



Pneumonia that Recurs

When your child has pneumonia more than 2 times in one year, or 3 or more times in their life, it is called “recurrent pneumonia.”

What is pneumonia?

Pneumonia is a term that means there is an inflammation in the lungs. This means swelling, fluids and pus can build up in one or both of the lungs. Infection with viruses, bacteria, fungi and parasites can cause this type of inflammation in the lungs. Pneumonia usually begins after a cold has been present for a few days. Symptoms depend on the age of your child.

Common symptoms include:

- Fever, chills, cough and fast breathing
- Breathing with grunting and wheezing sounds
- Sucking in of the skin between the ribs from the hard effort of breathing (called retractions)
- Chest or back pain
- Throwing up (especially from coughing) and stomach pain
- Decreased activity level
- Loss of appetite
- If there are severe breathing problems, lips and fingernails may become bluish or gray colored

What causes pneumonia to recur?

If pneumonia occurs more than 2 times in 12 months, or 3 or more times in your child’s life, it is called “recurrent pneumonia.”

There are many reasons for recurrent episodes of pneumonia.

Pneumonia can keep coming back in your child if they:

- Have asthma that is not adequately treated. In asthma, the inside of the breathing tubes become inflamed due to certain things like dust, smoke, allergies and cold viruses. Extra mucus is produced and muscles around the breathing tube tighten, leading to a narrowed breathing tube.
- Have problems with the immune system that fights infection
- Have anatomical or mechanical problems in the lungs
 - Weak cough or muscles, making it hard to clear mucus from the airway
 - Abnormally shaped breathing tubes
- Breathe liquids or food into the lungs, i.e., “going down the wrong tube”
- Inhale a toy or object they put in their mouth
- Have GE reflux or heartburn with stomach contents being inhaled into lungs.

How is it diagnosed?

A chest X-ray is the standard test used to diagnose recurrent pneumonia. It can also be repeated to measure a response to treatment. If your child is seen for pneumonia for the **first** time and is a normally healthy child, a chest X-ray is usually not needed.

One or more of these other tests may be done:

- **Chest CT:** A detailed type of chest X-ray, to measure the amount of lung affected and damage if healing does not occur as usual. Results help guide treatment.
- **Blood tests** to measure how well the immune system is working.
- **Lab tests on mucus:** A sample of mucus coughed up from your child's lungs goes to the lab to find the type of germ causing the infection.
- **Swallowing study X-ray:** A video fluoroscopic study (VFSS) is a video X-ray done while your child is drinking. This X-ray can see if liquid or food goes down into the lungs with swallowing.
- **Bronchoscopy:** A test done in the operating room where a small telescope is placed down the airways. This looks closely at the shape and size of the breathing tubes, and collects fluid to send to the lab to identify germs causing infection. It is also done to remove inhaled objects (such as inhaled toys or food).
- **Referral to a specialty clinic:** Your child may be referred to Infectious Disease, Immunology or Pulmonary clinic to check the infection-fighting (immune) system and determine the best treatment for the infection.

How is pneumonia treated and how is recurrent pneumonia prevented?

Treatment depends on the cause of the pneumonia.

- If the pneumonia is due to bacteria, antibiotics taken by mouth are often effective treatment. For severe infections, IV antibiotics (through a vein) and oxygen may be necessary and require a hospital stay for your child.
- For infections caused by viruses, treatment is usually supportive. This means treating the symptoms to support your child in healing on their own. The best supportive treatment for viral infections is drinking liquids, fever-reducing medicines, and lots of rest. For severe viral infections, hospitalization may be needed for oxygen and IV fluids. Antibiotics do not work against viruses.
- If asthma is the cause, medicine to manage the asthma is needed and you may be referred to Chest Clinic for the appropriate asthma care.
- For children with underlying immune system problems, treatments to help prevent infections and strengthen the immune system are needed. The treatment depends on the problem with the immune system and may include preventive antibiotics or other IV medicines to help the immune system work.

To Learn More

- Call Pulmonary Clinic
206-987-2174
- Ask your child's
healthcare provider
- www.seattlechildrens.org

Free Interpreter Services

- In the hospital, ask
your child's nurse.
- From outside the
hospital, call the
toll-free Family
Interpreting Line
1-866-583-1527. Tell
the interpreter the
name or extension
you need.

- If inhaling food down the wrong pipe when swallowing or due to gastroesophageal reflux is discovered, special thickened liquids and medicines may be helpful.
- Childhood immunizations prevent many common bacterial and viral infections and are the best way to prevent many lung infections. Annual flu shots and the pneumonia shot may be recommended for your child, too.

What is the long-term effect of pneumonia on my child's lungs?

If the infections continue to recur, there is the possibility of damage to the lungs and breathing tubes. This can lead to a cycle of more infections, more lung damage and long-term breathing problems.

Finding the reason for recurring episodes of pneumonia is key. When the cause is uncovered, you can work with healthcare providers to prevent or decrease the number and severity of future pneumonias.