Patient guidance

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Aleris

Pectus Excavatum (PE)

Funnel chest

Pectus excavatum is a congenital defect that causes the chest wall to appear sunken. The condition is also known as funnel chest, and can in many instances be corrected by means of laparoscopic surgery

In most people funnel chest (pectus excavatum) presents before the age of one, but in some cases it does not become apparent until the onset of puberty. Funnel chest is seen four times more frequently in boys than in girls.

The condition is caused by the cartilage connecting the ribs to the sternum growing abnormally and becoming too long. The sternum is thereby pressed in towards the spine, and a depression develops at the front of the rib cage.

Symptoms of funnel chest

Many people complain of quickly becoming short of breath during physical activity. The reason for this is that the right-hand side of the heart becomes compressed, and thus does not have enough space to expand when doing work. In some cases funnel chest can cause difficulty eating as a result of compression of the oesophagus.

It is the cosmetic effects, however, that are often the worst ones, and they can cause the young person to refrain from various social and sporting activities.

Treatment of funnel chest

Funnel chest is treated by means of keyhole surgery, whereby 1-2 or even 3 steel rods are inserted internally behind the sternum, pushing it out into a normal position. The operation is carried out by a specialist thoracic sur-

geon. The rod(s) must remain in place for three years, after which it/they will be removed. The risk of relapse is minimal (< 5%).

Preliminary examination

Before a decision on an operation for funnel chest you will come in for a preliminary examination by our thoracic surgeon. Alternatively, the preliminary examination can take place on the day of admission.

At the preliminary examination you will talk about your symptoms and wishes. The specialist will examine you and explain the options to you.

If you agree that an operation is the right thing for you the specialist will go through the course of events and possible side effects and complications with you. You will discuss what is to be expected from the operation and the importance of rehabilitation.

Expectations

You must expect to experience pain during the initial period after the operation, so you will need analgesics during the initial weeks.

There are some restrictions as to what you can do during the first six weeks after the operation. See under 'Activities' p. 6.

The inserted rods must remain in place for three years, after which they will be removed. This takes place under a full anaesthetic as a day-surgery intervention, and you can go back home after a few hours.

Preparation

We recommend that before the operation you read this leaflet and the leaflet 'General guidelines in connection with your operation'.

Fasting

The operation takes place under a full anaesthetic, so you must fast before it.

Discontinuing medication

See about this in the booklet "General guidance regarding your surgery" or "Regular medication in connection with surgery."

Admission to hospital

You must expect to be in hospital for two days.

On the day of the operation you will talk to the physiotherapist about exercises and restrictions during the period after the operation. You will be given a programme of exercises.

You will also talk to the specialist and the nurse, who will give you information on the period of hospitalisation and the period following discharge.

Before the operation, blood tests will be taken and your rib cage will be X-rayed.

Operation

Before the operation an epidural catheter for pain relief will be inserted in your back. The catheter will automatically administer analgesics using a small pump. It will be removed two days after the operation.

You will be anaesthetised through insertion in the back of your hand of a cannula (plastic), through which the anaesthetic will be injected. When you are anaesthetised a catheter will be inserted in your bladder.

The operation will take 30-60 minutes.

During the operation two to three (maybe more) 5 cm incisions will be made. Through the latter the specialist will insert 1-2 or perhaps 3 steel rods under the sternum so that it is pressed out into a normal position.

In rare cases a drain will be put in place. This is a thin plastic tube that sucks up excess blood and tissue fluid.

Antibiotics will be administered in connection with the operation to prevent inflammation in the wounds.

Local anaesthetic will be applied to the wounds when the operation has been completed. The wounds will be closed using absorbable sutures, and plasters will be applied to them.

After the operation

Activity

As soon as you wake up from the anaesthetic and regain feeling in your legs you must wiggle your feet. This is to encourage your circulation and reduce the risk of blood clots.

After the operation it is important that you prevent complications, e.g. of the heart, lungs and gastrointestinal system. It is thus of great importance that you quickly get on your feet again. We expect you to sit up, stand and walk on the day of the operation.

You should not lie in bed, but should promptly resume your everyday life. This is all part of your exercise regime. You should get up and walk around, and sit in a chair when you are eating, watching TV etc. It is important that you wear your own clothes when you are up and about. This will help increase your feeling of wellbeing. Initially, though, you will need bed rest several times a day.

Walking around promotes gastric function, thereby decreasing the risk of constipation, but it also means you can better inhale air right down into your lungs, thus reducing the risk of pneumonia. You will also be given a special flute that you must breathe through several times a day; this will also improve your breathing.

Straight after the operation you will need the help and support of the staff. The nursing staff and the physiothera-

pist will help and instruct you regarding how best to move, bearing in mind your restrictions.

Your relatives will be encouraged to help you and keep you company, but they must remember that you will need a few hours' peace and quiet in the middle of the day, after lunch.

The physiotherapist will instruct you regarding the exercise regime, which you must continue following discharge. The physiotherapist will come once or twice a day to provide guidance in the exercises.

Baths and bandages

You can take a bath without any dressing on 24 hours after the operation or 24 hours after any drain has been removed. Whilst you still have a dressing on you must bear in mind that it must be changed if it is wettened by blood or water. It is alright for there to be a spot on the dressing.

During hospitalisation the nurse will help you look after the dressing and if necessary change it. When the wounds are no longer producing exudate you will not need any dressing.

Pain

For the first few days you will receive analgesics through the catheter in your back. This takes place automatically using a small pump.

You must also take analgesic tablets at regular intervals four times a day. This will be OTC medication supplemented with something stronger. You will be talking to the staff about pain relief several times a day, so we can adapt it to your needs. You cannot expect to be without pain whilst you are hospitalised, but we will collaborate on making your pain level acceptable.

Urination

The catheter in your bladder will be removed at the same time as the epidural catheter on Day Two. You may have difficulty urinating on your own the first few times, and it may be necessary for us to help you use a

disposable catheter the first couple of times, until you can urinate on your own again.

Bowel movement
Whilst you are receiving analgesics and are not moving about as normal you will need a laxative to keep your bowel moving. It will also help to drink a lot of water – approx. 1½ litres a day.

Antibiotics
You will be given antibiotics during hospitalisation to reduce the risk of inflammation.

Planning your discharge
At an early stage we will discuss discharge with you and, where appropriate, your relative, the aim being optimum planning of the discharge.

The discharge will be planned as a collaboration between you, your relative, the physiotherapist, the nurse and the surgeon who operated on you.

Before you are discharged you must discuss with the physiotherapist where the subsequent exercises are to take place and what they will comprise. You will be referred for physiotherapy.

Your rib cage will be X-rayed before discharge by way of documentation that the materials are in the correct place.

You and, where applicable, the relative(s) who will be helping you at home will talk to the nurse about analgesics, the wound, the dressing, bowel function and follow-up of developments before you go home.

You can go home as a passenger in a normal car. The physiotherapist or nursing staff will go with you to the car and show you how best to get into it. If the journey is to be long it may be a good idea to have a break or two so you can get out and stretch your legs.

After discharge

Pain
We recommend that you take analgesics for as long as you feel the need. You will be given strong analgesics to take home for the first day or two, but if you need them for a longer period you must discuss the matter with your own doctor.

Swelling
Swelling of the area operated on is normal and can last for several weeks / months after the operation.

Accumulation of blood
Bruising and accumulation of blood on the chest / stomach is also normal and disappears of its own accord after a few weeks.

Fatigue
You can expect to be more tired than normal during the period after the operation. It is recommended that you rest during the course of the day and that you get extra proteins through your food intake for as long as you are tired. See leaflet 'Importance of diet in connection with operation'.

Work / sick leave
At the preliminary examination you will discuss with the specialist what you should expect. It depends on what you do every day.

Activity
After the operation there are certain movements you should avoid for the first six weeks so as to make sure the positioning of the rod(s) stabilises. You should thus:

- Not lie on your side
- Not bend forwards or twist your upper body
- Not lift more than 2 kg in front of your body
- Not lift more than 5 kg in a rucksack, which you should be helped put on and take off
- Not cycle

After the six weeks you can start jogging, swimming and cycling, and can do general lifting.

After 12 weeks you can take part in all activities apart from violent contact sports such as American football, rugby, ice hockey and martial arts.

Sexual activity
For the first six weeks avoid positions that may put a strain on your rib cage and stomach muscles.

Removal of stitches and follow-up
There is often no stitches to remove, but if the wounds are stitched with stitches to be removed, it should be done at your own doctor's surgery after 10 to 12 days.

After 6-8 weeks you will be X-rayed to check whether the positioning of the rod(s) is correct. If you live a long way away you can be X-rayed at your local hospital and have the images sent to Aleris-Hamlet Aarhus, where the surgeon will look at them.

Rehabilitation
You must continue to do your exercises conscientiously at home – even if you have been offered further physiotherapy. We will ensure you are referred for further physical exercises.

Airports
You may find that the implanted material activates airport metal detectors. You will receive a card stating that you have undergone an operation. You can also show your scars if necessary.

Possible side effects and complications

Infection
There is always a risk of infection in connection with an operation, but such infections are very rare. If one does occur you will have to take antibiotics.

Shifting of rod(s)
If you suddenly experience violent pain and feel that there has been movement of the rod(s), you must contact us.

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