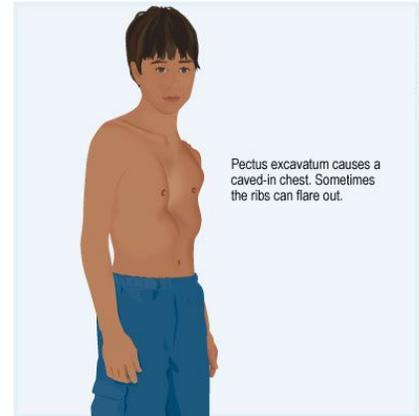


Patient Information Sheet:
Pectus Excavatum

Definition

Pectus excavatum or “sunken chest” is a depression in the chest. The depression may be in the center of the chest or more pronounced on one side (asymmetrical). You may also hear the terms “cup,” “saucer-shaped,” “horns of steer,” or “elongated” used to describe this condition. A child can be born with pectus excavatum or develop their pectus excavatum during their pubertal growth spurt. The pectus excavatum may become more severe with growth spurts. The ribs may flare out as well.



Evaluation

A grading system is used to describe the extent/depth of the pectus excavatum defect: mild, moderate or severe. Not all sunken chests require corrective surgery. Mild depressions can often be helped by exercise and/or a posture "Figure Eight" brace. These techniques strengthen the chest wall muscles and help to improve posture. Moderate to severe depressions may require corrective surgery. The pectus depression can squeeze or crowd the heart and lungs. These children may have difficulty catching their breath, tire easily, and/or complain of chest pain during exercise. We can determine the “grade” (severity) of the pectus by calculating the Haller index from your child’s cardiac/thoracic MRI or CT scan of the chest.

Early evaluation by a pediatric surgeon is beneficial. Bones are softer in young children and more easily reshaped. Specific exercises or use of a brace can be helpful for children with a mild to moderate depression. As the pectus worsens and the child approaches the teenage years, the bones become harder. This can make it more difficult to raise the sternum up allowing more room for the heart and lungs. However, surgery can be successfully performed on patients through adulthood. The bar usually stays for about 2 years depending on the deformity. When it is determined appropriate for removal it will be removed surgically.



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The Day Before Surgery

- Do not allow your child to eat or drink anything after midnight.
- Our office will call to let you know what time to show up for surgery and answer any questions you have.

The Day of Surgery

- Your child will be under general anesthesia (asleep) during the operation.
- Your child will receive pain medications through an intravenous line (IV) during surgery.
- The IV will remain in place to give fluids and medicine until your child leaves the hospital.
- A small plastic tube (foley catheter) will be placed in your child's bladder after he is asleep to drain urine.
- Two small incisions will be made for each bar, one on each side of the chest. This is where the metal bar will be placed under the breastbone. Another small incision may be made on the right side of the chest. This is where a small camera may be inserted to allow the surgeons to see inside the chest cavity as they guide the bar from one side of the chest to the other. If a camera is not used third incision may be made under the sternum for the surgeon to put their finger to guide the bar across the chest.
- A flat surgical bar that has been curved to fit your child's chest will be placed under the breast bone and rotated to "pop out" the depression. The bar usually needs to stay in place for two to three years. There are no stitches on the outside, just small paper bandages (Steri-Strips).



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After the Surgery

- Your child will first go to the Post Anesthesia Recovery Unit (PACU) after surgery and then to a room on a nursing unit.
- Your child will receive several different medicines to relieve pain. These medicines are given both through the IV as well as by mouth. Your child may also be prescribed a “PCA” (patient controlled analgesia) to help with pain control. Drowsiness is a common side effect.
- Your child may have ice chips and sips of fluid immediately after the operation. Food will be added to your child’s diet gradually. As soon as your child’s appetite returns and there are no problems with nausea or vomiting, he/she will get a regular diet food tray.
- Your child may begin to sit up in bed, as soon as he/she is ready. Remind your child to keep the back straight while sitting.
- The bladder catheter is usually removed on the morning after the operation but it may stay longer if your child has an epidural in place.
- Constipation is a common problem for patients who are receiving narcotic pain medications. To help prevent this, your child will receive a stool softener and/or a suppository.
- A physical therapist will help get your child up to walk the first day after surgery. The therapist will teach your child how to move without moving the bar.
- Your child will need to do a lot deep breathing and use the incentive spirometer. He/She will also need to get up out of bed and walk as much as possible. This will help breathing return to normal.
- Your child will be able to move around a little more every day. As soon as he or she is able to move and walk around without problems and no longer requires IV pain medication your child will be able to go home- usually 5-7 days after surgery.



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After discharge

- Your child will be discharged with a prescription narcotic pain medication. It is important to remember that constipation is a common problem for patients who are receiving narcotic pain medications. To help prevent this please continue an over the counter stool softener after discharge. No prescription is needed for this.
- We do not recommend going to school until the patient is off narcotic pain medications. It is reasonable that your child will miss 2-3 weeks of school following surgery.
- If your child is old enough to drive they are not able to drive while on narcotic pain medication.
- No heavy lifting or contact sports for 2-3 months.
- We will plan on seeing you back in clinic 2-4 weeks after surgery to see the surgeon.

****Call Alaska Pediatric Surgery with questions or concerns 929-7337****



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Pectus Exercises

Background

Children with pectus excavatum/carinatum often have a posture which makes the chest appear worse. The typical pectus posture includes forward sloping shoulders and a belly that sticks out. A mild pectus may appear to be severe simply because the posture is so poor.

Purpose

The purpose of the exercise program is to get the child to straighten the back and pull the shoulders back and develop a “military” posture.

Technique

The exercise program needs the cooperation of both the child and the parent. The best way to motivate the child to do the exercises may be to have the child stand in front of a mirror to show how improving the posture improves the look of the chest.

Exercise #1 – Back Straightening Exercise

Hands are placed behind the head and fingers interlocked. The elbows are pulled back as much as possible and the head and neck needs to remain straight. This posture causes the chest to fill out in front. The child then bends from the hips forward and down. This position is held for two to three seconds. It is very important that during the exercise the elbows, head and neck remain straight. The child should do this exercise 25 times each day. This exercise will straighten the back and pull the shoulders back.

Exercise #2 – Strengthening the Chest Muscles

The child, if able, should do 25 push-ups each day. Another exercise to strengthen the chest muscles is to lie on his/her back on the floor with arms extended out from the body. Place small weights in each hand and keeping arms straight, bring them together over the chest. The child should do this exercise 25 times each day.



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Exercise #3 – Chest Expansion

The child breathes in as deeply as he/she can, pulling shoulders back while taking in a breath. The child should then hold his/her breath for as long as possible. This exercise should be done while keeping the back as straight as possible. The child should do this 20 times, twice each day.

Total exercise time should be no more than ten minutes per session. The child should do these exercises immediately upon getting out of bed in the morning, and before going to bed in the evening. During the day, the child should be active. Motivation is extremely important and it is important that the child be monitored on a regular basis or he/she may lose interest. Taking an interest in the child's activities not only motivates the child but also builds good communication.

An exercise program like this will not cure a severe pectus excavatum. However, it can help poor posture, which may make even a good surgical result look bad.

(Last edit 2/2019)