



Cervical Surgery Guidebook

SANFORD[®]
HEALTH

Welcome

Thank you for choosing the Center for Spine Success at Sanford Health for your surgery. When you look for a place to provide your health care, you want the best. You are in excellent hands every step of the way at Sanford Health. Our spine program focuses on getting the best patient outcomes while giving you an excellent experience.

With your needs in mind, Sanford's Center for Spine Success has created a plan for your spine surgery. Our goal is to ensure you have the information you need through every step in your journey. This guidebook will help you to understand what will happen and what you need to do before and after your surgery.

Our goals for your stay are simple. We want to:

- Partner with you on your care needs
- Help manage your pain
- Give you all the information you need to make the best recovery possible

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Anatomy of the Cervical Spine

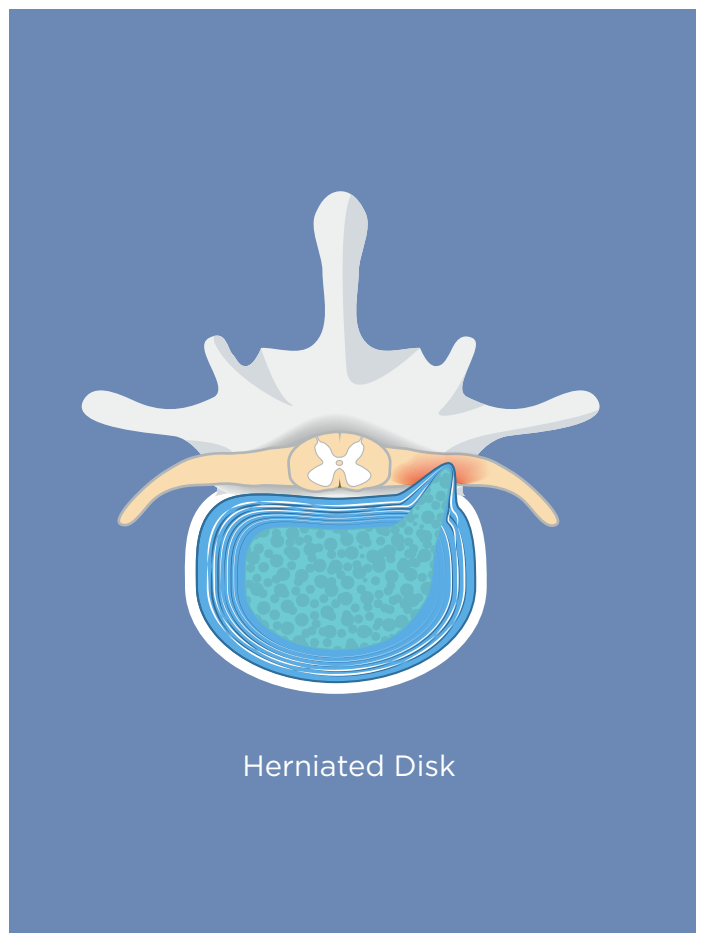
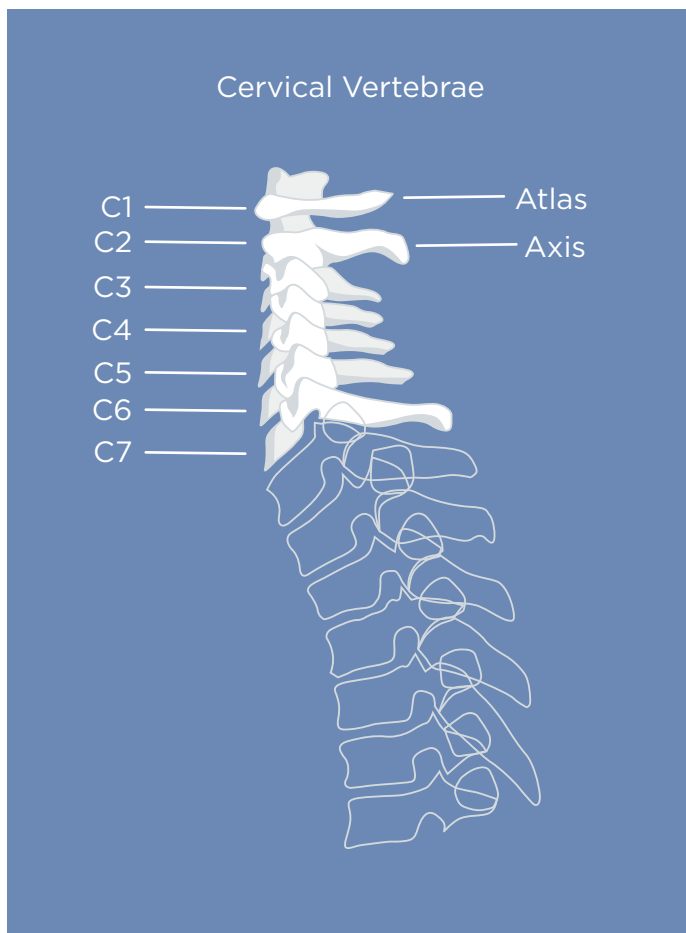
The spine of your neck is made up of 7 bones called cervical vertebrae. This is the most flexible part of the spine. The vertebrae are separated by disks that cushion the spine when you move. The spinal cord passes through the spinal canal. At each level, a pair of spinal nerves goes out from the spinal cord through openings at the side of the vertebrae.

The disk is made up of two parts, a spongy center surrounded by a tougher outer ring. Disks are the shock absorbers of the spine. They protect the vertebrae, spinal cord, and nerves from damage.

Due to injury or wear and tear from using your spine, part of a disk can protrude from between the vertebral bones and press on nerve roots branching out from the spinal cord. This is called a bulging or herniated disk.

Disks may also thin and wear out with age, called degenerative disk disease. When this happens, the vertebrae begin to touch, slip forward or backward or become unstable. As the two vertebrae rub together, bone spurs or growths may form. The bone spurs may cause narrowing of the spinal canal called stenosis. This narrowing may also put pressure on the nerves.

Muscles in the neck and shoulders also give extra support to the cervical spine to help hold up the head and neck. These muscles also aid shoulder and head movement.



Anterior Cervical Diskectomy and Fusion (ACDF)

Purpose

An ACDF is done to remove the part of the disk or bone spurs touching the nerves and causing pain, weakness, numbness and/or tingling. Sometimes the goal of surgery is to prevent the symptoms from getting worse.

How It Is Done

First, a small incision will be made in the front of the neck, on the left or right side. The esophagus and windpipe are moved to allow the disk or bone spurs that are causing symptoms to be removed. Because the esophagus and windpipe are moved, your voice may be hoarse and you may have some difficulty trouble swallowing after surgery. These symptoms usually go away with time.

An intervertebral spacer or bone graft is used to keep the height between vertebrae. Your surgeon will stabilize the spine with a metal plate and screws while the bone graft is healing. You will not be able to see the sutures that are used to hold the skin closed. The sutures will dissolve on their own.

Cervical Laminectomy

Purpose

A cervical laminectomy is done to relieve pressure on the spinal cord when spinal stenosis causes pain, weakness, decreased coordination, numbness or tingling. Spinal stenosis may be caused by bone spurs, arthritis, fractures or herniated disks. Sometimes this surgery is done to prevent the symptoms from getting worse.

How It Is Done

First, an incision is made at the back of your neck. The bone (lamina) covering the spinal cord is moved to increase the size of the spinal canal. Making the spinal canal larger should decrease your symptoms. At times, the surgeon may do a laminoplasty with metal plates and screws to hold the bone in place. You will not be able to see the sutures that are used to hold the skin closed. The sutures will dissolve on their own.

What You Need to Do Before Surgery

- Contact your insurance company to discuss the need for pre-authorization, pre-certification or for a second opinion or referral form.
- Appointment with your primary care doctor. This may include:
 - Physical exam
 - Health history
 - EKG
 - Chest X-ray
 - Review of the medications you are taking
 - Blood work
- Stop any medications your surgeon or primary care doctor told you to.
 - Medications to avoid before surgery:
 - Coumadin (warfarin) or any other medication that thins your blood
 - Aspirin or baby aspirin
 - Any drug containing aspirin
 - Advil, Aleve, ibuprofen, naproxen
 - Plavix
 - All vitamins and herbal supplements
- Attend spine surgery education class.
- Get your brace if it was ordered—do not open the package.
- Talk with your family about care you will need when you return home. You cannot drive after surgery until your surgeon says it is okay so have someone available to drive you to your follow up appointment and help with errands.
- Start preparing your home so it is ready after surgery.
- Reduce alcohol intake.
- Stop smoking for at least one month before surgery.
- Register for surgery. This may be a phone call or a visit to the Pre-Admission Center.

Prepare Your Home

Putting your home in order before surgery saves energy, time and worry later.

Help at Home

We recommend having someone stay with you for at least 2 to 3 days and nights after you go home from the hospital. This support is important for a safe recovery. In the first several weeks after surgery, you may appreciate some help at home.

Arrange for this now. Family and neighbors may be able to help with meals, cleaning, laundry and other demands. See which community services are available.

Home Safety

Prevent falls and other injuries by making a few simple changes around your home.

- Use chairs with straight backs and sturdy arm rests.
- Remove throw rugs and clear away clutter.
- Tape down electric cords or tuck them behind furniture.
- Use a night light.
- Determine what items you will need when you return home and you normally keep in dressers, cabinets and on shelves. Move the items you use often to counter height to avoid excess bending or reaching.
- Make sure stairs have handrails that are securely fastened to the wall.
- You may need a shower chair or raised toilet seat. A shower chair without a backrest usually works best.
- You may need to install grab bars in your shower and beside your toilet.

These items can be found at durable medical equipment dealers or at second-hand stores where they will be inexpensive. Keep in mind that the items you need must be sturdy and of good quality to be safe and useful. Talk to your occupational therapist for advice. The occupational therapist can help determine the best equipment for you.

Make a Base of Operations

Prepare a base camp of your own on the main level of your home. It can be a struggle to get to the phone when it rings. A cordless or cell phone lets you answer your calls easily. Find places to keep personal items, so they are within easy reach. But don't let this area get so cluttered that it becomes a safety hazard.

Is there anything to help you pass the time? Get some books, magazines, crafts, puzzles or the TV remote control to keep in your spot. Don't get too comfy, though. You need activity and exercise, too. Tell your surgeon if pain is keeping you in the chair too much.

Stock-up Your Kitchen

Make some hotdishes and freeze them for quick meals after surgery. Plan some easy-meal menus and shop in advance. Many grocery stores will deliver an order right to your door. Depending on the store, you can phone in your order or place an order on their website. There is usually a delivery charge for this service. Contact your local grocery store for more information.

Many restaurants offer home delivery, too. The social worker or case manager can arrange for Meals-on Wheels if you are eligible.

Planning to Go Home

Destination

Some people may not be able to recover from surgery at their own home. Think about your home demands and whether or not you have enough help. Is your home too out of the way? Now is the time to make plans for temporary living arrangements if managing at home during recovery is too difficult.

If important needs cannot be met, make plans to recover someplace other than home. Perhaps you can stay with family or friends. A case manager or social worker can offer suggestions and help make arrangements. Tell your doctor or nurse if you would like to speak with a case manager or social worker.

Travel

Because it will be several weeks before you are able to drive again, arrange for someone to help with your travel needs. See if a family member or friend can be your wheels or run errands for you. For your drive home after surgery, arrange for a car that is comfortable and is one that you can get into and out of easily.

Countdown to Surgery: What You Need to Do

Day Before Surgery

- A nurse will call you the day before surgery. If your surgery is on a Monday, you will be called the Friday before. The nurse will tell you what time to come to the hospital.
- Pack your bag.
- Shower before bed as directed.
- Eat a light supper and a bedtime snack. Do not eat or drink anything after midnight. This includes chewing gum and breath mints. No smoking.

Day of Surgery

- Shower as directed.
- Brush your teeth. Do not swallow any water or toothpaste.
- Wear clean, comfortable clothes.
- Do not use any perfume, deodorant, cream, lotion, powder or nail polish.
- Take the medications you were instructed to with a small sip of water.
- Do not take your diuretic (water pill).

What to Pack

- Your Spine Surgery Guidebook.
- At least 3 changes of clean, comfortable loose-fitting clothing, including shirts, socks and soft pants or shorts that are easy to pull on such as jogging pants.
- Comfortable, flat walking shoes; not slippers or backless shoes.
- Eyeglasses, contact lenses with solution and case.
- Dentures and storage cup.
- Hearing aids and extra batteries.
- Breathing machine such as CPAP or BiPAP including mask, tubing and settings as directed if you use one.
- Brace for your arm or leg if you use one.
- Neck brace if you were given one before surgery but do not open the package.
- Your own pillows if you think they would make you more comfortable.
- Reading material or devices such as iPod/iPad, Kindle, etc. for your enjoyment.

Leave your jewelry and other valuables at home on the day of surgery.

Goals for Your Recovery

Phase 1

- Sit at edge of bed.
- Stand in the room by evening.
- Create a pain management plan.
- Deep breath, cough and/or use of a breathing tool called an incentive spirometer or Voldyne, to prevent pneumonia.

Phase 2

Walk in halls at least three times each day, wading a longer distance each time.

- 1 2 3

Sit in the chair for meals.

- Noon Evening
- Participate in physical therapy (PT) if ordered.
- Participate in occupational therapy (OT) if ordered.
- Deep breath, cough and/or use of a breathing tool called an incentive spirometer or Voldyne, to prevent pneumonia.
- Pain is controlled.

Phase 3 (discharge goal)

Walk in halls at least three times each day, wading a longer distance each time.

- 1 2 3

Sit in the chair for meals.

- Morning Noon Evening
- Participate in PT if ordered.
- Pain is controlled.
- Continue to work on daily tasks.
- Get in and out of bed by self.
- Go up and down steps.
- Able to dress self, do daily activities and get in and out of car.
- Know your plan for discharge.
- Talk to your nurse about caring for your incision and showering.
- Deep breath, cough and/or use of a breathing tool called an incentive spirometer or Voldyne, to prevent pneumonia.

Your Hospital Stay

After surgery, you may have a wrap around each leg that is attached to a pump. This wrap will improve the blood flow and prevent blood clots.

Talk to your surgeon about how long you can expect to stay in the hospital. Some people can go home the same day as surgery and most go home the next day. If you have a spinal fusion, you will probably be in the hospital at least 1 to 2 nights.

Managing Your Pain

Pain is expected after surgery. The amount of pain and discomfort you have depends on many things. Although it may not be possible to eliminate your pain completely, it is important to us that you are as comfortable as possible. Limiting your movement is not the answer to decreasing your pain. Take pain medication when pain is interfering with activity or sleep.

A factor in pain management is the amount of narcotics you have been on and how long you have taken them. Your body becomes used to these medications after a period of time. Please tell your surgeon how much pain medication you currently take so the right medications can be ordered for you after surgery. If you see a pain management specialist, make a plan with them on how to manage the pain you will have after surgery.

The goal for pain control at home is to allow you to increase your activity and ability to move around while decreasing your need for prescription pain medications. Remember, “hurt does not equal harm”. Moving causes your body to produce its own pain medication.

Alternative measures to increase comfort include:

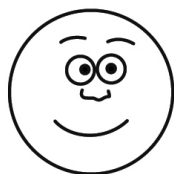
- Use ice as directed.
- Don't sit too long without moving about.
- Ask your therapist about positioning to relieve pain.
- Gradually increase walking or other activities.
- Find activities that will take your mind off surgery.
- Use relaxation techniques.

Wong-Baker FACES® Pain Rating Scale



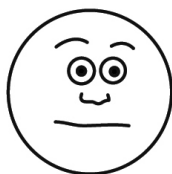
0

No
Hurt



2

Hurts
Little Bit



4

Hurts
Little More



6

Hurts
Even More



8

Hurts
Whole Lot



10

Hurts
Worst

Preparing to Go Home

Before you go home, we will make sure that all of your discharge needs are met. A nurse case manager or social worker will visit you in the hospital to discuss any help you may need at home. Before you leave, you can expect to be given:

- Written discharge instructions
- Prescriptions for pain medications
- Follow-up appointments

Remember to ask for a pain pill before you leave the hospital.

If you are traveling a long distance, plan to get out of the car and stretch every hour. This will keep you from getting too stiff and will also help prevent blood clots in your legs.

Follow back precautions while you heal:

- No bending forward at the waist. Bend at the hips and knees to squat down or use a long-handled reacher.
- No lifting greater than 10 pounds. Do not lift children/grandchildren, small pets, or heavy groceries. Do not lift anything heavier than a carafe of coffee or pair of shoes.
- No twisting your spine when standing or sitting. Your hips and shoulders should always face the same direction.

Use of a Cervical Collar

If you had a spinal fusion, your surgeon may have you wear a cervical collar after surgery. This decision is based on your condition and the type of surgery.

If you have your cervical collar before surgery, do not open the package. But, bring it with you to the hospital when you come in for surgery.



Taking Care of Your Incision

Normally, it takes about 2 weeks for your incision to heal enough to stay closed on its own. Keeping your incision clean and dry is the most important care you can give.

As your incision heals over the next 6 to 8 weeks, it may feel tight and itchy. This is a normal part of healing. Swelling, tenderness and drainage will get better day by day.

You may have an egg shaped bulge by your incision that is the same color as your skin, with no pain or drainage. This pocket of clear fluid is called a seroma and sometimes forms in the body after surgery. It is harmless. The fluid will be reabsorbed over the next few weeks to months. Call your surgeon's office if this area becomes red or painful, or if you notice drainage.

When you shower, do not let water beat on the incision. But, soap and water may pass over the incision. Wash gently each day. Sit on a shower chair. Your occupational therapist will help you choose the correct shower chair. Water should be warm, not too hot or cold. Have someone nearby to assist you. Do not immerse yourself in water (like tub baths, swimming pools, or hot tubs) until after your incision stays closed, clean and dry—about 4 weeks.

Wear loose clothing that is easily washed and doesn't rub or irritate the incision. Never dab lotion, ointment, powders or perfumes on the incision.

Constipation

Some people become constipated after surgery. Decreased activity, dehydration and some medications often lead to constipation. To avoid constipation, try to gradually increase fiber-rich foods such as fruits, vegetables and whole grains. It is also important to drink 8 or more 8 oz. glasses of fluids daily and stay as active as you can.

If you find yourself constipated, try:

- Milk of Magnesia®
- Metamucil®
- Stool softeners
- Benefiber®

When to Call Your Surgeon

Infection Signs

- Temperature over 100 °F
- Chills
- Increase in pain or tenderness
- Increase in redness or swelling
- New drainage, especially foul smelling, odd color or pus-like

Nerve Problem Signs

- Problems with your balance
- Increased numbness
- Increased pain

If you need a prescription refill, call your pharmacy or surgeon's office directly during regular business hours. Remember to call before you run out of your medication.

When to Call Your Primary Care Doctor

Blood clot signs

- Pain in the back of your calf
- Leg swelling, especially if one is swollen and not the other
- Shortness of breath or chest pain

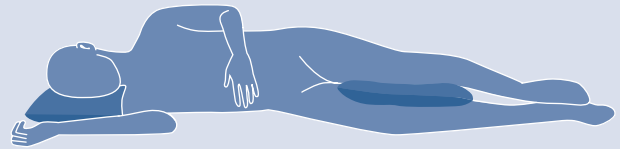
If you have chest pain, palpitations or difficulty breathing, please call 911.

Body Mechanics and Positioning



Sleeping On Back

Place pillow under knees. A pillow with cervical support and a roll around waist may also be helpful.



Sleeping On Side

Place pillow between knees. Use cervical support under neck and a roll around waist as needed.

Sleeping On Stomach

If this is the only desirable sleeping position, place pillow under lower legs and under stomach or chest as needed. This position should **not** be used if you have had neck surgery.

Log Roll

Lying on back, bend left knee and place left arm across chest. Roll all in one movement to the right. Reverse to roll to the left. **Always move as one unit.**

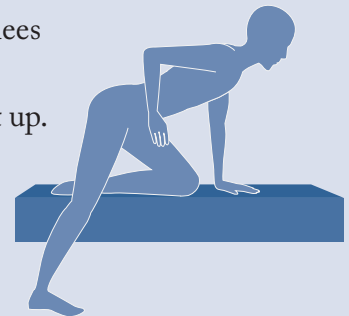
Getting Into and Out of Bed

Lower self to lie down on one side by raising legs and lowering head at the same time. Use arms to assist moving without twisting. Bend both knees to roll onto back if desired.

To sit up, start from lying on side, and use same movements in reverse. Keep trunk aligned with legs.

Knees Into Bed

Get on hands and knees before lowering self.
Reverse process to get up.



Sitting

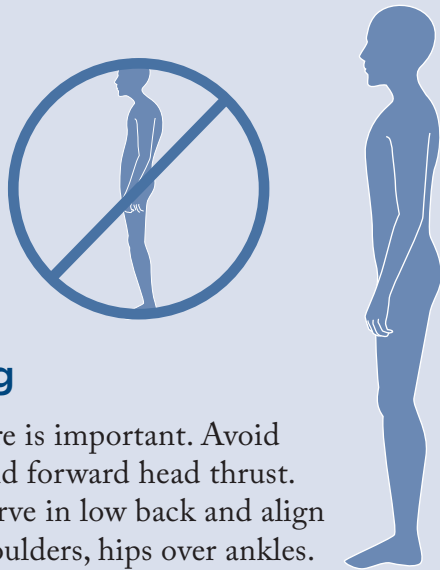
Sit upright, head facing forward. Try using a roll to support lower back. Keep shoulders relaxed and avoid rounded back. Keep hips level with knees. Avoid crossing legs for long periods of time.

Computer Work

Position work to face forward. Use proper work and seat height. Keep shoulders back and down, wrists straight and elbows at right angles. Use a chair that provides full back support. Add footrest and lumbar roll as needed. Alternate copy stand positions (side to side).

Getting Into and Out of Car

Lower self onto seat, scoot back, then bring in one leg at a time. Reverse sequence to get out.



Standing

Good posture is important. Avoid slouching and forward head thrust. Maintain curve in low back and align ears over shoulders, hips over ankles.

Reading

Hold material in tilted position, maintain good sitting posture and tilt your chin. Don't drop your head.

Stand to Sit and Sit to Stand

To sit: Gently tighten your stomach muscles. Bend at hips and knees as if taking a bow, lower yourself onto front edge of chair, then scoot back. To stand: Reverse sequence by scooting forward to edge of seat. Bend forward at you hips and use your legs to stand up.

Alternate Positions

Alternate tasks and change positions frequently to reduce fatigue and muscle tension. Take rest breaks. Remember to use a roll to support your lower back.

Standing at a Sink

Stand with one foot on ledge of cabinet under sink or on a small step. Use this technique for activities such as shaving, brushing teeth, washing dishes and meal preparation.

Work Positioning

Position self close to work, whether standing or sitting. Ideal work height is just below elbow level (two to four inches) when standing and at elbow level when sitting.

Reaching Down

If you are unable to bend your knees or squat, use a lazy Susan to keep items within easy reach. Store only light, unbreakable items on the lowest shelves and use a reacher to pick them up. This applies to refrigerator storage also.

Lifting

Lower self onto seat, scoot back, then bring in one leg at a time. Reverse sequence to get out.

Reaching

When you cannot avoid reaching, lift the leg opposite to the arm being used to reach in order to keep back straight. Be sure not to twist.

Moving Objects

Pushing is preferable to pulling. Gently tighten your stomach muscles, keep elbows close at sides, keep back in proper alignment and use total body weight and legs to push or pull.

Work Positioning

Avoid twisting or bending back. Use your feet to turn your entire body to face your work. Bend at knees if needed when reaching for articles.

Frequently Asked Questions

How do I know if my incision is infected?

After surgery, you will notice discolored skin, some swelling and drainage around your incision. This is normal. If you have a temperature over 100 degrees, painful redness, abnormal swelling or thick, bad smelling drainage from your incision, you may have an infection.

When can I take a shower?

Unless your surgeon has given you special instruction you will be able to shower when you go home. You may need special equipment, like a bath mat, hand-held shower head and shower seat to help you bathe comfortably and safely. Be sure not to rub your incision when you are washing or drying yourself.

When will I be able to drive again?

Driving can be physically and emotionally stressful. Reaction time is slowed. You may not be able to move quickly enough. How soon you can drive depends on which surgery you had, what pain medications you are taking and what type of vehicle you drive. Most patients can drive two to four weeks after surgery. It is not okay to drive while taking narcotic pain medications. Do not drive until your surgeon tells you it is okay.

What will my scar be like?

Spine surgery can be done in several different ways. How your surgery is done will determine the location and length of your scar. Generally, the incision is 1/2–4 inches long. But the length will vary based on the approach as well as your body size and shape. You may have some numbness around the scar after it is healed. This is normal and should not cause any concern. The numbness usually disappears with time.

When can I resume intimate activity?

Most patients are able to resume sexual activity four weeks after surgery as comfort allows. If you have questions about sexual positions that will cause the least discomfort, talk with your physical therapist or surgeon.

How Often Will I Need to See My Surgeon After Surgery?

Your surgeon will decide how often you need to be seen in the clinic after your recovery. It is important to keep your first appointment so you can discuss your follow up needs.

Will my insurance cover the medical equipment I need at home?

Insurance varies on what they pay for medical equipment. Medicare covers 80% of most durable medical equipment that is ordered, such as a walker or a cane. A supplemental insurance may pay the rest of the charges. However, Medicare does not cover items like a shower bench or hand held shower hose.

When can I return to work?

How soon you return to work depends on the type of work you do. Most people will be able to return to work in three weeks to three months. Your surgeon may recommend returning to work on light duty at first. Discuss your return to work with your surgeon.

Bismarck

Phone Numbers and Locations

Sanford Brain and Spine Center

222 N. Seventh St. – Concourse
Bismarck, ND 58501
(701) 323-5422
Toll Free (800) 932-8758

Sanford Medical Center

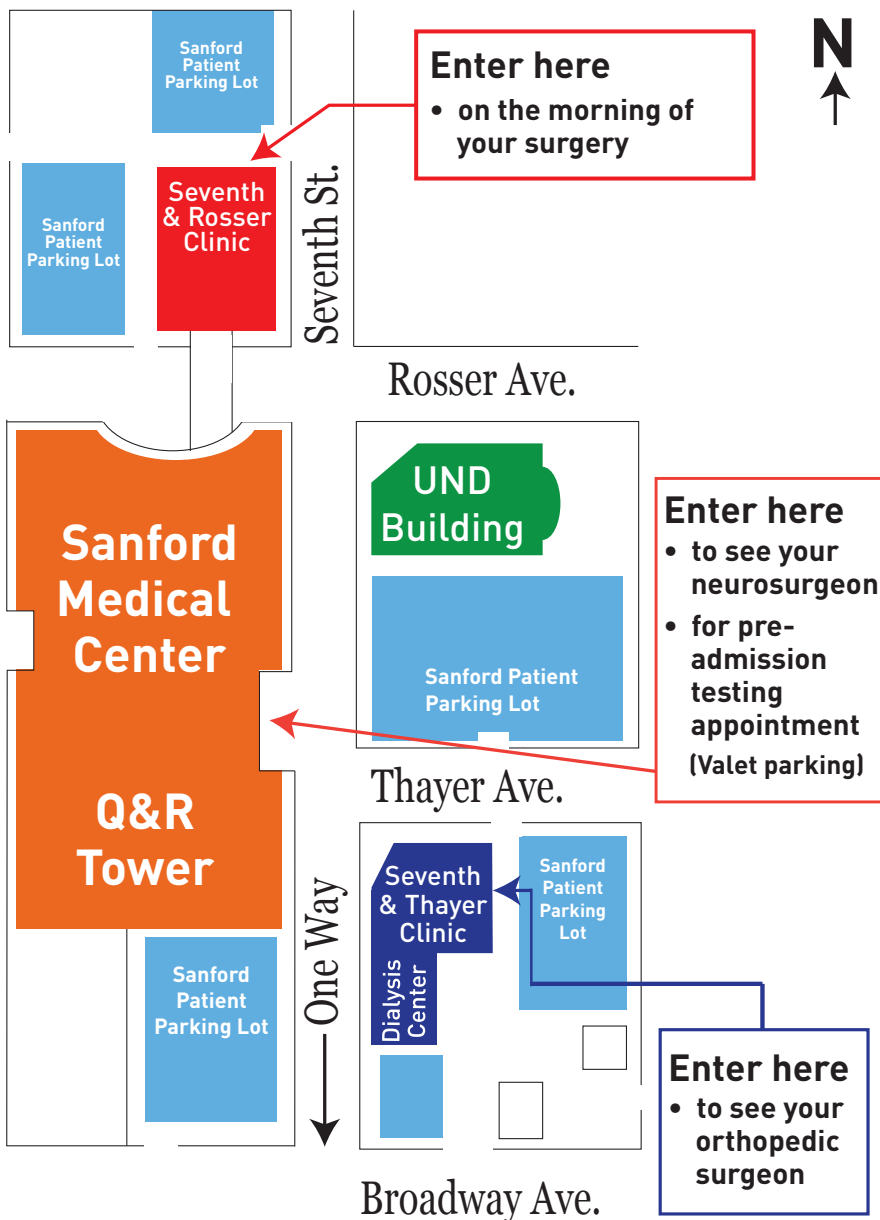
300 N. Seventh St.
Bismarck, ND 58501
(701) 323-6000
Toll Free (800) 772-0226

Orthopedics at Sanford Seventh & Thayer Clinic

209 N. Seventh St.
Bismarck, ND 58501
(701) 323-8920

Sanford Seventh & Rosser Clinic

414 N. Seventh St.
Bismarck, ND 58501
(701) 323-6021



Fargo

Phone Numbers and Locations

Brain and Spine Center

Sanford Neuroscience Clinic

2301 25th Street

S. Fargo, ND 58103

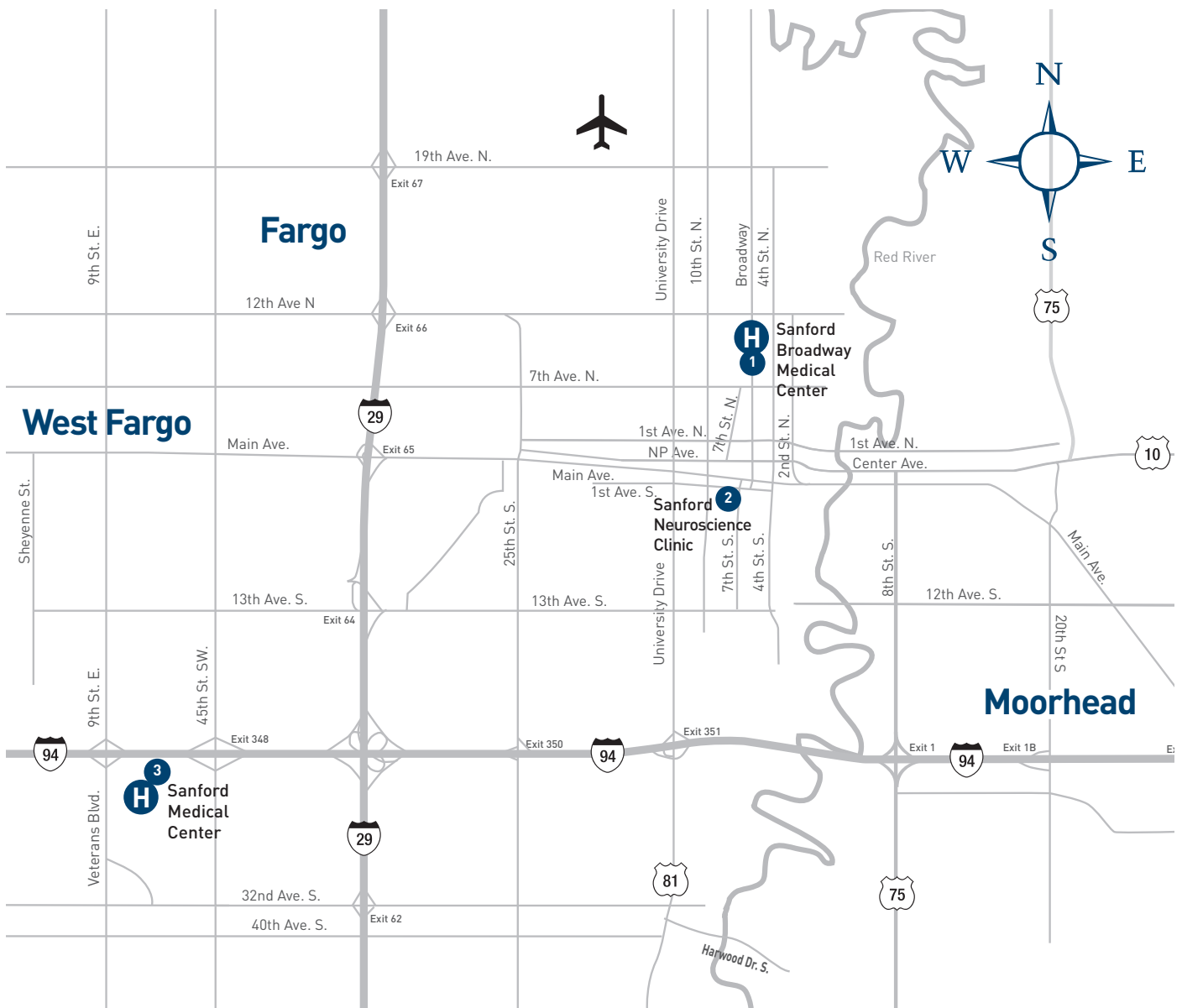
(701) 417-6600

Sanford Medical Center Fargo

5225 23rd Avenue

S. Fargo, ND 58104

(701) 417-2000



Sioux Falls

Phone Numbers and Locations

Sanford Brain and Spine Center

1210 W. 18th St., Suite 100
Sioux Falls, SD 57104
(605) 312-8500

Sanford Medical Center

1305 W. 18th St.
Sioux Falls, SD 57104
(605) 333-1000

Sanford Surgical Towers

1508 W. 22nd St.
Sioux Falls, SD 57105

Director of Orthopedics and Neurology – Inpatient

(605) 328-5196

Director of Neuroscience Clinics

(605) 312-8655

