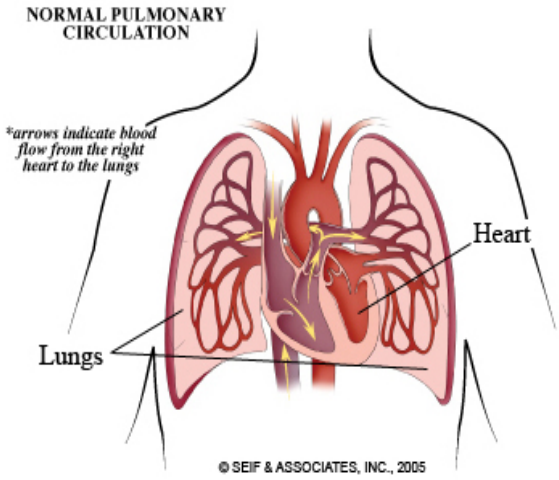
Pulmonary Edema

Pulmonary edema (PE) is a condition in which fluid collects in the lungs. This makes it hard to breathe. PE may be a result of the heart not pumping very well, or a result of injury.

CAUSES

- **Coronary artery disease** (blockages in the arteries of the heart) deprives the heart muscle of oxygen, and weakens the muscle. A heart attack is a form of coronary artery disease.
- **High blood pressure** causes the heart muscle to work harder than usual. Over time, the heart muscle may get stiff, and it starts to work less efficiently. It may also fatigue and weaken.
- **Viral infection of the heart** (*myocarditis*) may weaken the heart muscle.
- **Metabolic conditions** such as thyroid disease, excessive alcohol use, certain vitamin deficiencies, or diabetes, may also weaken the heart muscle.
- **Leaky or stiff heart valves** may impair normal heart function.
- **Lung disease** may strain the heart muscle.
- **Excessive demands** on the heart such as too much salt or fluid intake. Failure to take prescribed medicines.
- **Lung injury** from toxins such as heat or poisonous gas.
- **Infection** in the lungs or other parts of the body.
- **Fluid overload** caused by kidney failure or medications.



SYMPTOMS

- Shortness of breath at rest or with exertion.
- Grunting, wheezing or gurgling while breathing.
- Feeling like you are cannot get enough air.
- Breaths are shallow and fast.
- A lot of coughing with frothy or bloody mucus.
- Skin may become cool, damp and turn a pale or bluish color.

DIAGNOSIS

Initial diagnosis may be based on your history, symptoms, and a physical examination. Additional tests for PE may include:

- EKG.
- Chest X-ray.
- Blood tests.
- Stress test.
- Ultrasound evaluation of the heart (*echocardiogram)*.
- Evaluation by a heart doctor (*cardiologist*).
- Test of the heart arteries to look for blockages (*angiogram*).
- Check of blood oxygen.

TREATMENT

Treatment of PE will depend on the underlying cause and will focus first on relieving the symptoms.

- Extra oxygen to make breathing easier and assist with removing mucus. This may include breathing treatments or a tube into the lungs and a breathing machine.
- Medicine to help the body get rid of extra water, usually through an IV.
- IV drugs or pills to help the heart pump better.
- If poor heart function is the cause, it may include:
  - Procedures to open blocked arteries, repair damaged heart valves, or remove some of the damaged heart muscle.
  - A pacemaker to help the heart pump with less effort.

HOME CARE INSTRUCTIONS

- **Activity Level** -- Your caregiver will help you determine what type of exercise program may be helpful. It is important to maintain strength and increase it if possible. Pace your activities to avoid shortness of breath or chest pain. Rest for at least 1 hour before and after meals. Cardiac rehabilitation programs are available in some locations.
- **Diet** -- Eat a heart healthy diet, low in salt, saturated fat, and cholesterol. Ask for help with choices.
- **Weight Monitoring** --Record your hospital or clinic weight. When you get home, compare it to your scale and record your weight. Then, weigh yourself first thing in the morning daily, and record the weights. Any change of more than 3-5 pounds over a few days should be discussed with your caregiver. Your medications may need to be adjusted.
- **Blood pressure monitoring** should be done as often as directed. You can get a home blood pressure cuff at your drugstore. Record these values and bring them with you for your clinic visits. Notify your caregiver if you become dizzy or lightheaded upon standing up.
- If you are currently a **smoker**, it is time to quit. Nicotine makes your heart work harder and is one of the leading causes of heart (*cardiac*) deaths. Do not use nicotine gum or patches before talking to your doctor.
- **Make an appointment with your caregiver as directed for follow up**.

SEEK IMMEDIATE MEDICAL CARE IF:

- You have severe chest pain. Especially if the pain is crushing or pressure-like and spreads to the arms, back, neck, or jaw, or if you have sweating, are feeling sick to your stomach (nausea), or you are experiencing shortness of breath. **THIS IS AN EMERGENCY. DO NOT** wait to see if the pain will go away. Get medical help at once. Call for local emergency medical help. **DO NOT** drive yourself to the hospital.
- Your weight increases by 3-5 pounds or more within three days.
- You notice increasing shortness of breath that is unusual for you. This may happen during rest, sleep or with activity.
- You develop chest pain (*angina*) or pain that is unusual for you.
- You develop sweating or nausea that is unusual for you.
- You notice more swelling in your hands, feet, ankles or abdomen.
- You notice lasting (*persistent*) dizziness, blurred vision, headache, or unsteadiness.
- You begin to cough up bloody mucus (*sputum*).
- You are unable to sleep because it is hard to breathe.
- You begin to feel a “jumping” or “fluttering” sensation (*palpitations*) in the chest that is unusual for you.

IMPORTANT:

- Make a list of every medicine, vitamin, or herbal supplement you are taking. Keep the list with you at all times. Show it to your caregiver at every visit and before starting a new medicine. Keep the list up to date.
- Ask your caregiver or pharmacist to help you write a plan or schedule so that you know things about each medicine such as:
  - Why you are taking it.
  - The possible side effects.
  - The best time of day to take it.
  - Foods to take with it or avoid.
  - When to stop taking it.
- Ask your caregiver for a copy of your latest heart tracing (EKG or ECG). Keep a copy with you at all times.

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