

# SPINAL FUSION

## Preparation and Recovery



We Treat Kids Better



# Spinal Fusion

## Preparing for Surgery and Recovery

Your Children's Orthopaedic Center (COC) physician has recommended that you have an operation for the abnormal curvature of your spine, known as scoliosis. This operation is called spinal fusion. This booklet is presented so that you may have a better understanding of this surgery. You should know why the operation is needed, how it is done, what to expect from surgery and when you go home after surgery.

Your COC nursing team is always available to you for any questions you may have. The nurses phone line is (323) 361-2148.

Your COC physician will also have a surgery scheduling specialist meet with you the day you schedule your surgery. This scheduler will be your contact to arrange many of the details for surgery.

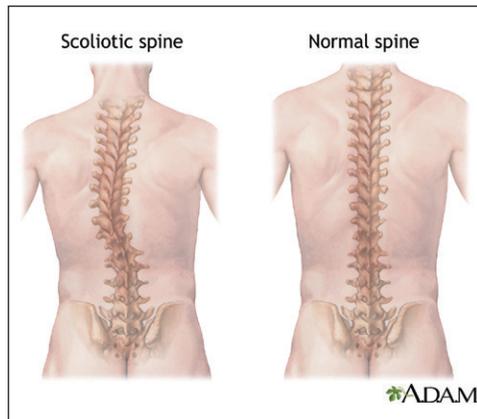
Your physician wants you to ask any questions you may have about this operation. We have also included a checklist for you to use to prepare for the day of surgery.

## What Is Scoliosis?

Scoliosis is an abnormal bending of your spinal column to the side. When a normal spine is viewed from the side, the spine has a normal curve. When viewed from the back, the spine should be straight. As the spine bends to the side, it also twists. This twisting causes one side of the back to become more prominent or larger as the ribs also bend and look more prominent on one side. You may hear this called the “rib hump”.

## What Causes Scoliosis?

There are certain known causes of scoliosis, such as diseases that can cause muscle weakness and abnormalities of the spinal nerves or spinal bones. These problems may be present at birth. For most patients the cause is unknown. Your doctor may use the term “Idiopathic Scoliosis”, which refers to an otherwise healthy person with scoliosis with no known cause. There is a tendency for abnormal spinal curvatures to run in families. It is known, however, that previous exercise, activity, posture and diet do not cause scoliosis.

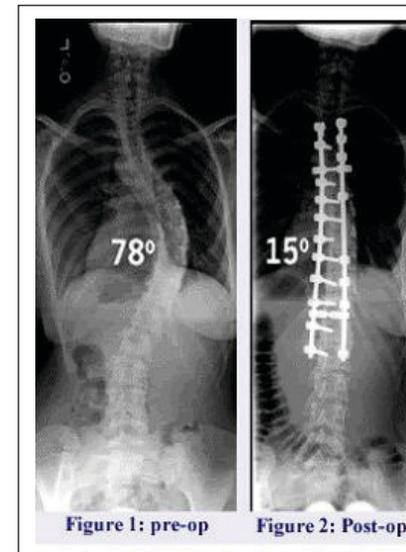


## What Happens Without Surgery?

If surgery is not performed on a curve over 45-50 degrees, the curve of your spine will likely become worse, especially during your growing years. As the chest becomes deformed, there is less space for the lungs to fill with air. Back pain is more common in adults with severe scoliosis. After your skeleton is mature, curves greater than 50 degrees will continue to progress at an average of one degree every year for the rest of your life.



## Expected Benefits of Spinal Fusion Surgery



The purpose of your surgery is to correct, as much as possible the curvature of the spine. It is seldom possible to make the spine completely straight. Therefore, you should expect some remaining curve and prominence of the ribs after surgery.

If you are experiencing back pain before surgery you may gain some relief from straightening the spine. However, there is no guarantee that surgery will cure your back pain.

## Resources for Additional Information

The internet can provide a great deal of information for you, but you must use caution in selecting sources. These are a few reliable websites you may wish to explore:

Scoliosis Research Society - [www.srs.org](http://www.srs.org)

The Pediatric Orthopaedic Society of North America (POSNA) - [www.posna.org](http://www.posna.org)

National Scoliosis Foundation - [www.scoliosis.org](http://www.scoliosis.org)

We can connect you with other patients and families who have had spinal fusion in the past. If you are interested, please tell one of the COC staff and we can provide contact information for you.

## Pre-Op Preparation

### How is Scoliosis Surgery Performed?

Surgery is performed in an operating room specially prepared to be antiseptically clean. This preparation is necessary to reduce the risk of infection. Your surgeon performs the operation with highly skilled operating room personnel. The operation is performed by fusing the spinal bones, within the curvature, into one solid bone. This procedure is called a spinal fusion. Metal rods and screws are used to straighten and stabilize the spine. Then bone is placed along your spine, around the rods and screws, which will heal into a very strong solid bone. The bone can either come from you (autograft bone) or from other people (allograft bone). Autograft bone requires extra surgery to remove bone from the pelvis; therefore, allograft bone is almost always used. Spinal fusions are usually done with one incision down your back, over the center of your spine.

### What Happens Before Surgery?

When you come to discuss surgery, you will be asked about your previous medical history, about medicines you may be taking and whether you are allergic to any foods or drugs. Be sure to tell your physician or nurse of any allergies you may have. Please bring a list of all the medications you are currently taking.

Inform your physician if you smoke cigarettes since inhaled tobacco smoke irritates the breathing tubes and may reduce the function of your lungs during or after surgery. Be advised that you should not smoke before surgery due to this complication. In addition, smoking or being exposed to tobacco smoke does cause a delay in bone healing.

Prior to your admission into the hospital, your physician may order several tests and possibly a few consultations. Your doctor needs information that tells him you are ok for surgery. Most of the tests are simple and have little or no discomfort.

You **may** or **may not** have to do all of the following:

1. **Pulmonary or breathing function test:** These tests are performed in the pulmonary laboratory. These tests take about 2 hours and are not painful. Pulmonary tests help determine your lung capacity – how far your lungs expand and how much air you can breathe in and out. Sometimes with scoliosis, you have difficulty breathing comfortably because the curve in the spine has caused the lungs to shift away from their normal position. A blood sample may be taken to tell the doctor how much oxygen is in your blood.
2. **ECHO (echocardiogram):** Is a simple check of your heart. You will go to the cardiology department where a technician will place some cold jelly on your chest. This doesn't take long and provides the doctor with a picture of your heart.
3. **Blood Donation:** Most patients require 2-3 units (pints) of blood to be available. If you have family or friends that would like to donate blood for you, they should make arrangements with the blood bank at CHLA to give blood at least 3-4 days before your surgery. **If you don't know your blood type, please let us know and we can order a test to find out for you.**  
  
We will provide you with a pamphlet for our blood bank that gives detailed information regarding blood donations.
4. **Medication:** Discontinue use of all herbs, aspirin and anti-inflammatory medications (such as Motrin, Ibuprofen, Advil, Aleve, etc.) 14 days prior to surgery. For any other medications you are taking, please inform your doctor or nurse.

5. **Pre-op Class:** We have pre-operative group classes to provide additional teaching to patients and families who will be having spinal fusion surgery. These classes are held in the evenings at CHLA and given by the orthopaedic nurses. The class will give you an opportunity to review the information in this pamphlet, to watch and practice exercises the therapists will have you do after surgery, and to meet other patients and families going through the same surgery. Included in the class is a tour so you may see where you will be staying in the hospital after surgery.
6. **Pre-operative tour:** CHLA pre-op nurses and Child Life Specialists offer pre-op tours of the surgical areas to help prepare you for your hospital stay. Tours are usually done once a month and can be scheduled by calling (323) 361-8219.

## Pre-Operative Visit

You will go to the admitting department 1-3 days before surgery as instructed by your doctor's surgery scheduler. During this appointment, some tests and consultations may need to be performed in order for your physician to get all the information he may need to let him know you are OK for surgery. Most of the tests are simple and have little or no discomfort.

1. **Routine Tests:** Your blood pressure, temperature and pulse are taken.
2. **X-rays:** We usually take x-rays of your back.

3. **Blood tests:** You will have blood tests when you arrive to make sure you are at your strongest. This will involve a needle stick to obtain your blood. If you are of childbearing potential, you will also have a pregnancy test.
4. **Anesthesiologist consultation:** An anesthesiologist will meet with you to prepare you for surgery and discuss post-op pain management.
5. **Miralax:** You should take Miralax for 2 days before your surgery date. Miralax is an over the counter medication to prevent constipation. (Take one dose 2 days before surgery, and a second dose the day before surgery). You will also get a similar medication (Dulcolax) while you are in the hospital, all to prevent you from being constipated in the hospital and/or when you go home.

## Day Before Surgery

You should eat a lighter diet for the 24 hour period prior to surgery. Please do not eat a heavy or late dinner the night before surgery as this could cause stomach discomfort after surgery.

You will be called between 3pm and 7pm the day before surgery to let you know what time you have to arrive at the hospital the next morning. You will also be told what time you must stop eating, drinking and the chewing of gum. You will usually not be able to eat or drink after midnight before surgery but these instructions will be given to you in detail.

The night before surgery, you should wash your back with Sage chlorhexidine wipes. This is done to help prevent infection.

## Day of Surgery

You will go to the Admitting Department once you arrive at the hospital. Your family and friends will be directed to the surgical waiting room where they will be kept informed of your progress

during surgery. Your family will be given a pager to keep while you are in the operating room. This way they may go get something to eat or drink, but will be paged when your surgeon is ready to talk to them at the end of your surgery.

You will wake up in the operating room and be instructed by your doctor to move your feet. You will then be taken to the recovery room until you are more awake, usually about 2 hours. Then you will go to the Spine Unit on the 6th floor. You will receive very special “intensive” care for the first night or two after surgery.

You may have:

- I.V.s: a tiny tube in your vein to provide fluids and medications
- Pain medication pump and button: you will push the button when you need pain medication, this medicine goes in through your IV tube
- Urinary catheter: a very small tube will be put in after you are asleep to empty your bladder of urine. This will be removed the day after surgery.
- Drain from surgical site: tiny tube that drains from around the incision so fluid or blood does not collect under the skin
- Heart monitor
- Blood pressure cuff on your upper arm
- Oxygen: you may be given oxygen through a mask (over your nose and mouth) or through a nasal cannula (a tiny tube that supplies oxygen into your nostrils)
- Pulse oximeter: a sensor taped to your fingertip to monitor your oxygen level
- Incentive Spirometer: a breathing device you will use 10 times per hour while awake. This helps prevent infection of your lungs.

Your nurse will examine you regularly to ensure that there are no complications after your surgery.

## What Should I Bring to the Hospital?

1. You may bring your own clothing but the hospital will provide a gown or pajamas. Please also bring undergarments. Most patients like to have a pair of gym shorts or boxer shorts to wear under their gown once you start to walk around the unit.
2. You will be given an admission kit, which will include a toothbrush and toothpaste. Please bring your deodorant and other personal supplies you like to use.
3. You should bring a pair of tennis shoes or other rubber sole shoes (and socks) to wear when you are ready to start walking.
4. You may bring books, magazines, games, DVDs, iPods and laptop computers if you'd like. You are responsible for the things you bring in.

## What Else Should I Know Before I Arrive?

1. Free Wi-fi is provided to families in the hospital. You will have to ask your nurse for instructions on how to access this service.
2. You will go to the Spine Unit on the 6th floor after surgery, you will be in a private room. There is a daybed for your parent or family member to sleep in overnight. You will also have your own T.V. with cable and a telephone.
3. Friends and family may send cards or mylar balloons to you at the following address:  
Your name  
Children's Hospital Los Angeles  
4650 Sunset Blvd., Los Angeles, CA 90027

4. Visiting hours are all day for mom, dad or your legal guardian. Otherwise visiting hours are from 9am-9pm. Two visitors maximum are allowed per patient at a time, not including parents. For the first 1-3 days after surgery, you may want to limit visitors to the immediate family. Tell your friends to wait to visit you because you will probably want to rest. The age minimum for visitors is age 12 years, except for siblings. Please be advised that visitors may be further restricted by number and age during flu season.
5. You may want to set up a Care Page ([carepages.com](http://carepages.com)) or other online website before you come to the hospital. This enables your family to post updates about your condition and allows friends and family to send you messages on line. This allows you to check your messages at a time you are feeling rested and that is convenient for you.
6. Parking passes may be obtained through the CHLA parking office for the duration of your hospital stay for a discounted rate. The parking office is located directly across the street from the main hospital. The phone number for the parking office is: (323) 361-2214.

## The First Few Days After Your Surgery

The first few days will be your most difficult. You will feel weak and your back will hurt. Medication will be given to make you comfortable. You will start with a clear liquid diet for the first 24 hours after surgery. You won't be eating until your tummy is making noise and you are passing gas. The IV in your arm will give your body the necessary nourishment while you are not eating as well as usual. Once your tummy is working you will start with a "soft diet" (bland, soft foods) and progress gradually to a normal or full diet.

The night of surgery you will sit up in bed and dangle your legs over the side of the bed. Your nurse will assist you.

You will be assisted by the Physical Therapist with walking beginning the first day after surgery. The Physical Therapist will work with you on walking and going up and down the stairs. The Physical Therapist will also give you exercises that you can do while you are in bed. Once the physical therapist has cleared you to walk, your family will assist you in getting up and walking.

About three or four days after surgery, you will feel better physically, but you may find yourself a bit short tempered, easily irritated and even depressed. This doesn't always happen but you and your parents should be aware of this. You have been through a lot and these feelings will pass quickly. This often happens to parents as well from the lack of sleep and stress.

## Before You Go Home

No cases of scoliosis are the same so the decision when to go home varies from patient to patient. When you go home depends on a number of things. The first is your doctor's decision that you are physically ready to leave the hospital. Before you are able to go home, you must be able to do the following:

1. You should be able to walk independently and be cleared by physical therapy. This may include being able to go up and down stairs as needed.
2. You should be able to eat and drink well.
3. You should be able to urinate without the catheter.
4. You should not be constipated. If you are experiencing problems having a bowel movement, talk to your doctor before you go home. You will be given a handout with suggestions to help relieve constipation.
5. Your doctor will prescribe pain medications for you to

take at home. You will take these as needed and will have both narcotic (prescription) pain medications and over the counter (OTC) medications to use. You will be given a handout on how to take your medications, including the OTC medications acetaminophen (Tylenol) and ibuprofen (Motrin, Advil).

Ibuprofen may cause delayed bone healing, but it is fine to use for the first 2 weeks after surgery. Any longer than that, please discuss with your doctor. You will decide which pain medication to use depending on your level of pain.

You may be given a prescription for Valium, a muscle relaxer, to use at home as needed for any muscle spasms.

Call us if you have any questions about your pain medications at home.

6. Your dressing on your back may be removed depending upon your physician's preference. You will have the steri-strips or Dermabond left in place over your incision. These will come off by themselves over the next 2–3 weeks.

## At Home and Recovery

### Post-operative appointment

You will need an appointment with your surgeon 2-3 weeks after the date of your surgery. You should have your post-operative appointment provided to you before you have your surgery. If you do not get the appointment, please call our office at (323) 361-2142.

### Showering

You can usually shower once you go home, and after your bandage has been removed from your incision. Your surgeon or nurse will tell you if you need to wait to shower for any reason.

## Care of Incision and Your Scar

### Bandage, Steri-strips and Dermabond

The bandage may be removed before you go home, if not, your surgeon will tell you when you can take it off. Under the bandage you may have steri-strips (small yellow-brown tapes), Dermatape or Zipline (special tape).

It is ok to get the steri-strips, Dermatape, or Zipline wet. You may go in a bathtub or hot tub 2 weeks after surgery if you do not have any drainage from your incision. The steri-strips or Dermabond will gradually peel off on its own within about 2 to 3 weeks. The Zipline will be removed during your post-operative appointment, two weeks after surgery.

At the top and bottom of your incision you may notice a small clear suture like a “fishing line” coming out of your skin. This can be cut off with scissors at home or at your post-op visit.

### Drainage or bleeding from incision

A little amount of drainage from your wound is normal at times, and should improve with time. If not improving within a week, is getting worse, or if drainage is ever more than an ounce, call our office.

### Sun protection

It is very important to protect your scar from the sun for at least 6-12 months after surgery. The sun will cause the scar to become more prominent and discolored. The best way to protect it is to wear a UV protective shirt (rash guard) whenever you are in the sun (at the beach, playing sports or swimming). Rash guards can be purchased at sporting goods stores or surf shops.

## How you will look and may feel

### Appearance and Feelings

Your shoulders may be uneven and it may look like one hip sticks out. Try to correct this by standing in front of a mirror and practicing standing with your shoulders level and body straight. This will most likely improve with time. You will also be taller after surgery—this is your bonus!

A couple weeks after surgery, you may feel “let down” for a short time. You have been through a major stress to your body and it is normal to feel “down” for a little while.

### Aches and Pains

You will likely still have some discomfort that will partially relieved by oral pain medications. It is normal to expect some “aches and pains” even in areas such as shoulders, neck and chest for the first few weeks to months after you are at home. Keep a positive attitude, this will gradually decrease over time.

Please call us if you have pain not relieved by your pain medications, if you have new sudden or severe pain, or if your have an increased pain level after a period of time of feeling better.

## Early Activity

### First few days

The first few days after you are home you (and your parents) may want to catch up on your sleep and spend a lot of time resting. This is normal and ok.

### Next couple of weeks

After a few days you will feel like being more active. You can visit with friends and do activities such as walking and even shopping as you start to feel stronger. Walking is an especially good activity at this point, and you should increase the distance and time that you walk every day.

### Resuming full activities

Usually you will return to full activities, including sports and P.E, about 3 months after surgery, but your surgeon will give you the final ok and clearance.

## Return to School

Most patients return to school by 4 weeks after surgery, once you do not tire so easily.

During the time at home you may want a teacher to come in to help you keep up with your school work. Ask your school if you need a form completed by your doctor to help provide your home schooling. We can help complete this form for you.

When you are ready to return to school, you will need a return to school note from our office stating you are not to have sports or P.E. for at least 3 months. Your activities will be reviewed with you by your surgeon.

## Need for Dental Premedication

For a year following your surgery, it is recommended that you take antibiotics prior to any dental procedure, including a regular cleaning. This is to decrease the risk of infection. Please call our office or have your dentist fax any forms that are required to obtain a prescription.



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**Please contact us if you have any questions, concerns or problems. We are here to help you during this time of surgery and recovery.**

This booklet was designed for your use and as a resource for you by your COC Spine team.

#### Surgeons:

Vernon T. Tolo, M.D.  
David L. Skaggs, M.D.  
Paul D. Choi, M.D.  
Lindsay Andras, M.D.

#### Physical Therapist:

Laurie Dunkin (323) 361-2118

#### Nurses:

Phyllis D'Ambra, R.N.  
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Elaine Butterworth, R.N.  
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#### Surgery Scheduling Specialists:

Lydia Vasquez  
Aida Gallegos

#### Physician's Assistant:

Alison Lehman, PA-C



We Treat Kids Better

Children's Orthopaedic Center  
4650 Sunset Blvd., Mailstop # 69  
Los Angeles, CA 90027

Main Line: (323) 361-2142

Nurses line: (323) 361-2148

# Surgery Checklist

**Surgery Date** \_\_\_\_\_

Completed/Date:

\_\_\_\_\_

Attend pre-op spinal fusion class and/or tour (optional).

\_\_\_\_\_

Directed blood donation: others may donate for you by appointment up to 3-4 days before surgery.

\_\_\_\_\_

Stop taking Motrin/ Ibuprofen/ Advil/ Aleve/ Aspirin 14 days before surgery. Take Tylenol if you are having any pain pre-op.

\_\_\_\_\_

It is OK to continue with all normal activities until the day of surgery.

\_\_\_\_\_

Take Miralax once per day for 2 days, starting 48 hours before surgery.

\_\_\_\_\_

Light diet for 24 hours before surgery.

\_\_\_\_\_

Wash back with Sage chlorhexidine wipes the night before surgery.

\_\_\_\_\_

Braid your hair if it is long enough to do so before surgery.

\_\_\_\_\_

Bring: gym trunks or boxer shorts, under garments, shoes and socks, personal items, electronic items, a favorite pillow or blanket.