Pectus Surgery

There are two types of Pectus deformity

**Pectus Excavatum**
The sternum (breastbone) forms a depression or dent in the chest. This happens because the cartilage that attaches the ribs to the sternum grows abnormally and pushes the sternum inwards.

*Symptoms*
Not all children will have symptoms. Symptoms tend to increase with the severity of the deformity and may include shortness of breath, chest pain and difficulty breathing when exercising.

**Pectus Carinatum**
The sternum (breastbone) is pushed outwards. This happens because the cartilage that attaches the ribs to the sternum grows abnormally and pushes the sternum outwards.

*Symptoms*
Most children do not have symptoms, but may experience difficulty breathing with exercise and some chest pain or discomfort.

**Causes**
Both deformities tend to run in families, which suggest that genetics may play a role. They are associated with some other conditions such as Marfan Syndrome, Ehlers-Danlos Syndrome and Homocystinuria. Pectus deformities are often diagnosed at an early age but become more noticeable as the child grows, particularly with the growth spurts through adolescence.

**Before Surgery**
The surgeon will meet with you and your child to discuss the surgical procedure. It is important that your child wants to have the surgery and there may be more than one visit with the surgeon before you and your child are happy to make a decision to have surgery. A blood test will be required before surgery and medical photographs may be taken.
**Surgery**
The surgery performed is the Ravitch Procedure. This involves a long cut down the chest, between the breast line. The abnormal cartilage is removed and the sternum repositioned. It may be necessary to stabilize the sternum with a steel bar or plate, which can be removed as a day procedure about six months later.

**Possible complications**
- Wound infection: Rare
- Excessive bleeding: Rare
- Damage to the heart or lungs: Rare
- Pneumonia: Rare
- Pneumothorax: Rare
- Pleural effusion: Rare
- Seroma. Approximately 20% of patients will develop a seroma after surgery. This is a collection of serous (clear) fluid over the sternum. This usually settles over three-four weeks. Occasionally the Seroma will require drainage

**Immediate recovery**
- Moving around in bed (as able) is important. This includes taking big breaths often and moving the legs.
- Your child will be encouraged to get out of bed and into a chair as soon as possible with the help of the physiotherapist and nurses.
- Early movement will help to prevent complications.
- Your child will have one or two drains in position to help with healing.

**Pain control**
- For the first two to three days this will be managed with either an epidural infusion or an intravenous infusion. The anaesthetist will decide the best option, after discussion with the family and the surgeon.
- After two to three days pain is generally manageable with oral medications.
- You can expect to have some discomfort or pain for up to eight weeks post surgery, which can be managed with oral medications.
Wound Care
- The dressing should be kept dry until review in the outpatient clinic. This is usually one week to 10 days after surgery.
- Apply Povidone – Iodine as directed once the dressing is removed.

After Discharge
You should contact the Cardiothoracic Patient Educator on 6457 3333 (830am – 430pm) if you have concerns in the first few weeks after the surgery.
If outside working hours then please attend the Emergency Department or your nearest local hospital.
Cause for concern would include the following:
- Temperature
- Redness, swelling, drainage or bleeding from the wound
- Increasing swelling of seroma that is causing discomfort
- Increasing chest pain, especially with deep breaths
- Pain not controlled by pain medications
- Difficulty breathing, shortness of breath, rapid or laboured breathing
- A cough that does not go away
- Sudden onset of pain or difficulty breathing
- Injury to the chest

Activity recommendations
Start walking as soon as possible. Avoid sleeping on your side. Try to sit upright and avoid slouching. You can return to school after three weeks. Avoid heavy lifting for three months (including school bags). No sport for three months.

Long term expectations
Most people are left with a numb area in the middle of their chest which although it gets smaller, doesn’t go away. Some people have some arm weakness. There is a very small risk the deformity can come back.