

Necrotizing Fasciitis (Flesh Eating Bacteria, Invasive GAS)

Necrotizing Fasciitis is a rare but severe, invasive infection of the soft tissues of the body caused by toxin-producing Group A Streptococcal (GAS) bacteria. A handful of other bacteria can also cause necrotizing fasciitis, but infection with GAS is the most common cause. Bacteria enter the body and release toxins that destroy the soft tissue. Dead, or "necrotic," tissue is left behind. **Necrotizing fasciitis is a medical emergency. The disease progresses rapidly and is often fatal if not treated promptly.**

Transmission

Most cases occur seemingly randomly in people, especially those with health problems and weakened immune systems that may lower their body's ability to fight infection. The most common way of getting necrotizing fasciitis is

- **Environment to Person** when bacteria enter the body through a break in the skin, like a cut, scrape, burn, insect bite, or puncture wound. This disease is not typically spread from person to person.

Risk Factors:

- **Diabetes**
- **Kidney disease**
- **Cancer**
- **Chronic health conditions** that weaken the body's immune system

Symptoms

Symptoms typically begin soon after the bacteria enter through a break in the skin, but an injury or other type of break in the skin is not always readily apparent. Patients often describe their pain as severe and way out of proportion to how the painful area appears.

Initial symptoms include:

- **Pain or soreness** like that of a "pulled muscle,"
- **Warm areas on the skin with red or purplish areas of swelling** that spread rapidly
- **Ulcers**
- **Blisters**
- **Black spots** on the skin

As the illness progresses, patients often describe their pain as severe and much greater than how the area appears and is followed by:

- **Fever**
- **Chills**
- **Fatigue (tiredness)**
- **Vomiting**

Symptoms can progress quickly to massive tissue loss and death. If these symptoms are present, especially after sustaining a wound, medical attention should be sought immediately.

Diagnosis

Diagnosis is based on the presentation of symptoms. Diagnosis can be challenging because the disease is rare, and the first symptoms may appear to be minor. Laboratory tests are available to confirm the agent of infection, and treatment should begin as soon as possible.

Treatment

Necrotizing Fasciitis is treated with antibiotics injected directly into the blood. Prompt surgical removal of dead tissue helps slow the spread of infection to surrounding tissues as antibiotics may not reach areas of tissue already experiencing decay. Supportive treatment also may be needed, including giving fluids and any required support for major organ systems. If you have further questions about the treatment of necrotizing fasciitis, contact your health care provider.

Prevention

Necrotizing Fasciitis is extremely rare. Healthy people who have a strong immune system, and who practice good hygiene rarely become infected. However, cases can appear randomly. Good hygiene and wound care practices are important in preventing the disease.

Good wound care includes:

- **Keep draining or open wounds covered with clean**, dry bandages until healed.
- **Do not delay first aid of even minor, non-infected wounds** like blisters, scrapes, or any other break in the skin.
- **Avoid whirlpools, hot tubs, and swimming pools** if you have an open wound, until infections are healed.
- **Wash hands** often with soap and water or use an alcohol-based hand sanitizer if washing is not possible.

Exclusion Guidance

Necrotizing fasciitis is a medical emergency, and anyone with this disease will require the direct care of a physician in a medical setting until the bacterial infection has been eliminated.

For additional information about necrotizing fasciitis, contact the North Dakota Department of Health and Human Services', Public Health Division, at 800.427.2180.

Resources:

1. CDC. (2022, November 17). Necrotizing fasciitis. Centers for Disease Control and Prevention. <https://www.cdc.gov/groupastrep/diseases-public/necrotizing-fasciitis.html>
2. *Red Book: 2021-2024 Report of the Committee on Infectious Diseases*. 32nd ed. [Management and Prevention of Infectious Diseases]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2021: 122-133.
3. *Red Book: 2021-2024 Report of the Committee on Infectious Diseases*. 32nd ed. [Group A Streptococcal Infections]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2021: 694-707.

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