Get the facts about necrotizing fasciitis: "Flesh-eating Disease"

What is necrotizing fasciitis?
There are many strains of bacteria that can cause the flesh-eating disease known as necrotizing fasciitis, but most cases are caused by a bacteria called group A strep, or *Streptococcus pyogenes*. More common infections with group A strep are not only strep throat, but also a skin infection called impetigo. Flesh-eating strep infections or necrotizing fasciitis is considered rare.

Necrotizing fasciitis is a treatable disease. Only certain rare bacterial strains are able to cause necrotizing fasciitis, but these infections progress rapidly so the sooner one seeks medical care, the better the chances of survival. The bacteria actually cause extensive tissue damage because the tissues under the skin and those surrounding muscle and body organs are destroyed; necrotizing fasciitis is extensive and can lead to death.

Is this a new disease?
No. The flesh-eating infections have been described as early as the fifth century B.C. based on written accounts of necrotizing fasciitis by Hippocrates. More than 2,000 cases of this condition were reported among soldiers during the Civil War. Cases in the U.S. are generally infrequent, although small epidemics have occurred, such as the 1996 outbreak in San Francisco among injection drug abusers using contaminated "black tar" heroin.

What are the signs and symptoms?
Persons with the flesh-eating infection know something is wrong because of extreme pain in the infected area. Generally, an infection begins at a surgical wound or because of accidental trauma—sometimes without an obvious break in the skin—accompanied by severe pain, followed by swelling, fever, and sometimes confusion. The skin in the infected area can become tight and discolored from the swelling.

Unless treatment is initiated promptly, shock and death usually follow in a short time.

How many people get necrotizing fasciitis in the U.S.?
The general public remains safe from this disease. Although reports in the news have increased our awareness of this condition, the number of persons with the disease has not changed over the last several years.

The Centers for Disease Control and Prevention (CDC) reported that in the U.S. there are on average about 9,000 to 11,500 people with group A streptococcus bacterial infections, one cause of necrotizing fasciitis, each year. Of them, only 6 to 7 percent are invasive, meaning the infection has spread to healthy tissue. For example, in 2010, the CDC reported that 74 people had necrotizing fasciitis, which was less than 6 percent of all strep infections reported that year.

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What is the treatment for necrotizing fasciitis?

Treatment with appropriate antibiotics as soon as possible is vital for early infections. Antibiotics will prevent the further spread of infection to healthy tissues. Antibiotics are limited because of the death of tissue at the infected site. What this means is that the antibiotics can't be delivered to the infected site because the dead tissue causes a lack of blood flow, which is how the antibiotics are delivered. The infected and dead tissue must be removed by surgery or it will affect the person's ability to recover.

What about infection prevention – is there a vaccine?

There is no vaccine currently available to prevent necrotizing fasciitis. Infection prevention efforts should include washing minor cuts with soap and running water. Keep the area clean, and watch for signs that may suggest the spread of the infection, such as pain, swelling, warmth, or pus. Most cuts do have redness surrounding them, but if this redness begins to spread rapidly, seek medical attention immediately.

Additional Resources
CDC – ABCs Report: group A Streptococcus, 2010 http://www.cdc.gov/abcs/reports-findings/survreports/gas10.html
CDC – Group A Streptococcal (GAS) Disease https://www.cdc.gov/groupastrep/index.html