

PATIENT AND FAMILY INFORMATION SHEET

Spontaneous Pneumothorax & Video-assisted thoracoscopic surgery (VATS)

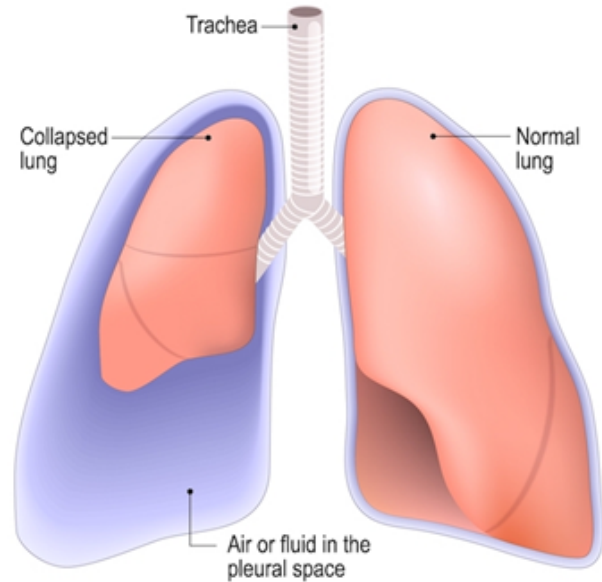
What is a spontaneous pneumothorax?

A pneumothorax is a sudden “collapse of the lung” caused by an increase of air in the space around the lung called the pleural space. A spontaneous pneumothorax can occur with no history of trauma or known lung disease.

How do I know if my child has a spontaneous pneumothorax?

Here are some of the symptoms your child may have:

- Sudden chest pain
- Shortness of breath
- Fast or shallow breathing
- Increased chest pain with deep breaths or activity
- Spontaneous pneumothorax is diagnosed with a chest x-ray.



How is a spontaneous pneumothorax treated?

A chest x-ray will show the size of the pneumothorax. If it is small and your child is stable, he/she may be treated with oxygen therapy and close monitoring. Once the pneumothorax improves, your child may be able to go home without further treatment.

If the spontaneous pneumothorax is moderate to large, and/or your child has trouble breathing, a chest tube will be inserted to remove the air in the pleural space. This will allow the affected lung to re-expand.

What is a chest tube?

A chest tube is a tube that is placed into the pleural space through a small cut in the chest to remove air or fluid from around the lung. Your child is given medication to help them relax prior to this procedure. The tube is then attached to a collection device and connected to suction to remove the air or fluid from around the lung. A chest tube can be placed by a licensed physician or an advanced practice provider such as a nurse practitioner or physician's assistant.

The chest tube will remain to suction until your provider gives further instruction. The next step will be to remove the suction, or place the chest tube to “water seal.” If your child does well, the final step will be to remove the chest tube. Chest x-rays may be performed to make sure their lung remains expanded throughout this process.



PATIENT AND FAMILY INFORMATION SHEET

Spontaneous Pneumothorax & VATS

How is a chest tube removed?

Prior to removal, a nurse will provide your child with pain medication. The chest tube is usually removed at the bedside by your provider. First, the dressing is removed, and the site is cleaned. The stitch that holds the tube in place is cut, and then the tube is pulled out. A special dressing is placed to cover the wound. This dressing should be left in place until instructed by your provider to remove.

Will my child need surgery?

If your child's lung fails to re-expand with chest tube management, or if your child has a recurrent spontaneous pneumothorax, he/she may need surgery. A CT scan of the chest may be performed to check for "blebs." Blebs are air or fluid-filled blisters that form on the surface of the lung. These blebs can "pop," making a small hole in the lung that will cause a spontaneous pneumothorax.

If blebs are seen on CT scan, your child may be taken to surgery to have them removed.

What happens before surgery?

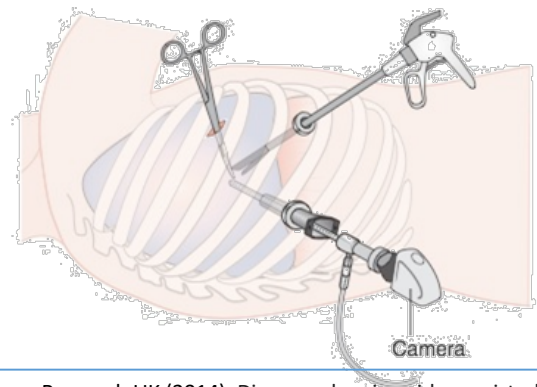
Your child will not be able to eat or drink before surgery. They will receive IV fluids during this time to keep them hydrated. Your surgeon will speak to you to explain the surgery. You will also speak with an anesthesiologist who will sedate your child for the surgery and closely monitor them throughout the procedure.

What happens during surgery?

Surgery for spontaneous pneumothorax with possible bleb removal is called VATS, or video-assisted thoracoscopic surgery. Your surgeon will make 3 or 4 small incisions in your child's chest to get to the pleural space. A camera will go through one incision and surgical tools will go through the other incisions. The surgeon will find the area of the lung which is leaking air, cut it out, and staple the lung closed.



2019. Atrium Chest Tube Drainage. Getinge AB. Used with permission.



Cancer Research UK (2014). Diagram showing video assisted thoracoscopy (VATS) [Online image]. Retrieved from <https://commons.wikimedia.org/w/index.php?curid=34334335>



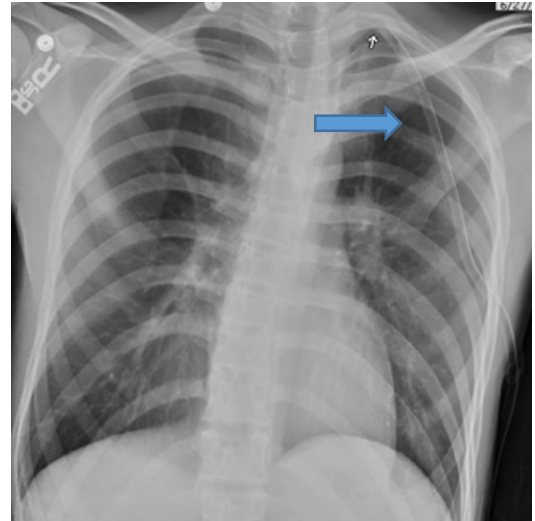
PATIENT AND FAMILY INFORMATION SHEET

Spontaneous Pneumothorax & VATS

What happens during surgery?

A procedure called pleurodesis may be done as well. This procedure creates inflammation of the pleura or lining around the lung. This will help the re-expanded lung stick to the pleura, which helps prevent future pneumothorax.

At the end of surgery, a chest tube is left in the pleural space and placed to continuous suction to help keep the lung re-expanded while it is healing after surgery.



What happens after surgery?

As soon as your child wakes up after surgery, someone from the recovery room will call you so you can be with your child again.

A nurse will care for your child in the recovery room until he/she has stabilized. You will then be transferred back to your child's hospital room.

See *"What is a chest tube?"* section above for steps to chest tube removal.

Will my child have pain?

Yes, your child will have some pain after surgery. The chest tube may cause some pain or discomfort, and your child's incisions may also be painful. Let your nurse know if your child is in pain, so medication can be given. Your child's pain should get better after surgery but he/she should be comfortable enough to get out of bed and walk, even with the chest tube in place.

What are the possible complications from VATS?

- Persistent air leak – There may be a small leak from the surgical incision on the lung. This usually heals with time. In some cases, it may require another surgery or procedure.
- Wound infection – Surgical incisions may get infected but can be treated with antibiotics and wound care.
- Recurrent pneumothorax – After VATS and pleurodesis there is a small chance that your child may develop another pneumothorax. Treatment is based on clinical presentation and your surgeon's plan.

What do I need to do to take care of my child?

- Help your child get out of bed to walk. This is important after surgery to help your child's lung expand.
- Please help your child use their incentive spirometer. This is a device that they breathe into to help them expand their lungs. A respiratory therapist will instruct your child on how to use it.



PATIENT AND FAMILY INFORMATION SHEET

Spontaneous Pneumothorax & VATS

When will my child be able to go home?

Your child will be able to go home when they are breathing comfortably without extra oxygen, the chest tube has been removed, and pain is controlled with medication your child takes by mouth. After the chest tube is removed, your child will be watched for at least 4 hours prior to discharge home. In some cases, another chest x-ray may be done before you go home.

How should I take care of my child once he/she goes home?

- **Pain management:** Your child may take over-the-counter acetaminophen or ibuprofen as needed for mild pain. Your provider may prescribe a stronger pain medication if needed.
- **Wound care:** Leave the chest tube dressing in place until _____. It is normal to have a small amount of clear yellow or pink drainage from the wound for a few days after tube removal.
- **Bathing:** Your child may bathe, keeping the dressing dry. After the dressing is removed and the wound is closed/scabbed over, your child may bathe normally.
- **Activity:** No PE, sports, rough activity, airplane travel, high altitude travel, swimming, or breath-holding activities until _____.
- Your child may return to school on _____.

When should I call the office?

If your child experiences any of the following, please call our office:

- Sudden chest pain
- Shortness of breath
- Very fast or shallow breathing
- Increased chest pain with deep breaths or activity
- Fever
- Redness, swelling, increased soreness or pus draining from incisions

Your child will need to follow up with the surgeon. You will receive specific instructions for follow up when your child is discharged.

Please don't hesitate to call our office if you have any problems or concerns.

Surgeon: _____

Nurse Practitioners: _____

Phone Number (daytime): _____

Phone Number (after hours): _____

Thank you for allowing us to care for your child.