What is a staph infection? [1]

Dear Alice,

Please explain a staff [sic] infection and its symptoms.

Answer

Dear Reader,

A staff infection might be when all your coworkers call in sick on the same day. But a staph (pronounced "staff") infection is an infection typically caused by staphylococcus aureus bacteria. This pesky bacterium is very common (most people have some living on their skin all the time), but when it enters the human body, usually through a break in the skin, it can cause infection anywhere in the body. It's also able to live on abiotic (non-living) surfaces such as gym equipment or medical devices, meaning there's potential for the bacteria to be transmitted to others via contact with a contaminated object. But fear not, there are ways to prevent and treat staph.

First, it may be helpful to know the common skin infections caused by staph, including:

- **Folliculitis**: This affects the hair follicles and causes itchy, white pus-filled bumps on the skin (often where people shave or have irritations from skin rubbing against clothes).
- **Cellulitis**: The deeper layers of skin are affected with this condition, which may appear swollen, red, and feel hot and tender to the touch, or may manifest as pus-filled sores or blisters.
- **Boils**: These bumps also are found deeper within hair follicles that leave large, red inflammations (often occur on the face or neck).
- **Sties**: Typically located around the eyelashes, this results in a sore, red bump on the eyelid.
- **Impetigo**: This condition is common in children, characteristically appearing around the mouth and nose; it may also cause blisters and red scabby skin.
- **Abscesses**: These are characterized by pus and swelling that can occur in the skin and in an organ.
Staph infection (or toxins released from *staphylococcus aureus*) can also be a leading culprit behind cases of food poisoning and may be to blame for more serious conditions. Fever may be an indicator of a more serious infection, but additional symptoms could vary depending on the location of the infection. It's recommended that anyone suspecting they may have a more serious infection seek medical care. Serious infections could include:

- **Endocarditis**, an infection of the inner lining of the heart (endocardium) and valves
- **Bacteremia**, caused by staph bacteria in the bloodstream, meaning it can circulate throughout the body and affect internal organs, bones, muscles, and implanted medical devices
- **Toxic shock syndrome**, caused by certain strains of staph, and linked with tampon use, certain skin wounds, and surgery
- **Septic arthritis**, caused by staph in the joints
- **Pneumonia**
- **Osteomyelitis**, when staph infects the bones
- **Mastitis in people who are breastfeeding**

People who are otherwise healthy typically don't become severely ill from staph infections. However, there are some at-risk populations including:

- Newborns
- Elderly people
- Injection drug users
- Those who are breastfeeding
- Folks with a chronic illness (e.g., diabetes, cancer, kidney disease, or HIV), a respiratory illness (e.g., cystic fibrosis or emphysema), or a skin condition
- People who are recovering from major surgery or a recent hospitalization, have invasive medical devices (dialysis ports, urinary catheters, or feeding tubes), or have weakened immune systems
- Those who are in close physical contact with someone who has staph

To determine if the cause of a particular issue is staph (or another bacteria), a culture or fluids (such as sputum, blood, or urine) may be taken from the infection site for testing. Once diagnosed, antibiotics may be prescribed that are known to be effective to treat the specific strain of bacteria. These antibiotics (usually either pills or creams applied to the infected body part) typically kill the bacteria and cure the infection within a week or two. The infected area may also be drained or devices may be removed that could be contributing to the infection.

Hospitals are working to stamp out staph infections, in part because the majority of hospital patients fall into at least one of the "at-risk" categories, but also because there are drug-resistant strains of staph, including **MRSA** (methicillin-resistant *Staphylococcus aureus*), VISA (vancomycin-intermediate *Staphylococcus aureus*), and VRSA (vancomycin-resistant *Staphylococcus aureus*). Antibiotic-resistance means that these strains of staph aren't killed by one or more of the antibiotics that are commonly used to treat staph infections. Therefore, they may be much harder to treat. People with resistant staph infections may require hospitalization to receive antibiotics through an IV or by injection and, unfortunately, some staph infections may even be fatal.

Because improper use of antibiotics contributes to antibiotic resistance, the Centers for Disease Control and Prevention (CDC) recommend that patients follow the directions for their
medications exactly as indicated and that they take all of the medicine prescribed (even if they feel better after only a few days). Additionally they recommended that old, leftover prescriptions are not saved for future use and to not take anyone else’s prescription antibiotics. For a dose of the whys and wherefores of using and ensuring the effectiveness of antibiotics, check out the CDC's Get Smart: Know When Antibiotics Work page [4] for more information.

Lastly, if you’re looking for a dose of prevention, strategies to help avoid a staph infection include caring for your skin, including wound care after trauma or surgery, covering any cuts in the skin, taking precautions when injecting (if you’re an IV drug user), and being attentive to symptoms, particularly if you’re at a heightened risk. You can also reduce your risk by not sharing needles, razors, sheets, towels, and athletic equipment (or wipe down with an antiseptic before use). Proper hygiene is also a prevention method; regular hand-washing [5] and bathing (with soap) can help prevent many types of infections, especially when performing activities, such as preparing food, while feeling unwell.

Hopefully this calms your curiosities about staph infection. Avoiding staph infections may help you save your sick days for times when you really are sick (which your employer is sure to appreciate!).

Alice!
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