

## **Pectus Excavatum (PECK-tuss Ex-ka-vay-tum)**

---

### **What is pectus excavatum?**



Pectus excavatum is the medical name for a depression of the breastbone (sternum) which makes your chest look sunken or pulled in. The depression in the chest may be the same on both sides or deeper on one side.

The depression may get worse as you get older. The cause of pectus excavatum is unknown.

Individuals with pectus excavatum may have some physical problems, but the main reason for surgery is usually to change their body looks. Those with pectus excavatum are often very self-conscious of their appearance and they may avoid showing their chest.

### **When is surgery recommended?**

Not everyone with pectus excavatum needs surgery. In fact, surgery for pectus excavatum is optional and up to you. For some, posture and exercises may help. Surgery is usually recommended for individuals with deep depressions in their chest. Surgery is often completed between 14 to 16 years of age, but can be done even into the early 20's. The surgeon will decide what age is best for you to have surgery.

## **What happens before surgery?**

Several days before surgery, you will have an appointment in the Pre-op Clinic. A child life specialist and a nurse will help you prepare for surgery. You will also see an anesthesiologist. This is the doctor who will give you medication, called an anesthetic, so you will not be awake during the surgery. You will be given a checklist of instructions to follow for the day before surgery.

## **The day of your operation**

On the day of the surgery, you will come to the Same Day Surgery Unit. Here, you will be asked to change into a hospital gown. When you are changed, a nurse may start an intravenous (IV) or it may be started by the operating room staff. The IV will be used to give you fluids and medication before, during and after the surgery.

When you are called to the operating room (OR), your caregiver(s) will be invited to go with you. You will be greeted in the OR lobby by the OR staff when you arrive. Your caregiver(s) may wait there with you while the surgical team makes final preparations.

When the team is ready, you will be taken into the operating room. It may be possible for one caregiver to go with you into the operating room, while you are being settled. To keep the operating room very clean your caregiver will be asked to put a white jumpsuit on over top of their clothes.

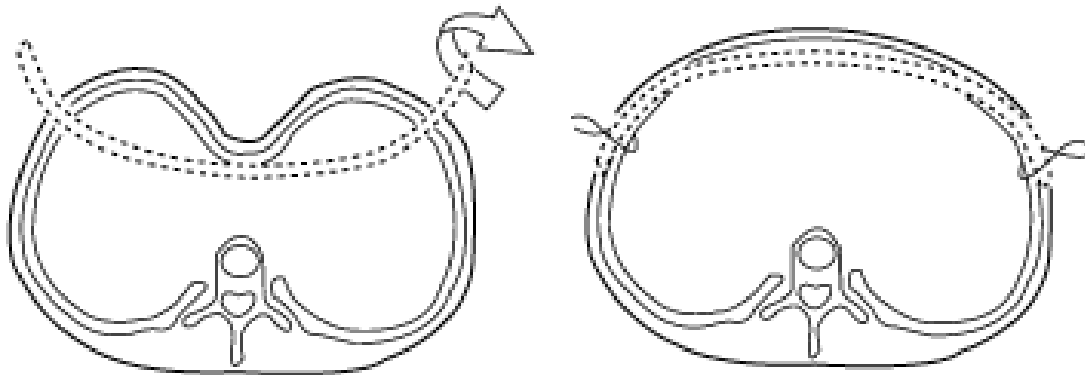
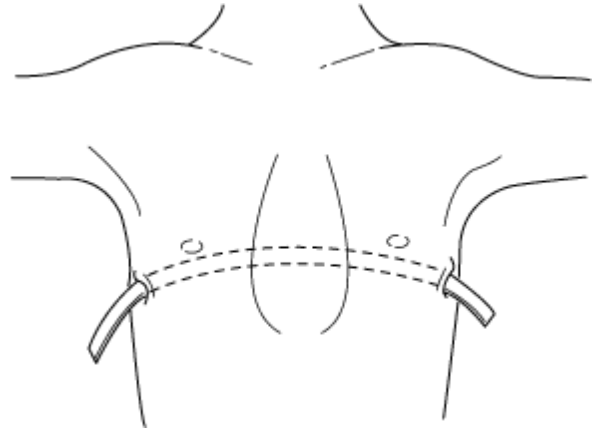
## **What happens in the operating room?**

### **After being greeted by the operating room staff:**

- If not already in place, an IV will be started in an arm or hand to give you fluids and medications.
- You will be given a general anesthetic (medication) so that you will not be awake during surgery and not feel any pain.

### During the operation:

- Please note, the operating room staff will determine the best time for your caregiver to leave you. Your caregiver will need to take off the white jumpsuit before entering the waiting room. The surgeon will look for your caregiver(s) there once the surgery is complete.
- The surgeon will make two small openings, called incisions, on either side of your chest. A curved metal bar is measured and shaped for you. The bar is inserted under your sternum and then turned to lift your sternum. The bar immediately corrects the chest shape and then allows the tissues to change over time into the correct shape.



- Although each case is unique, the average length of time to complete the surgery is 2 hours. This includes preparation time as well as the surgical procedure. Please do not be alarmed if your surgery takes longer.

## **What happens after surgery?**

You will go to the Post Anesthetic Care Unit (PACU) after surgery. In the PACU, you will be closely monitored until you are fully awake. As soon as possible, the nurse will bring your caregiver to the PACU to be with you. Only one caregiver can visit at a time.

From the PACU you will be moved to, an inpatient ward where a team of nurses and doctors will monitor you closely.

## **What will I look like after surgery?**

After surgery, you will have a small incision (opening) on each side of your chest. These incisions are closed with stitches or sutures under the skin. On the surface only small paper tapes are seen. The skin on your chest may be red, orange or brown; This is from the soaps used to clean the skin before surgery.

## **May a caregiver stay with me in my room?**

On the Pediatric Unit, there is a cot for one caregiver to stay overnight at the bedside. Out-of-town families may also be able to reserve a room at the nearby Ronald McDonald House, which is about a 5-minute walk away from the hospital. This would allow one caregiver to be at the bedside and another to stay only a short distance away.

## **May I have visitors?**

Caregivers are encouraged to spend as much time as possible with you. They are important members of your recovery team.

We ask that the number of people at the bedside be limited. Visitors should be healthy, as colds or the flu can make you or other patients very sick.

We encourage a restful environment for all our patients, by letting patients sleep between 9pm-7am.

## **What can I eat and drink?**

When it is safe for you to drink, you will be given ice chips or sips of clear fluids. Examples of clear fluids include water, apple juice and ginger ale. When you are comfortable drinking fluids, you will slowly return to eating by following Eating Well with Canada's Food Guide.

## **How can my pain be relieved after surgery?**

Pain control is very important for you as you heal. Pectus excavatum repair is a painful procedure; therefore, we use many ways to manage pain after surgery. The amount and type of pain is different for each patient.

Right after surgery, you will likely be managing your pain with an intravenous called Patient Controlled Anesthesia (PCA). You can read our education document on PCA to find out more details. Eventually, you will come off PCA and begin swallowing medications to relieve your pain.

## **What activity can I do in the hospital?**

The physiotherapist will teach you and your caregiver (s) how to move your body in the first few days and to ensure that you move safely at home. This includes:

- Getting out of bed to a chair with help
- Walking with help on level ground and then up and down stairs

Practice with the physiotherapist in the hospital, so you will know what to do once at home.

Bring in a pair of running shoes to wear during physiotherapy. Shoes such as Crocs™, flip-flops or sandals are not ideal for safety reasons.

While in the hospital, you must follow these important instructions about movement and activity:

### **Every day**

- Deep breathing exercises every hour while awake followed by 2 coughs
- **NO** bending at the chest or waist (bend at the hips only)
- **NO** twisting your upper body/trunk. This includes reaching your arms across your body.
- **NO** rolling from side to side (“log rolling”)
- **NO** pushing or pulling with your arms
- The head of the bed must be **30° or less**

### **How do I take care of the incisions?**

The tape covering the incisions on your chest will slowly come off on their own. If they do not fall off after 7 to 10 days, you may gently soak them off with water.

Keep the incisions clean and dry. You may have a bath or shower 6 days after surgery. Sponge baths are allowed in the first 5 days after surgery to ensure that you keep the incision sites dry.

### **When can I go home?**

The usual hospital stay is 3 to 4 days. The surgeon will decide when you can go home. This will depend on whether:

- Your pain is well controlled
- You are drinking enough
- You can move around and walk safely
- Your incisions are healing well
- Your chest bar is correctly placed

You will need help at home for at least 5 to 7 days from the time of discharge from the hospital. Please have your caregiver(s) arrange for time off work if needed.

Before you go home, follow-up appointments with the surgeon will be made for you. You will see your surgeon typically 2 to 4 weeks after discharge.

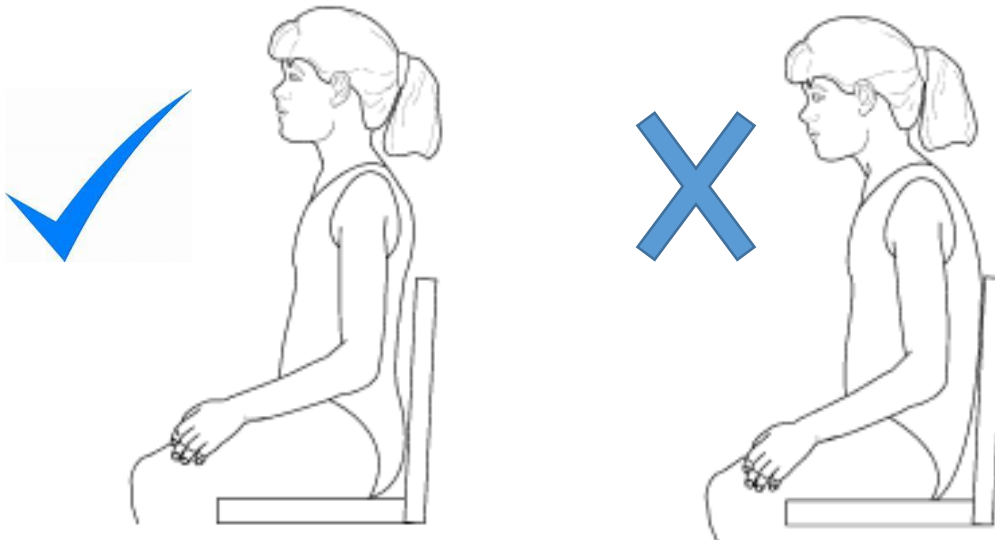
## **What activities can I do at home?**

You can gradually increase your physical activity over the first 8 weeks after surgery. Walking is a good exercise. You should walk often to build up your strength and endurance. Your caregiver will help you move in and out of bed for the first weeks after surgery, using the method shown by your physiotherapist in the hospital.

**For the first month after surgery**, you need to remember to bend at the hip. You should not slouch or slump down when sitting. Good posture helps keep the bar in place. Please remember that you must not “log roll” onto either side. Also, you should not drive a car during this time.

**For the first 2 months**, you should avoid heavy lifting (approximately 10 lbs or over but this depends on your size and weight). Do not carry a backpack. You should not do karate, gymnastics or contact sports (such as hockey and football). Check with your surgeon to know when you can swim, play sports and use hot tubs again.

These pictures show examples of good posture and poor posture.  
**Sitting straight** **Slouching**



### **Will the bar affect my health care?**

Your health care providers need to know that you have had surgery for pectus excavatum and the bar is inside your chest. Arrange to get a MedicAlert® bracelet.

Have this engraved on the bracelet: "Pectus excavatum - metal bar in chest".

**While the bar is in place, you can have an MRI.**

**Prior to having an MRI please check with your surgeon as some of the magnet settings may need to be adjusted.**

In an emergency, chest compressions for CPR (resuscitation) can be done. More force may be needed due to the bar. Defibrillation for an abnormal heart rhythm (cardiac arrhythmia) can also be done if needed.

It is safe to pass through plane security with the bar in place.



## **When is the bar removed?**

The bar is left in place for 2 to 3 years to support your chest as you grow. Removal of the bar is done as a day surgery procedure (so you will not need to sleep in the hospital).

## **When should I call the surgeon?**

Call your surgeon right away, if you notice you have any of these problems:

- Any difficulty breathing
- Chest pain, especially with deep breaths
- Feeling ill or having a fever (temperature higher than 38.5°C or 101.3°F)
- Coughing that does not get better
- Redness, swelling, bleeding or discharge from the incisions
- Pain that does not get better or seems to be getting worse
- Any injury to the chest that may have caused the bar to move

**For Dr. Fitzgerald, call 905-521-2100 ext. 75231**


**For Dr. Walton, call (905) 521-2100 ext. 75244**

## **When to go to the Emergency Department**

If you cannot reach the surgeon, go to the emergency department at McMaster Children's Hospital (the McMaster University Medical Centre site of Hamilton Health Sciences).

If you are not in the Hamilton area, go to your nearest hospital emergency department.

### Summary checklist

Item To Do	Date Completed 
If needed, get blood test done before follow-up appointment with surgeon. Bring the results to the appointment!	
Get a MedicAlert® bracelet engraved with "Pectus excavatum - metal bar in chest".	
At the follow up appointment with your surgeon, ask when you will be able to wear a backpack to school again	

**If any blood tests are needed, please have them done before the appointment so that the surgeon will have the results available at the follow-up visit.**

## Notes

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---