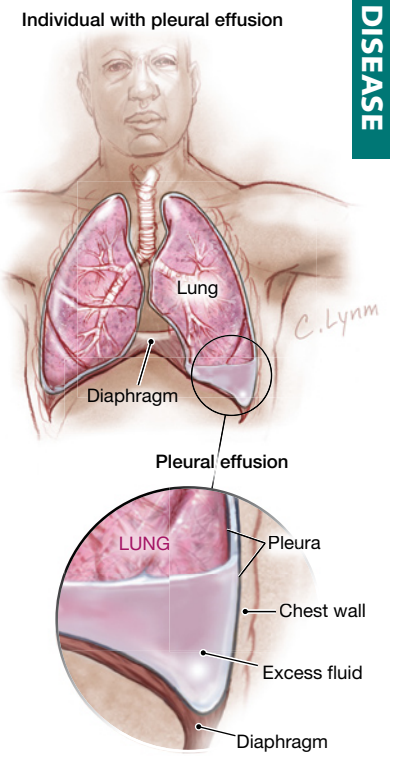
# Pleural Effusion




When an abnormal amount of fluid accumulates in the space between the 2 layers of the **pleura** (the membrane that lines the surface of the lungs), it is called a **pleural effusion**. It is estimated that 1 million people in the United States develop a pleural effusion each year. About 20% to 60% of the people who develop pneumonia have a pleural effusion. A pleural effusion can also occur due to an **extrapulmonary** (outside the lungs) cause. Treatment depends on the underlying cause. The January 21, 2009, issue of *JAMA* includes an article about diagnosing pleural effusions.

## CAUSES OF PLEURAL EFFUSIONS

- **Congestive heart failure** (ineffective pumping of blood through the circulatory system due to enlargement and weakening of the heart muscle) is the most common cause of pleural effusion.
- **Pneumonia** is a common lung infection and may result in pleural effusion.
- Pulmonary **emboli** (a blood clot that breaks off and travels through the bloodstream where it becomes stuck and blocks the circulation)
- **Malignancy** (cancer) of the lungs can result in pleural effusions. **Metastasis** (cancer that has spread from one organ or body part to another) to the lung can also cause pleural effusions.
- **Cirrhosis** (liver disease with loss of function and scarring of the tissue within the liver) commonly causes **ascites** (fluid collection in the abdomen) and may cause a pleural effusion.

## DIAGNOSING PLEURAL EFFUSIONS

- Physical examination of the lungs includes using visual inspection to look for asymmetry of chest wall expansion with breathing, **auscultatory** (listening) and **tactile** (feeling) assessment of air flow, and **percussion** (gentle tapping with the fingertips) to detect differences in sound transmission from the lungs through the chest wall.
- X-ray examination of the chest with the patient in an upright position and in a **lateral decubitus** (lying down) position on the side where the effusion is located to get a visual estimate of the amount of fluid present
- **Ultrasound** can detect small pleural effusions by measuring the difference in the sound waves as they travel through the air in the lungs compared with the fluid created by an effusion.
- **CT scan** is a radiographic procedure that can be used to image the lungs and detect the presence of pleural effusions around them.
- **Thoracentesis** uses a thin needle inserted into the chest cavity to withdraw a sample of the fluid for laboratory analysis.

## TREATMENT

- Treating bacterial pneumonia with antibiotics usually resolves pleural effusion.
- Treating congestive heart failure with **diuretics** (medication that removes excess fluid from the circulation) and other medications to support the heart muscle helps to resolve an associated pleural effusion.
- When the pleural effusion is large, thoracentesis may be used to remove some of the fluid for symptom relief while the underlying cause is being treated.

*Source: American Lung Association*

## SYMPTOMS

- **Dyspnea** (shortness of breath)
- Cough
- Chest pain

## FOR MORE INFORMATION

- American Lung Association
  www.lungusa.org
- National Heart, Lung, and Blood Institute
  www.nhlbi.nih.gov

## INFORM YOURSELF

To find this and other JAMA Patient Pages, go to the Patient Page link on *JAMA*'s Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on lung cancer was published in the March 7, 2007, issue, one on pulmonary embolism in the December 3, 2003, issue, and one on heart failure in the June 13, 2007, issue.

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