

Surgeons Perform Groundbreaking Minimally Invasive Surgery for Chest Deformity

NORFOLK, Va., Oct. 14 (SEND2PRESS NEWSWIRE) – Surgeons at Children’s Hospital of The King’s Daughters (CHKD) have successfully performed a groundbreaking, minimally invasive surgery on three patients with pectus carinatum, a chest-wall deformity that causes the chest to jut out like the breast of a bird.

The rare condition, also known as pigeon chest, can sometimes be treated with a chest brace that pushes the chest into a normal shape over several years. In the past, in cases where the brace fails, patients were faced with only one option: open chest surgery in which surgeons must remove and rearrange cartilage and ribs.

The surgeries performed this week at CHKD marked the first in the nation in which surgeons corrected the deformity using techniques derived from a minimally invasive procedure developed at CHKD to treat a related condition.

“In many cases, pectus carinatum patients who failed to respond to bracing opted out of getting treatment altogether,” said (URL) CHKD surgeon Robert Kelly. “This new procedure gives these patients an option to correct the condition rapidly in a way that doesn’t involve major, invasive surgery and scarring.”

In the new technique, surgeons make two small incisions on either side of the chest then insert a curved steel bar under the muscles of the chest wall and over the sternum. The bar, which is anchored to the ribs on both sides of the chest, collapses the jutting cartilage, giving the chest a normal shape.

Although the chest immediately assumes a typical arc, the bar will remain in place for two to three years, so the cartilage can become firm in the proper position. Surgeons will then remove the bar through small incisions.

“We first saw this developing about a few years ago,” said Richard Myer, father of patient Richard Myer of Yorktown, Virginia. “He tried the bracing, but found it too painful. We

wanted to get it fixed because he really wants to go to the police academy when he graduates from high school. The condition made it hard for him to run. When the chest is expanded all the time like that, you can’t exhale properly so you get winded quickly.”

“Patients with severe forms of pectus carinatum complain of pain in the chest and many note aerobic exercise intolerance,” said Dr. Kelly.

The new surgery is an adaptation of a technique developed at CHKD in the 1990s by CHKD surgeon Donald Nuss to correct a related condition known as

pectus excavatum, or funnel chest.

In both conditions, the cartilage between the ribs grows fail to grow properly. In some cases, the cartilage buckles inward, causing an indentation that can press against the heart and lungs, a condition known as pectus excavatum. In other cases, the sternum juts outward, causing pectus carinatum.

In the 1990s, Nuss developed a technique in which a curved bar is passed underneath the rib cage, pushing the indentation out in cases of pectus excavatum. The correction is immediate. The bar is removed after two or three years.

Since then, CHKD has performed surgery on more than 1,000 patients with pectus excavatum. Nuss has also trained hundreds of surgeons from around the world who travel to CHKD to learn the Nuss procedure.

The pectus carinatum surgery adapts this technique, but passes the bar over the top of the sternum, pushing the protruding cartilage down.

A surgeon trained in the Nuss procedure adapted the idea for use in Argentina, where pectus carinatum is more common than it is in the United States. A Nuss-trained surgeon, Patricio Varela of Santiago Chile, came to CHKD to assist Drs. Kelly and Nuss in the three surgeries performed.

“When you perform these surgeries, there’s nothing more gratifying than seeing the chest take shape in a matter of seconds,” said Kelly.

The patients selected had severe pectus carinatum that failed to respond to traditional bracing treatment.

The three who underwent the surgery were:
Richard Myer, age 17, of Yorktown, Virginia
Jalil Trappier, 17, of Virginia Beach, Virginia
Thai Paroongsup, 15, of Culpeper, Virginia

Children’s Hospital of The King’s Daughters is the freestanding children’s hospital in Virginia.

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