

Phone: 815-398-9491

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LUMBAR FUSION

In this folder you will find information about your surgery and recovery. You should read the information in this folder several times before surgery, including every day the week leading up to your surgery. It is important for the success of your recovery to have this information memorized. Should you have any questions regarding any of this material, please call our office and speak with the nurse or medical assistant.

This folder will include the following information:

- Brief description regarding the surgery
- Post operative instructions
- Medications to stop prior to surgery
- Constipation management
- Calcium and vitamin D3 supplementation
- Protein supplementation
- Post operative pain medication instructions
- Antibiotic instructions for dental procedures/cleanings
- Drain care and removal

Date of Surgery: _____

Hospital: _____

Additional Testing: _____

Dr. Okroj's care Team:

Sean Soare, Physician Assistant

Jaime, Nurse 815-316-6874

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LUMBAR FUSION

SURGICAL EXPLANATION:

An incision is made on the lower back to expose the spine. Disc material, bone spurs and/or arthritis are removed, and the nerves unpinched. The disc space is replaced with a titanium cage and packed with bone graft and secured with titanium rods and screws. In time, the fusion will take place, and the two or more bones will grow together to form one bone.

HOSPITALIZATION:

This surgery may be done as inpatient or outpatient. The patient may stay one night in the hospital. Patients will usually go home after their hospitalization. During their hospitalization, patients will be instructed by physical therapy and the nursing staff to reposition every few hours. This will include getting out of bed to the chair with meals, ambulating with assistance, and log rolling while in bed every two hours. Patients will be shown how to follow spinal precautions, which include no bending, lifting, twisting, slumping or arching of the back, and log rolling to change positions prior to sitting up in bed.

Open Lumbar Fusion Postoperative Instructions

Wound Care

- Keep incision area dry and clean. Do not put any ointments or antibiotic solutions on the incision. Let the steri-strips fall off by themselves. You should remove them after two weeks. If you notice **any drainage**, redness, swelling or increased pain at the incision site, call the office immediately. You may use an ice pack for 7 days after surgery to help with incisional discomfort as needed.
- You may shower 3-4 days after your surgery, as long as you do not have a drain in place. Remove your dressing 7 days after your surgery. Do not take a bath or get into a pool for two weeks.
- For the best cosmetic result, keep your incision away from direct sunlight and tanning booths until it fades completely to flesh tone. Otherwise, there is a risk of permanent discoloration. You may use vitamin E lotion to massage the incision after 6 weeks.

Activities and Restrictions – at least 6 weeks after surgery

- **No forward bending, twisting, or stooping forward at the waist.**
- Your shoulders and hips should move together as a unit without twisting your low back. In bed, log roll to change positions, and roll onto your side before sitting up.
- Do not use a reclining chair (mainly because they force you to slump, and are difficult to exit properly). You may cross your legs at your feet and your knees for dressing. Avoid crossing your legs for extended periods of time.
- You may be scheduled for an appointment to review the postoperative spinal precautions listed above with our physical therapist.
- No lifting over 20 pounds.
- Regular walking is the best exercise after this type of surgery. Stair climbing is permitted. Formal physical therapy will generally start about 4-6 weeks after surgery. You may engage in sexual activities 4 weeks after surgery, provided the activity is not painful. You may resume driving 2 weeks after surgery when your judgment is not impaired by pain medication.
- Perform your ankle pumps and incentive spirometry (10 times/hour while awake) until you become more active and are spending most of your day out of bed, at which time you may stop using the TED stockings.
- There is always a small chance that a brace or orthosis will be necessary after surgery. Your surgeon will discuss this matter if the need arises.

Medications and Nutrition

- **Increasing your protein intake dramatically improves the rate of successful wound healing. We strongly recommend drinking up to 2 protein shakes per day (in addition to your customary diet) for the first 6 weeks.**
- Take over-the-counter calcium (600 mg) with vitamin D (400 I.U.) three times daily with meals for 3 months following surgery.
- Avoid constipation (caused by narcotic medication) by following the bowel regimen described on the separate sheet provided.
- For the next 1 year, you should take antibiotics prior to any dental work or invasive medical procedure. If possible, avoid dental procedures for 6 weeks after surgery.
- Do not take anti-inflammatory medication (e.g., ibuprofen, naproxen) for 1 week before and 6 weeks after surgery, unless specifically discussed with your surgeon.
- Do not take any blood thinning medication (e.g., Coumadin, Plavix, Lovenox, Fragmin) for 1 week before and 1 week after surgery. You may resume aspirin 1 week after surgery.
- Do not take any osteoporosis medication (e.g., Fosamax, Actonel, Evista) for one month before and 3 months after surgery, unless specifically discussed with your surgeon.
- Do not take any oral rheumatoid arthritis medication (e.g., Arava, Imuran, Plaquenil, sulfasalazine) for 3 weeks before and 4 weeks after surgery, unless specifically discussed with your surgeon.
- Do not take any injectable rheumatoid arthritis medication (e.g., Enbrel, Humira, Orencia, Remicade, Rheumatrex) for one month before and one month after surgery, unless specifically discussed with your surgeon.
- Just a reminder: **NO SMOKING.** Tobacco smoke (even second-hand smoke) and nicotine (even gum, patches, or E-cigarettes) after fusion surgery will jeopardize the healing process, and may result in chronic pain and the need for further surgery.

Long-Term Management

The key to success after a lumbar surgery is prevention of future episodes. The critical elements to good back health are:

- Strong core stabilizing muscles (back extensors, abdominals, gluteals)
- Hamstring flexibility
- Proper lifting technique (*how* you lift is much more important than *how much* you lift)
- Avoidance of a flexed or slumped low back (e.g., stooping over to pick something up)
- Weight loss (especially in patients with a large midsection)
- Regular aerobic exercise (30 minutes, 3x/week)
- Avoidance of tobacco products

Adherence to these principles will maximize your chances of avoiding future surgery. However, no one else can apply these concepts except the patient.

Questions and Emergencies

Call 815-398-9491 during business hours for questions and emergencies (Monday-Thursday 8 A.M. to 4 P.M., Friday 8 A.M. to noon). **Medication refills will only be authorized during business hours.** Please specify if you calling for an emergency and you will be connected with the spine nurse. All emergencies are reported to the physician immediately.

After business hours, you may call 815-398-9491 and the answering service will contact your physician. If he is out of town or if it is the weekend, another physician or physician's assistant will be available.

Medication Instructions

All patients must stop the following medications 1 week before surgery:

- Aspirin or aspirin containing medications
- Blood thinners (Coumadin, Lovenox, Plavix, Pradaxa, Xarelto, etc.)
- NSAIDs (Advil, Aleve, ibuprofen, naproxen, Motrin, etc.)

All patients having a **fusion** must stop the following medications before surgery as instructed below:

- Osteoporosis medications (Actonel, Atelvia, Binosto, Boniva, Evista, Fosamax, Prolia, Reclast, etc.) - stop 1 month before and 3 months after surgery
- Oral rheumatoid arthritis medications (Arava, Azasan, Azulfidine, Imuran, Plaquenil, etc.) - stop 3 weeks before and 4 weeks after surgery
- Injectable rheumatoid arthritis medications (Cimzia, Enbrel, Humira, Orencia, Remicade, Rheumatrex, Xeljanz, etc.) - stop 1 month before and 1 month after surgery

You may resume your medication as instructed by your physician. Please refer to your postoperative instructions to see when you may resume your medication after surgery.

If you have any questions or concerns regarding your medications, please contact your physician's office at 815-398-9491 for further recommendations.

MEDICATIONS TO WITHHOLD BEFORE SURGERY

PLEASE STOP TAKING ANY OF THE MEDICATIONS LISTED BELOW 7 DAYS PRIOR TO YOUR SURGERY. This includes any aspirin or aspirin containing medication, blood thinning medication, and any non-steroidal anti-inflammatory (NSAIDs) medication. All of these medications thin your blood and could cause you to lose more blood than expected during surgery. You may resume your medication as instructed by your surgeon. Please refer to your postoperative instructions to see when you may resume your medication after surgery. If you have any questions or concerns regarding your medication, please contact your surgeon's office.

BRAND NAMES

Advil	Ecotrin
Aggrastat	Effient
Aggrenox	Eliquis
Aleve	Excedrin
Alka Seltzer	Feldene
Amigesic	Fiorinal
Anacin	Fish oil
Anaprox	Flector
Angiomax	Fragmin
Argatroban	Halfprin
Arixtra	Heparin
Arthrotec	Herbal Supplements
Asacol	Indocin
Ascriptin	Integrilin
Aspirin	Iprivask
Azulfidine	Kaopectate
Bayer	Lovenox
Brilinta	Mobic
Bufferin	Motrin
Cambia	Naprelan
Canasa	Naprosyn
Cataflam	Norgesic
Celebrex	Norgesic Forte
Cilostazol	Orudis
Clinoril	Pepto Bismol
Colazal	Persantine
Coumadin	Plavix
Daypro	Pletal
Dipentum	Pradaxa
Doan's	Relafen
Dolobid	ReoPro
	Salflex

Savaysa	Enoxaparin
Soma compound	Eptifibatide
Ticlid	Etodolac
Tolectin	Fondaparinux
Toradol	Ibuprofen
Treximet	Indomethacin
Tricosal	Ketoprofen
Vicoprofen	Ketorolac tromethamine
Voltaren	Magnesium salicylate
Xarelto	Meclofenamate
Zipsor	Meloxicam
Zontivity	Mesalamine
Zorvolex	Nabumetone

GENERIC NAMES

Abciximab	Naproxen
Apixaban	Olsalazine sodium
Aspirin	Oxaprozin
Balsalazide	Piroxicam
Bismuth subsalicylate	Prasugrel
Bivalirudin	Rivaroxaban
Celecoxib	Salsalate
Choline magnesium	Sulfaxalazine
Cilostazol	Sulindac
Clopidogrel	Sumatriptan-naproxen
Dabigatran	Ticagrelor
Dalteparin	Ticlopidine HCL
Desirudin	Tirofiban
Diclofenac	Tolmetin
Diflunisal	Vorapaxar
Dipyridamole	Warfarin
Edoxaban	

FOR PATIENTS UNDERGOING FUSION:

1. Do not take any osteoporosis medications (Actonel, Atelvia, Binosto, Boniva, Evista, Fosamax, Prolia, Reclast, etc.) for one month before and three months after surgery, unless specifically discussed with your surgeon.
2. Do not take any oral rheumatoid arthritis medications (Arava, Azasan, Azulfidine, Imuran, Plaquenil, etc.) for two weeks before and two weeks after surgery, unless specifically discussed with your surgeon.
3. Do not take any injectable rheumatoid arthritis medications (Cimzia, Enbrel, Humira, Orencia, Remicade, Rheumatrex, Xeljanz, etc.) for one month before and one month after surgery, unless specifically discussed with your surgeon.

Prevention and Treatment of Constipation

You may experience constipation after surgery as a result of anesthesia, narcotic pain medication, reduced physical activity, and alterations in your diet. To prevent constipation after surgery, it is strongly recommended that you take an over the counter stool softener and laxative for two weeks after surgery or while taking narcotic pain medications.

Below are the over the counter medications recommended to prevent constipation:

- Colace, 1 capsule, twice a day
- MiraLAX (polyethylene glycol), 1 capful (17-grams), daily

If you have not had a bowel movement by the third day after surgery, it is recommended that you try the following over the counter medications until you have a bowel movement:

- Dulcolax suppository, 1 suppository, daily as needed
- Fleet Enema, 1 enema, daily as needed
- Milk of magnesia, 30-mL, daily as needed
- Magnesium citrate, ½-bottle, daily as needed

Recommended dietary changes to prevent constipation include:

- Eating prunes or drinking prune juice
- Drinking at least eight 8-oz glasses of water a day
- Eating plenty of fruits and vegetables

If you have any questions or concerns regarding treatment for constipation, please call your physician's office at 815-398-9491 for further recommendations.

Calcium and Vitamin D3 Supplementation

All patients having a spinal fusion should take an over the counter calcium and vitamin D3 supplement three times a day with meals prior to surgery, and continue for three months after surgery, or longer if desired. Depending on your pre-op vitamin D level, we may require that you take an additional vitamin D3 supplement.

Below are the over the counter supplements recommended:

- Caltrate 600 + D3, 1 tablet, three times a day with meals
- or a generic supplement containing at least calcium 600-mg and vitamin D3 400-IU, three times a day with meals
- or a total of 1800-mg of calcium and 1200-IU of vitamin D3 per day

Protein Intake for Wound Healing

Proper nutrition is essential for wound healing. Your diet can play a critical role in how your wound heals and the duration of your recovery. It is important to consume a well-balanced diet (fresh fruits and vegetables, whole grains, protein, dairy) along with increased protein intake. Increasing protein in your diet will help aid in healing the surgical site and increase your overall recovery.

It is recommended to consume a protein shake twice a day or with breakfast, lunch, or dinner. Look for something that has the highest amount of protein and the lowest amount of added sugars (20-30 grams of protein and 1-2 grams of sugar per serving). They come in several flavors and can be found at any convenient store. Protein powders versus the premade protein drinks are typically the most cost effective and useful. They can be blended with just about anything to enhance the flavor and nutrient intake. Below are a few brands that previous patients have recommended:

Orgain Organic Protein (Vegan)
Premier Protein
Pure Protein

Muscle Milk
Equate Max/High Protein
Ensure Max Protein

You should increase your protein intake with other sources as well. Below are some suggestions for foods that are high in protein:

Seafood
Lean meats
Poultry
Dairy
Eggs

Beans
Nuts or seeds
Peanut butter
Quinoa
High protein nutritional bars

You should start increasing your protein intake now and continue for at least 6 weeks after surgery. If you have any questions regarding your diet and protein intake, please contact your surgeon's office at 815-398-9491 for further recommendations.

Post-Operative Pain Management

The medications prescribed for post-operative pain are to be used as needed, not scheduled. Some pain medications, including Norco (hydrocodone) and Percocet (oxycodone) are habit forming and should be stopped as soon as possible.

You should contact us as early as possible if you need a prescription refill. Typically, we need to be notified 48-72 hours in advance. Medication refills will only be authorized during normal business hours.

Antibiotic Prophylaxis after Spinal Surgery

1. Anyone who has had spinal instrumentation implanted is at risk for developing an infection around the instrumentation from bacteria in the bloodstream. Bacteria can enter the bloodstream through a break in the skin, a break in the lining of the mouth, or from an infection anywhere in the body. Antibiotics should be taken prior to any surgical procedure or invasive testing for 1 year after your surgery.
2. Every effort must be made to prevent infection to your spine. You should always tell your dentist or any physician that you have instrumentation in your spine. An effective method of reducing the risk of infection is to take a prophylactic broad spectrum antibiotic such as Amoxicillin or Clindamycin.
3. If you are having any invasive dental work (filling cavities, root canal, etc.), you must take an antibiotic prior to having the work done. You will also need antibiotics prior to routine teeth cleanings.
4. If you suspect an infection anywhere, you should contact your family physician for instructions regarding treatment. This does not include colds or sinus trouble.
5. It is necessary for most patients to follow this prophylactic plan for two years after the spine instrumentation is placed. Patients who have problems with their immune system or various other medical conditions should check with their family physician for recommended prophylactic instructions.

Antibiotic recommendations per the American Dental and Orthopedic Associations:

- Amoxicillin 500 mg – 4 tablets 1 hour before the procedure.

If allergic to Amoxicillin:

- Clindamycin 300 mg – 2 tablets 1 hour before the procedure.

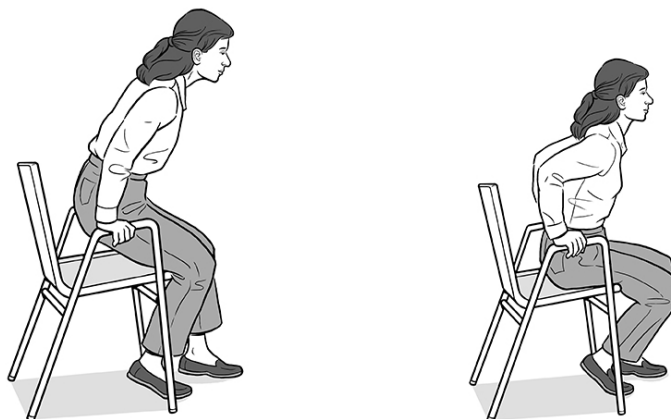
The above are adult doses. Your doctor will tailor the doses according to your age. Please call your family physician for the antibiotic prescription prior to surgical procedures or invasive testing. Please call prior to your dental procedures for the first antibiotic. Your dentist should then take over antibiotic administration.

Back Safety: Sitting

Sitting can strain your back if you don't do it correctly. Learn the right moves to protect your back.

Sitting down

Follow these steps to sit down. Reverse them to get back up.



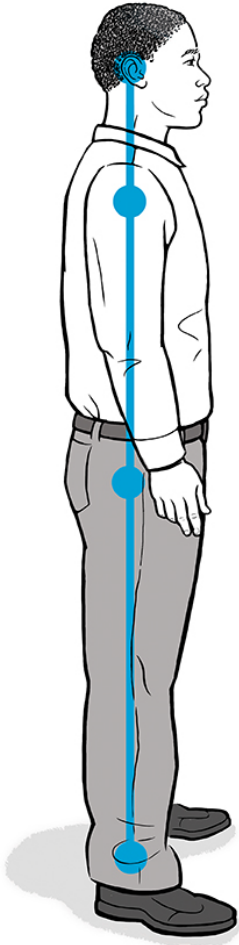
Sitting safely

- Keep your feet flat. Don't cross your legs.
- A low footrest (no higher than 8 inches) may help.
- A support behind your lower back or at your shoulder blades can help make you more comfortable.
- When sitting for long periods, change your position from time to time. Also, get up every half hour and move around.



Back Safety: Standing

Good posture decreases back pain by reducing strain on your muscles. Remember to check your posture, using the self-help tips below, every time you move or adjust position.



Standing

- To help keep your spine straight, line up your ears, shoulders, and hips.
- Stand with your feet shoulder-width apart. Or place one foot slightly in front of the other.
- Keep your knees relaxed and stomach muscles slightly flattened.
- Let your arms hang naturally down the sides of the body.

Bending over

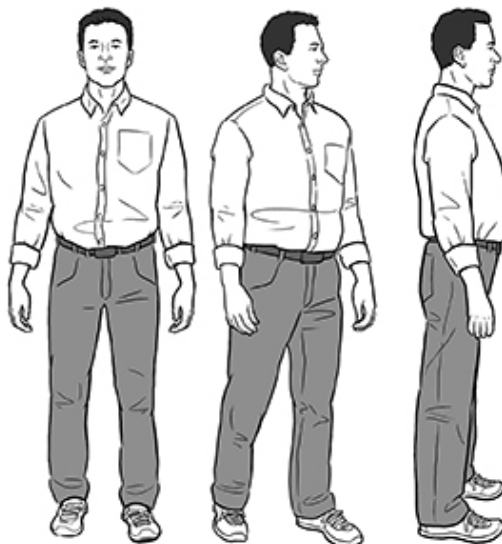
- Bend at your hips and knees.
- Don't bend at your waist or round your back.
- Rest your weight on your arms if possible.

Working

- When standing for a long time, shift your weight from your toes to your heels, or one foot to the other.
- When reaching for objects over your head, use a stepladder. When you can't, be sure to tighten your stomach muscles to keep your back from arching.

Back Safety: Turning

Protect your back while you stand or turn. Turning can twist your spine if you don't do it correctly. Keep these tips in mind as you move.



Step 1

- To turn, move your feet instead of twisting your body at the waist.
- Turn your hips and shoulders together.

Step 2

- Take short steps around.
- Try pivoting on the heel closest to where you're headed.

Step 3

- Step forward out of the turn.
- Keep your knees relaxed and your stomach muscles tightened.

Back Safety: Sleeping Positions and Getting Into and Out of Bed

Good posture protects your back when you sit, stand, and walk. It is also important while sleeping. Keep your ears, shoulders, and hips in line. Try the tips below. Also, be sure to follow any guidelines from your healthcare provider.

If you lie on your back



- Find a position that keeps your back aligned and comfortable.
- Fill gaps between your body and the mattress with pillows.
- Never sleep on your back without bending your legs.
- Never sleep on your stomach.

If you lie on your side



- Bend your knees.
- Place a pillow between your knees to reduce strain on your hips and spine.

Turning in bed

- If you change positions, you will need to move your pillows. This can become so natural that you hardly wake up.
- When you turn in bed, move your whole body as one unit.
- Tighten your stomach muscles. Bend your knees slightly toward your chest.
- Roll to one side, keeping your ears, shoulders, and hips in line. Keep a pillow between your legs.
- Be careful not to bend or twist at the waist.

Getting out of bed

Good posture protects your back when you sit, stand, and walk. It is also important while getting into and out of bed. Follow the steps below to get out of bed. Reverse them to get into bed. Sit at the side of the bed for a few seconds before standing up. Then, after you stand up, wait a moment before walking to be sure you're not dizzy.

1. Roll onto your side

- Keep your knees together.
- Tighten your stomach muscles to keep your back from arching.
- Put your hands on the bed in front of you.

2. Raise your body

- Push your upper body off the bed as you swing your legs to the floor.
- Keeping your back straight, move your whole body as one unit. Don't bend or twist at the waist.
- Let the weight of your legs help you move.



3. Stand up

- Lean forward from your hip and roll onto the balls of your feet.
- Tighten your stomach muscles to keep your back from arching.
- Using your arm and leg muscles, push yourself to a standing position.



After Back Surgery: Tips for Daily Living

Going Home

The sooner you become active, the sooner you'll get back to your normal routine. At the same time, you need to protect your healing back. Increase your activity level at a slow but steady pace. You may also see a physical therapist during this time. Follow any guidelines your healthcare provider or physical therapist gives you.

Your first few weeks

You'll likely feel weak and tired at first, but you should feel a little stronger each day. Your incision may be sore. You may also feel some pain, tingling, or numbness in your back or legs. All of these symptoms should decrease as your nerves heal. Keep moving as much as you can without making your pain increase. Take your pain medicine as prescribed to keep the pain from becoming intolerable. Don't start smoking again.

Your walking program

Walking is the best exercise for you after back surgery. It strengthens your back and leg muscles, increases your endurance, and relieves stress. Start by walking around the house. Build up to several walks a day. You may find it helpful to set a goal. Talk to your healthcare provider or physical therapist about setting a safe, realistic goal for yourself.

Getting dressed

Putting on and taking off socks, slacks, and underwear may be easier to do lying on your back. A tool called a dressing reacher can be of help. To make dressing and undressing easier, wear loose clothes and slip-on shoes with closed backs. You may want to have someone help you dress and undress.

Getting ready to lie down

Before you lie down, make sure that you have the things you need within reach. Gather items such as medicines, eyeglasses, reading material, and other things you may want. Be sure to place them so you won't have to twist your back to reach them. If you aren't able to gather the items yourself, ask a family member or friend to help.

Washing at the sink

While standing at the sink, bend your knees and hips. Keep your back in a neutral position.

Showering

Use a handheld shower to wash your hair. Or bend at the knees and hips under the showerhead so you don't arch your back. To avoid bending, use a long-handled scrub brush. Use liquid soap so you don't need to pick up a dropped bar of soap.

Eating

Slide your chair as far under the table as possible. Don't lean forward or put your elbows on the table.

Using the toilet

Try using a toilet seat riser or portable commode. To get there, and elsewhere, use a walker to reduce the risk of falling. You can buy these at a drugstore or medical supply store. Some health insurance plans will reimburse these expenses if they're ordered by your healthcare provider.