

OUTPATIENT

Goodbye to sunken chest

Jason used to avoid baring his chest. He also constantly felt out of breath. But surgery has changed all that, reports **Jessica Jaganathan**

When children his age were playing ball and frolicking on the beach, Jason (not his real name) would stand shyly on the sidelines, hunched over.

He was too embarrassed to take his shirt off in case he invited curious stares – or even laughs. When he was growing up, he also constantly felt out of breath and had to refrain from sports.

Jason, now 18, had suffered from a congenital deformity known as pectus excavatum since birth. This made his chest look as if someone had punched it in.

Also known as funnel chest or sunken chest, the defect is characterised by a deep depression of the sternum – or breastbone – usually involving the lower half or lower two-thirds of the sternum, with the deepest area at the junction of the chest and abdomen.

It is caused by excessive growth of the connective tissue joining the ribs to the breastbone, which causes an inward malformation of the sternum.

The severity of the depression ranges from mild to severe. Mild cases may respond to an exercise and posture programme, while more severe cases require surgery because the lungs become compressed and the heart is squeezed out of position.

The person may have little endurance and is often short of breath.

Although there are no statistics for Singapore, the condition is known to affect about one in 1,000 people. And it affects boys more than girls in a 3:1 ratio.

Previously, the only known technique to correct this deformity involved cutting the chest open, removing the deformed cartilage attached to the breastbone and cutting a portion of the breastbone to move it forward into a more normal position.

The breastbone is then secured



Jason's chest looks more normal after surgery, giving his confidence a boost.

with surrounding muscle or a short metal bar and sutured.

But a minimally invasive procedure aims to put a brake on all the gore.

Known as the Nuss procedure, it is relatively new in Singapore, although it has been practised in the United States for about 10 years.

A small incision is made on both sides of the chest wall and a bar is bent into the desired shape of the chest wall. A separate, small incision is made to allow for a thoracoscope – a small camera used to guide the surgery – as the bar is passed under the sternum.

The bar is pulled through the chest and flipped over and, in the process, bending the sternum outward, stretching the ribs as it does so. It is left in place for up to two years, after which it is removed during an outpatient procedure lasting about 30 minutes.

"The old method involved a lot more blood loss and left a big scar on the chest," said Dr James W.W. Wong, a consultant cardiothoracic and vascular surgeon at Mount Elizabeth Medical Centre.

"It did serve its purpose at its time, but this new procedure doesn't remove any cartilage and doesn't break any bones. It's more of a remoulding process."



PHOTOS COURTESY OF DR JAMES WONG

Jason's chest looked like this before surgery. He had suffered from a congenital deformity which made his chest look as if someone had punched it in.

Dr Wong has performed the Nuss technique on three patients so far with no complications.

Although he admits that severe medical problems associated with pectus excavatum are rare and surgery is done purely for cosmetic purposes, he added that the psychological scarring from having the defect is immense.

"It's embarrassing, especially for kids, when they take off their shirts for exercise or swimming," said Dr Wong.

He also recommends the procedure to those between the ages of eight and 15 as that is the age when "the chest wall is still elastic".

The day surgery costs between \$15,000 and \$20,000, including

doctor's fee and hospitalisation charges for the average stay of five days.

Risks are minimal said Dr Wong, adding that the most common complication occurs when air gets trapped outside the lung. This is resolved by inserting a tube and draining the air.

Infection rates are less than 1 per cent, he added.

Jason underwent surgery on Oct 9 and is now recovering.

He has been told not to do any heavy-lifting exercises for two months, but is all smiles now.

Said the polytechnic student: "My confidence is slowly coming back. I can go to the beach now without worrying about keeping my top on."