



[Home](#) → [Medical Encyclopedia](#) → Gangrene

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Gangrene

Gangrene is the death of tissue in part of the body.

Causes

Gangrene happens when a body part loses its blood supply. This may happen from injury, an infection, or other causes. You have a higher risk for gangrene if you have:

- A serious injury
- A blood vessel disease (such as arteriosclerosis, also called hardening of the arteries, in your arms or legs)
- Diabetes
- A suppressed immune system (for example, from HIV/AIDS or chemotherapy)
- Surgery

Symptoms

The symptoms depend on the location and cause of the gangrene. If the skin is involved, or the gangrene is close to the skin, the symptoms may include:

- Discoloration (blue or black if skin is affected; red or bronze if the affected area is beneath the skin)
- Foul-smelling discharge
- Loss of feeling in the area (which may happen after severe pain in the area)

If the affected area is inside your body (such as gangrene of the gallbladder or gas gangrene), the symptoms may include:

- Confusion
- Fever
- Gas in tissues beneath the skin
- General ill feeling
- Low blood pressure
- Persistent or severe pain

Exams and Tests

Your health care provider may diagnose gangrene from a physical exam. The following tests and procedures may also be used to diagnose gangrene:

- Arteriogram (special x-ray to see any blockages in the blood vessels) to help plan treatment for a blood vessel disease
- Blood tests (white blood cell [WBC] count may be high)
- CT scan to examine internal organs
- Culture of the tissue or fluid from wounds to identify bacterial infection
- Examining tissue under the microscope to look for cell death
- X-rays

Treatment

Gangrene requires urgent evaluation and treatment. In general, dead tissue should be removed to allow healing of the surrounding living tissue and prevent further infection. Depending on the area that has the gangrene, the person's overall condition, and the cause of the gangrene, treatment may include:

- Amputating the body part that has gangrene
- An emergency operation to find and remove dead tissue
- An operation to improve blood supply to the area
- Antibiotics
- Repeated operations to remove dead tissue (debridement)
- Treatment in the intensive care unit (for severely ill people)
- Hyperbaric oxygen therapy to improve the amount of oxygen in the blood

Outlook (Prognosis)

What to expect depends on:

- Where the gangrene is in the body
- How much gangrene there is
- The person's overall condition

The person may die if:

- Treatment is delayed
- Gangrene is extensive
- The person has other significant medical problems

Possible Complications

Complications depend on:

- Where in the body the gangrene is
- How much gangrene there is
- The cause of the gangrene
- The person's overall condition

Complications can include:

- Disability from amputation or removal of dead tissue
- Prolonged wound healing or the need for reconstructive surgery, such as skin grafting

When to Contact a Medical Professional

Contact your provider right away if:

- A wound does not heal or there are frequent sores in an area
- An area of your skin turns blue or black
- There is foul-smelling discharge from any wound on your body
- You have persistent, unexplained pain in an area
- You have persistent, unexplained fever

Prevention

Gangrene may be prevented if it is treated before the tissue damage can't be reversed. Wounds should be treated properly and watched carefully for signs of infection (such as spreading redness, swelling, or drainage) or failure to heal.

People with diabetes or blood vessel disease should routinely examine their feet for any signs of injury, infection, or change in skin color and seek care as needed.

References

Brownlee M, Aiello LP, Sun JK, et al. Complications of diabetes mellitus. In: Melmed S, Auchus RJ, Goldfine AB, Koenig RJ, Rosen CJ, eds. *Williams Textbook of Endocrinology*. 14th ed. Philadelphia, PA: Elsevier; 2020:chap 37.

Bury J. Responses to cellular injury. In: Cross SS, ed. *Underwood's Pathology: A Clinical Approach*. 7th ed. Philadelphia, PA: Elsevier; 2019:chap 5.

Nicholson JA, Mansour MA. Gangrene of the foot. In: Cameron JL, Cameron AM, eds. *Current Surgical Therapy*. 14th ed. Philadelphia, PA: Elsevier; 2023:1148-1154.

Review Date 8/26/2023

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Health Content
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06/01/2028

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