BroadcastMed | Dr Streck Pectus Excavatum

A procedure that we perform is a minimally invasive repair of a pectus excavatum.

Sometimes we call that a MIRPE for short.

So there are multiple benefits.

To the eye of the beholder is the cosmetic benefit.

But there is also a definite psychologic benefit to the child in terms of their self-confidence.

In terms of the physiologic benefit it varies from patient to patient.

We know and we can tell both on physical exam and on the imaging that the pectus excavatum itself is often compressing or displacing the heart.

It's very evident that there's not as much room in the thorax for the lungs to expand.

One of the things that's great about MUSC is that we have a pediatric pain team that's available 24/7.

Once the patient's in the operating room, commonly they undergo a placement of an epidural catheter by our anesthesiologist.

And then go off under general anesthesia for the procedure.

Intraoperatively we spend a bit of time re-measuring the chest wall, reviewing the CT scan again, and making sure that we're going to get the best result from the surgery.

We have a bar template that we'll mold to the patient's chest.

And get an idea of what the correct length bar is.

We make a bilateral incision.

So there's an incision on each side of the chest wall.

It's about four centimeters in length.

We try to make the incisions as cosmetic as possible.

One set of eyes is great.

But we always have two experienced surgeons in the room when we're doing.

That among other factors is one of the things that keeps the surgery safe in our hands.

Once we're down to the chest wall we put a trocar in or a channel, essentially, for a camera to go in.

So we can see the lung, the diaphragm, the heart, the sternum as we're performing the surgery.

Commonly we'll put a suction cup on the patient's chest.

And that actually helps lift the sternum or the chest wall off of the heart so that we avoid any injury to the heart or the pericardium.

The next step of the surgery is that once we've put a little bit of carbon dioxide in the chest so that we can have the lung out of the way we'll advance a tunneler.

It's a long, curved metal bar that is contoured to go under the depressed sternum in between the sternum and the heart.

And come out on the other side from the right chest to the left chest.

At that point in time the tunneler is sitting under the sternum and we have a pretty good idea of what kind of elevation we've got on the sternum.

Occasionally we have to do some repositioning of the tunneler just to make sure that the bar is going to sit exactly right from a cosmetic standpoint.

And also a functional standpoint in terms of getting the right elevation of the sternum.

We then typically go to the back table and bend the bar.

When we have the bar initially in the operating room it's actually a straight metal bar which we bend on the back table so that each patient has an individually contoured bar.

That's going to give them the best benefit from the surgery.

We then remove the tunneler with a piece of tape attached.

And tie the bar to the tape.

It's a cloth tape.

And we pull the bar back through the chest cavity.

At that point in time the bar, which is shaped kind of like a U, is not elevating the chest.

So we then flip the bar.

And instantly we see that the chest wall is elevated.

We commonly see immediately a benefit from the bar in terms of the appearance of the chest wall.

The final steps of the surgery are to fix a stabilizing device on one or both sides of the bar.

It's really important to keep the bar from moving or potentially flipping after the surgery.

Once the stabilizers are on, we'll commonly do a third point of fixation.

It's another stitch around the bar.

It helps us avoid bar migration or flipping.

We then removed all the carbon dioxide from the chest and close the incisions.

Following that we wake the patient up and get a chest x-ray in the recovery room.

Typically the surgery from the time the patient goes to sleep to the time the patient wakes up is about 90 minutes.

The bar stays in for three years.

Commonly patients want the surgery done in the summer.

So three years later, we're planning for bar removal.

Bar removal, unlike the bar placement, is an outpatient surgery.

So the patients come in, have the bar removed, and go home in the same day.

When you talk to patients post-operatively it's very clear in many cases that their ability to run and swim and do other sports is much improved.