



Central California Pediatrics

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Specialty information for physicians who treat children and expectant mothers.



Pectus Excavatum: A surgical repair, what to know and when to refer

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Chest wall deformities represent abnormal growth of the thoracic cavity, and they can present with varied symptoms depending largely on the etiology of the deformity. Pectus excavatum is the most common of these deformities, occurring at a rate of approximately 2.6% in children and representing about 80% to 90% of all chest wall deformities. **When a child has pectus excavatum, they should be referred directly to a pediatric surgeon for proper evaluation. They do not need any activity restrictions while awaiting evaluation.**

What is the cause?

The exact cause of chest wall deformities is not known, but it is often thought to be secondary to an overgrowth of the costal cartilages inward causing the defect. Another theory is an abnormality in the composition of the cartilage leading to greater flexibility. This would explain its association between connective tissue disorders such as Marfan and Ehler Danlos syndromes. During evaluation, it is important to ascertain if this is an isolated case, or part of a family with a history of similar malformations.

What are the symptoms?

Pectus excavatum can cause a variety of symptoms including decreased exercise tolerance, rapid heartbeat and heart palpitations, recurrent respiratory infections, wheezing or coughing, heart murmur, fatigue or dizziness. Patients typically notice the pectus excavatum during their youth, but the symptoms and the defect seem to worsen during puberty and growth spurts.

When a child shows a reduction in the forced volume of expiration in one second and forced vital capacity, but no major effect on total lung capacity, they typically do not have any major cardiac symptoms. Although, it is

occasionally possible that the heart may be displaced toward the left side of the patient, an echocardiogram will show if there is some compression of the right ventricle and mitral valve prolapse. The combination of the cardiac and pulmonary symptoms is the cause for a reduction in the ability to perform aerobic exercises.

Additionally, a large number of patients have body dysmorphism surrounding the appearance of their chest when they have pectus excavatum due to the visible indentation on the chest. As a result, they may also be subject to bullying during a critical time in their emotional development.

How to refer to a pediatric surgeon?

Patients noted to have a pectus excavatum should be referred to a pediatric surgeon for further discussion. However, not all patients with pectus excavatum require extensive work-up and imaging. CT scan, echocardiogram and pulmonary function tests are usually reserved for patients who have decided they want to move forward with surgery.

What is the thoracoscopic Nuss procedure?

The most common procedure for repairing a pectus excavatum is the thoracoscopic Nuss procedure, which entails placing a bar through the thoracic cavity behind the sternum, and pushing it forward.

At Valley Children's we have a team dedicated to chest wall deformities, and use state of the art equipment, including cryoablation on the intercostal nerves for post-operative pain management. We also offer the vacuum bell device, which uses a suction device to correct pectus excavatum in select patients.

Update from Valley Children's Healthcare: RSV

By **Dr. John Kinnison**

President, Valley Children's Specialty Medical Group

For weeks, national news outlets have reported the onslaught of respiratory illnesses driving children hospitals' censuses to capacity. While the seasonal flux of RSV is well established, the seasonal outbreak this year is proving to be earlier, larger and more severe than years prior. Complicating the timing of this surge, is the increased circulation of parainfluenza, influenza, enterovirus D68, human metapneumovirus and the continued burden of SARS-CoV-2 which has created the next big storm. Now more than ever, the pediatric community as a whole must rally together to support our most vulnerable patients. Valley Children's is currently experiencing an unprecedented volume of patients with respiratory illnesses. These patients have pushed our hospital to capacity and where your teams can support these patients in the community, will assist us in managing the kids who need us the most.

With these respiratory viruses, the highest risk populations include both young children, especially infant less than one year of age, and those with weakened immune systems. Symptoms are similar for all respiratory viruses, including fever, cough, runny nose and/or nasal congestion. The mainstay of treatment remains oral intake of fluids, antipyretics when febrile and diligent nasal suctioning with saline drops. Where your team has capacity, we urge patients to be evaluated on an outpatient basis to minimize unnecessary emergency room visits. If there are concerns for dehydration, worsening respiratory distress or hypoxia, contact with your local emergency room is appropriate.

For patients with influenza, please visit:

cdc.gov/flu/professionals/antivirals/summary-clinicians.htm for the 2022 treatment and chemoprophylaxis recommendations.

We are one Valley and our kids remain our top priority. We thank you all for the care and compassion you deliver to your families and know we will weather this storm together.

As always, we continue to be a resource for you, our physician partners. Valley Children's has a one-call solution dedicated to you and your staff. To contact our Provider Assistance Line, call 559-353-8800. If you need to speak immediately with a Valley Children's specialist, call our 24/7 Access Center at 866-353-KIDS (5437).

Upcoming CME Opportunities

Grand Rounds: Health Equity Series Using Critical Race Theory to Dismantle Race-Based Medicine in Pediatric Guidelines

Presented by Courtney Gilliam, MD

Thursday, December 1

12:15 p.m. - 1 p.m.

Activity Code: 35470

Pediatric Clinical Excellence & Innovation Series Encountering Hypophosphatasia

Presented by Mark Nunes, MD

Friday, December 15

12:15 p.m. - 1 p.m.

Activity Code: 35480

Pediatric Clinical Symposium: Pediatric Neurosurgery

Presented by Zachary Wright, MD

Wednesday, December 28

12:15 p.m. - 1:15 p.m.

Activity Code 34891

Register for Valley Children's CME events through our CME Tracker, cmetracker.net/VCH



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