جامعة الإمام عبد الرحمن بن فيصل
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King Fahad Hospital The University

Introduction to Pediatric Surgery

What is pediatric surgery?

The specialty of general surgery and thoracic surgery for children under the age of 14 is a specialty in the treatment and repair of congenital defects in children and newborns.

What are the common diseases and congenital defects in pediatric surgery?

- Diaphragmatic hernia from the abdomen to the chest.
- Esophageal obstruction and fistula between the trachea and esophagus.
- Absence of anus and rectum.
- Hirschsprung's disease of the colon (intestinal obstruction due to the absence of nerve cells).

What should I know about diaphragmatic hernia from the abdomen to the chest?

It is a congenital defect due to the presence of openings or holes in the diaphragm during fetal development, which results in the hernia of the abdominal contents (intestines and organs) and their entry into the rib cage cavity and pressure on the lung, causing difficulty breathing.

• This congenital defect can be diagnosed during pregnancy and followed up with an obstetrician and gynecologist to know the degree of the disease and the degree of respiratory damage that may affect the child after birth.

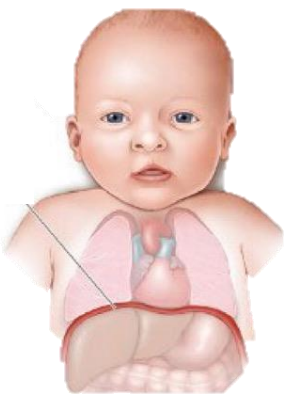
• It is recommended to give birth in a specialized hospital that has pediatric surgery and intensive care in nurseries.

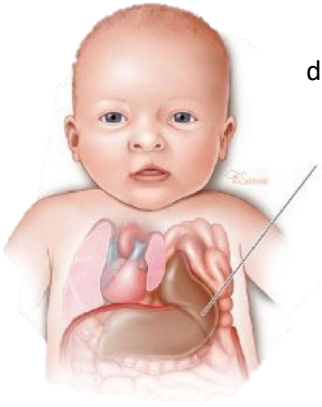
What should I know about diaphragmatic hernia from the abdomen to the chest?

- After birth, the child's condition is evaluated, especially artificial respiration and medical treatment, and once the condition is medically stable, surgery is performed and the hernia is repaired.
- The repair process depends on the size of the diaphragmatic hole (if it is small, it is sewn directly, and if the hole is large, a mesh is installed).
- After the operation, the child's condition depends on the state of complete lung development.
- The repair process can be done by surgical opening or by laparoscopy.

What should I know about diaphragmatic hernia from the abdomen to the chest?

Normal diaphragm growth

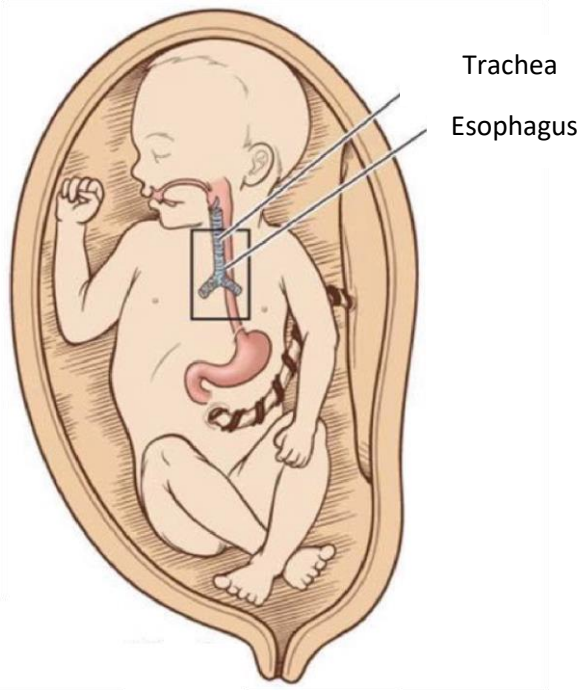




Congenital diaphragmatic hernia

What should I know about esophageal obstruction and tracheoesophageal fistula?

It is a congenital defect in which the esophagus is not formed or partially obstructed. It may or may not be accompanied by a bronchial esophageal fistula (most cases are accompanied by a fistula). If a fistula is present, this is considered an emergency and surgery is performed as soon as possible the next day to avoid damage to the lung tissue.

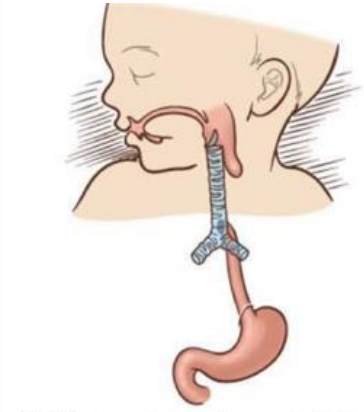


What should I know about esophageal obstruction and tracheo-esophageal fistula?

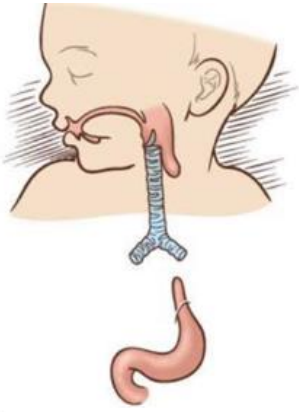
The procedure is performed by making a chest incision, tying and separating the fistula, then reconnecting the two parts of the esophagus together to restore the flow of the esophageal canal. If this congenital defect is present, it is accompanied by multiple other syndromes or congenital defects, and the child is examined to confirm them. The most common congenital syndromes and defects are:

- Spine.
- Anus and rectum.
- Heart.
- Kidneys.
- Extremities (arms and legs).

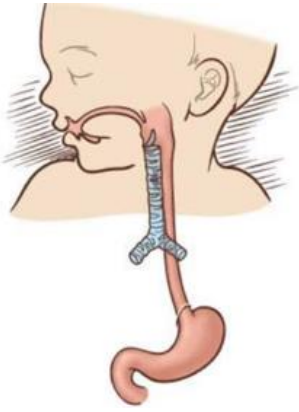
What should I know about esophageal obstruction and tracheo-esophageal fistula?



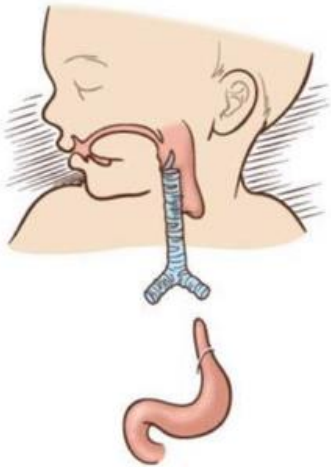
Esophageal obstruction with distal tracheoesophageal fistula 87%



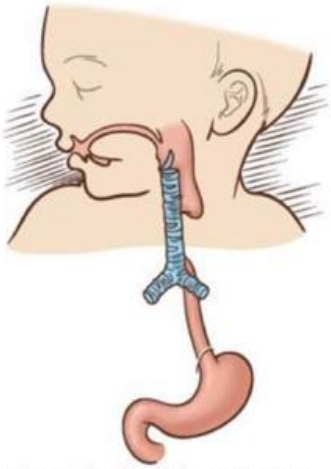
esophageal obstruction 8%



Isolated tracheoesophageal fistula 4%



Esophageal obstruction with proximal tracheoesophageal fistula1%



Esophageal obstruction with double tracheoesophageal fistula 1%

What does the absence of an anus and rectum indicate?

It indicates a congenital defect in which the anus is not formed and the rectum is blocked, causing an inability to defecate.

- This type of congenital defect is also accompanied by multiple congenital syndromes or defects, such as those mentioned above.
- This congenital defect requires urgent surgical intervention so that the child can defecate.
- The repair process depends on the degree of rectal absence. If it is very high from the normal place, the operation is an artificial protrusion opening in the abdominal wall (temporary anastomosis) until the child reaches the age of one year or weighs 10 kg, after which the colon is pulled out and an anus is made.

What does the absence of an anus and rectum indicate?

- The degree of future stool control depends on the degree of congenital defect and the degree of anal valve formation.
- If the rectum is close to the normal place, the anus is made directly in the normal place.
- In all cases, a scheduled anal dilation is required after the operation to avoid long-term recurrence of the opening.

What is Hirschsprung's disease (intestinal obstruction due to lack of nerve cells)?

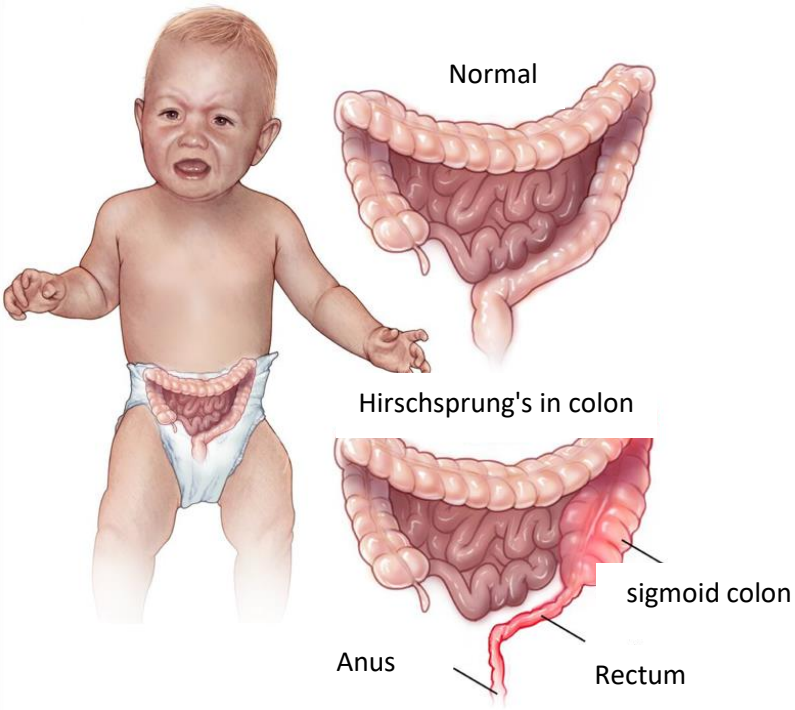
A congenital defect in the absence of nerve cells responsible for colon relaxation, which causes severe constipation to the point of intestinal obstruction immediately after birth.

To diagnose this disease, a clinical examination is performed, followed by an X-ray with dye from the rectum, and then a sample (biopsy) is taken from the rectum and colon. If nerve cells are not seen in the sample, the diagnosis of the disease is confirmed.

What is Hirschsprung's disease (intestinal obstruction due to lack of nerve cells)?

The treatment for this disease is in the form of colon lavage to empty the colon of accumulated feces and prevent blood poisoning. If the child does not respond to daily rectal lavage, he requires surgery to create an artificial opening in the abdominal wall (temporary anastomosis) until he reaches the age of one year or weighs 10 kg, after which the colon is removed after removing the damaged part of it.

What is Hirschsprung's disease (intestinal obstruction due to lack of nerve cells)?



Notes:

Sources and References:

Images used in this brochure from

www.canva.com

www.freepik.com

Review and Audit:

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Pediatrics Surgery Department

Health Awareness Unit

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