



**Your Spine Surgery:
Posterior Fusion**

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Pre-Admission Nurse (routine inquiries)	(604) 875-3912
Pre-Admission Nurse (if you need to talk to a nurse at the last minute about your surgery)	(604) 875-2191
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Learn more about:

- Scoliosis care: <http://www.bcchildrens.ca/our-services/clinics/orthopaedics/spine-conditions/scoliosis>
- Anesthesia (pain medicine): <http://www.bcchildrens.ca/our-services/hospital-services/anesthesia#What--we--do>
- Parking: <http://www.bcchildrens.ca/our-services/directions-parking>

ABOUT SCOLIOSIS

What is scoliosis?

Scoliosis is a condition that causes the spine to curve and rotate as you grow. Idiopathic scoliosis is the most common type of scoliosis, and has no known cause. You might be able to see the curve in your back. Or, you might notice a change in the level of your shoulders, waist, or pelvis. Between two and three percent of children and teens develop scoliosis. It is more common in girls. You may first notice your scoliosis when you grow during puberty.

How is scoliosis diagnosed?

We will take an X-ray to look at your spine. We can measure the angle of your curve from the X-ray.

Treatment:

Your treatment depends on how likely it is that your curve will progress. Generally, curves increase during a growth spurt.

When our clinic team recommends a treatment, we consider:

- The size and location of your curve,
- Your age, and
- How much more you will grow.

The 3 main treatments are *observation, bracing, and surgery*.

- **Small curves** (< 20 degrees): Your family doctor or pediatrician can generally observe a small curve. They will refer you for treatment if the curve progresses.
- **Medium curves** (20-40 degrees): Our clinic team may observe your curve over time, or recommend a brace.
- **Large curves** (50 degrees) may need surgery to prevent progression.

Why am I having surgery?

Your surgeon has likely suggested surgery because your curve is close to 50 degrees or more. Once a curve reaches 50 degrees, research shows that it will likely get worse by a degree or two each year. This can lead to problems with heart, lung, or nerve function.

What should I do while I am on the surgery waitlist?

- Stay active and keep your muscles strong and healthy!
In the **Prehab section on page 28, you will find a list of exercises and stretches. Your doctor or physiotherapist will suggest which ones to do.**
- If you have a brace, you can stop wearing it. If you are waiting for surgery, your curve is too big to brace. We also want your muscles to be strong before surgery, and muscles do not work as hard while in a brace.

Are there any restrictions while I am waiting for surgery?

No. Stay active and keep your muscles strong and healthy, now and for life. In general, scoliosis is generally not painful – but you may have pain if your muscles become tight or weak.

Being active and fit will also help you recover from surgery. The stronger you are going into surgery, the stronger you will be afterward!



PRE-OP APPOINTMENT

Before your surgery, your surgeon's medical office assistant (MOA) will call you to book your pre-op appointment. This is a day of tests and preparations for surgery. It can take **4 – 5 hours**, so do not make other plans that day.

At this appointment, you will meet your whole team. The clinic nurse will help you through the whole day. You can expect:

- **To meet** and ask questions of the clinic nurse and your anaesthesiologist, physiotherapist, and surgeon.
- **X-rays:** The Medical Imaging team will take x-rays of your spine. They will also take a bending x-ray, so your surgeon knows how flexible your spine is.
- **Pulmonary function test:** This breathing test will show well your lungs are working.
- **Blood tests:** These tests check that you are healthy and ready for surgery.
- **Other tests:** If you see other doctors for different medical conditions, they may want us to do extra tests to make sure you are ready for surgery.

PRE- OP Appointment Date: _____

TIME: 8am (unless otherwise instructed)

Location: Orthopaedic Clinic

YOUR SURGERY DETAILS

Surgery Date(s): _____ **Surgeon:** _____

Arrival Time: _____ **Surgery Start Time:** _____

Approximate Length of Surgery: _____ hours

Expected Stay in Hospital: _____ days

Expected Date of Discharge: _____

Location: BC Children's Hospital, TECK Acute Care Centre, Entrance 53
Special Procedures, 4th Floor Anaesthetic Care Unit (ACU)

Do NOT have solid food after midnight the night before surgery

The pre-admission clinic nurse will phone you one business day before surgery. The nurse will confirm your arrival time and explain when to stop eating and drinking before surgery.

If you do not get this phone call, or need to reach the pre-admission clinic, please call the anaesthesia care unit (ACU) nurse at (604) 875-3912.

Call the Orthopaedic clinic if you develop any of these signs of illness in the 7 days before your surgery:

- Stuffy or runny nose
- Coughing
- Nausea or vomiting
- Diarrhea
- Fever
- A rash

There is always a small chance your surgery will be cancelled (for example, if another patient needs emergency surgery). If this happens, we will reschedule your surgery as soon as possible.

FASTING BEFORE SURGERY

- Eat and drink normally until **midnight** the night before surgery
- **NO food after midnight**
- You may have clear fluids (water or apple juice) until 2 hours before surgery start time
- Take your prescribed medications with a sip of water at the usual times (unless we tell you otherwise)

If you eat or drink after these times, your surgery may be cancelled

PREPARING YOUR SKIN FOR SURGERY

You must wash your back and sides **THREE** times before surgery:

1st Wash	Afternoon before surgery	Date:
2nd Wash	Evening before surgery	Date:
3rd Wash	Morning of surgery (Before coming to ACU)	Date:

- Use the chlorhexidine soap sponge to **prevent infection**.
- Use the **soft side of the sponge** (not the bristles).
- After washing, **rinse with warm water** and **towel dry**.
- Do **NOT** use cream or moisturizer.

PRE-OPERATIVE CHECKLIST

- Wash skin **THREE** times before surgery (see above)
- NO CREAMS or MOISTURIZER**
- Shower or bathe and wash your hair the night before surgery
- Braid long hair on either side of your head
- Remove all body piercings
- Remove all jewelry
- Remove all nail polish
- No make-up
- No contact lenses

- No food after midnight the night before surgery
- Clear fluids until 5am



HOSPITAL PACKING LIST

- Snacks
- Chewing Gum
- Toiletries
- Change of clothes to wear home
- Underwear
- Pajamas
- Bathrobe
- Non-slip slippers
- Sanitary pads
 - It is common to get your period when you have surgery, even if it's not your usual cycle timing.
- Favourite blanket and/or stuffed toy
- Cell phone and/or tablet
- Chargers
- Earphones
- This booklet**

WHAT TO EXPECT DURING YOUR HOSPITAL STAY

Day before your surgery

The pre-admission nurse will phone you and confirm your arrival time one business day before surgery.

Day of surgery

You will go to the 4th floor procedures area at your arrival time to check in.

You will change into a hospital gown and get comfortable in your own room. Your parent or guardian can come with you. Your surgical and anaesthetic teams will come by to confirm details of the surgery and answer your questions.

Your parent or guardian can come with you into the operating room. They will wear hair and shoe covers, and a yellow gown over their clothes.

After surgery, you will go to the post-operative recovery area. Your parent or guardian will stay with you while you wake up. When you are awake and comfortable, a staff member will take you and your parent(s) or guardian(s) upstairs to your hospital room.

Your expected stay

On average, people stay in hospital for 3-5 days after this surgery. Before you go home, our team will make sure you are well enough to leave. You must be able to control your pain with oral medications. Your physiotherapists will make sure you can get out of bed, walk around the unit, and go up and down stairs.

Visitor information

All patient rooms at BCCH are private rooms, with a futon couch where your parent(s) or guardian(s) can stay overnight. You will have your own TV, and you can talk to your care team about getting cable, streaming services, and gaming consoles. You can order your food by calling the number on your room menu.

What will my day in the hospital be like?

You will have daily goal sheets posted in your room (You can see these sheets later in this booklet). Every day will be a little bit different, and these sheets will remind you what to expect. Everyone's recovery is different. The goal sheets will give you an idea of what you should achieve so that you can get better and go home.

IMPORTANT THINGS TO KNOW DURING YOUR STAY

What will I feel like after surgery?

At first, you will feel groggy. You might have trouble remembering things that recently happened. You will get continuous pain medication through an IV to help with your pain, but you will still feel some discomfort. This is normal.

You may feel nauseous. You can ask for medication to help you feel better. Some people have a sore throat for a little while after surgery. Because you lie face-down for surgery, your face may be swollen (especially your lips and eyes). This will all get better soon.

It is also normal to feel really tired, even weeks after your surgery. This should gradually get better. Please give your body a chance to get back to normal. Be patient with yourself.

Girls may start their periods during their hospital stay, even if you would not normally expect your period at this time.

Why am I sore?

It is very normal to feel sore after back surgery. Your back muscles and spine have moved. Our goal is to keep you comfortable enough to eat, drink, get up, walk around and use the bathroom. You may not feel like moving, but this is one of the best things you can do to feel better.

Some people find that the second day after surgery is their worst day. At this point, the effects of the anaesthesia have worn off. You are also working hard to get moving, and getting ready to go home. It is normal to have ups and downs after surgery. It will get better.

As your pain improves, you can start taking pain medicine by mouth instead of through the IV. They are the same medications, just in a different form. As you recover, you will need less medication, less often.

Most patients find that they only need Tylenol (not the morphine) by about 4 or 5 days after they go home.

Aches, pain and funny feelings

- You may have a patch of numbness on your thigh from the pressure on a nerve when you laid on the surgical table
- You may have sensitive skin or feel itchy around your incision
- The muscles in your back and shoulders will be sore from being in a new position
- You may feel off balance as your body gets used to its new position
- *Time and MOVEMENT will help resolve all of these 😊*

Eating and drinking

It is very important to start eating and drinking as soon as you can. Start slowly, with food like crackers and bread. Pain medication often causes nausea, and food will help. Drinking lots of water will also help get your bowels moving again, so that you do not feel sore or nauseous from constipation. Some people find chewing gum helps too.

Changing positions

Many people struggle to find a comfortable position to rest in after surgery. It is very important to change positions often. This will make you more comfortable. It also prevents pressure sores from lying in one spot for too long.

Your nurse and physiotherapist will help you change positions until you can do it on your own. This will help keep your pain manageable, and will help prevent you from getting dizzy when it's time to get out of bed.

Managing your bowels

A long surgery and pain medications can both make you constipated. Soon after surgery, you will start taking bowel medications to your bowels move again. Often, people do not poop for a few days after this surgery.

The best things you can do are to take your bowel medications (especially the powder that you put in water), drink lots of water, and move around. Once you stop the IV pain medications and start moving around, your bowels will get better. Many people poop before they leave the hospital, but not everyone does.

In hospital, it may seem like everyone is asking you if you have passed gas or pooped. This is important information because it tells us if you are on track!

Moving after your surgery is KEY!

Movement helps with pain, nausea, digestion, and healing!



Idiopathic Scoliosis Surgery: Daily Goals



Thank you to the McMaster Team:

- APS (Acute Pain Service): Dr. Peter Darby
- Child Life Specialist: Margaret Karek, Tracy Akitt, Angelica Martinez
- Dietitian: Jillian Owens
- Educators: Dolly Palin (Pediatric Surgery), Andrea Simpson (PICU)
- GI team: Dr. Elyanne Ratcliffe, Rose-Frances Clause, Advanced Practice Nurse
- Management: Laura Babb, Margaret Purcha
- Ortho team: Dr. Waleed Kishta, Dr. Devin Peterson, Dr. Paul Missiuna
- Pharmacy: Jonathan Wong
- Physiotherapy: Sarah Fairfield, Charmaine Neu, Heather Clark
- PICU team: Dr. Robert Yates
- Quality and Safety RN: Jenn Bell (Pediatric Surgery), Cathy Watts (Quality RN)
- Nurses Specialized in Wound Ostomy Continence (NSWOC): Stephanie Furtado

First day/night following surgery



Monitoring

Every 2 hours we will check your vital signs:

- Temperature, heart rate, breathing rate, oxygen levels, and pain score
- Spinal cord (neurologic) checks
- Fluid intake and output
- Your dressing



Pain Management

- The Acute Pain Service team will order Intravenous (IV) pain medication, Tylenol, and other medications



Activity

- Your nurse will help reposition you in bed every 2 hours and raise the head of the bed to help you sit
- When you are awake, work on your deep breathing, coughing, and your bed exercises hourly



Diet

- You will start by drinking fluids, and increase your diet when you feel ready
- One sign of readiness is that you pass gas (fart)



Bowel Routine

- Nurse confirms when you last had a bowel movement (poop)

Post-Op Day 1



Monitoring

- 24 hours after your surgery, we will check your vitals and spinal cord every 4 hours
- We will monitor how much you drink and pee
- You will have **blood tests** today



Pain Management

- The team will check your comfort, and change your medications as needed
- Your nurse will assess your pain and give regular pain medication



Activity

- Your nurse will reposition you at least every 2-4 hours
- Naps will be limited. Your lights will be on and blinds open during the day
- Work on deep breathing, coughing, and bed exercises every hour
- Your physiotherapist and nurse will help you get into a chair and go for short walks – **it is safe and important to move on Day1!**



Diet

- Eat and drink as you feel able
- You or your caregiver will track your food and fluid on a whiteboard



Bowel Routine

- Your nurse will give medications to help you poop
- You can chew sugar-free gum if your nurse says it is safe

Post-Op Day 2



Monitoring

- We will check your vital signs and spinal cord every 4 hours
- We will monitor how much you drink and pee



Pain Management

- The team will review your pain management plan with you
- Your nurse will assess your pain and give you regular pain medication
- We will start to reduce your IV pain medications



Activity

- Your nurse will reposition you every 2-4 hours and as needed – in bed and into a chair
- You will sit 3 times a day for meals
- Work on your deep breathing, coughing, and bed exercises every hour
- Your physiotherapist and nurse will bring you for 3 – 5 walks in the hallway
- We will plan to take out your drains



Diet

- Continue to eat and try to get your diet back to normal
- You or your caregiver will track your food and fluid on a whiteboard



Bowel Routine

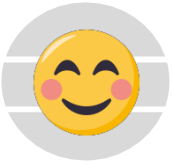
- Continue with your bowel medications and chewing gum

Post-Op Day 3



Monitoring

- We will check your vital signs and spinal cord every 4 hours
- We will monitor how much you drink and pee
- You will have more blood tests



Pain Management

- The team will assess your pain and give you regular pain medication
- You will start taking pain medications by mouth



Activity

- Continue your deep breathing, coughing, and bed exercises
- You will get into a chair for all meals
- Your physiotherapist and nurse will take you for 3-5 walks in the hallway, and you may go up and down stairs
- Your physiotherapist and nurse will also teach your parent or caregiver how to support you when you get up
- Your nurse will wash your hair
- Your nurse will review discharge information with you and help you get ready to go home. **You might go home today!**



Diet

- Continue to eat and drink a lot
- We will take your IV out once you are drinking well



Bowel Routine

- Continue with bowel medications and chewing gum

Post-Op Day 4 (If still in hospital)



Monitoring

- We will check your vital signs and spinal cord once every nursing shift
- We will monitor how much you drink and pee



Pain Management

- Your nurse will assess your pain
- You will continue to take pain medication by mouth



Activity

- Continue your deep breathing and coughing exercises
- Reposition yourself frequently, get into a chair for all meals
- Walk with a caregiver 5 times
- Go up and down stairs with a physiotherapist
- Your nurse may wash your hair
- **Your nurse will send you home today!**



Diet

- Continue to eat a regular diet and drink lots of fluids



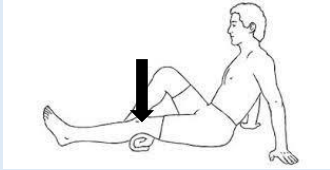


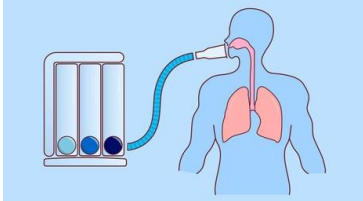


Bowel Routine

- We will continue to check if you have pooped

SPINE PHYSIOTHERAPY EXERCISES

****Hang this sheet up in your room. Try to do these 10 times an hour (while you are awake)****

Exercise	Picture	Tally (Check mark when you do 10!)
<p><u>Ankle pump</u> Push your foot down like you are pressing on a gas pedal. Then, pull it back up.</p>		<p>DAY 1: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 2: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 3: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p><u>Heel slide</u> Slide one heel towards your bum and then back out. Repeat with the other leg.</p>		<p>DAY 1: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 2: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 3: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p><u>Thigh squeeze</u> Pressing the back of your knee down towards the bed. This movement will straighten your leg and squeeze your thigh.</p>		<p>DAY 1: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 2: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 3: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p><u>Bum squeeze</u> Squeeze your bum muscles. Hold for 3 seconds.</p>		<p>DAY 1: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 2: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 3: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p><u>Neck rotation</u> Look left and right to help your neck and shoulder muscles.</p>		<p>DAY 1: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 2: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 3: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>
<p><u>Deep breathing</u> Breathe all the way out, then put in the mouthpiece and inhale deeply. Try to lift and hold the balls up for 3 seconds.</p>		<p>DAY 1: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 2: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>DAY 3: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>



SPINE MOBILITY GOALS

***Hang this sheet in your room and check them off as you reach your goals!*

Goal	Check Off or Put A Sticker!
Sit at the edge of your bed (Day 1)	<input type="checkbox"/>
Stand (Day 1)	<input type="checkbox"/>
Sit up in a chair (Day 1)	<input type="checkbox"/>
Walk (Day 1-2)	<input type="checkbox"/>
Do a lap of the nursing station (Day 2-3+)	<input type="checkbox"/>
Go up and down the stairs (Day 3+)	<input type="checkbox"/>
 HOME! (Day 3+)	<input type="checkbox"/>

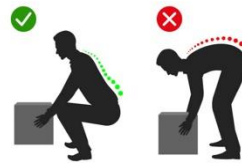
POST-OP ACTIVITY GUIDELINE

What can I do after surgery? What must I not do?

After surgery it is very important to move. Movement helps you heal, and builds muscle, heart and lung health. Moving will also decrease your stiffness and soreness.

For the first 6 months after your surgery:

- Do not bend deeply
- Do not twist deeply
- Do not lift more than 10lbs



When you pick things up from the floor, squat or bend from your hips. Your physiotherapist will review safe movements during your hospital stay.

After 6 months you will be allowed to slowly resume activities. After 12 months, you should be able to do all activities.

See the **activity chart** on the next page for a general idea of activity timelines. Talk to your surgeon before you increase your activities.

POST-OP ACTIVITY GUIDELINE

ACTIVITY	Weeks 1-6	Weeks 7-12	Month 3-6	Month 6-12	1 year +
Showering	at 2 weeks				
Standing	✓				
Climbing Stairs	✓				
Walking	✓				
Bicycling		✓			
Swimming		✓			
Driving		✓			
Lifting 0-5lbs	✓				
Lifting 5-10lbs		✓			
Lifting 10-20lbs			✓		
Light physiotherapy/ Band exercises			✓		
Light jogging				✓	
Skating/Dancing (no jumps)				✓	
Skiing/Snowboarding					✓
Amusement park rides				✓	
Contact sports					✓
Participating in PE				✓	
Riding a horse (no jumps)				✓	
Gymnastics					✓
Skateboarding					✓
Waterslides					✓

RECOVERING AT HOME

Getting home

Take a dose of pain medication before you start your trip home. It is a good idea to fill your prescriptions at the hospital pharmacy, so that you have them for the drive home. If you live far from the hospital, plan to stop every hour or two. During these stops, get out of the car and move around.

Medications

When you leave hospital, the doctors will give you prescriptions for pain medications. We will also tell you how to take any non-prescription medications like Tylenol and bowel medications. It is best to take your pain medications when your pain is around a 4 or 5 out of 10. Do not wait until your pain really bad. Your comfort level should only go up and down a little bit.

You will be ready to start weaning off your strong medications like as morphine within the first two days after you get home. Start decreasing the dose of the pain medication (for example, take half of a tablet at a time). Then, space out the doses (for example, take your tablet every 6 hours instead of every 4 hours). You may find that the dose you take just before bed is the last dose you stop. That is because this dose will help you get a good night's rest, so you are ready for action the next day!

You can continue regular Tylenol while you wean off your stronger medications. Then, start weaning off your Tylenol as well.

Do not take anti-inflammatory medications, including Advil (Ibuprofen), Aleve (Naproxen), or steroid pills. Some studies show that they can slow bone healing.

Ice and heat

You may have painful muscle spasms after surgery. Apply an ice pack to the muscles around your incision to relieve spasms. Do not hold ice directly on your back. Use a cloth between the ice pack and your skin.

Do not apply moist heat to the muscles around your incision. Check with your surgeon at your follow-up appointment to see when this is safe to do.

Caring for your incision (bathing and showering)

Your incision and the dressing that covers your incision must stay clean and dry. You will need to sponge bath for the first couple weeks, until your 2-week visit with the clinic nurse. Your surgeon or nurse will tell you when you can start taking showers. Do not soak in the bath or hot tub. This is a risk for getting an infection or wound issue.

Keep an eye on your incision, either by looking in a mirror regularly, or having a family member check for you. Watch for signs of infection such as a fever, or redness, draining/oozing, or increased swelling in the area of your scar. This will often be accompanied by an increase in pain. If any of these signs are present, you should call your surgeon or the clinic nurse immediately. If you cannot reach them, you will need to see your family doctor or go to the emergency room.

To reduce scarring, you should **avoid direct sunlight on your incision for at least one year** after surgery. If you can't keep your incision covered with clothing or a dressing, make sure to apply a high SPF sunblock regularly.

Returning to School

Most patients feel well enough to return to school **3-4 weeks** after surgery. If you feel well before this, you can go back sooner. Going back to school is safe and good for you! Before you return to school, spend time sitting up at home. This will get your body used to sitting for long periods again. You may want to return to school gradually, starting with half days for the first week and then returning to full days.

Be sure to tell your school that you **cannot participate in physical education (gym) class** for about 9 months after surgery.

Follow-up Appointments

If you do not have a follow-up appointment booked when you leave the hospital, call your surgeon's office. Usually, follow-up appointments will occur at these times:

- **2 weeks after surgery** (Clinic nurse visit)
 - Wound check, suture or staple removal
 - Date/Time: _____

- **6 weeks after surgery** (Surgeon visit)
 - Date/Time: _____

- **3 months after surgery** (Surgeon visit)
 - Date/Time: _____

- **6 months after surgery** (Surgeon visit)
 - Date/Time: _____

- **1 year after surgery** (Surgeon visit)
 - Date/Time: _____

Frequently Asked Questions

Will I need post-op rehabilitation after I leave the hospital?

- Generally, your main rehabilitation will be returning to your daily activities, like walking, stairs, and going to school. Most patients find they do not need additional rehab. You may want to see a physiotherapist if you are sore or want to get ready to return to a specific sport. You can start gentle rehab 3 months after your surgery.

Will the hardware make the scanner go off at the airport?

- The metal in your back does not usually make the airport scanners go off.

Will my fusion affect giving birth? Can I still have an epidural?

- You can still have an epidural after a thoracic fusion. If you have a lumbar fusion, your medical team will be able to come up with another plan.

Will my hardware be taken out?

- Your hardware will not come out. It is yours to keep!

When can I have dental procedures after the surgery?

- Try to avoid invasive procedures like dental work for one year after surgery. This is to lower your risk of infection. If you need emergency dental work, we recommend that you take antibiotics.

When can I get tattoos or piercings?

- Do not get tattoos or piercings for one year after surgery. This is to lower your risk of infection.

After I am fully recovered from surgery, how will I feel? What will I be able to do?

- After you fully recover from surgery, you should feel back to your normal self! The most common thing we hear from patients once they are recovered from surgery is that they cannot slouch. Otherwise, they feel back to normal. Once your surgeon lifts your restrictions, you can do whatever you would like. Our past patients have been university-level varsity athletes, firefighters, and more!


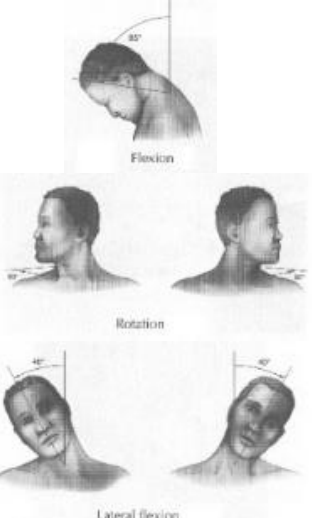
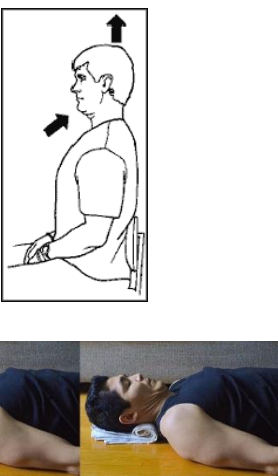
APPENDIX

Scoliosis *PREHAB* Exercise and Stretching Programs

- **What is *Prehab*?** Prehab is short for 'Pre'-'Rehabilitation'.
Prehab exercise and stretching can help:
 - Prevent injury
 - Improve your surgery results. The stronger you are before surgery, the better you will be afterwards!

- Exercise and stretching are important because they:
 - Increase energy and blood flow
 - Help to prevent and treat disease
 - Improve joint stability* and movement
 - Flush by-products from muscles
 - Improve mood, memory, and sleep
 - Decrease anxiety, depression, and pain.
 - And more!

- **What is joint stability?**
Joint stability helps your joints to work well. It involves:
 - Passive structures (your bones and ligaments),
 - Active structures (your muscles), and
 - Your control over active structures (like your balance, stability, and your body's ability to sense movement and position).
 - When something changes with our passive structures (ex. Scoliosis, a torn ligament etc.) our active structures and our control of those active structures can be increased to help support those passive structures!

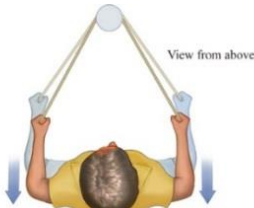
	EXERCISE	How to do it
<input type="checkbox"/>		<p style="text-align: center;"><u>Cardiovascular exercise</u></p> <ul style="list-style-type: none"> • Cardiovascular exercise gets your heart rate up. • Examples of cardio exercises are brisk walking, jogging, running, hiking, swimming, cycling, and jumping rope. <p>TIME _____; DAYS per WEEK _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Neck Range of Motion</u></p> <ul style="list-style-type: none"> • Movement 1: Tuck your chin. • Movement 2: Look side to side. • Movement 3: Bring your ear towards your shoulder. <p>SETS _____; REPETITIONS _____: HOLD _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Chin Tucks</u></p> <ul style="list-style-type: none"> • You can do this lying on your back, or against the wall. • On your back: <ul style="list-style-type: none"> ○ Roll a towel. The roll should be thin enough to fit in your hand. ○ Put the roll under the base of your head • Gently tuck your chin toward your neck. • Your head should not lift off of the floor or wall. • Think about your head sliding slightly up the floor or wall. <p>SETS _____; REPETITIONS _____: HOLD _____</p>



Shoulder blade squeezes

- You can do this sitting down, or lying on your front.
- If lying on your front, you can put a rolled-up towel under your forehead. This will help to keep your neck comfortable and relaxed.
- Squeeze your shoulder blades together like you are trying to pinch someone's finger on your back

SETS _____; REPETITIONS _____: HOLD _____



Theraband rows

- Attach your band to something in front of you.
- Start with your arms straight out.
- Pull the band and bring your elbows toward your body.
- When your elbows are in line with your body, squeeze your shoulder blades together.
- Do not let your elbows pull back past your body.

SETS _____; REPETITIONS _____: HOLD _____



Middle shoulder blade strength

- Lie flat on the floor. Place a towel under your forehead to relax your neck.
- Extend your arms straight out into a 'T' position, 90 degrees from body. Raise your arms by pulling your shoulder blades together and slightly down. Keep your thumbs pointed up.

SETS _____; REPETITIONS _____: HOLD _____



Theraband pull-apart

- Bring your arms to shoulder level, with the band between your hands. The more slack you have in the band to start, the easier this exercise will be.
- Keep your shoulders relaxed and away from your ears.
- Pull the band apart as far as feels comfortable. Release it slowly and with control.
- During this exercise:
 - Pull your shoulder blades together slightly
 - Do not arch your low back.

SETS _____; REPETITIONS _____: HOLD _____



Upper trap strength

- Take your time: Form is more important than reps.
- Hold your arm about 30 degrees away from your body.
- If possible, attach a theraband to something near the ground. Hold it in your extended hand. The band and your arm should make one straight line.
- Shrug the outside of your shoulder towards your ear. Keep your neck as long as possible.

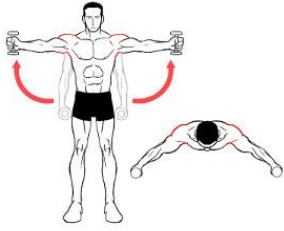
SETS _____; REPETITIONS _____: HOLD _____



Lateral rotation

- Lie on your side with your elbow tucked into your side. You can place a towel under your upper arm, to make sure the arm stays level.
- Hold a light weight of about 3lbs, like a soup can or water bottle.
- Set your shoulder blade slightly down and back.
- Keep your elbow tucked into your side, and rotate your arm upward.
- Lower back down slowly.

SETS _____; REPETITIONS _____: HOLD _____



Arm raises

- You can do this with a theraband, or light weights like a soup can or water bottle.
- Extend your arms about 30 degrees forward.
- Set your shoulder blades slightly down and back.
- Lift your arms up from your sides, until they extend out 90 degrees. Keep thumb sides of your hands pointing up. Your palms should face forward.
- Keep your neck long and relaxed.

SETS _____; REPETITIONS _____: HOLD _____



Cat / Cow

- Start on your hands and knees. Keep your hands under your shoulders and your knees under your hips
- Tuck your pelvis under and round your back. Pretend someone is pulling up on a string attached to your back.
- Then, release your back and point your tailbone at ceiling. Let your back arch comfortably.


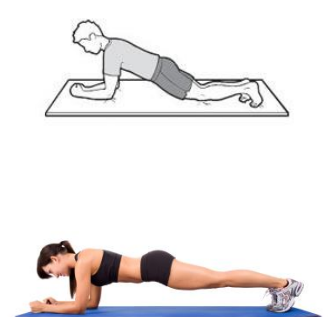

SETS _____; REPETITIONS _____: HOLD _____



Upper back extensions

- Tuck your chin to keep neck long and relaxed. Keeping your palms pressed into ground, let your upper back extend. Do not let your lower back curve.
- Your thoracic spine ends at the bottom of your rib cage, so stop there.

SETS _____; REPETITIONS _____: HOLD _____

<input type="checkbox"/>		<p style="text-align: center;"><u>Bird / Dog</u></p> <ul style="list-style-type: none"> • Start on your hands and knees. Keep your hands under your shoulders and your knees under your hips. Have a slight natural curve in your lower back. • Lift your opposite arm and leg. Try to keep your body from rocking side to side. Then lower your arm and leg. • Alternate sides: lift your left leg with your right arm, then your right leg with your left arm. <p>SETS _____; REPETITIONS _____: HOLD _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Planks (on feet or knees)</u></p> <ul style="list-style-type: none"> • Hold a plank on your forearms and your knees or toes. • Engage your core. Pull your belly button in slightly. • Your body should be straight from your shoulders to your knees. <p>SETS _____; REPETITIONS _____: HOLD _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Side planks (on feet or knees)</u></p> <ul style="list-style-type: none"> • Your body should be straight from head to toe. Make sure your top shoulder is pulled back, and your hips are up. • Think about lowering your shoulders away from your ears. Your neck should feel long and relaxed. • Form is more important than how long you hold it for. Stop if you cannot keep your body straight. <p>SETS _____; REPETITIONS _____: HOLD _____</p>



Mini curl-up

- Lie on your back with your hands under your low back. Keep one knee bent – it does not matter which one.
- Tuck your chin slightly, and lift your head and shoulders off the floor. Do not let the arch in your back change.
- Stop the curl-up when you feel the arch in your back Flatten.

SETS _____; REPETITIONS _____: HOLD _____



Core heel taps

- To start, lie on your back with knees in table-top position. Your legs should bend at a 90-degree angle. Rest your hands on the front of your hip bones.
- Tip your pelvis back. This will lightly press the arch of your back onto into ground.
- Keep your back in that position and drop one heel. Tap it to the ground lightly. Pretend the ground is an eggshell that you do not want to break. The, raise your heel.
- Repeat on the other side.


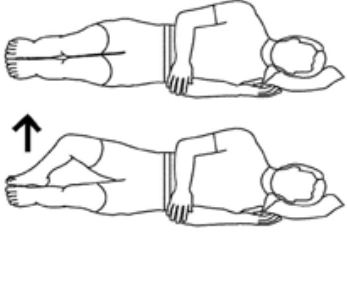

SETS _____; REPETITIONS _____: HOLD _____



Psoas march

- Loop a band around the balls of your feet.
- To start, lie on your back with knees in table-top position. Your legs should bend at a 90-degree angle.
- Tip your pelvis slightly back. You should feel your low back flatten onto ground.
- Kick one leg out. Do not let your pelvis move. Use the other leg to stabilize you.

SETS _____; REPETITIONS _____: HOLD _____

<input type="checkbox"/>		<p style="text-align: center;"><u>Glute bridges</u></p> <ul style="list-style-type: none"> • Lie on your back with your knees bent and feet flat on the floor. Keep your feet and knees hip width apart • Lift your bum off the ground. Then, lower back down slowly • Think about lifting the front of your hips, not your belly button. • **If you have trouble keeping your knees apart, squeeze a ball between your knees. <p>SETS _____; REPETITIONS _____: HOLD _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Clamshell</u></p> <ul style="list-style-type: none"> • Lie on your side with your knees bent. • Lift your top thigh to open your knees into a diamond shape. Keep your feet touching. • Do not let your body or top hip twist open when you open your knees. <p>SETS _____; REPETITIONS _____: HOLD _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Side-lying leg raise</u></p> <ul style="list-style-type: none"> • It is best to do this lying down, with your back against a wall. Your upper back and shoulders, bum, and heel should all touch the wall when you raise your leg. • If you are not lying against a wall, lift your leg up and slightly back. • Point your toes slightly up. <p>SETS _____; REPETITIONS _____: HOLD _____</p>



Deadlifts / Waiter's bow

- Keep your legs slightly bent, so they do not lock. Do not bend more as you go down.
- Extend your bum back, and lower your weights or hands close to your legs.
- [Need explanation of coming up.]

SETS _____; REPETITIONS _____: HOLD _____



Squats



- Stand with your feet hip width apart.
- Sit slightly back, and squats like you are going to sit in a chair. Your knees should not move past your toes.
- Keep knees in line with your second toes. Do not let your knees fall inwards.




SETS _____; REPETITIONS _____: HOLD _____

Scoliosis *PREHAB* Stretching Program

You and your doctor or physiotherapist can make a stretching plan for before your surgery. They can choose off which stretches are best for you, and check that you are doing them correctly.

It is normal to feel muscle soreness with stretching. But, if you feel pain or sharp discomfort, stop stretching and talk to your health-care provider.

	STRETCH	How to do it
<input type="checkbox"/>		<p style="text-align: center;"><u>Trap stretch</u></p> <ul style="list-style-type: none"> • Sit on one hand, or hold the edge of a chair. This will keep your shoulder down. • Look down, and drop your ear toward your opposite shoulder. Look toward the shoulder you are holding down. • If you do not feel the stretch, check that you are doing all the movements: <ul style="list-style-type: none"> ○ Are you looking all the way down? ○ Are you tilting your head? <p>HOLD _____; REPEAT _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Lev Scap stretch</u></p> <ul style="list-style-type: none"> • Sit on one hand, or hold the edge of a chair. This will hold your shoulder down. • Look down and drop your ear toward your opposite shoulder. Tuck your chin, and look toward that shoulder. (Pretend you are smelling your armpit.) • To increase the stretch, rest your free hand on your head. Allow the weight of your hand to drop your ear further down. • If you do not feel the stretch, check that you are doing all the movements: <ul style="list-style-type: none"> ○ Is your chin tucked? ○ Is your head bent to the side? <p>HOLD _____; REPEAT _____</p>

<input type="checkbox"/>		<p style="text-align: center;"><u>Scalene stretch</u></p> <ul style="list-style-type: none"> • Rest your hand on your opposite shoulder, just above your collar bone. • Tip your head away from your hand. Look toward your shoulder. <p>HOLD _____; REPEAT _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Chest stretch</u></p> <ul style="list-style-type: none"> • You can do this in a corner or doorway. Bend your elbows, and raise your hands. Rest your hands on each side of the corner, or doorway. • Step forward with one foot. • Lean onto your front leg, and lean forward slightly with your chest. Try to keep your back neutral. • You should feel a stretch across your chest. • You can bend your arms at different angles, like in pictures A, B and C. Choose the angle where you feel a comfortable stretch. <p>HOLD _____; REPEAT _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Side flexion stretch</u></p> <ul style="list-style-type: none"> • Cross one leg in front of the other • Lean away from the back leg. Stop when you feel a comfortable stretch in your side. <p>HOLD _____; REPEAT _____</p>



Side lying 'mermaid' stretch

- Lie on your side with your knees bent.
- Lie over a pillow, rolled-up towel or foam roller.
- Reach both hands up and over your head.

HOLD _____; REPEAT _____

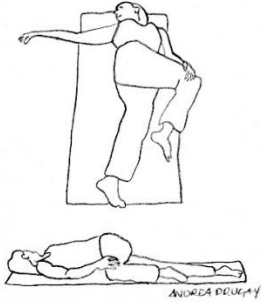
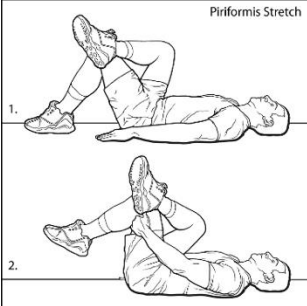
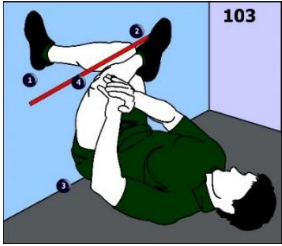







Child's pose stretch

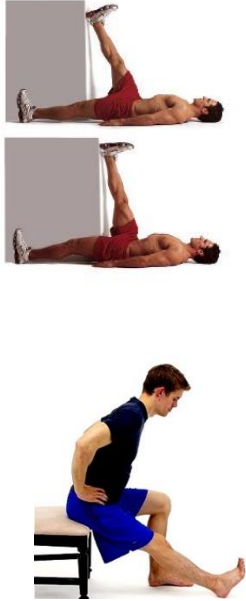
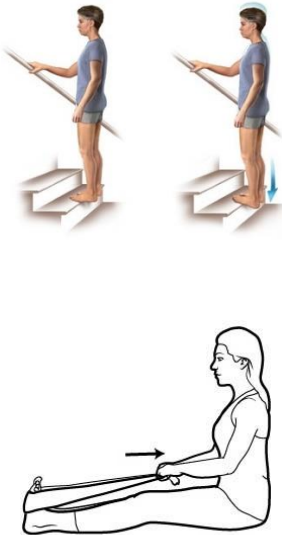
- You can do this with your arms on a bench, table, or ball. Or, you can do this on the floor.
- Using a bench, table or ball (picture 1):
 - Start on your knees. Rest your forearms on the bench, table or ball.
 - Slowly sit back on your heels. Let your arms straighten.
- On the floor (picture 2):
 - Start on hands and knees.
 - Slowly sit back on your heels. Let your arm straighten.
 - You can walk both hands to one side. This will stretch the opposite side of your torso.

To increase the stretch, lift your thumbs. Keep your little fingers on the bench, table, ball or floor.

HOLD _____; REPEAT _____

<input type="checkbox"/>		<p style="text-align: center;"><u>Rotation stretch</u></p> <ul style="list-style-type: none"> • Lie on your back. Bend one leg, and bring it across body. Try to keep your shoulders on the ground. • Slowly let your bent leg drop toward the ground. Keep both shoulders on the ground. <p>HOLD _____; REPEAT _____</p>
<input type="checkbox"/>	<p style="text-align: center;">Piriformis Stretch</p>   <p style="text-align: center;">(renumber picture as #3)</p>	<p style="text-align: center;"><u>Piriformis stretch</u></p> <ul style="list-style-type: none"> • Lie on the floor, and bend your left leg. Bring your right ankle across your left knee (picture 1). • To increase the stretch: <ul style="list-style-type: none"> ○ Lift your left foot (picture 2), or put it against a wall (picture 3). ○ You can also bring your left ankle closer to your bum. Or, push your right knee away from you (picture 3). • Repeat on the other side. <p>HOLD _____; REPEAT _____</p>
<input type="checkbox"/>		<p style="text-align: center;"><u>Glute stretch</u></p> <ul style="list-style-type: none"> • Bring your leg up and across body, as if you want to bring your knee to your opposite shoulder. <p>HOLD _____; REPEAT _____</p>

<input type="checkbox"/>		<p style="text-align: center;"><u>Hip flexor stretch</u></p> <ul style="list-style-type: none"> • Start in a lunge. Your front knee should not go past your front toes. • Bring your pelvis forward and tuck your bum under. This should stretch the muscles at the top front of your back leg. Stop when you feel a comfortable stretch. • Do not over-arch your lower back. <p>HOLD _____; REPEAT _____</p>
<input type="checkbox"/>	<p>Top View</p>   	<p style="text-align: center;"><u>Quad stretch</u></p> <ul style="list-style-type: none"> • You can do this lying on your side, or standing. • Grab your ankle with your hand. If it is hard to reach your ankle, loop a towel around your foot. • Try to keep your knee in line with your hip. Do not over-arch your low back. • To increase the stretch, bring your heel toward your bum. • Standing: <ul style="list-style-type: none"> ○ If holding your leg is uncomfortable, rest your foot on a chair. To increase the stretch, squat slightly with your front leg. <p>HOLD _____; REPEAT _____</p>

<p>□</p>		<p style="text-align: center;"><u>Hamstring stretch</u></p> <ul style="list-style-type: none"> You can do this lying on your back in a doorway, or sitting in a chair. Always keep your low back straight. In a doorway: <ul style="list-style-type: none"> Lie on the floor with one leg through the doorway and one foot on the wall. To increase the stretch, straighten you knee and slide your top foot further up the wall. Or, move your bum closer to the doorway. This will bend your hip more. In a chair: <ul style="list-style-type: none"> Bend one leg, and keep the other straight. Hinge from your hips to lean forward. <p>HOLD _____; REPEAT _____</p>
<p>□</p>		<p style="text-align: center;"><u>Calf stretch</u></p> <ul style="list-style-type: none"> You can do this on the stairs, or sitting with a towel. On the stairs: <ul style="list-style-type: none"> Hold the rail. Stand with the balls of your feet on the edge of a step. Keep your knees straight. Let your heels lower towards the floor. Stop when you feel a comfortable stretch. With a towel: <ul style="list-style-type: none"> Sit tall, and loop a towel behind the arches of your feet. Straighten your knees. Use the towel to pull the top part of your feet toward you. Stop when you feel a comfortable stretch. <p>HOLD _____; REPEAT _____</p>

NOTES