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Patient education: Skin and soft tissue infection (cellulitis) (Beyond the Basics)

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Literature review current through: Feb 2021. | **This topic last updated:** Nov 15, 2019.

SKIN INFECTION OVERVIEW

Cellulitis is an infection of the skin and soft tissue of the skin. The infection is usually caused by bacteria, such as staphylococci ("Staph") or streptococci ("Strep") that are commonly living on the skin or inner surface of the nose or mouth of otherwise normal and healthy people. Cellulitis can develop when there is a break in the skin, such as a wound or athlete's foot, which may be minor or even unnoticed. This allows bacteria to enter the skin and grow, causing infection and swelling.

Many cases of cellulitis are mild and the involved skin clears completely with antibiotic treatment. However, some cases of cellulitis can be severe and lead to generalized infection. Thus, it is important to seek medical care promptly if the infection is associated with fever, rapid worsening of skin changes, other signs of progression, or if you have other medical problems, such as diabetes.

This topic discusses the symptoms and treatment of cellulitis. Other skin infections are discussed separately. (See ["Patient education: Methicillin-resistant Staphylococcus aureus](#)

([MRSA](#))([Beyond the Basics](#))" and "[Patient education: Animal and human bites \(Beyond the Basics\)](#)".)

SKIN INFECTION RISK FACTORS

Certain conditions increase the risk of developing cellulitis. These include:

- Recent injury to the skin (a wound, abrasion, cut, shaving, or injection drug use)
- Prior radiation therapy to the area
- The presence of a fungal or viral skin infection, such as athlete's foot or chickenpox
- Accumulation of fluid (edema) due to poor circulation, heart failure, liver disease, or past surgery to remove lymph nodes
- Being overweight
- Chronic skin conditions, such as eczema

However, cellulitis can also develop in people who have no known risk factors. (See "[Cellulitis and skin abscess: Epidemiology, microbiology, clinical manifestations, and diagnosis](#)".)

SKIN INFECTION SYMPTOMS

Cellulitis — The most common symptom of cellulitis is dull pain or tenderness in the area of skin involvement. Other cellulitis symptoms can include swelling, warmth, and redness in a distinct area of skin. These symptoms commonly worsen, and the redness may expand over the course of hours or days. The onset of cellulitis may be gradual or sudden. Itching is not a typical symptom of cellulitis. The skin is usually smooth and shiny rather than raised or bumpy. However, occasionally in cases of cellulitis, blisters or small pimples may form in the skin.

Cellulitis most commonly involves the leg; other common sites include the arm, around the eye, the breast, and on the abdominal wall. (See "[Cellulitis following pelvic lymph node dissection](#)" and "[Breast cellulitis and other skin disorders of the breast](#)".)

Other skin infections — Other types of skin infections include abscesses, furuncles ("boils"), and carbuncles. These usually cause a collection of pus under the skin. (See "[Cellulitis and skin abscess: Epidemiology, microbiology, clinical manifestations, and diagnosis](#)".)

Skin that is raised, reddened, tender, and pus filled may be caused by a skin infection known as methicillin-resistant *Staphylococcus aureus* (MRSA). This is discussed separately. (See "[Patient education: Methicillin-resistant Staphylococcus aureus \(MRSA\) \(Beyond the Basics\)](#)".)

DO I NEED TO BE EXAMINED?

There are many types and causes of skin infections, and it is important to know the most likely bacteria that causes cellulitis before beginning antibiotic treatment. A delay in seeking medical care or use of the wrong treatment could allow the infection to worsen. To ensure that the correct treatment is used, it is important to be evaluated by a health care provider. In some cases, cellulitis can worsen despite being on the correct antibiotic given by mouth and may require intravenous antibiotics (see below).

SKIN INFECTION TREATMENT

Cellulitis treatment includes antibiotics as well as treatment of any underlying condition that led to the skin infection.

Elevate the area — Elevating the arm or leg above the level of the heart can help to reduce swelling and speed healing.

Keep the area clean and dry — It is important to keep the infected area clean and dry. You can shower or bathe normally and pat the area dry with a clean towel. You can use a bandage or gauze to protect the skin if needed. Do not use any antibiotic ointments or creams.

Antibiotics — Most people with cellulitis are treated with an antibiotic that is taken by mouth for 5 to 14 days. The "best" antibiotic depends upon an evaluation by your health care provider as to the likely bacterial cause of cellulitis in your case.

If the infection is severe, you may need to be hospitalized and treated with antibiotics given through a vein (intravenously, or IV).

It is important to take the antibiotic exactly as recommended and to finish the entire course of treatment. Skipping doses or ending treatment early could potentially allow the bacteria to become resistant and require longer treatment or permit the infection to worsen after initial improvement.

Time to heal — Resolution of fever and chills, if they were initially present, should occur within one to two days after starting antibiotic therapy. Local findings of swelling, warmth, and redness should begin to improve within one to three days after starting antibiotics, although these symptoms can persist for two weeks. If the reddened area becomes larger, more swollen, or more tender, call your health care provider. He or she may want to re-examine you to determine if further testing or an alternate antibiotic is needed.

Transmission to others — In general, cellulitis is not highly contagious to other family members. However, when you have cellulitis, it is important to wash your hands regularly with soap and water and to avoid sharing towels.

SKIN INFECTION PROGNOSIS

In most cases, you will recover completely from an episode of cellulitis without any complications. If you have skin infection risk factors (see '[Skin infection risk factors](#)' above), talk to your health care provider to determine if there are steps you can take to minimize the risk of developing another bout of cellulitis in the future.

WHERE TO GET MORE INFORMATION

Your health care provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for health care professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient education: Cellulitis and erysipelas \(skin infections\) \(The Basics\)](#)

[Patient education: Chronic granulomatous disease \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient education: Methicillin-resistant Staphylococcus aureus \(MRSA\) \(Beyond the Basics\)](#)

[Patient education: Animal and human bites \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are

thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Cellulitis following pelvic lymph node dissection](#)

[Necrotizing soft tissue infections](#)

[Clinical manifestations, diagnosis, and management of diabetic infections of the lower extremities](#)

[Orbital cellulitis](#)

[Pseudomonas aeruginosa skin and soft tissue infections](#)

[Soft tissue infections following water exposure](#)

[Breast cellulitis and other skin disorders of the breast](#)

[Cellulitis and skin abscess: Epidemiology, microbiology, clinical manifestations, and diagnosis](#)

The following organizations also provide reliable health information.

- National Library of Medicine

(www.nlm.nih.gov/medlineplus/ency/article/000855.htm, available in Spanish)

- National Institute of Allergy and Infectious Diseases

(<http://www.niaid.nih.gov/diseases-conditions/group-strep-types>)

- [Kidshealth.org](http://kidshealth.org)

(http://kidshealth.org/parent/infections/bacterial_viral/cellulitis.html)

[1,2]

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REFERENCES

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2. [Raff AB, Kroshinsky D. Cellulitis: A Review. JAMA 2016; 316:325.](#)

Topic 3993 Version 22.0

Contributor Disclosures

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