

## Cellulitis

### What is cellulitis?

Cellulitis is a bacterial infection of the skin that can affect any part of the body. Cellulitis causes acute inflammation of the outermost layers of the skin, but it can spread to deeper tissues of skin and muscle, the lymph nodes or the bloodstream. The face and lower legs, especially near the shins and ankles, commonly are affected.

Left untreated, cellulitis can lead to gangrene (tissue death), sepsis (generalized infection and shock) and lymphangitis (inflammation of the lymph vessels). If cellulitis is on the face, it can lead to meningitis (inflammation of the membranes that surround the brain and spinal cord). Also, cellulitis can cause lasting damage to the lymphatic system, making it difficult to manage lymphedema, a condition in which extra fluid collects in tissue and causes swelling.

### What are the symptoms of cellulitis?

Cellulitis can affect any part of the body. If you have lymphedema, the symptoms of cellulitis may appear in the affected arm/leg, hand/foot or chest wall. They include:

- Skin redness or inflammation that increases in size as the infection spreads
- Tight, glossy or “stretched” appearance of the skin
- Pain, warmth or tenderness
- Skin lesions, rash, red streaks or blotchy appearance
- Fever, chills, shaking, sweating, fatigue, muscles aches, pains or general ill feeling
- Nausea or vomiting
- Joint stiffness caused by swelling of the tissue over the joint
- Hair loss at the site of infection

### What causes cellulitis?

The two most common types of bacteria that cause cellulitis are streptococcus (also called “strep”) A and staphylococcus (also called “staph”) aureus. Other types include streptococcus B, pneumococcus and hemophilus influenzae. These bacteria can enter through the nose or any type of break in the skin, such as a puncture wound, ulcerated area, surgery site, cut, scrape, insect bite, spider bite, cat scratch or animal bite. Areas of dry, flaky or inflamed skin like with dermatitis or eczema, for example, also can be entry points for bacteria. In cancer patients, cellulitis may be caused by lymphedema.

## What are the risk factors?

Several factors may place you at greater risk for developing cellulitis. These risk factors include:

- **Age** – Infants and the elderly are at greater risk of developing infections.
- **History of peripheral vascular disease** – If a break in the skin occurs where your blood circulation is poor, you may be at greater risk of getting an infection.
- **Weakened immune system** – Illnesses that cause a weakened immune system, such as lymphocytic leukemia or HIV, may place you at greater risk for developing cellulitis.
- **Use of immunosuppressive or corticosteroid medications** – These medications can make the immune system weak, leaving you at greater risk of infection.
- **Diabetes** – Diabetes weakens your immune system. This illness can cause chronic ulcers of the feet, which can increase your risk of infection.
- **Chickenpox and shingles** – Usually chickenpox and shingles cause broken blisters on the skin. These broken blisters can serve as an entry point for bacteria.
- **Chronic swelling of the arms or legs, such as swelling caused by lymphedema** – Swollen tissue may crack, leaving the skin at greater risk of infections.
- **A break in the skin by wound, insect bite, cut or scrape** – Any break in the skin can serve as an entry point for bacteria.

## How is cellulitis diagnosed?



If you experience any of the symptoms described on Page 1, seek medical attention **immediately**. The physician will perform a physical exam to determine the extent of the infection. He or she may also order a CBC (complete blood count) or blood culture to determine if your white blood cell count is high, indicating a bacterial infection or that the infection has spread throughout your body.

## How is cellulitis treated?

The first goal of treating cellulitis is to control the infection and prevent complications. If the infection is severe, cellulitis treatment may require hospitalization where intravenous antibiotics (given through a vein) and close observation are necessary. If the infection is less severe, oral antibiotics (given by mouth) and close outpatient follow-up may be enough. In most cases, cellulitis is cured within seven to 10 days with antibiotic treatment.

In addition to antibiotic treatment and medication to control pain, you can raise the infected area, usually higher than the heart, to minimize swelling. You can also apply a warm, moist washcloth to the area to help the body fight the infection by increasing the blood supply to the tissues. Rest until your symptoms improve.

## How can cellulitis be prevented?

Follow these guidelines to help prevent cellulitis:

- **If you have lymphedema, avoid using your affected arm or leg when receiving vaccinations or injections or when having blood drawn.**

- There will be times when you will need to use the affected arm (for example, with a bilateral mastectomy) or leg. If you have questions about using your affected arm or leg, ask your doctor.
- **Avoid excessive heat, such as saunas, whirlpool spas or showers.**
  - Keep yourself cool in hot weather by not sunbathing and by staying in air-conditioned places.
- **Prevent burns.**
  - Use long, padded mitts near the oven, grill or fireplace.
  - Protect yourself from sunburn by using a sunscreen with a sun protection factor (SPF) of at least 15 or higher or by wearing long sleeves.
- **Avoid cuts and scratches.**
  - Take care of any cuts or scratches **immediately**. Wash them thoroughly, apply an antibacterial ointment and cover with a bandage. Change bandages often and watch for signs of infection.
  - Use an electric shaver when shaving under the arm to prevent razor cuts.
  - Wear heavy gloves and long-sleeved shirts while doing yard work, gardening or housework that may cause scratches or cuts.
  - Use a thimble to protect against puncture wounds while sewing.
  - Use a cutting board while chopping or slicing foods.
  - Avoid shelling shrimp or crawfish with your bare hands. Use heavy-duty gloves that cannot be punctured by the sharp shells of the shrimp or crawfish.
  - Use insect spray to help prevent insect bites.
- **Avoid harsh detergents or deodorants.**
  - Wear rubber gloves if your hands will be in water for an extended length of time or in contact with harsh chemicals or cleaning solutions.
- **Keep hands and cuticles soft.**
  - Apply a moisturizing lotion after washing to prevent your hands from becoming chapped, dry or cracked.
  - Do not cut the cuticle on your affected hand. Use cuticle softener cream and gently ease the cuticle back with a cotton-tipped swab.
  - Keep your nail edges smooth, and do not bite your fingernails.
  - Use your own instruments when you get a manicure.
  - Check your fingernails for signs of a fungal infection. Discoloration, thickening, crumbling edges or cracks are all signs of a fungal infection.
  - Call your doctor if your nails are infected.

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