

Preparing for Spinal Fusion Surgery to Treat Scoliosis

Your surgeon has recommended **spinal instrumentation and fusion surgery** at Pediatric Specialists of Virginia (PSV) to treat scoliosis (spinal curvature). This surgery involves fusing together the bones of the spine (vertebra) in the curved area and straightening them with internal rods and screws. Your surgeon will use bone from this area of the back, as well as allograft (donor) bone to fuse the vertebra in a straightened position. The surgery will be performed via a single straight incision in the middle of the back, minimizing any potential scarring.



Why is spinal fusion surgery recommended?

Spinal fusion surgery is usually recommended when the spinal curvature is too significant for a brace to correct and is at high risk of increasing as your child grows. Severe spinal curvatures can cause pain, an uneven appearance of the back and trunk, and shrink the room in their chest, causing the lungs to malfunction.

It is important to note that while spinal fusion surgery corrects much of the curvature, it does not completely eliminate it, and some unevenness in the patient's back and/or shoulders may still be evident.



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What are the risks of spinal fusion surgery?

- **Surgical Site Infection (SSI)**
 - Patients receive IV antibiotics during and after the procedure to prevent SSI, however, in rare cases, an infection can occur that may require additional treatment. (1-2 in 100 cases)
- **Excessive Bleeding**
 - Patients will receive most of their own blood back during the surgery. (10% or less of patients require blood transfusion)
- **Nerve or Spinal Cord Injury**
 - While advanced nerve monitoring is used during surgery, in extremely rare cases, nerve or spinal cord injury may occur, causing temporary or permanent leg weakness, numbness, or both. (1 in 1,000 cases or less)
- **Screw Positioning**
 - In rare cases, screws may lose their position in the bone, requiring your surgeon to replace the screw. (1 in 100 cases)

How should we prepare for surgery?

- **Lab Work:** Once the surgery is scheduled, the patient will have labs drawn to check their iron and vitamin D levels. If their iron and vitamin D levels are low, they will be asked to take iron and vitamin D supplements to improve these levels prior to the surgery.
- **Do Your Research:** PSV provides a list of approved websites with current and accurate information on scoliosis and how it is treated, as well as information on living with scoliosis, and options for support groups.
- **Pre-Op Clinic Visit:** If there are any medical issues that need to be reviewed prior to surgery, the patient may be scheduled for an appointment with PSV's pre-operative clinic
- **Low-Dose CT Protocol:** The patient will also need to obtain a low-dose CT protocol, which is a pre-surgery X-ray-like imaging procedure, allowing your surgeon to have 7D surgical navigation.
- **MRI:** A rapid sequence MRI of the patient's spine may be required if they are diagnosed with early onset scoliosis.



How should we prepare the night before and the morning of surgery?

- The night before surgery, the patient should bathe with Hibiclens antibacterial and antimicrobial soap. Hibiclens kills germs on the skin and can continue working for up to 24 hours, helping to reduce the chance of infection. You can find Hibiclens in the First Aid section of any major drug, grocery, and mass retailer.
- No eating or drinking after midnight the night before surgery and no breakfast the morning of surgery.
- Fully remove any nail polish on the patient's fingernails. Any hair extensions, wigs, and/or weaves, must also be removed prior to surgery. PSV recommends braiding long hair.
- Ensure a good night's sleep—you and your child will likely need to arrive at PSV very early in the morning.
- PSV prescribes two pain medications pre-surgery: Tylenol and Gabapentin. These two medications must be taken when the patient wakes up the morning of surgery with just a sip or two of water.





Who will be involved with the surgery?

- **Surgeon:** The specialist performing the surgery.
- **Anesthesiologist:** The doctors and nurses that keep the patient asleep throughout the procedure, ensuring they do not wake up or feel any pain.
- **PA or Resident:** Provides daily check-ups post-surgery.
- **Neuromonitoring:** Monitors the function of the patient's nerves in the arms and legs while they are asleep.
- **Scrub Tech and Surgical Techs:** Assists the surgeon throughout the surgery.
- **Circulating Nurse:** Ensures the procedure goes smoothly in the operating room. They will be present when the patient goes to sleep and wakes up.
- **X-Ray Tech:** Operates the X-ray machines that guide the surgeons.

How should I care for my child after the surgery?

Post-Op, Day of Surgery

The patient is unlikely to remember much until the evening after surgery. While some back discomfort is to be expected, they will have access to a push button that delivers medicine to their IV, helping to alleviate the pain. The patient will have a tube in their bladder (Foley catheter), an oxygen monitor on their finger, and sticky pads on their chest for the monitors that keep them safe during wake up. They will also have a blood pressure cuff on their arm and stockings on their legs to help prevent blood clots from forming. Nurses will be present to care for them, making sure their pain is controlled and their legs are functioning normally. The patient can start with sips of water and clear liquids, and if that goes well, they typically may resume eating regular food within a day or two.



Post-Op, First 2-3 Days

- Patients typically stay 2-3 days in the hospital after the surgery.
- They will receive pain medication, as well as medicine to alleviate pain medication-related constipation.
- PSV's Physical Therapy team will work with them on getting out of bed, sitting, and walking. PSV's Physical Therapy team ensures they can safely move around independently before being discharged from the hospital.



Goals Before Discharge

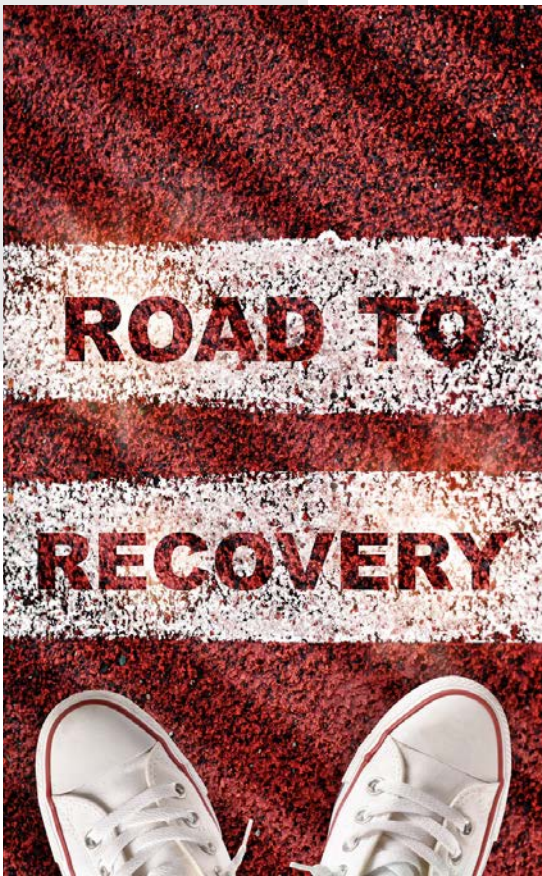
- No fever.
- Eating well.
- Passing gas or have a bowel movement.
- Pain well controlled on medicine that can be taken by mouth at home.
- Cleared by Physical Therapy.

How should I care for my child after discharge?

Dressing Changes

- Leave the dressing on for 7-10 days after the procedure (patient can bathe with dressing).
- Once the dressing is removed, the incision can be rinsed with mild soap and water.
- Cover the incision with dry gauze if needed. Sometimes there is drainage approximately 7-10 days after surgery. Let your surgeon know if this happens.
- Do not apply any lotions, creams, or ointments for 6 weeks after surgery. After 6 weeks, scar cream may be used with your surgeon's approval.
- Try not to soak the incision in water for 4 weeks.





Recovery

- The patient will likely feel tired and rest more than usual. Their back will be sore but should improve each day.
 - They should wear comfortable clothing and avoid clothes that rub or put pressure on the wound.
 - Walking is good for recovery—PSV recommends as much as they can do comfortably each day.
 - The patient may need the stronger prescribed pain medicine for up to a week post-surgery. Use of this medicine should decrease over time, and you should expect them to be comfortable with just Advil and/or Tylenol, as needed, by the second week.
 - If medicine for muscle spasms was administered in the hospital, they will also receive a prescription to take at home, as needed.
- The patient should continue taking the stool softener until they are no longer taking the stronger pain medicine.
 - They should avoid bending, twisting, or lifting (nothing heavier than a carton of milk) for 6 weeks after surgery.
 - At 6 weeks post-surgery, light activity, such as swimming or jogging, can resume.
 - At 3 months post-surgery, your surgeon will see you and your child again. Normal activity is typically approved to resume at this stage.
 - They should avoid sun exposure to the scar for the first full year. PSV recommends keeping the scar covered or using sunscreen while outside.
 - At 6 months, the patient may return to collision sports like football, hockey, lacrosse, and rugby. And roller coasters!

Follow-Up Appointment

Within a week or two post-surgery, you and your child will visit PSV to meet with your surgeon again. PSV will take flexibility X-rays, pictures for their medical chart, and address any questions about the surgery.



Call us right away at 571-766-3085 if:

- The patient starts to get a high fever.
- The wound starts to drain or gets red and swollen.
- There is a sudden increase in their pain that does not go away.
- You have any other concerns you would like to discuss.



Post-Op Follow Up Schedule



Dental Appointments

- Unless the patient has an active infection that requires urgent medical care, avoid dental visits for the first 3 months after surgery. If they are unavoidable, we will prescribe antibiotics to lower the chance of infection around their rods.
- After 3 months post-surgery, they can have regular dental appointments and will not need antibiotics.

**If you have any additional questions,
please call the PSV Nurse Line at 571-766-3085.**



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