

Let's Talk About...

Pectus Excavatum Surgery

Usually, a child's ribs are connected to the breastbone (sternum) with cartilage. If the cartilage doesn't grow normally, the child's chest looks sunken. This is called **Pectus Excavatum** (peck-tuss ex-ca-va-tum).

Who gets pectus excavatum?

Only about 1 child out of 1000 children get pectus excavatum, but boys get it 5 times more often than girls.

How does the doctor know my child has pectus excavatum?

When the doctor examines your child, she will see a depression (indent, indentation, sunken area) in his chest. Your child's chest may look uneven. Many children with pectus excavatum are short of breath and tired. This is because the heart cannot pump as much blood as your child needs during exercise because the ribs and sternum press on the heart.

Your doctor may order breathing tests (pulmonary function tests) to check your child's breathing patterns. She may also order heart tests (EKG, echocardiogram). She will probably order another test called a CT scan of your child's chest to measure the size of the indentation in the chest.

How will my doctor know if my child needs surgery?

If your child has one of the following things, he may need to have surgery:

- Change in his ability to exercise
- Shortness of breath

- Chest pain
- Significant concerns about his body image
- Breathing or heart tests show changes
- Chest CT (a special x-ray) scan shows a severe indentation
- Chest CT scan shows compression of the heart (pushing on the heart)

What happens before, during and after surgery?

Your child may benefit from a posture and exercise program before (and after) surgery.

Your child will be followed by the Acute Pain Service doctors to manage their pain after surgery. They will go home with a prescription and plan for pain medicine that will be reviewed with you by your nurse.

Your child will have an IV (small plastic tube in the vein) for other medicines. The medicines your child will receive while he is in the hospital help prevent pain, constipation, anxiety, and provide muscle relaxation. Your child's chest will be measured for a stainless steel bar ("pectus bar" or "Nuss bar") that will be placed in his chest. He will have two small incisions (cuts during surgery), one in each armpit. The surgeon places the bar in a way that the depression in the chest wall is brought out. The bar will stay in place for 2 to 3 years.

Right after surgery, your child will need to take deep breaths using a breathing machine (incentive spirometer) every hour while he is awake. This is very important and prevents lung congestion and pneumonia.

It will be hard for your child to position himself. He will need to sleep flat on his back with only a small pillow

under his head, or he can sleep flat in a reclining armchair. Do not pull on your child's arms during repositioning. He has to avoid slouching, rolling, lying on his side, rotation and bending. He should not attempt to get out of bed or walk without assistance.

When will my child be able to go home?

Your child will go home when their pain is controlled and they are drinking enough fluid.

How much time should I plan to be off work?

Your child will be at home for 2 to 3 weeks before he can return to school. Plan his home care with this in mind.

What kind of care will my child need at home after surgery?

Care of the incisions

Your child's incision will be held in place with small pieces of tape called Steri-Strips®. Keep the Steri-Strips® dry and in place for 1 to 2 weeks. It is okay to get them wet 5 days after surgery, but pat them dry after your child showers or gets them wet.

Diet

Your child can have a normal diet.

Bathing

Your child may shower 5 days after surgery.

Medication

- **Pain and swelling:** Give your child Ibuprofen 2 to 3 times a day for several weeks.
- **Stomach irritation:** Ibuprofen is irritating to the stomach. While your child takes ibuprofen, he may need Zantac® or antacids. These medicines protect against stomach irritation.
- **Pain relief:** You can give your child medicine to help your child's pain for the first week. Your doctor will give you a prescription for this medicine.
- **Muscle spasm or back pain:** You can give your child muscle relaxants (Valium®) once or twice a day. Your doctor will give you a prescription.

- **Constipation:** Constipation is a common problem when taking narcotic medicines (pain medicine) frequently. You can give your child Milk of Magnesia, Colace®, MiraLax®, or Senna to prevent hard stools that are difficult to pass.

Activity

- Do not let your child over-exert for the first 4 weeks.
- Have your child maintain a good military-like posture to keep the bar in place. Have him bend at the hips and don't let him slouch or slump when he sits.
- Your child should walk for 5 to 10 minutes 2 to 3 times per day to help build strength.
- For the first 6 to 8 weeks your child should not drive a car or do any heavy lifting, especially heavy school backpacks.
- After 6 to 8 weeks, your child should do aerobic activity, such as running, and daily exercises, especially pushups.
- For the first 12 weeks, your child should not do karate, judo, skiing, snowboarding, gymnastics, contact sports, or sports with a lot of torso (the whole body except the head arms and legs) twisting such as golf, baseball, and swimming. Your child may return to most of these sports after 12 weeks, if he is very careful.
- After 12 weeks, your child should not participate in very rough sports like football, boxing, or other contact sports where the object of the sport is to hit people.

When can my child return to school?

- Narcotic medications should be completely stopped before your child returns to school.
- Your child can return to school 2 to 3 weeks after discharge from the hospital.
- Your child should not carry a backpack for 3 months. Ask for a second set of books for home.
- If possible, your child should leave the classroom 5 minutes before the bell rings to avoid jostling in the hallways.

Will I need a note to excuse my child from PE?

Yes. Your child may not do contact sports for 3 months (12 weeks). We will send a note home for you to give to your school excusing your child from PE.

Are there other differences for the next few years after surgery?

- The bar will stay in place for 2 to 4 years (average of 3 years). After the surgeon removes the bar, it is important to continue an aerobic exercise program of 60 minutes 3 times per week. A certified physical therapist can help with proper, safe training.
- While the bar is in place if your child has any trauma or blow to the chest, report this to the surgeon immediately. In the unlikely event that your child needs CPR, increased force must be used.
- Defibrillation for cardiac arrhythmia may be performed if necessary. However, the paddles must be placed anterior/ posterior (front to back).
- Magnetic resonance imaging (MRI) examinations may be performed. However, if the MRI exam is for the upper chest or belly, the bar may interfere with the exam pictures. Instead of an MRI, the recommended exam is a computerized tomography (CT) scan.
- In rare cases, pectus excavatum can form again after the surgery.

Is there anything else I need to know to care for my child?

Your child should order a Medic Alert® bracelet and wear it. The bracelet should say that he has a pectus bar in place. This company can be reached by calling: 1.888.633.4298, or on-line at: www.medicalert.org.

If your child goes through a metal detector he may occasionally set off the alarm. Your child should carry written documentation about the bar along with the Medic Alert® bracelet to avoid problems.

When should I call the surgery office?

Call the surgery office if your child has any of the following:

- A temperature higher than 102 degrees Fahrenheit
- A continual cough or any problems breathing
- Chest pain, especially with deep breaths
- Any chest injury that may cause the bar to move
- Redness, drainage, or swelling at the incision site under the arms
- For any questions you may call the General Surgery office at 801.662.2950. If you cannot reach someone in the office and you need to speak with someone you may call the Primary Children's Hospital operator at 801.662.1000 and ask them to page the Resident, Nurse Practitioner or Physician's Assistant on call.

Note: Some of this information is reproduced from www.apsna.com.