



Diseases and Conditions

Edema

By Mayo Clinic Staff

Edema is swelling caused by excess fluid trapped in your body's tissues. Although edema can affect any part of your body, it's most commonly noticed in the hands, arms, feet, ankles and legs.

Edema can be the result of medication, pregnancy or an underlying disease — often heart failure, kidney disease or cirrhosis of the liver.

Taking medication to remove excess fluid and reducing the amount of salt in your food often relieves edema. When edema is a sign of an underlying disease, the disease itself requires separate treatment.

Signs and symptoms of edema include:

- Swelling or puffiness of the tissue directly under your skin
- Stretched or shiny skin
- Skin that retains a dimple after being pressed for several seconds
- Increased abdominal size

When to see a doctor

Make an appointment to see your doctor if you have swelling, stretched or shiny skin, or skin that retains a dimple after being pressed. Seek immediate medical attention if you experience:

- Shortness of breath
- Difficulty breathing
- Chest pain

These symptoms can be a sign of pulmonary edema, which requires prompt treatment.

If you've been sitting for a prolonged period, such as on a long flight, and you develop swelling and pain in a leg that won't go away, call your doctor. Persistent leg pain and swelling can be a sign of a blood clot deep in your veins (deep vein thrombosis, or DVT).

Edema occurs when tiny blood vessels in your body (capillaries) leak fluid. The fluid builds up in surrounding tissues, leading to swelling.

Mild cases of edema may result from:

- Sitting or staying in one position for too long
- Eating too much salty food
- Premenstrual signs and symptoms
- Pregnancy

Edema can be a side effect of some medications, including:

- High blood pressure medications
- Nonsteroidal anti-inflammatory drugs
- Steroid drugs
- Estrogens
- Certain diabetes medications called thiazolidinediones

In some cases, however, edema may be a sign of a more serious underlying medical condition. Diseases and conditions that may cause edema include:

- **Congestive heart failure.** When one or both of your heart's lower chambers lose their ability to pump blood effectively — as happens in congestive heart failure — the blood can back up in your legs, ankles and feet, causing edema. Heart failure can also cause swelling in your abdomen. Sometimes it can cause fluid to accumulate in your lungs (pulmonary edema), which can lead to shortness of breath.
- **Cirrhosis.** Fluid may accumulate in your abdominal cavity (ascites) and in your legs as a result of liver damage (cirrhosis).
- **Kidney disease.** When you have kidney disease, extra fluid and sodium in your circulation may cause edema. The edema associated with kidney disease usually occurs in your legs and around your eyes.
- **Kidney damage.** Damage to the tiny, filtering blood vessels in your kidneys can result in nephrotic syndrome. In nephrotic syndrome, declining levels of protein (albumin) in your blood can lead to fluid accumulation and edema.
- **Weakness or damage to veins in your legs.** Chronic venous insufficiency, in which the one-way valves in your leg veins are weakened or damaged, allows blood to pool in the leg veins and cause swelling. Abrupt onset of swelling in one leg accompanied by pain in your calf can be due to a clot in one of your leg veins. Seek medical help promptly.
- **Inadequate lymphatic system.** Your body's lymphatic system helps clear excess fluid from tissues. If this system is damaged — for example, by cancer surgery — the lymph nodes and lymph vessels draining an area may not work correctly and edema results.

Due to the fluid needed by the fetus and placenta, a pregnant woman's body retains more sodium and water than usual, increasing the risk of edema.

Your risk of edema may be increased if you take certain medications, including:

- High blood pressure medications
- Nonsteroidal anti-inflammatory drugs
- Steroid drugs
- Estrogens
- Certain diabetes medications called thiazolidinediones

If you have a chronic illness such as heart failure, liver or kidney disease, your risk of edema increases, as well. Surgery can sometimes obstruct a lymph node, leading to swelling in an arm or leg, usually on just one side.

If left untreated, edema can cause:

- Increasingly painful swelling
- Difficulty walking
- Stiffness
- Stretched skin, which can become itchy and uncomfortable
- Increased risk of infection in the swollen area
- Scarring between layers of tissue
- Decreased blood circulation
- Decreased elasticity of arteries, veins, joints and muscles
- Increased risk of skin ulcers

Unless you're already under a specialist's care for a current medical condition, you'll probably start by seeing your family doctor or regular health care provider to begin evaluation for what could be causing your symptoms.

Here's some information to help you prepare for your appointment, and what to expect from your doctor.

What you can do

- **Be aware of any pre-appointment restrictions.** At the time you make the appointment, be sure to ask if there's anything you need to do in advance to prepare for common diagnostic tests.
- **Write down any symptoms you're experiencing,** including any that may seem unrelated to the reason for which you scheduled the appointment.
- **Make a list of your key medical information,** including any other conditions for which you're being treated, and the names of any medications, vitamins or supplements you're taking.
- **Consider questions to ask your doctor** and write them down. Bring along notepaper and a pen to jot down information as your doctor addresses your questions.

For edema, some basic questions to ask your doctor include:

- What are the possible causes of my symptoms?
- What kinds of tests do I need? Do these tests require any special preparation?
- Is my condition temporary?
- Will I need treatment?
- What treatments are available?
- I have other medical problems; will this treatment interfere with them?
- Do you have any brochures or other printed material that I can take home with me? What websites do you recommend visiting?

What to expect from your doctor

Your doctor or health care provider is likely to ask you a number of questions. Being ready to answer them may reserve time for you and your doctor to review important points.

Questions your doctor might ask include:

- What symptoms are you experiencing?
- How long have you been experiencing these symptoms?
- Do your symptoms seem to come and go or are they always there?
- Have you had edema before?
- Does anything seem to make your symptoms better?
- Is there less swelling after a night's rest in bed?
- Does anything seem to make your symptoms worse?
- What kinds of foods do you regularly eat?
- Do you restrict your intake of salt and salty foods?
- Do you drink alcohol?
- Do you seem to be urinating normally?
- Do you notice swelling all over your body, or does it seem to be in just one area, such as an arm or leg?
- Does swelling diminish if you raise the swollen limb above heart level for an hour or so?

To understand what might be causing your edema, your doctor will perform a physical exam and ask you questions about your medical history. This information is often enough to determine the underlying cause of your edema. In some cases, X-rays, ultrasound exams, blood tests or urine analysis may be necessary.

Mild edema usually goes away on its own, particularly if you help things along by raising the affected limb higher than your heart.

More severe edema may be treated with drugs that help your body expel excess fluid in the form of urine (diuretics). One of the most common diuretics is furosemide (Lasix).

Long-term management typically focuses on treating the underlying cause of the swelling. If edema occurs as a result of medication use, your doctor may adjust your prescription or check for an alternative medication that doesn't cause edema.

The following may help decrease edema and keep it from coming back. Before trying these self-care techniques, talk to your doctor about which ones are right for you.

- **Movement.** Moving and using the muscles in the part of your body affected by edema may help pump the excess fluid back to your heart. Ask your doctor about exercises you can do that may reduce swelling.
- **Elevation.** Hold the swollen part of your body above the level of your heart several times a day. In some cases, elevating the affected body part while you sleep may be helpful.
- **Massage.** Stroking the affected area toward your heart using firm, but not painful, pressure may help move the excess fluid out of that area.
- **Compression.** If one of your limbs is affected by edema, your doctor may recommend you wear compression stockings, sleeves or gloves. These garments keep pressure on your limbs to prevent fluid from collecting in the tissue.
- **Protection.** Keep the affected area clean, moisturized and free from injury. Dry, cracked skin is more prone to scrapes, cuts and infection. Always wear protection on your feet if that's where the swelling typically occurs.
- **Reduce salt intake.** Follow your doctor's suggestions about limiting how much salt you consume. Salt can increase fluid retention and worsen edema.

References

1. Walsh D, et al. Palliative Medicine. Philadelphia, Pa.: Saunders Elsevier; 2009. <http://www.clinicalkey.com>. Accessed June 10, 2014.
2. Sterns RH. General principles of the treatment of edema in adults. <http://www.uptodate.com/home>. Accessed June 2, 2014.
3. Longo DL, et al. Harrison's Online. 18th ed. New York, N.Y.: The McGraw-Hill Companies; 2012. <http://www.accessmedicine.com/resourceTOC.aspx?resourceID=4>. Accessed June 2, 2014.
4. Sterns RH. Patient information: Edema (swelling) (Beyond the Basics). <http://www.uptodate.com/home>. Accessed June 18, 2014.
5. Barbara Woodward Lips Patient Education Center. Tips for managing your edema. Rochester, Minn.: Mayo Foundation for Medical Education and Research; 2010.
6. Traves KP, et al. Edema: Diagnosis and management. American Family Physician. 2013;88:102.

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