# Table of Contents

**Prepare For Your Surgery**

- Things to Do Before Your Surgery .................................................................2
- Prepare Your Mind: Understand Your Spine ..............................................6
- Prepare Your Body .....................................................................................7
- Pre-Surgery Instructions .........................................................................10

**Your Hospital Stay**

- Your Surgery ...............................................................................................15
- After Your Surgery ..................................................................................17
- Prepare for Discharge ............................................................................26

**After Your Discharge**

- The Future .................................................................................................27
- Tips For Your Daily Activities .................................................................29
- Eating Plan After Surgery .....................................................................32
As You Begin Your Life-Changing Days

You are about to start a journey that will do more than heal your spine. It will raise your spirits and change your life.

Patients typically stay in the hospital 1-4 days after surgery. However, the length of stay is different for everyone. Our team will help you prepare for your return home.

We hope that with this information and with our help, this process will be as easy and stress-free as possible. Learning about surgery and being active in your preparation and recovery will help you have less anxiety before surgery, recover more quickly after surgery, and have lower risks of complications. A well-prepared patient knows what to expect and does better after surgery.

If you have a question or concern about arrangements or special needs, or if you would like more information, please contact us. Every question you have is important. You can also visit our website to find more information: henryford.com/spineprehab.
Prepare For Your Surgery

It’s never too early to plan for your healing. The more you plan ahead, the more stress-free your experience will be. In this section, you will find all you need to fully prepare for your recovery.

Things To Do Before Your Surgery

Choose a Coach
- This person is usually a close friend or family member that will learn with you about your recovery process. Your coach may need to be available for at least a few days after you go home to support your recovery.
- This person may also help you with your exercises, give positive encouragement, help motivate you, and be able to help answer questions that may come up.
- Not everyone chooses to have a coach, but it is strongly encouraged and has been helpful for many patients.

Make Arrangements For Someone To Be With You
- It is best to have someone with you for about 3-4 days after surgery until you are stronger and more independent.
- Arrange for someone to care for your home, yard, pet or vehicle for a few weeks.
- You will need someone to drive you home from the hospital and to follow-up appointments.

Check Into Your Insurance
It is your responsibility to let your surgeon’s office of any insurance changes. Your surgery may be canceled if you do not do this.

Look Into Adaptive Equipment
Adaptive equipment is any tool, device, or machine that can help you with daily living tasks. Not all patients will need adaptive equipment.
- If you think you may need some, you may get them from your local pharmacy, local medical supply stores, Veteran’s Administration, garage sales, friends or family, and online stores (try a search for “home health equipment”).
- Most adaptive equipment tools are an out-of-pocket cost (besides walkers).
- We can help determine what you need during your hospital stay if you prefer to wait.
Start Conditioning
Look at the exercises that start on page 7 and try them out.

Use the Incentive spirometer
If you were given an incentive spirometer, practice using it several times each day for up to 2 weeks before surgery (if time permits). See page 18 for detailed instructions on how to use it.

Practice deep breathing exercises several times a day if you were not given an incentive spirometer.
1. Breathe in slowly through your mouth (as if you’re sipping through a straw).
2. Hold your breath as long as possible.
3. Slowly exhale. Rest for a few seconds and repeat.

Get Personal Items Ready For Your Stay
Gather your toiletries, walking shoes, reading or music materials, hand-held games or puzzles, clean loose fitting clothes and sleepwear for 1-3 days. You will find a complete list of items to bring on page 14.

Start to Practice Relaxation Techniques
If you master techniques, such as deep breathing, they will be easier when you need them most.

Complete Required Tests
Complete any requested pre-surgical tests or clearances, as told by your surgeon’s office.

Get Your Home Ready For After Surgery
- Put things where you can get to them without reaching, bending or twisting.
- Remove floor rugs, extension cords, floor clutter, and any cords that could cause you to fall.
- Tape down electrical cords and clear paths to your bedroom, bathroom, and other areas used a lot.
- Use a night light.
- If your bedroom is not on the first floor, you may want to arrange an area to rest comfortably during the day on the first floor. You will be able to use stairs. Try to limit full flights of stairs to once or twice a day at first and slowly increase as you feel comfortable.
- You may need a raised toilet seat or a safety frame around your toilet or a bedside commode if your toilet is low.
- Consider a shower chair, bathtub safety rail or grab bar, and a long-handled sponge or hand-held shower head to make bathing easier.
- Use a rubber mat in the shower and a bath mat outside of the shower to help avoid falls.
- Stock up on groceries so you don’t need to shop once you get home.

Healthful Eating
What you eat before surgery can help you recover faster after surgery. Try to eat foods rich in nutrients, vitamins, and minerals to strengthen your body and support healing. Try to eat a variety of whole foods like vegetables, fruits, whole grains, legumes, lean protein-rich foods, and dairy or soy products with calcium and vitamin D.
Keep Your Mouth Healthy
Brush your teeth at least twice a day. If you think you may have an infection in your mouth, see your dentist and let your surgeon know.

Discuss Rehabilitation With Your Loved Ones
It’s important to discuss your plans for rehabilitation with your family and support system before surgery so any questions they have can be answered. They will need to know where you will need help, eating needs, equipment needs, and your physical abilities. This includes what you can and cannot do, and for how long. You will find most of the information you will want to discuss in this book.

It is most common for our patients to go home after their hospital stay. Going home instead of a rehab or nursing facility has many benefits:
• It’s a cleaner environment and less chance of getting an infection.
• Puts you back in your normal routine faster.
• You will walk around more, like when you need water or something to eat. In a nursing facility, you will have to wait for someone to help you.

You can still go home even if you live alone. You may want to ask your coach to stay with you or you can live with your coach for a few days. Before you leave the hospital, our goal is to make sure you can:
• Get to and from the bathroom, and in and out of bed on your own.
• Go up and down enough stairs to care for yourself.

While we know that home is the best environment, there are some situations that may not allow you to go home right away. Your care team will decide this with you during your hospital stay and our discharge planners will help you make any arrangements you may need.

Complete Your Medicine List
It is important to have an accurate and up-to-date list of medicines you take. Fill in and complete the medicine list you were given. You can also find it at henryford.com/spineprehab. Your doctor or pharmacist can review the form with you to make sure it’s correct. Include:
• Prescribed medicines
• Over-the-counter medicines
• Herbals
• Inhalers
• Implanted medicine pumps
• Eye drops
• Skin patches
• Ointments
• Vitamins and supplements
• Accurate doses of medicine you take for pain relief, sleep aids, and any anxiety medicine.

Keep the complete list with you. Have it at each doctor’s appointment and when you arrive for surgery. Be sure to update the list any time you add, change, or stop medicines.
**Advance Directives**

An advance directive is a legal document that gives health care providers directions about what kinds of treatment you want if you became terminally ill and can’t communicate. These instructions include life-sustaining procedures such as dialysis, feeding tubes, ventilators, and artificial resuscitation. While these forms are not required, it gives many patients peace of mind to know their wishes will be followed if they are not able to express them. There are 2 types of advance directive:

1. The **living will** is a document that directs your health care providers about which life-sustaining procedures should be withheld or withdrawn (stopped or not done) if you are not able to make decisions and in a terminal condition where there is little hope for recovery.

2. The **durable power of attorney** is a document you assign or name another person to make those decisions for you if you are not able to make them. Be very honest and open with the person you assign (designee) so that we all can follow your wishes.

If you would like to complete an Advance Directive or want more information about the process, visit [Henryford.com/advancecareplanning](http://Henryford.com/advancecareplanning).
Prepare Your Mind: Understand Your Spine

Here is some information to help you understand your spine. This will help you get ready for surgery.

**Anatomy of the Spine**
The spine has a column of bones that provide a strong, flexible support for the body and protects the spinal cord within it. The spine has 33 vertebrae stacked on each other. The vertebrae are connected by facet joints at the back of the spine. These joints allow movement between the bones and the spine. Ligaments support or stabilize the vertebrae. An intervertebral disc is in between each vertebra, which acts as a shock absorber.

The vertebrae can be divided into 5 segments:
- 7 cervical vertebrae
- 12 thoracic vertebrae
- 5 lumbar vertebrae
- 5 fused sacral vertebrae
- 4 fused coccygeal vertebrae

The transverse process is the wing of bone on either side of each vertebra. The spinous process is the part of each vertebra you can feel through your skin.

The spinal cord extends through the canal at the back of the vertebrae from the brain stem to the lumbar vertebrae area. Nerves branch out from the spinal cord and send a message for movement and body functions to the rest of the body.
Prepare Your Body

Preparing your body for surgery with exercises will help you recover faster. Practice these exercise now, 2-3 times every day.

Neck Exercises: these should be done before surgery only.

Neck Flexion
1. Use light pressure from your fingertips at your forehead to resist bending your head forward.
3. Repeat 10 times.

Neck Extension
1. Use light pressure from your fingertips at the back of your head to resist bending your head backward.
3. Repeat 10 times.

Neck Side Bend
1. Use light pressure from your fingertips at the side of your head to resist bending your head to the side.
3. Repeat 10 times.

Neck Rotation
1. Use light pressure from your fingertips at your temple to resist turning your head.
3. Repeat 10 times.
Back Exercises: these should be done before surgery only

Glute Sets
1. Sit or lay on your back.
2. Tighten the muscles of your buttocks as if to squeeze them together.
4. Repeat 10 times.

Pelvic Floor Squeeze
1. Sit or lay on your back.
2. Slightly lift the pelvic floor as if you were trying to stop urinating.
4. Repeat 10 times.

Pelvic Tilt
1. Lay on your back with knees bent and feet flat on the ground.
2. Gently arch your back up by rolling your pelvis forward.
3. Flatten your back by rolling your pelvis backward.
4. Repeat 10 times.

Abdominal Squeeze:
1. Lay on your back with knees bent and feet flat on the floor.
2. Gently draw your tummy in by tightening your stomach muscles.
4. Repeat 10 times.
Leg Exercises: these should be done before surgery, during your hospital stay, and after you go home.

**Ankle Pumps and Circles**
1. Sit or lay on your back with your legs straight.
2. Slowly move your foot up until you feel a stretch in the calf of the leg.
3. Then move your foot down at the ankle joint.
4. Repeat 10 times on each leg.
5. For ankle circles, move the whole foot around in a circle clockwise 10 times, then counterclockwise 10 times. Do not move your leg, just the foot.

**Glute Sets**
1. Sit or lay on your back with your legs straight.
2. Tighten the muscles of your buttocks as if to squeeze them together.
4. Repeat 10 times.

**Heel Slides**
1. Lay on your back with your legs straight and relaxed.
2. Keep your kneecap pointed up at the ceiling the whole time.
3. Slide 1 foot toward your buttocks, bending your knee and hip.
4. Hold for a count of 5. Slowly return to the start position.
5. Repeat 10 times.

**Short Arc Quads**
1. Lay on your back with an 8 to 10 inch roll or pillow under your knee.
2. Raise heel off bed until knee is straight.
4. Repeat 10 times on each leg.
Pre- Surgery Instructions

Decrease Opioid/Narcotic Use
If you take an opioid (also known as narcotic) pain medicine, it is strongly recommended you slowly reduce your use of it before surgery. We know many of our patients rely on opioid pain medicine to get by. Reducing your use before surgery will make it easier and safer to control your pain after surgery. Talk to the doctor that prescribes your opioid pain medicine about ways you can reduce doses now.

Stop Smoking and Tobacco Use
It is very important that you quit or stop as soon as possible, at least 4-8 weeks before surgery. This includes cigarettes, vapes, pipe smoking, e-cigarettes, cigars, hookah, chewing tobacco, nicotine patches, and nicotine gum.
  • Smoking and tobacco use can increase your risk for infection. It can also increase your chance of getting pneumonia, having a heart attack, and trouble breathing after surgery.
  • You will need to continue to avoid smoking after surgery.
  • For those of you having fusion surgery, any product that has nicotine may stop your bones from fusing.
  • If you need help to quit you can:
    - Contact your primary care doctor.
    - Call 1-800-QUIT-NOW (1-800- 784-8669).
    - Visit henryford.com/tobaccofree.

Alcohol Use
Alcohol can affect your surgery. Avoid alcohol for at least 48 hours before surgery. If you regularly have more than 3 drinks per day, you could experience alcohol withdrawal during your hospital stay. This can cause anything from mild shakiness or sweating to hallucinations and other serious side effects. During your pre-surgical check, you will be asked a few questions to determine your risk for alcohol withdrawal and other alcohol-related problems after surgery. Respond honestly. Your answers will be held in strict confidence and we will only use your answers to help you prepare and recover from surgery.

If alcohol withdrawal is of concern to you, please discuss this with your primary doctor so they can help you safely decrease your use before surgery.
1 to 2 Weeks Before Surgery:
There are several medicines that you need to stop before surgery because they can make you bleed more during surgery.
- All vitamin, dietary, and herbal supplements must be stopped 2 weeks before surgery.
- Non-Steroidal Anti-Inflammatory Drugs (NSAIDS) need to be stopped 1-2 weeks before surgery or as you are told by your surgeon. These may include, but are not limited to:
  - Ibuprofen (Motrin®, Advil*)
  - Naprosyn, (Aleve*)
  - Meloxicam (Mobic*)
  - Diclofenac (Voltaren*)
  - Etodolac (Lodine*)
  - Celecoxib (Celebrex*)
  - Indomethacin (Indocin*)
- Aspirin should be stopped 1 week before surgery, or as you are told by your surgeon.
- Blood thinners or antiplatelet medicine should be stopped as you are told by your surgeon and the doctor who prescribes it. These medicines may include, but are not limited to:
  - Warfarin
  - Plavix* (clopidogrel)
  - Lovenox * (enoxaparin)
  - Xarelto * (rivaroxaban)
  - Eliquis* (apixaban)
  - Pradaxa* (dabigatran)
- If you are having fusion surgery, your surgeon may ask you to avoid steroids, NSAIDs, Rheumatoid Arthritis medicines, and gout medicines for a certain period of time before surgery and to continue to avoid these for up to 3 months after surgery. These may keep your bones from fusing.
- Please continue to take all of your other routine medicines as prescribed.

About 1-2 weeks before surgery, you will get a phone call from our pre-surgical nurses to go over your list of medicines with you. They will also let you know which of your routine morning medicines to take the morning of surgery with a sip of water. For those of you that have diabetes, they will also let you know how and if you’ll need to adjust your diabetic medications for the night before and/or morning of surgery.

1-2 Days Before Surgery
Call your surgeon if you have an active cold, sore throat, toothache, or symptoms of any infection (such as bladder infection) and feel ill. You may have to postpone surgery.
Skin Cleaning Before Surgery
It is important to remove the bacteria that are normally on your skin before surgery. The bacteria could enter your surgical incision and cause an infection.

- You will need to shower or bathe with a special soap called Chlorhexidine Gluconate the night before and the morning of surgery. The soap will be given to you or you can purchase it at a pharmacy.
- Do not use this soap if you have an allergy to Chlorhexidine Gluconate. If you have an allergic reaction (severe rash, hives, wheezing, trouble breathing) when you use it, get immediate medical attention and let your surgeon know. If you cannot use Chlorhexidine Gluconate, use an antibacterial soap, such as Dial®.
- Do not use Chlorhexidine Gluconate on your head, face (keep out of your eyes, ears, mouth), or genitals.

Follow the steps below for showering the night before and morning of surgery:
1. Wash your hair and body with regular shampoo and soap.
2. Rinse off shampoo and soap completely.
3. Wash your entire body (except genitals) from the neck down to your toes with Chlorhexidine soap or Dial® soap.
4. Turn off the water while you use the soap to prevent water from rinsing off the soap too soon. Wash gently for 3 to 5 minutes.
5. Rinse your body well with water.
6. Do not use your regular soap after you have used and rinsed off the Chlorhexidine or Dial® soap.
7. Pat yourself dry with a freshly washed towel.
8. Do not use lotions, hair spray, after-shave, perfume, creams, or powders after you shower.
10. Sleep on freshly washed sheets and pillowcases as well.

Go to Steps to a Safer Surgery video: henryford.com/services/surgery
The Night Before Surgery
You will be given instructions at your surgeon's office or during your pre-surgical call on when to stop eating and drinking before your surgery.

- If needed, you can take medicine to help you sleep the night before (if you have used it safely in the past).
- If it has been 3 days since your last bowel movement, you may want to take a mild over-the-counter laxative such as Colace®, Miralax®, Milk of Magnesia, etc.
- Take a shower following the same directions from the previous page.
- Brush your teeth and use the mouthwash from the surgical kit. If you did not get a kit, use any type of store-bought mouthwash.

The Morning of Surgery
Please refer to the handout you were given for instructions about your arrival time and where to check in for surgery. You will also get a call from the pre-surgical department closer to surgery to tell you what time to arrive for surgery. All of this information can also be found at henryford.com/spineprehab.

- Follow the instructions given to you by your doctor and the nurse during your pre-surgical call on what medicines to stop and what to take. If you were told to take medicines the morning of surgery, take them with a small sip of water.
- Make sure you brush your teeth and use your mouthwash.
- Shower and follow the instructions exactly as you did the night before.
- Wear your hair loose, without clips, bands, hair spray, wigs, hairpieces, or hair extensions with metal beads or clips. A head cover will be given to you.
- Do not wear makeup, perfume, creams, lotions, deodorant, hair spray, after-shave, powder or tampons.
- Remove all nail polish, artificial nails, tips, wraps, and gels from your fingernails. Keep fingernails short. This will allow your team to accurately monitor your oxygen levels during surgery and minimize the risk for infection.
- Remove all jewelry, including piercings.
- If you use a hearing aid, wear it to the hospital and bring your case.
- Do not wear contact lenses, if possible. Wear glasses instead. If you don't have glasses, bring a clean contact case and solution to remove contacts before surgery.
- You will be asked to drink a high carbohydrate drink that can help improve recovery. Be sure to follow the instructions from your pre-surgical call. This will help:
  - Maintain normal blood sugar levels.
  - Decrease nausea and vomiting.
  - Decrease muscle loss.
  - Decrease constipation.
- If you have diabetes:
  - Follow the insulin instructions given to you during the pre-surgical call.
  - Ask your diabetes doctor for instruction on your insulin pump.
  - Let the check-in staff know if you are not feeling well and that you have diabetes and are insulin-dependent.
What to Bring to the Hospital

☐ A list of all medicines you take or have recently stopped taking.

☐ A list of any medical and food allergies.

☐ Driver’s license or photo ID.

☐ Insurance cards, prescription coverage cards, and pharmacy cards.

☐ Glasses case or contact lens case and solution (if you wear them) with your name on it. Do not wear contacts the day of surgery.

☐ Hearing aid case with your name on it if you wear them.

☐ Dentures and a case with your name on it if you wear them.

☐ Your brace, if you were given one.

☐ Any special devices such as CPAP for sleep apnea and distilled water. Also bring any information cards for implanted items, such as a pacemaker.

☐ Incentive spirometer if you were given one.

☐ Your inhaler if you have asthma. Use them as you were told by your doctor. Please let your nurse know before you use it.

☐ A copy of your advance directive if you have one.

☐ Hairbrush, toothbrush, toothpaste, deodorant, and any other toiletries you need.

☐ Clean, loose clothing (t-shirts, shorts, sweatpants) underwear, and non-skid slippers. Wear clean clothes to the hospital and pack clean clothes to wear home.

☐ A small amount of money for small items you may need.

☐ Reading materials, cards, or hobby such as knitting to pass time.

☐ Your favorite music, along with the player and headphones.

☐ Your cell phone or tablet, and chargers.

☐ A pack of chewing gum (chewing gum right after surgery can help you have normal bowel movements).
Your Hospital Stay

Your Surgery
When you check in at the hospital, you will meet members of your surgical team who will get you ready for surgery. This will take about 2 hours. Then it's on to surgery. Below are several surgeries done often. Talk to your surgeon if you have specific questions about your surgery.

Spinal Fusion
A spinal fusion is when 1 or more of the vertebrae of the spine are united or fused together so motion no longer occurs between them. Fusing the vertebrae may be done for several reasons like to treat a broken vertebrae, correct a deformity like spinal curves or slippages, get rid of pain from painful motion, or treat instability or disc herniations.

Cervical Fusion
An incision is made through the front (anterior cervical fusion) or back (posterior cervical fusion) of the neck. The surgeon will remove the problem disc. After the disc is removed, bone (either from the bone bank or from your pelvis) or another substance is placed in the disc space. This is called a graft. In time, the graft and the bone around it will grow into a solid unit. A metal plate and screws, rods, or wires may be put over the bone graft for extra support.

Lumbar Fusion
An incision is made through the front (anterior lumbar fusion) or your back (posterior lumbar fusion) to expose the spine. The surgeon may remove disc material and place cages or a bone graft in the disc space. If they do not remove the disc, they will place bone along the side of your spine in order to stimulate the bones to fuse. Your surgery may or may not have extra hardware (instrumentation) such as plates, screws and cages. Instrumentation is sometimes used to correct a deformity or to hold the vertebra together as the bone graft heals and bones fuse together.

Microdiscectomy
A small incision is made in the midline of the low back. The surgeon will remove the portion of the herniated disc that is causing pressure and irritating the nerve.

Cervical or Lumbar Decompression
This could be a laminectomy, laminotomy, corpectomy, foraminotomy, or other. The surgery consists of the removal of bone, arthritic build up, thickened soft tissue, and possibly disc material to “decompress” or free up nerves. You may have a decompression along with a fusion if your surgeon feels it is needed.

Cervical Disc Replacement (Arthroplasty)
Cervical disc replacement surgery, or arthroplasty, is a surgery that replaces a damaged disc in the cervical spine with an artificial disc implant. When there is a disc herniation, or if the disc breaks down due to arthritis, there is less space for the cervical nerve roots and spinal cord. This causes the nerves in the cervical spine, or the spinal cord, to be compressed. This leads to pain, weakness, numbness, or tingling in the neck or arms. This surgery will relieve pressure on the nerve roots and spinal cord.

Kyphoplasty
This is done for a fractured vertebrae. A small incision is made in the back and a balloon inflation device is used to elevate the fractured vertebrae to its correct position. Bone cement is then put in to stabilize the fracture.
At the Hospital

• There is a surgical waiting room for your coach to wait in during your surgery. There is a “status board” to keep them updated on where you are in surgery.

• It will take your health care team about 2 hours to prep you for surgery. The length of your surgery should have been talked about with your surgeon. After surgery, you will be in the recovery room for about 2 to 3 hours. As soon as your surgery is complete, your surgeon will talk with your coach.

• Just before your surgery, your surgical team may use a nasal sanitizer swab, special wipes, and another mouthwash to help reduce infection risk.

• You may also have a quick scan of your bladder after you urinate.
After Your Surgery
You will go to a recovery room. We will watch you closely until you are ready to be moved to your room.

Your Room
Your room will have a bathroom, a phone, television, bed, and chair. Visit henryford.com/visitors to check the visitor policy and find other helpful information.

Phone
Your friends and family can call you on the phone in your room. Inbound and local calls are free. Long-distance calls must be charged to a credit card or your home phone. You may use a cell phone at any time.

Menu
We have menus available at your bedside to order your food.

Gadgets
Here are some of the “gadgets” that you may see in your room and play an important role in your healing.

- Oxygen: you may need to use oxygen for the first 24 to 36 hours after surgery. Your nurse may remove the oxygen temporarily and monitor your oxygen levels to make sure you are getting enough for your body's needs.
- IV: this is fluid bag connected by tubing to your arm vein. It provides a route for your team to give you fluids, pain medicine, antibiotics, and other medicines.
  - You will get 2-3 antibiotics through your IV in the first 24 hours. The first will be given before a surgical incision is made so that the antibiotic is ready and working in your system.
- Jackson Pratt (JP) Drain: You may have a small round suction container in your surgical area called a JP Drain. It is used to collect extra fluid and blood from your surgical wound. This helps your wound to heal more quickly. Your nurses will check it every few hours and will empty it periodically. When the amount of drainage has decreased and your doctor says it’s time, it will be removed before you go home.
- Foley Catheter: you may have a urinary catheter placed during surgery. This is a flexible tube put into the bladder to drain urine.
  - It will be removed as soon as possible after surgery. That is usually the same day or the next morning after surgery.
  - This is used because some medicines during surgery can relax your bladder. Once the medicines wear off, the normal urge to empty your bladder will return.
  - After your catheter is removed, your nursing staff will monitor how well you empty your bladder. They will measure how much you urinate. If needed, they may scan your bladder to check the amount of urine that remains.

Dressings
Your incision will have a dressing over it at first. You may notice some bloody drainage on it. We will add extra dressings to keep it dry and contained. You will be given instructions on how to care for your incision before you leave the hospital.
It is important to use your incentive spirometer, breathe deeply, and cough after surgery. This helps expand your lungs, to clear your lungs, and to help prevent pneumonia and other lung complications.

**Coughing and Deep Breathing Exercise**
1. Every hour, take a deep breath in.
2. Hold it for a few seconds and then exhale.
3. After several breaths, try to produce a strong, deep cough.

**Incentive Spirometer**
Use the spirometer 10 times every hour when you are awake up to 2 weeks after surgery. Remember that this is an exercise. The more often you do it, the better you get.

1. Put the mouthpiece in your mouth and seal your lips tightly around it.
2. Breathe in slowly and as deeply as possible. You will inhale like you are sipping through a straw. As you inhale, you will notice the large blue disc rise. Give it your best effort.
3. The small blue disc should stay in between the arrows while you inhale.
4. Hold your breath as long as possible.
5. Remove your mouth from the mouthpiece and exhale.
6. Let the large blue disc fall to the bottom of the column before repeating.
7. Position the blue indicator to mark your best effort. Try to get the large blue disc to this level or higher each time.
8. Rest for a few seconds in between each try.
9. After each set of 10 deep breaths, cough to be sure your lungs are clear.
Pain Management

Pain is expected and a normal part of recovery after surgery. We will work with you to help control your pain and keep it at a level you can tolerate. Your pain may be strongest for 2-14 days after surgery, and should get better as you recover.

- **As you heal, you may feel some new pain or sensation that you didn’t have before surgery. This is normal.**
- This is a gradual recovery period. Pain medicine can help you become active and make the most of your recovery.

Pain medicine during recovery may include an opioid. An opioid is a very addictive medicine and may have serious side effects. It is often prescribed after surgery for very bad pain, but is not recommended for long-term use. Examples of prescription opioids are Oxycodone, Morphine, Codeine, Fentanyl, and Hydrocodone (commonly known as Norco and Vicodin).

To prevent opioid misuse:

- Do not take more than the amount of medicine prescribed and take only as needed.
- Slowly lessen the amount of pain medicine you take as you heal by making the time in between each dose longer.
- Never take opioids with alcohol, valium-like drugs, or sleeping pills or drugs (includes marijuana).
- Store opioids in a safe and secure place. Keep them out of sight and reach of others, especially young adults.
- Never share or sell your medicines.
- Take any unused medicine to an authorized collector for disposal. To find collectors in your area, visit [Michigan-OPEN.org/TakeBackMap](http://Michigan-OPEN.org/TakeBackMap).

Laws have been passed in Michigan to improve medicine safety and lower opioid addiction.

- Doctors may only prescribe 7 days of opioid medicine at a time after your surgery. Evaluation is needed for more.
- Your doctor will check with the prescription drug monitoring program called Michigan Automated Prescription System (MAPS) to review your prescription history.

Call your surgeon's office or your pain management doctor before you run out and need a refill. Make sure you work with your health care team and tell them what is and is not working. Your medicine and dose may need to be changed.

Please talk to your doctor about any concerns you may have about taking pain medicine. If you think you may have opioid addiction or are worried about a family member's opioid use, visit [henryford.com/OpioidAddiction](http://henryford.com/OpioidAddiction) or call Behavioral Health Services at (800) 422-1183.
Pain Control Options:

- **Non-medicine pain relief**: There are many methods to reduce pain without the use of medicine. Some of these include:
  - Short frequent walks
  - Relaxation/deep breathing techniques
  - Ice Packs
  - New positions and logrolling

- **Oral medicine**: usually given every 4 to 6 hours. This may include an opioid medicine as noted on the previous page. Another oral medicine that may be used is acetaminophen (Tylenol®). Your prescribed opioid medicine may already have Tylenol® and you should not exceed 3,000 mg daily from all sources.
  - Your nurse will monitor you for pain and you can also ask for pain medicine.
  - Oral medicines take longer to start working but last longer.
  - Do not wait until your pain is bad before you ask for pain medicine. It is hard to manage pain that is out of control.

- **Muscle relaxers**: may be given to you after surgery to help relieve muscle spasms and stiffness. They are usually rotated with oral opioid medicine. Do not take them at the same time.

- **IV pain medicines**: your surgeon may order IV pain medicine or a patient controlled analgesia (PCA) pump for you to use up to the day after surgery. A PCA pump has pain medicine connected to an IV line that you control with a button. The machine will not let you take too much medicine. IV medicine works quickly, but it does not stay in your body long. It is also important to use oral medicine that last longer. It is recommended that IV opioids be used for severe pain to get you through to your next dose of oral medicine.

Prevent Blood Clots

Ways to prevent clots include physical activity, early walking, ankle exercises (see page 9), leg compression devices, blood thinner medicine, and drinking enough water.

- **Sequential Compression Devices and special compression stockings**: you may have a pair of special booties called sequential compression devices (SCDs). They compress the veins in your lower legs to move the blood back to your heart. This prevents pooling and clotting of the blood in your legs. These pumps are only on while you are in bed and can often be removed when you are more able to do activity. You may also be asked to wear special compression stockings to help with blood flow and to prevent blood clots.

- **Blood Thinning Medicine**: you may be given a blood thinner. Your nurse will inject this under your skin as told by your doctor.

**Symptoms of a Blood Clot**

You need medical treatment right away if get a blood clot. Tell your health care team if you have any of these symptoms of a blood clot:
- Calf pain
- Calf warmth
- Calf redness
- Lung complications (like shortness of breath)
- Heart complications (such as palpitations)
- Chest pain
Prevent Infections
Precautions are taken during your hospital stay to reduce your risk for infection. There are some important things you should and shouldn't do after surgery as well.

- **Wash Your Hands:** this is the best way to prevent infection. Always have family and friends wash their hands when visiting, helping with personal care and after any dressing changes.
  1. Turn on warm water
  2. Wet hands and wrists
  3. Use liquid soap
  4. Scrub hands thoroughly for at least 30 seconds
  5. Dry hands using a clean paper towel (use paper towels instead of hand towels)
  6. Use a paper towel to turn off the faucet

You should wash your hands:
- Before and after meals.
- After a sneeze or cough.
- After going to the bathroom.
- Before and after you touch incision.
- After you touch pets.

<table>
<thead>
<tr>
<th>Do ☑</th>
<th>Do Not ☎</th>
</tr>
</thead>
</table>
| ✓ Make sure you have clean sheets on your bed at home.  
  ✓ Put a clean sheet on any chair, couch, or recliner you use.  
  ✓ Wash and change sheets weekly or sooner if dirty.  
  ✓ Once your surgeon says you can shower:  
    - Take a quick shower daily. You may have to cover your incision.  
    - Use a clean washcloth and towel for every shower. Use a mild liquid soap like Dial’. Gently clean around your incision first and then the rest of your body. Rinse well without directly spraying the incision. Make sure you wash all the soap off.  
    - Pat your incision dry first with a clean towel, then dry the rest of your body. Be careful not to touch the incision again.  
    - Apply a fresh dressing if you were told to.  
    - Put on clean clothes after each shower.  
  ✓ Brush your teeth or dentures every day. | Do not do these things until your incision completely heals. This can take up to 6 weeks.  
  ✗ Let pets on your bed, chair, or lap.  
  ✗ Take a bath, use a hot tub, jacuzzi, or swim.  
  ✗ “Show off” your incision to people.  
  ✗ Scrub or soak your incision.  
  ✗ Apply lotions, powders, ointments, or creams to the incision.  
  ✗ Use rubbing alcohol, hydrogen peroxide, or iodine on your incision. |

Most patients do not need to change dressings.  
**If you do:**  
✓ Always wash your hands before and after you change the incision dressing.  
✓ Only touch the corners of a new dressing when putting one on. Be careful to avoid the area that will touch the incision.
Eating
After surgery, you may feel nauseous or have a sore throat. Tell your nurse, who can give you medication or lozenges to help. You may start with a liquid diet and then if you are feeling OK, you can eat regular food.

Constipation
Anesthesia, stress, eating changes, decreased activity, and the use of opioid medicine can all put you at a higher risk of constipation. After surgery you will get a stool softener or a mild laxative to help prevent this in the hospital. Continue to take over-the-counter stool softeners at home every day for as long as you take an opioid pain medicine. Your health team may recommend suppositories or enemas.

To help your body return to normal bowel movements quickly:
- Chew gum right after surgery, if you can.
- Drink plenty of fluids: 6 to 10 cups of water a day.
- Slowly increase your walking.
- Eat foods high in fiber (fruit, vegetables, beans, lentils, nuts, seeds, and whole grains).
- Try natural laxatives such as prunes, coffee, fruit, or whatever works for you. Smooth Move Tea® or Lax Tea may also be used.

You can purchase any of these medicines over the counter at your local pharmacy to help with constipation. Check with your doctor or pharmacist if you have questions or concerns.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Medicine</th>
<th>Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td><strong>Take 1 of these medicines twice a day to prevent constipation.</strong></td>
<td><strong>Docusate-Senna 50mg/8.6mg combination (Senna-S®)(Peri-colace®) (Sennokot-S®) 1-2 tabs by mouth twice a day.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Docusate sodium 100mg (Colace®) stool softener 1-2 tabs by mouth twice a day.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Senna 187 mg (sennosides 8.6mg) mild stimulant laxative 1-2 tab by mouth twice a day.</strong></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td><strong>If the above medicines are not working after 2-3 days, try one of these.</strong></td>
<td><strong>Miralax® 17 grams (1 heaping tablespoon of powder) osmotic laxative. Mix in 120-240ml of fluid and take by mouth as needed 1-2 times per day.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Magnesium hydroxide 400 mg/5 mL (Milk of Magnesia) Saline laxative/antacid 30ml by mouth once a day as needed.</strong></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td><strong>If you still have not had a bowel movement after 3-5 days of the above medicines, you may need to try one of these.</strong></td>
<td><strong>Bisacodyl 10mg rectal suppository (Ducolax® suppository) stimulant laxative 1 suppository (10mg) per rectum once a day as needed.</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Fleets Enema® 19 gram-7 gram/118 ml Rectally - follow package insert.</strong></td>
</tr>
</tbody>
</table>
In Your bed

Logrolling and Side-Lying
Every 2-4 hours, your nurse will help you logroll to your side to speed up your recovery, expand your lungs, and prevent skin sores. Plenty of pillows will keep you propped comfortably. Our goal is for you to tolerate side lying for at least 30 minutes at a time.

The Logroll to Standing
Lie on your back and bend both knees.

Roll onto your side. Keep your shoulders and hips in a line. Do not twist. Shift on your side to get to the edge of the bed.

Push up with your arms and let your legs hang over the side of the bed until your feet are flat on the floor.

Make sure your hips are even and your feet are firmly on the floor. If you are dizzy, wait until your head clears. Stand when you are safe.
Sit Up and Get Out of Bed

Walking within several hours or sooner after surgery is one of the most important things that you can do to speed your recovery and prevent complications. The benefits of early walking include:

- Improved blood flow
- Improved lung function
- Quicker healing
- Better pain control
- Greater muscle tone
- Shorter hospital stay

Early walking after surgery helps prevent many surgical complications, like:

- Infections
- Pneumonia
- Blood clots
- Muscle spasms
- Urinary tract infections
- Urinary retention
- Constipation

Always ask for help to get out of bed. Your team will let you know when you can do it on your own.

With the help of our staff, we want you to sit up in your chair for all of your meals the day after surgery. We do not recommend sitting up for longer than 1-hour each time without changing positions. This is to prevent stiffness and pain after surgery.

Brace

- If your surgeon orders a back brace for you, it is typically worn while you are out of bed, except when you shower or use the restroom.
- If your surgeon orders a neck collar, it is common to wear this all hours of the day and night.
- If you got your brace or collar before surgery, please bring it with you to the hospital. If you have not, you will be given one during your hospital stay if it’s needed.

Your nurse will help you clean up, dress in your own clothes (if possible), and get ready for breakfast.
Ground Rules For Your Safety

- While you will feel stronger, it’s important to remember **you must not get out of bed by yourself**. Only get out of bed with the help of a care team member. This is to prevent injury or falls. Your team will let you know when you can get out of bed on your own.
- Always wear shoes or non-skid footies when you’re out of bed.

There are several precautions to follow now and in the months ahead:

<table>
<thead>
<tr>
<th>Do</th>
<th>Do Not</th>
</tr>
</thead>
</table>
| ✓ Wear footwear that fits well and has nonskid soles, like sneakers.  
 ✓ Sit in chairs and sofas at a height that allows you to stand easily.  
 ✓ Limit sitting to 30-60 minutes at a time.  
 ✓ Logroll in bed every hour.  
 ✓ Keep walking when you get home. Take frequent, short walks each day. | × Do not Bend forward or backward at the waist if you are having back surgery or at the neck if having neck surgery.  
 × Do not Lift, push, or pull objects heavier than 5-10 pounds (like a gallon of milk).  
 × Do not Twist the surgical area.  
 × Do not reach.  
 × Do not drive until cleared by your surgeon. Limit being a passenger in a car for no more than 30-60 minutes at a time. If you have a long trip home from the hospital, give yourself a break to get out of the car so that you may walk.  
 × Do not stand up quickly to answer the phone or the doorbell. If possible, place a telephone near your chair or bed.  
 × Do not wear high heels. |

The length of time you need to follow your precautions will depend on your surgery type and what your surgeon decides.

It is very important to keep walking when you get home. Take frequent, short walks daily.

Physical and Occupational Therapy

During your hospital stay, you may work with a physical or occupational therapist.
- They will teach you how to move and walk safely. They will also teach you how to do basic activities of daily life on your own such as bathing, dressing, and grooming.
- Your therapist will have a list of goals they would like you to accomplish before you go home.
- They will show you ways to modify your normal activities to protect your spine and you will get guidelines for home safety.
- If your surgeon ordered a brace, your therapist will teach you and your coach how to put it on and take it off.
- They will teach you proper logrolling in bed.
- They will teach you how to go up and down stairs, how to get in and out of a vehicle, and more.
- You may accomplish all of your goals in 1 session. For some it may take 2 or 3 sessions.
- Once therapy has checked everything off your list, your best therapy at home will be walking.
Prepare For Discharge

Case Management and Discharge Planning
If you have any special needs that were found during your stay at the hospital, your health care team will work on them so they are in place by the time you are ready to leave. Special needs may include durable medical equipment or services such as Home Health Care or subacute rehabilitation at a skilled nursing facility. Speak with your case manager if you have any questions about special needs once you leave.

Once your surgeon says you can go home, here is how the process will work:

What you should have:
- Your coach by your side.
- Your packed possessions.

What we will give you:
- Any adaptive equipment you purchase.
- A copy of all the medicines, times, doses, and special precautions you should take.
- A description of how to change dressings (if needed) and how to recognize symptoms of infections.
- All restrictions in your activities, as well as any future appointments, and when to call the doctor.
- Any other special instructions.
- A phone number you can call us if you have any questions.

Farewell
Before you come in for surgery, make sure to arrange to have someone available to take you home. Our transportation staff will take you by wheelchair to your vehicle. They will help you in get in your vehicle. Please let us know ahead of time if you need help to arrange transport home.
After Your Discharge

The Future
Your journey to keep your spine healthy continues when you go home. Any question you have are important to us. Here is what you'll need to know over the next few months.

Keep on Learning
• Continue with your leg exercises in this book from page 9.
• Take a few short walks each day. Increase your walking as you heal. If you haven’t been physically active in a while, start slow. Start with just 10 minutes of walking each day. Then add 10 minutes each week until you are moving an hour each day.
• If you feel more pain than usual after an activity, you may have done too much. Take it a little easier for a few hours.

Keep on Moving
• Continue with your leg exercises from page 9.
• Take a few short walks each day. Increase your walking as you heal. If you haven’t been physically active in a while, start slow. Start with just 10 minutes of walking each day. Then add 10 minutes each week until you move an hour each day.
• If you feel more pain than usual after an activity, you may have done too much. Take it easy for a few hours.

Follow-Up Appointments
• Once you leave our hospital, you will need to follow up with your surgeon’s office. During these visits, your surgeon will let you know when you are clear to return to your normal activities, drive, and return to work.
  - There’s usually no driving for at least the first 2 weeks. If you have a neck brace, it could be 6-12 weeks. Do not drive while on opioid pain medicines.
  - Avoid being a passenger in the car for more than an hour. If you need to take a longer car trip, please stop to walk and take a break.
  - Some patients will return to work in a few weeks from the date of surgery, but for most it will be 6-12 weeks from surgery. This will depend on the type of job you do, your progress, as well as the type of surgery you have done.
• Make sure to schedule all of your follow-up appointments.
Remember the Following Over the Next 3 Months:

- Maintain your body weight
- Use correct posture. Think of your ears, shoulders and hips as having a dot on them. Stand up straight to connect the dots and keep your chin level.
- Bend your knees if you need to pick something up off the floor. Keep your back straight.
- Avoid pushing, pulling, or twisting. Do not lift anything heavier than 5-10 lbs.
- Walk to stay in shape and keep your spine healthy.
- Sit in higher chairs rather than lower ones. Try to use chairs with arms.
- If your therapist has determined you need a walker or cane after surgery, use it until your doctor tells you that you don’t need it.
- Take a shower instead of a bath.
- Avoid dangerous, high-impact activities. No skiing, contact sports, or jogging.

All of these precautions will help you take care of your spine, promote your complete recovery, and help you avoid future spine injury.

Contact Your Surgeon’s Office if You Have:

- Redness, swelling, more or new drainage, foul odor, or opening from your incision. Check your incision every day.
- Severe uncontrolled pain.
- New weakness of any extremity (arms or legs).
- Trouble with bowel or bladder function.
- A consistent fever over 101º F

Always call 9-1-1 if you experience chest pain, shortness of breath or trouble breathing.
Tips For Your Daily Activities

Think Before You Move
Once you’re out of the hospital and in your own familiar setting, it’s easy to go back to old habits. You may be used to bending or standing up from a chair quickly. Because of your surgery, you won’t be able to move as quickly as you used to. **Always think before you move to avoid injury.**

Chair Position
Use a firm, sturdy chair with armrests. You may sit on several pillows and put 1 at the small of your back to help with good back alignment.

   To sit down in a chair:
   1. Back up to the chair. Tighten your stomach muscles.
   2. Lean forward from your hips, not your waist.
   3. Use your leg muscles to lower yourself onto the front of the chair, then scoot back.

   To get up from a chair:
   1. Scoot to the front of the chair. Tighten your stomach muscles.
   2. Place one foot slightly in front of the other.
   3. Hold the side of the chair or the armrests for support.
   4. Bend at the hips, not at the waist. Use your leg muscles to push your body up.

Toilet Transfer
Use a toilet riser, commode or other equipment your therapist recommends.

   1. Back up to the toilet until you feel the back of your knees touch it.
   2. Reach back for the armrests, if they are there, and slowly lower yourself onto the toilet.
   3. Bend your knees and hips as you lower yourself onto the seat.
   4. Reverse the process to get up, using the armrests to push up. Get your balance before walking.

Bathing
To protect your back, do not bend while you bathe. You can use a long-handled sponge and a shower hose. Your therapist can show you how to use a shower bench or chair in the bathtub or shower stall.

Tub Transfer
   1. Place the transfer bench over the tub wall with 2 legs inside the tub and 2 legs outside.
   2. Walk to the side of the tub and stop next to the bench. Turn so that you face away from the tub.
   3. Reach back with one hand for the back of the bench.
   4. Sit down on the bench.
   5. Lift legs over the side of the tub and turn to sit facing the faucet.
   6. To get out of the tub, turn in the bench and lift your legs over the side of the tub. Stand up outside of tub, pushing off from the bench.

Dressing
A sock aid and a long-handled shoehorn enable you to put on and take off socks, stockings, and shoes without bending your back. Other tools can help you put on underwear and pants.
Slacks and Underwear
1. Sit on the side of your bed or in an armchair. Use any adaptive devices you have.
2. Put on underwear first. If using the dressing stick, catch the waist of your underwear and pull up 1 leg at a time. Then repeat this process with the slacks.
3. To undress, take the slacks and underwear off 1 leg at a time.

Socks and Stockings
1. Slide the sock or stocking onto the sock aid. Make sure the heel of the sock is at the back of the plastic and the toe of the sock is tight against the end. The top of the sock should not be pulled over the top of the plastic piece.
2. Hold onto the cords and drop the stocking aid in front of your foot. Slip your foot into the sock and pull it up. Remove the stocking aid by pulling on the cords.
3. To take the socks or stockings off, use the hook on the dressing stick or reacher to hook the top of the sock toward the back of the heel and push the sock off your foot.

Shoes
1. Wear slip-on shoes or use elastic shoelaces so you won't have to bend over to put the shoes on and tie the laces.
2. Use the dressing stick or a long-handled shoehorn to put on or take off shoes.
**Home Safety, Housekeeping, and Cooking**

Be aware of hazards in your home like wet or uneven floors. You might want to arrange your living room and bedroom so it’s easier to get around.

- Arrange your kitchen so it’s easy to reach items you use often (i.e. pots, pans, and dishes).
- A reacher can come in handy when you need to get objects that are too far below or above you.
- Try to store items at a convenient height.
- Slide objects along the countertop rather than carry them.
- Sit on a high stool when doing countertop tasks.
- Remove clutter and rugs from the floor so you don’t trip over them.
- Prepare simple meals ahead of time that can be reheated in the microwave or oven.

**Sleep Positions**

Your therapist taught you about correct alignment positions for your spine while you sleep. You can log roll onto either side with a pillow between your knees. You can also lie on your back with a pillow under your knees. You should not lie on your stomach until cleared by your surgeon.

It is best to sleep in bed, but if you had a cervical or neck surgery it is OK to sleep in a recliner if that is more comfortable.

**Turning in Bed**

- Tighten your stomach muscles. Bend your knees slightly toward your chest.
- Roll to 1 side. Keep your ears, shoulders, and hips in line. Do not to bend or twist at the waist.

**Sexual Intercourse**

Your surgeon will let you know when it is safe to resume sexual intercourse. This may be anywhere from 2-12 weeks or more after surgery. There are some sexual positions that do not follow your spine precautions. You do not want to re-injure your back during sexual intercourse.

**Car Transfers**

1. Make sure the car seat is all the way back and the backrest is semi-reclined for your comfort.
2. Lower yourself onto the seat. Allow the seat to support you.
3. Slide back in a semi-reclined position toward the driver’s seat.
4. Pivot your body and legs around the front. Keep your legs apart with a pillow. Do not twist your back as you get in the vehicle.
5. Reverse the order to get out.
Eating Plan After Surgery
After surgery, a healthful eating plan will meet your energy needs, increase your strength, maintain your weight, and rebuild damaged soft tissue and muscle. All of this helps you get back to optimal health.

Goals:
- Try to eat a variety of whole foods like vegetables, fruits, whole grains, legumes, lean protein-rich foods, and dairy or soy products with calcium and vitamin D.
- Eat every 3-4 hours while you are awake. Start with breakfast.
- Get enough calories to maintain your weight and make sure they are from good sources such as the foods listed above. It is important that you eat enough to meet your energy and rebuilding needs.
- Nutrition supplements (like Ensure® or Boost®) may help meet your nutrition goals and help your recovery if you have trouble getting enough calories. These can be purchased at most local grocery stores, pharmacies, and chain super-stores.
- To prevent constipation, eat foods high in fiber like vegetables, fruits, whole grains, beans and legumes.
- Stay hydrated. Drink 8-10 cups of water each day, unless told different by your doctor.
- Try to limit food and drink with a lot of sodium, saturated fat, and added sugars.
- If you need to lose weight, wait until you have fully recovered from surgery and then work with your primary care doctor to find a weight loss program. Consider working with experts to help. Contact our weight management team to find the right program for you.
  - Visit Henryford.com/weightmanagement

We Are Here For You
We appreciate your confidence and we thank you for allowing us at Henry Ford Hospital to care for you. Remember, even after you have left the hospital, we are available to talk about any concerns or questions you may have.