

Edema (Swelling) and Cancer Treatment

What is edema?

Edema is swelling caused by a buildup of fluid that gets trapped in your body's tissues. Edema may also be called fluid retention. While edema is most common in your legs, ankles, and feet, it can occur anywhere in your body.



Questions?

Talk with your doctor about ways to prevent or lower edema during cancer treatment, such as using compression garments. Diet changes,

Tell your doctor or nurse if you notice swelling so they can assess your symptoms and talk with you about ways to lower swelling.

exercise, and medicine may also be advised.
Credit: iStock

Types of edema

This page focuses on peripheral edema, which is the buildup of fluid in your extremities, such as your legs, feet, or ankles, or in your arms or hands. Edema that happens in your lower legs or feet may be called pedal edema.

Other types of edema occur in different parts of the body:

- **Ascites:** Fluid builds up in the abdomen. Learn more about [Ascites and Cancer](#).
- **Cerebral edema:** Fluid builds up in the brain.
- **Macular edema:** Fluid builds up in a part of the eye called the macula.

- **Pericardial effusion:** Fluid builds up between the heart and the pericardium (the sac around the heart). Learn more about malignant pericardial effusion at [Cardiopulmonary Syndromes](#).
- **Pleural effusion:** Fluid builds up around the lungs in a space called the pleural cavity. Learn more about malignant pleural effusion at [Cardiopulmonary Syndromes](#).
- **Pulmonary edema:** Fluid builds up in the lungs.
- **Scrotal edema:** Fluid builds up in the scrotum (sac around the testicles).

What causes peripheral edema?

Peripheral edema may be caused by cancer, cancer treatments, or medicines you are taking.

Peripheral edema can also be caused by health conditions that are not related to cancer.

Peripheral edema caused by cancer

Peripheral edema may be a sign or symptom of some types of cancer. For instance, cancers located near the pelvic veins, such as kidney cancer, liver cancer, ovarian cancer, and uterine cancer are most likely to cause edema in your leg or foot.

Peripheral edema caused by cancer treatments

Chemotherapy may cause a buildup of fluid in the extremities, as can some types of hormone therapy, immunotherapy, and targeted therapy. Swelling caused by cancer treatment is generally mild and usually goes away after treatment ends.

Other causes of peripheral edema

- **Medicines.** Some medicines, such as blood pressure medicine, corticosteroids, birth control pills, and NSAIDs (e.g., ibuprofen) can cause your body to hold on to salt and water, leading to swelling in your arms, legs, and feet. In rare cases, swelling may be caused by a severe allergic reaction to a medicine.
- **Medical conditions.** Congestive heart failure, chronic kidney disease, liver disease (cirrhosis), lung conditions, and thyroid conditions may cause edema.
- **Deep vein thrombosis (DVT).** When a blood clot forms in a deep vein, such as those in the leg, it can cause edema.
- **Pregnancy.** Edema is common during pregnancy.
- **Lifestyle and dietary factors.** Being less active and more sedentary, as well as a diet high in sodium (salt) can also cause edema. Salt makes your body hold onto fluid. Not eating enough protein can also lead to edema.

Signs and symptoms of peripheral edema

- heaviness and swelling in one or both legs or arms
- swollen ankles, feet, or hands
- skin changes, such as skin that is puffy, shiny, or slightly dented after being pressed

Tell your doctor about swelling that doesn't go away. Early diagnosis and treatment of edema can prevent it from getting worse. Your doctor will determine the cause and talk with you about ways to lower the swelling.

Peripheral edema or lymphedema?

Both peripheral edema and lymphedema cause swelling, often in the arm or leg. But peripheral edema and lymphedema differ in important ways. Peripheral edema can have many causes, whereas

lymphedema usually occurs after surgery to remove lymph nodes. Lymphedema and peripheral edema are also treated in different ways. Learn more about [Lymphedema](#).

Is peripheral edema life-threatening?

Peripheral edema caused by cancer and cancer treatment is usually mild. But severe swelling can be the sign of a more serious health condition and may become life-threatening.

Seek emergency medical care if you have:

- shortness of breath
- sudden pain with swelling
- swelling that is moving up your arms or legs
- a swollen area that becomes painful and warm to touch
- rapid weight gain
- the inability to empty your bladder

How is peripheral edema diagnosed?

Your doctor will usually diagnose peripheral edema during a physical exam. If more tests are needed, based on your symptoms, your doctor may order blood tests and imaging tests such as an ultrasound to examine the swollen area.

Grading the severity of peripheral edema

The severity (or grade) of peripheral edema is assessed using a pitting edema scale. Your doctor will gently press on the swollen area to see if a pit or depression forms in the skin. Normally, no pit is seen when pressure is applied.

If a pit or dimple forms after the skin is pressed, this is called pitting edema. Your doctor or nurse will record the depression and the time it takes for the pressed area to return to normal and diagnose

the edema as grade 1, 2, 3, or 4, with grade 4 being the most severe. The grade of the edema is based on how deep the pit is when pressure is applied and how long it takes for the area to rebound or return to normal.

Treatment and management of peripheral edema

Treatment for peripheral edema is based on what is causing your symptoms and their severity. Your doctor or nurse may talk with you about these and other ways to lower swelling:

- **Compression stockings or sleeves.** There are compression garments that can help move fluid around in your arms and legs to keep it from building up. They also help improve blood flow. Your nurse can help you find compression garments that fit properly and will show you how to use them.

- **Avoid wearing tight-fitted clothing, shoes, and jewelry.** These can make swelling worse.
- **Raise your feet.** Standing or sitting in one place for a long time can cause or worsen swelling in your legs and feet. Raising your feet with pillows or a footstool when you sit or lie down can help to prevent fluid from building up in your feet. Sitting with uncrossed legs can also help.
- **Take short walks and exercise.** Walking and other light exercises can improve circulation and help to move fluid around in your body. Ask your nurse about an exercise program that is right for you.
- **Diet.** You may be advised to avoid foods high in sodium (salt) such as chips, bacon, ham, and canned soup. Talk with your nurse to get a list of foods and drinks to avoid.
- **Diuretics (water pills).** Medicines called diuretics may be prescribed to help your body get rid of fluid. These medicines cause the

kidneys to make more urine, but they also come with some side effects that your doctor will discuss with you. Two diuretics used to treat edema are hydrochlorothiazide and furosemide.

- **Physical therapy or occupational therapy.** A physical therapist can help you learn about exercises to help reduce swelling. An occupational therapist can help you manage activities related to daily living.

Talking with your doctor about peripheral edema

Tell your doctor or nurse as soon as you notice swelling or other symptoms of peripheral edema. Here are questions you may want to ask:

- Is the cancer I have or the treatment I'm receiving likely to cause edema?

- Are any of the medicines I'm taking likely to cause edema?
- What serious symptoms should I call you about?
- What treatments do you recommend based on my symptoms?
- Would compression socks or sleeves help? Which ones do you recommend? When and how often should I wear them?
- What foods or drinks should I avoid?
- What exercise or physical therapy do you recommend?

Getting support if you have peripheral edema

Side effects of cancer treatment, such as peripheral edema, can be hard to deal with, both physically and emotionally. It's important to ask for

support from your health care team. They can help you prepare for and make it through difficult times. Learn more about [ways to cope with cancer](#), including ways to [adjust to daily life during cancer treatment](#).

For family members and friends who are caring for someone with cancer, you may find these [suggestions for caregivers to be helpful](#).

Peripheral edema research and clinical trials

Doctors and researchers are working to discover new and better ways to prevent, diagnose, and treat side effects such as peripheral edema. Your doctor may have information about open clinical trials at the hospital where you are receiving treatment or a nearby clinic.

Related Resources

[Ascites and Cancer](#)

[Lymphedema](#)

[Side Effects of Cancer Treatment](#)

Updated: October 30, 2024

If you would like to reproduce some or all of this content, see [Reuse of NCI Information](#) for guidance about copyright and permissions. In the case of permitted digital reproduction, please credit the National Cancer Institute as the source and link to the original NCI product using the original product's title; e.g., “Edema (Swelling) and Cancer Treatment was originally published by the National Cancer Institute.”