Children's Mercy KANSAS CITY

Center for Pectus Excavatum and Carinatum

Adele Hall Campus
2401 Gillham Road
Kansas City, Missouri 64108
Phone: (816) 234-3097
Fax: (816) 302-9634

Children's Mercy Kansas
5808 W 110th Street
Overland Park, Kansas 66211

Pectus Carinatum Information

www.childrensmercy.org/pectus

Pectus Carinatum Defined:

Pectus carinatum (PC) is a deformity of the chest which causes the breastbone (sternum) to be pushed out. The condition is also known as "pigeon chest" or "chicken breast." It is less common than pectus excavatum, in which the sternum is pushed in or depressed. Pectus carinatum is thought to affect approximately 1 in 2,000 people in the United States.

PC can be present at a young age but commonly becomes more evident during puberty at the time of rapid growth. Researchers have not identified the cause of pectus carinatum, but it likely has a genetic component, since as many as 1 in 4 patients have a family history of the condition. Pectus conditions occur more frequently in males than females by a 4:1 ratio.

There is a high correlation between pectus carinatum and scoliosis, but one doesn't necessarily cause another. Some people may have both characteristics, and some may have just one or the other.

The pectus team at Children's Mercy are recognized leaders in treating chest wall deformities and are one of the highest volume centers in the country. This means our experience has made us experts in treating a wide range of pectus cases.

Symptoms of Pectus Carinatum:

Children with pectus carinatum do not typically have any significant physical symptoms other than the outward "pigeon chest" appearance. Some patients have chest pain. One of the more common problems associated with pectus carinatum is body image issues. Children are often embarrassed about the appearance of their chest and may avoid activities or social interaction for these reasons. Patients with pectus carinatum may continue participating in all activities they find enjoyable. Some symptoms may be exacerbated with physical activity, but the activity itself does not pose a health risk. Pay attention to activities that seem to cause problems and ask your pectus professional if there is any relation.

Treatment Options for Pectus Carinatum:

Nonsurgical treatment with bracing has become the standard of care for correction of pectus carinatum and has been shown to have excellent outcomes. The ideal age to begin bracing is around 11-14 years old dependent on maturity and severity of the pectus carinatum.

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In mild cases, observation or no treatment may be recommended. The carinatum will likely continue to enlarge as the child grows during adolescence.

The need for surgery is rare. If bracing has not been successful or those with severe or unusual anatomy, an operation to remove the abnormal rib cartilages may be recommended.

Pectus Carinatum Bracing:

Wearing a chest brace for pectus carinatum is an effective treatment because children's growing bodies are very flexible during childhood and adolescence. That adaptability means children's chests can more easily be molded into the correct shape as they grow.

Children's Mercy uses a customized brace, called the dynamic compression system (DCS). The DCS is an external chest compression brace that applies concentrated pressure to the area of the chest with the greatest protrusion. This state-of-the-art brace corrects an abnormal chest shape the way orthodontics corrects crooked teeth. The brace "remodels" the chest by applying gentle pressure to gradually correct the area of protrusion. Worn continuously and adjusted regularly (typically every 6 to 8 weeks) the brace allows the chest to slowly redevelop into a more normal shape. Once skeletal maturity has been reached, the cartilage in the chest and pectus carinatum will stiffen, and the child will no longer be a candidate for nonsurgical repair with using the brace.

Dynamic Compression Brace Fit & Appearance:

The brace is made from a light-weight aluminum that is worn around the chest. It provides pressure from both the front and back to direct the breastbone to neutral position. There are cushioned pads that contact the child's chest. The main pad is positioned to press against the breastbone. The band is adjustable.

Under normal, loose-fitting clothing, the brace is not easily noticeable.

Brace Wear Recommendations:

When a child first begins wearing the brace, he or she should do so for as many hours of the day as possible (23 out of 24 hours a day). Except for during bathing and sports, your child should wear the brace all day and throughout the night.

Most children will need to wear the brace full time for about 4 to 6 months and be able to decrease the wear to ~2 times per week until skeletal maturity has been reached for a total time in the brace of about 2 years, though that period can vary. After the chest develops a more normal shape, the brace wear will be slowly tapered to reduce the amount of time that your child wears the brace, much like you wear a dental retainer after orthodontic braces are removed.

Brace Wear Comfort Expectations:

The brace should not be painful to wear. Most children say their chest is slightly sore after they first begin wearing the brace, especially on the front of the chest, but ibuprofen (Motrin) or acetaminophen (Tylenol) can ease the discomfort. Minimal redness at the contact sites from wearing the brace is normal. Some patients prefer to wear a thin, tightly-fitting, moisture-wicking shirt underneath.

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Exercise Recommendations:

During the time your child wears the brace, he or she will also need to perform daily exercises to strengthen the chest and enhance the brace's ability to be effective. Exercise guides you can follow at home will be provided to you at the first visit and can also be found on our website www.childrensmercy.org/pectus

Brace Cost Estimates:

The estimate of prices and traditional charges for professional service are listed on our **Pectus Brace Billing Information Page**. Every child is different; therefore, there may be services outside of the pricing performed at the time of service and are not included in this summary.

Once your child has been identified as a pectus brace candidate, the clinical team will reach out to the Children's Mercy Financial Clearance department to pursue preauthorization if your insurance company will cover this service. If you are concerned about insurance coverage or pectus carinatum brace cost, the Children's Mercy's Financial Clearance team can provide details at **(816) 302-1650, option 2.**

If you have questions or concerns about this condition and its treatment, please call the Surgery Clinic Pectus Center at Children's Mercy Kansas through our Nurse Triage Line at **(816) 234-3097.**