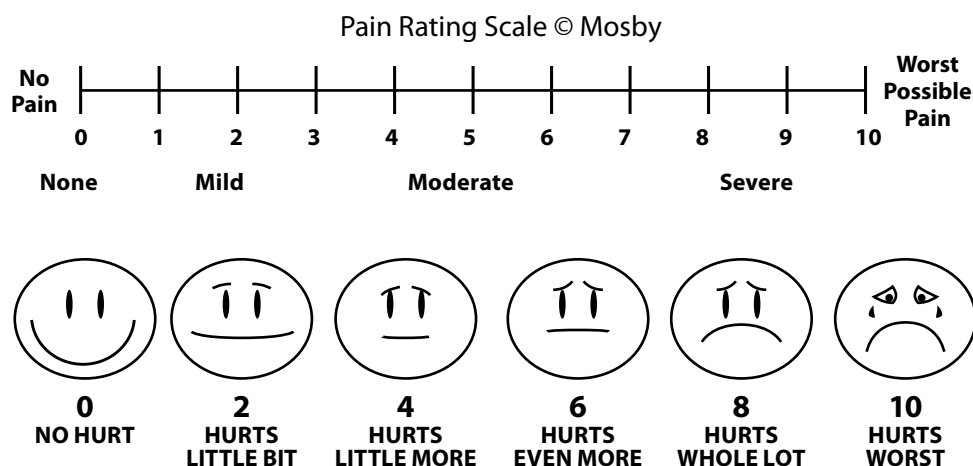
Your support person and family member are welcome to visit.

How to Manage Pain after Surgery:

Pain is expected:

- After your surgery, you will be given pain medication. Good pain control allows you to move and become more active.
- You will be asked to describe your level of pain on a scale of 0-10. Zero represents no pain and 10 represents the worst possible pain.

“How is your pain right now?”



Types of Pain Control

Your anesthetist will discuss which types of pain control are best for you, including:

1. Oral pain medication

- Usually pain is well controlled with oral pain medications.
- When you are able to sip fluids, you will be given your medication by mouth.

Don't be afraid to ask for pain medication.

2. Intravenous or injected pain medication

- Pain medication is given through an intravenous line or injected into a muscle if you are unable to take medication by mouth.
- **Patient Controlled Analgesia (PCA)** is a machine connected to your intravenous that:
 - Lets you control the amount of pain medication you receive by pushing a button;
 - Delivers a small amount of medication into your intravenous line; and
 - Is programmed to allow an amount of pain medication that is safe for your body size.

3. Ice

- Use as required for 10 minutes at a time

4. Visualization/Deep Breathing/Meditation

- Practise formal relaxation techniques like deep breathing, visualization/visual imagery and progressive muscle relaxation.

If your pain doesn't go away or gets worse after pain medication, tell your nurse.

Nurse's responsibility:

- Take your pain seriously
- Routinely assess and treat your pain as quickly as possible
- Provide safe pain management treatment
- Give clear answers to your questions

Patient's responsibility:

- Tell your nurse if you are having pain
- Ask for pain relief before you become too uncomfortable
- Give your nurse an honest report of your pain using the pain scale
- Tell your nurse if your pain is not relieved
- Tell your nurse if you are experiencing side effects of medications (nausea, constipation, etc.)
- Attend therapy as scheduled (mobility promotes healing)
- Ask questions about your medications

Your Care Plan

The patient care plan is a general guide for your hospital stay. People recover differently, so your activities and discharge might be slightly different than indicated in the guide.

Nutrition

- You will have an intravenous (IV) until you are eating and drinking well.
- You will start on a liquid diet.
- You can eat solids when your appetite improves.
- A poor appetite is common after surgery.

Hygiene

- Assistance as needed.
- Your nurse or physician will let you know when you can shower.

Wound and Incision Care

- Your dressing will be checked and reinforced as needed.
- It is normal for your incision to feel tender, tight, itchy and numb.
- A drain near your incision may or may not be inserted during surgery.
 - It is emptied as needed.
 - It is removed before you are discharged.
- Dressings will be changed or removed before you are discharged.
- Your surgical wound should be clean and dry. If your health care team is concerned that your wound is not healing properly, wound care management may be arranged for home.
- Staple/suture removal is arranged, if necessary.
- The incision may be sore for several weeks.

Pain Control and Medication

- Pain medication will be given regularly and as needed, as well as stool softeners and anti-nausea medication.
- Your previous medications are resumed unless contraindicated (as per your doctor's decision).
- Prescriptions are given as doctor indicates.
- Ask questions about your medications.

Pain medication works best if taken:

- Regularly every 4-6 hours
- Before activity
- Before severe pain develops

Rest and Sleep

- Limit your visitors.
- While getting moving is important, getting enough rest is important for recovery.

Sleeping/lying positions

- If you sleep on your side, use a pillow between your knees to avoid twisting your lower back. You may want to sleep with a night roll between your pelvis and ribcage (under your waist) to assist in supporting your lower back in a neutral position.
- If you sleep on your back, use a pillow under your head. You can increase your comfort by placing a pillow under your knees.
- Whether on your side or on your back, keep your spine aligned in a neutral position – avoid bending forward or to the side. Ask any questions concerning re-positioning with your nurse, physical and/or occupational therapist.



General Activity

- Deep breathing, coughing, foot and ankle exercises are done until you are up and walking regularly.
- Until you are comfortable repositioning yourself – ask your nurse and/or physiotherapist to assist you.
- Sit up on side of bed or stand with assistance from your nurse or physiotherapist.
- Your physiotherapist and/or nurse will assist with post-operative exercises and walking.
- Continue to exercise daily.
- Sit up in your chair at all meals.
- Walk with assistance.
- If you have been instructed to wear a brace after your surgery – do not get out of bed until it is on properly.

Your nurse will encourage you to use pain medication about 30-60 minutes before exercises.

Breathing and Circulation Exercises

BREATHING

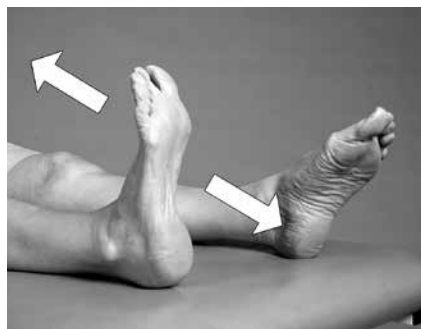
1. Sit or lie down.
2. Inhale deeply through your nose.
3. Without exhaling, take three small “sniffs” to fill your lungs.
4. Hold two to five seconds, and then exhale.
5. Do this 10 times every hour that you are awake while in hospital.



Do breathing and circulation exercises 10 times every hour you are awake while in hospital.

CIRCULATION

1. Pump your feet up and down.
2. With your legs straight out in front of you, squeeze the muscles on the front of your thighs and buttock muscles.
3. Hold for 3 seconds.
4. Relax



Do ankle circles in each direction

Your recovery will go more smoothly if you do breathing and circulation exercises and get out of bed and walk as soon as you are able.

Back Brace

Your surgeon will decide if you need a back brace after surgery.

- Your doctor tells you how long you are supposed to wear the brace.
- You **MUST** wear your brace at all times except when sleeping, unless your doctor has told you otherwise.
- Wear a T-shirt under your brace to protect your skin.
- With the back brace on, dress in a sitting or lying position.
- **Do NOT** have a tub bath during the weeks or months that you have to wear your brace.
- You **MUST** wear your brace to go to the toilet.
- You **MUST** wear your brace to shower unless otherwise indicated. You have 2 choices:
 - Drape your brace with a large plastic garbage bag to keep it dry; or
 - Shower at night. Take off wet brace and allow it to dry while you sleep.
- You **MUST** wear your brace during sex.
- Consult your health care team to ensure your brace fits correctly.

After-Surgery Exercises

Exercise within your tolerance level

Your in-hospital therapist reviews these exercises with you. If you have any questions or problems with the exercises, please talk to your doctor or health care provider.

- You will feel a strain in the area of your surgery. However, this should not last long and you should not have increased symptoms in your legs. Work to your own tolerance level (if three repetitions or less of any exercise causes pain, omit that exercise until later).
- Be aware of your posture and spine position at all times, especially during the exercises. Your goal is to keep your spine in a neutral position.
- Move to the point of stretch and hold as prescribed – don't force movements (stretching may be uncomfortable but should not cause severe pain).
- Perform each exercise within your tolerance. Do these exercises 4 to 5 times per day following surgery. Gradually do more until you can complete each set of exercises 5 times per day and you are back to your normal daily activities. Some of the exercises you may want to continue indefinitely as part of your daily routine.
- Daily aerobic activity is important for your back. Choose an activity that does not involve jarring, twisting or uncontrolled movements. Good aerobic activities would include:
 - Walking
 - Nordic (pole) walking
 - Swimming
 - Riding a recumbent bike

Stretching and Strengthening Exercises

(Do the ones your physical therapist has prescribed)

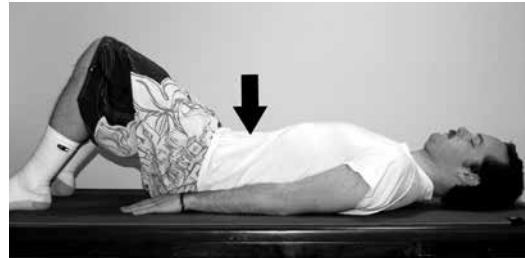
■ BUTTOCK SQUEEZE

1. Lie on your back with your legs straight.
2. Tighten your buttock muscles.
3. Hold for five to 10 seconds.
4. Do not hold your breath. Relax.
5. Repeat 10 times.
6. Breathe normally when doing exercise.



■ ABDOMINAL TIGHTENING

1. Lie on your back with your knees bent.
2. Tighten your stomach muscles so that you flatten your back against the bed or supporting surface.
3. Hold five to 10 seconds.
4. Do not hold your breath. Relax.
5. Repeat 10 times.
6. Breathe normally when doing the exercise.



■ KNEE TO CHEST

1. Lie on your back with your knees bent and feet flat on the bed.
2. Lift one leg, knee to chest, pulling gently with your hands.
3. Hold for 30 seconds
4. Return to starting position.
5. Repeat three times with each leg.
6. Breathe normally when doing the exercise.



■ HAMSTRING STRETCH

1. Lie on your back.
2. Bend your hip, grasping your thigh just above the knee as shown.
3. Breathe normally.
4. Hold for 30 seconds. Relax.
5. Repeat three times on each leg.



CALF STRETCH

1. Stand against a wall as shown.
2. Point toes directly toward wall and hold heel of back foot down.
3. Lean into wall as shown so that you feel a stretch in the back calf.
4. Hold for 30 seconds. Relax.
5. Repeat three times on each leg.
6. Breathe normally when doing the exercise.



PARTIAL SQUAT

1. Start with buttocks at bar stool height.
2. Tighten your abdominal muscles to keep your spine stabilized.
3. Squat down partially Butt out and chest forward.
4. Breathe normally.
5. Hold for five to 10 seconds.
6. Return to starting position.
7. Repeat 10 times.
8. Progress to normal chair height.



■ UPPER BACK STRENGTHENING

1. Sit in a chair with a back support.
2. Tighten your stomach muscles to give your lower back support.
3. Sit with your arms and elbows bent as shown.
4. Pinch your shoulder blades together as you press both arms backward.
5. Breathe normally.
6. Hold 5 seconds.
7. Repeat 10 times.



■ ANKLE STRENGTHENING

1. Stand with your hands resting on a sturdy countertop.
2. Rise up onto your toes as shown.
3. Breathe normally.
4. Hold for 5 seconds. Lower to flat. Repeat 10 times.
5. Repeat lifting your toes standing on your heels.
6. Hold for 5 seconds. Lower to flat.
7. Repeat 10 times.



■ STANDING HIP EXTENSION

1. Stand with your hands resting on a sturdy countertop.
2. Straighten one leg behind you – keep that knee straight and your back upright.
3. Breathe normally.
4. Hold 5 seconds. Relax.
5. Return leg to starting position.
6. Repeat 10 times on each leg.



Posture Correction

Correct sitting and standing posture means maintaining the proper curves of your back and neck.

■ SITTING

1. Support your lower back with a towel or lumbar roll.
2. Keep your feet flat on the floor and knees relaxed.
3. Avoid “head forward” posture by keeping your chin from protruding forward.
4. Vary your posture as you sit, and avoid sitting for long periods without getting up and moving around.
5. Breathe normally when doing the exercise.



■ **STANDING**

1. Start with your feet kept about shoulder width apart with equal weight on each leg.
2. The knees are slightly bent (enough to feel the thigh muscles working).
3. The abdominal muscles are contracted until the most comfortable (neutral) position of the back is felt.
4. The shoulders are pulled back over the hips and then relaxed.
5. The head is moved back over the shoulders as far as is comfortable.
6. Breathe normally when doing the exercise.



Precautions to Avoid Damaging your Spinal Surgery

Each “new activity” that you restart after your surgery should be approached with caution; begin slowly and build up time, speed, and intensity in gradual stages. Move your lower back within tolerance. You should only experience mild discomfort.

DO NOT FORCE THE MOVEMENT, CONTROL THE MOVEMENT

- If any particular movement produces pain, consult with your health care provider to determine if it is safe to proceed with that activity.
- Avoid sudden, awkward jarring movements; a sudden shift off balance can strain or injure even a healthy back.
- As a general rule, light work (i.e. desk job) may be started within a few weeks after surgery, and heavy work (e.g. manual labour) is usually not started before at least 6 weeks postoperatively. Get your doctor’s approval before starting sports or heavy labour. Also check with your physical and/or occupational therapist prior to returning to work to assist in addressing any ergonomic issues. You may have to return to work gradually.

- Golf, curling, jogging, racket sports, tennis, weight lifting, and skiing are all sports that can cause you to re-injure your back if you are not careful. For any of these sports you should obtain professional instruction in proper back healthy techniques.
- You should avoid sports that involve rough physical contact, where there is a higher stress to your back. The following sports should be discussed with your doctor: hockey, basketball, football, wrestling, snowmobiling, gymnastics, and diving.

Getting Moving

- Activity prevents you from getting stiff and sore.
- Your nurse or physical therapist will show you how to change position, help you sit on the edge of the bed, and help you stand on the first day after your surgery.
- Sit up, then stand and walk with a walker and/or staff assistance.
- See a physical and/or occupational therapist soon after surgery.
- Once you can walk alone, take short frequent walks during the day, gradually increasing your distance and pace.
- Start an exercise program to regain strength and movement in your lower back. Some of the exercises may cause mild discomfort, but it is important to start them as soon as possible.
- Practise some everyday activities, including getting in and out of bed or the tub, dressing, and climbing stairs. Initially, these activities may potentially be performed with adaptive equipment.

You will not damage your spine fusion or incision by following your therapist's directions.

■ Discharge Planning

Getting Ready to Go Home

Your health care team will determine when it is appropriate for you to be discharged from the hospital.

Recovery varies from person to person.

Before you go home, you must know how to safely:

- Move on and off the toilet and a chair
- Get in and out of bed
- Dress with aids or with minimal help
- Walk the distance you need to get around your home
- Use stairs if necessary
- Get in and out of the bathtub or shower with or without equipment
- Do your exercises – therapist will review these with you. This will become your home exercise program

If you anticipate needing more assistance on discharge, community resources are available. A member of your health care team assesses this prior to discharge from hospital.

Equipment

Your health care team may decide you need one or more of the following equipment items:

- Bath seat, shower seat, or transfer tub seat
- Raised toilet seat/commode
- Wall grab bars
- Non-slip surfaces in tub/shower, bath mat outside of the tub
- Long-handled reacher, sock aid, elastic shoelaces, long-handled shoe horn
- Long-handled sponge or brush
- Sturdy, firm armchair, above knee height
- Walker or cane
- Any other items identified for you by your health care providers
- Brace if indicated (needs to be properly fitted to your present body shape)

Some of the equipment is provided on a free loan basis by Saskatchewan Abilities Council and some will be purchased. A physical therapist or occupational therapist helps to determine what you need and where to get it. Plan on using the equipment for up to 3 months following surgery to help your lower back recover.

Day of Discharge

It is important that your support person is present. Your nurse and/or therapist will review your discharge instructions with you and your support person.

If you are travelling a long distance:

- Plan to make frequent stops. Get out of the car to move and stretch when you stop. Make frequent changes of body position by changing the recline feature of your car seat.
- Bring extra pillows and ice packs; use ice for 10 minutes at a time.
- Remember to take your pain medications before you leave the hospital.

If you experience any of the following symptoms at home, call your family doctor or go to the nearest medical centre/emergency department:

- An increase in pain, swelling or tenderness in your lower back that is not relieved by rest and icing
- Your incision becomes red, hard, hot, swollen, begins to drain, or has a bad odour
- Chills and a fever (above 38.5° C or 100.4° F)
- Redness or pain in your lower legs, even when resting
- A painful “click” and decreased movement in your lower back or sudden difficulty walking
- Blood in your stool, urine, or sputum, and increased bruising
- Other infections such as a chest cold or bladder infection
- Pain in your chest, difficulty breathing or shortness of breath - go to the nearest emergency department.

Hospital Discharge Checklist

Make sure you check all items before you go home:

- I have confirmed my ride home.
- I have had a bowel movement.
- I know how to take care of my incision.
- I know what my medications are supposed to do and when to take them.
- I have an exercise program to follow.
- I know the signs that mean I need immediate medical attention.
- I have information about my follow-up appointments with my family doctor, surgeon, and physiotherapist if deemed necessary.
- I have signed and kept a copy of my discharge instructions.
- I have arranged for all the equipment I need.

■ Activities at Home

Sleeping/Lying Position

- If you sleep on your side, use a pillow between your knees to avoid twisting your lower back. You may also want to sleep with a night roll just above your pelvis to assist in supporting your lower back in a neutral position
- If you sleep on your back, use a pillow under your head.
- You can also increase your comfort by placing a pillow under your knees.
- Whether on your side or on your back, keep your spine aligned in a neutral position – avoid bending forward or to the side.



Sleeping Surface

- Your mattress should not be too hard, nor should it be so worn that it sags. A soft mattress can be comfortable if it is placed on a firm support.
- Avoid a bed with a wire base as these permit sagging. Use a solid base.
- If you must sleep on a waterbed, make sure it is properly filled. Generally those with coils or “baffles” provide better support. The key is to sleep in a good position.

Continue to practice the good back postures you started in the hospital.

Bathing

- Your lower back needs time to heal and the structures around the lower back need time to tighten.
- For the first four weeks post surgery, showering is recommended as bathing may increase stress on your back.
- If you are experiencing leg weakness, getting in/out of tub may be difficult. Equipment such as bath seat and/or wall bars may be helpful. If you have concerns regarding tub transfer, ask to speak to your occupational therapist.
- When washing your hair, turn to face the shower to avoid over-extension of your neck and back. A spray hose attachment may be helpful.
- Soaking your surgical wound in bathwater is not recommended until staples are removed and wound is healed (four weeks).

Dressing/Shaving/Applying Make-up

- Sit down to put on pants, socks, and shoes.
- Bend your hip and knee to bring your foot up. **Do not** bend at the waist.
- Bend at your knees to get to sink level to shave or apply makeup.
- If you prefer, sit on a high stool when working at sink.

Housework/Yard Work

- Maintain good posture when performing any housework and yard work. Avoid twisting and jerking movements. Use mechanical aids when possible.
- Keep your hips, shoulders and toes going in the same direction. Stay within your base of support.
- Avoid activities such as raking and vacuuming for 6 weeks.
- Pace yourself. Plan to take rest breaks. Spread heavy chores throughout the week.
- Arrange cupboards and shelves so commonly used items are easy to reach. Use a step stool to reach higher shelves.
- Delegate responsibilities to family members or friends when possible.
- When using a broom, vacuum or rake, keep it close to your body and do not try to reach forward or to the side; walk with the broom/vacuum/rake to avoid bending and twisting at your waist.
- When making beds, kneel to tuck in the sheets and walk to each corner. Do not reach across the bed.
- Wash smaller loads to avoid lifting heavy loads of wet clothes. Squat or kneel to load and unload front loading washing and drying machines.
- Use a reacher tool to reach items from bottom of top loading machines.
- When cleaning the tub, use a long handled brush/sponge to avoid reaching out of your base of support and use a spray attachment to rinse the tub.
- Gardening and yard work should be done in moderation. Pace yourself.
- Use a self-propelling lawn mower and snow blower.
- Choose lightweight tools. Use a trimmer with a long handle.
- For low activities such as planting, use a stool, squat, or crawl position to support your back.
- If you have concerns regarding housework/yard work, speak to your health care team.

Driving

- Make sure to discuss driving with your doctor.
- Avoid low seats. To get in, sit down on seat then pivot turn buttocks while lifting legs in.
- Avoid twisting to apply seatbelt.
- Driving as an occupation – be sure to change position every 15 to 30 minutes

Leisure and Recreation

If any activity causes you pain, consult your health care provider before proceeding.

- Start out with light activities and gradually progress to moderate activities. Avoid jarring activities.
- Remember proper postures and body mechanics in all activities.

Returning to Work

- Guidelines for return to work are different for everyone. It depends on rate and degree of recovery following surgery and the type of work you are returning to.
- Before returning to work, check with your family doctor.
- Evaluate all aspects of your job and ensure you are able to use proper techniques for sitting, standing and lifting.
- Keep your hips, shoulders and toes going in the same direction. Stay within your base of support.
- Take frequent breaks to change position and stretch your back.
- A gradual return to work may be appropriate (reduced work hours and/or light duties).
- If you have any concerns regarding your ability to return to work or your ability to perform certain aspects of your job, discuss these issues with your Occupational Therapist.

Change how you do your daily activities, develop new habits.

Sexual Activity

- Communicate with your partner about your back condition.
- Avoid staying in one position or repeating a movement for a prolonged period of time.
- Begin with short sessions at the beginning, gradually building time as tolerated.
- Plan to change position and/or technique often. Do not stay in a position if it is painful.
- Avoid excessive arching of neck and back.
- Use pillows as necessary for extra support. Use a firm mattress or chair with good support.

Post-Surgery Activity – Guidelines

About three months after surgery, you may resume the following activities if your surgeon approves:

- Swimming
- Golf
- Cycling on a regular bike
- Gentle dancing
- Aquatic exercise
- Hiking
- Gardening in raised beds or with long-handled tools (to limit excessive bending)

Activities of Daily Living – Guidelines Following Back Surgery

These are guidelines only. Activity Tolerance will vary for each individual. These guidelines will vary dependent upon type of surgery. Advance activities as doctor or therapist permits.

All guidelines are general. Please check with your Doctor or therapist to review progressions.

Daily Activities - Guidelines						
Days after Surgery	0 to 3 days	3 to 7 days	7 days to 4 weeks	4 to 8 weeks	2 to 3 months	3 to 4 months
Walking	Frequent short walks on ward	Gradually increase distance	Increase distance as tolerated – start on smooth surfaces	Increase distance as tolerated – start on graded surfaces		
Self Care	Basic hygiene – washing, dressing, grooming					
Sitting	Use of toilet, getting in/out of bed as tolerated, max.15 minutes at a time		Gradually increase sitting as tolerated, use proper chair postures	Increase as tolerated, change position frequently		

POST-SURGERY ACTIVITY – GUIDELINES

Daily Activities - Guidelines						
Days after Surgery	0 to 3 days	3 to 7 days	7 days to 4 weeks	4 to 8 weeks	2 to 3 months	3 to 4 months
Bathing	Sponge bath or shower as per doctor's orders, do not get soap in area of staples			Return to regular tub/shower as per your preference		
Hobbies, Interests			Use proper body mechanics, change positions frequently, use proper work heights			
Lifting			Light to 5 lbs (2kg), work on proper technique	Moderate – 10 to 15 lbs (5 to 6.5 kg), use proper technique		Heavy – gardening, shovelling, use proper technique
Sex			Within limits of comfort			
Travelling			As tolerated, change positions every 30 minutes.		Driving as an occupation as tolerated – frequent breaks	
Work			Light house keeping – dishes, dusting	Non-manual labour with doctor's permission after 6 weeks - office	Return to moderate work with doctor's permission	Return to heavy work with doctor's permission
Activities	Walking and prescribed exercises	Walking and prescribed exercises	Walking and prescribed exercises	Non-jarring sports with doctor's permission	Light strenuous sports with doctor's permission	Gradually return to more strenuous activities with doctor's permission

Ask your physical or occupational therapist for advice and additional references.

■ Long-Term Concerns

Infection or Loosening of Hardware

- If your lower back was fused, you may be at risk of getting an infection. If you develop an infection of any sort (bladder infection, abscessed teeth, lung infection), consult your family doctor, who will determine the best treatment option.
- If you are having major dental work or other surgery, tell the dentist or surgeon about your spinal fusion. They will let you know if you need to take special precautions.
- If your post-operative condition changes, consult your family doctor or surgeon, who will advise you on proper management.

What is a Surgical Site Infection (SSI)?

A surgical site infection is an infection that occurs after surgery in the part of the body where the surgery took place. Because infections can develop we want to do everything possible to prevent them.

Some of the common symptoms of a surgical site infection are:

- Redness, heat, swelling, or pain around the surgical site
- Drainage of fluid from your surgical wound
- Foul odour from incision
- Chills or fever

If any of the above symptoms present within 30 days of your surgery (or up to one year if you have an implant such as mesh, wires, plates, and/or screws) contact your doctor.

Controlling your Back Health

It is important to make sure your lifestyle and daily activities allow your lower back to stay healthy.

Review your lifestyle and activities that affect your back. Make changes at work, home or in your leisure activities to prevent long-term problems.

Resources

Surgical Inquiries

Health Region	Phone
Regina Qu'Appelle	306-766-0460 Toll free: 1-866-622-0222 TTY Access: 1-866-312-7674
Saskatoon	306-655-0567 Toll free: 1-866-543-6767
Cypress	306-778-9530
Five Hills	306-691-2621
Heartland	Toll free: 1-800-631-7686
Keewatin Yatthé	306-833-5507
Kelsey Trail	Toll free: 1-877-573-6601
Prairie North	306-820-6040
Prince Albert	306-765-6370
Parkland	
Sun Country	Toll free: 1-800-696-1622
Sunrise	Toll free: 1-800-505-9220

Surgical Information

www.sasksurgery.ca/patient/spine.html

LiveWell with Chronic Conditions

1-877-LIVE-898

1-877-548-3898

www.tinyurl.com/CDM-LiveWell

Back Education Websites

www.backcarecanada.ca

www.spinecanada.ca

Canada's Food Guide

www.healthcanada.gc.ca/foodguide

Saskatchewan Abilities Council

Special Needs Equipment: the Special Abilities Council (SAC) is contracted by the Ministry of Health to provide some of the equipment you may need. Some items are lent out free for as long as required. You must return equipment to one of the agencies listed below when it is no longer needed.

You may need to purchase some additional equipment. Your physical or occupational therapist completes the necessary forms for loan equipment and advises you if you need to purchase other equipment.

Saskatoon

2310 Louise Ave. 306-664-6646

Regina

825 McDonald St. 306-569-1262

Swift Current

1505 Chaplin St. W. 306-773-2071

Yorkton

144 Ball Road 306-786-9255

Prince Albert

1205-1st Avenue East 306-922-0225

www.abilitiescouncil.sk.ca

The Arthritis Society

1-800-321-1433

www.arthritis.ca

Smoker's Helpline

1-877-513-5333

