

What is pectus excavatum?

Pectus excavatum is a dip or inward curve of the breastbone (sternum). It is due to overgrowth of the cartilage (soft bone) that connects the ribs to the chest bone.

- It is not always noticed at birth, but is often noticed at age 10 to 14 years. It may be seen when a child has grown quickly.
- It can be mild with only a slight curve, or it may be more serious. With more severe cases:
 - The breastbone pushes down on the heart and lungs.
 - Surgery may be needed.

What causes it?

The causes of pectus excavatum may include an overgrowth of the soft tissue breastbone, weak chest bones or a poor diet.

- It is often found to run within families.
- It is more common in boys than girls.

What are the possible symptoms?

Your child may have 1 or more of these:

- Sunken chest
- Rounded shoulders
- Round stomach
- Curved backbone or spine
- Problems breathing
- Feeling tired with exercise
- Chest pain

What tests could my child have?

Your child may have 1 or more of these tests to check how well their heart and lungs are working:

- Lung function tests
- Chest X-ray
- Chest CT scan
- Echocardiogram (moving pictures of the heart)
- Exercise test

What is the treatment?

Mild curves may correct themselves over time. Moderate to severe cases may need surgery.

In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.

Pectus excavatum, continued

- Most often, surgery is not done in children younger than 12 years old.
- If the pectus excavatum affects the heart and lungs, the doctor can do a Nuss procedure or Ravitch repair.

The Nuss procedure is the latest type of repair.

- The doctor makes 2 small cuts (incisions) on each side of the chest.
- A curved steel bar is placed to force the breastbone to the correct shape.

In the Ravitch repair:

- The doctor makes a long cut down the middle of the chest.
- They remove abnormal cartilage and lift the breastbone into a normal position.
- The cartilage then grows back toward the breastbone in a normal shape.
- Sometimes a metal pin is put in place to hold the breastbone while the bones and cartilage heal.

Are there any complications with surgery?

Your child's doctor will talk with you about risks and complications with surgery. Some may include:

- Pneumothorax (air in the space around the lung)
- Infection
- Movement of the bar

How do I care for my child after surgery?

Some care guidelines include:

- Limit your child's physical activity for 4 weeks. Your child should avoid:
 - Lifting anything heavier than 5 pounds for 8 weeks.
 - Contact sports (like football, basketball and soccer) for 12 weeks.
 - Book bags or back packs for 12 weeks.
 - Bending or twisting at the waist.
- Talk with the physical therapist (PT) about other things your child should avoid.
- Have your child:
 - Maintain good posture to help keep the bar in place - no slouching.
 - Sleep on their stomach or back for 4 weeks.
- Your child may return to school when they are physically able.
- Keep your child's follow-up visits. These are most often 2 weeks after surgery and then regularly while the bar is in place.

After surgery, when should I call the doctor?

Call the doctor **right away** if your child has any of these:

- Signs of infection at the incision area, such as:
 - Drainage or bleeding

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Pectus excavatum, continued

- Swelling
- Redness
- Increased pain
- Problems breathing
- Pain not helped by pain medicine
- Coughing that does not go away
- Fever higher than 101°F
- Change in the way the chest looks since surgery
- Any chest injury that may cause the bar to move

Also call if you have any questions or concerns about how your child looks and feels.

This teaching sheet contains general information only. Talk with your child's doctor or a member of your child's healthcare team about specific care of your child.

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