



FDA & YOU

News for Health Educators and Students

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Get to Know

STAPH

Staph infections are nothing new, but the recent media frenzy has made them a topic of conversation in the locker room, around the water cooler, and at the dinner table.

The term staph (pronounced: staff) is actually the familiar name for a group of about 31 species of *Staphylococcus* (pronounced: staf-ul-luh-kok-us) bacteria. One of the most famous species of *Staphylococcus* bacteria is *Staphylococcus aureus*, also known as *S. aureus*. Staph bacteria, like *S. aureus*, can cause a variety of infections, even in healthy people. The most common of these infections occur on the skin. This article will help you understand more about common skin infections caused by staph bacteria.

About Staph Infections

Staph can cause skin infections that look like pimples or boils. Skin infections caused by staph may be red, swollen, painful, or have pus or other drainage. Most staph skin infections are minor infections of the skin that can be easily treated. Staph also may cause more serious infections, such as infections of the bloodstream, surgical sites, or pneumonia. Sometimes, a staph infection that starts as a skin infection may worsen.

While you are more likely to get a staph infection if you have a cut or scratch, you can also get one if you have direct skin-to-skin contact with another person who has a staph infection, or are exposed to an item or surface—like sports equipment or a towel—that has staph bacteria on it. Even a pimple that has been popped or picked at can be an entry point for staph bacteria. The good news is many staph skin infections can be prevented through good hygiene, like washing your hands and keeping wounds clean. Check out the “Preventing Staph Infections” box on page two for more tips.

Anyone can get a staph infection. Staph is bacteria commonly carried on the skin of healthy people without causing any infection. Some also carry it inside their nostrils, mouth and throat, genitals, and urinary and respiratory tracts without getting sick.

Staph infections can take many forms and can look like patches of small, white-headed pimples and larger red, pus-filled boils. Infections can start in cuts and in areas of skin that tend to get sweaty like around hair follicles, the buttocks, underarms and groin.

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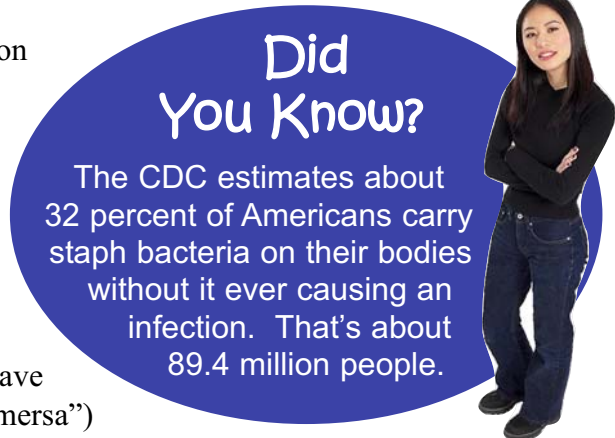
If left untreated, a staph infection that starts as a skin infection can spread to other parts of the body and to other people. It is good idea to have any pimple or sore that does not heal within a week and is painful, pus-filled and red checked out by your doctor. If necessary, they can examine the area and perform tests to help diagnose an infection.

MRSA

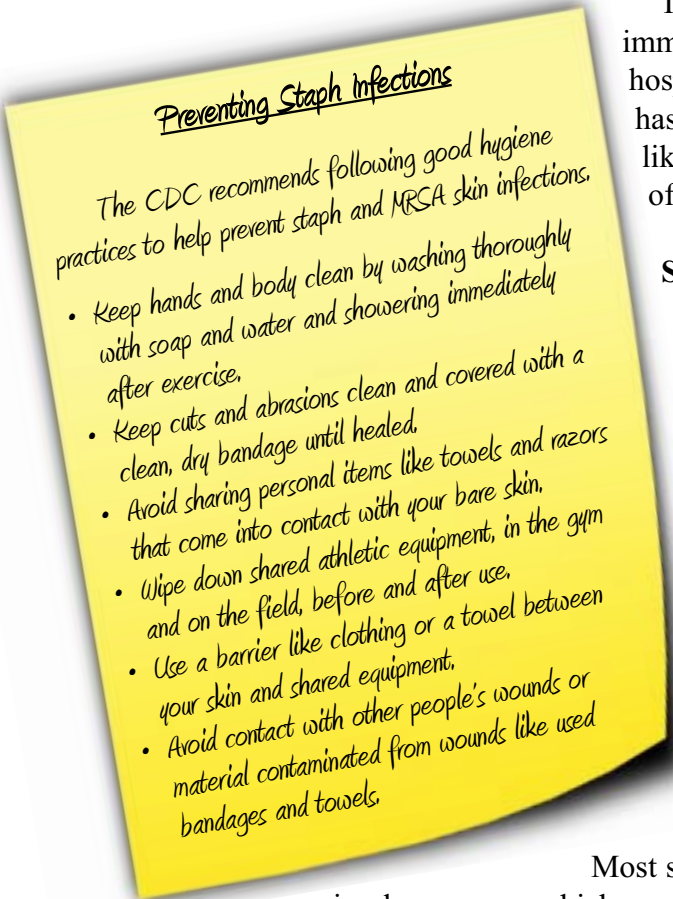
With several high-profile outbreaks of MRSA in 2007 you have probably heard a lot about it. MRSA (sometimes pronounced “mersa”) stands for Methicillin-Resistant *Staphylococcus Aureus*. Like other skin infections caused by *S. aureus* bacteria, MRSA usually starts as small red bumps that can quickly turn into deep painful boils.

MRSA is staph bacterium with a strong resistance to many of the antibiotics, like methicillin, oxacillin, penicillin, and amoxicillin, used to treat other staph infections. That makes MRSA more difficult, but not impossible, for doctors to treat. Researchers and doctors have had success treating cases of MRSA staph infections with alternatives, including the antibiotic vancomycin.

In a recent study that appeared in the Journal of the American Medical Association, the Centers for Disease Control and Prevention (CDC) estimated that about 94,000 Americans had potentially life-threatening MRSA infections in 2005, about three times the previous estimate made in 2000.



Did You Know?
 The CDC estimates about 32 percent of Americans carry staph bacteria on their bodies without it ever causing an infection. That's about 89.4 million people.



Preventing Staph Infections
 The CDC recommends following good hygiene practices to help prevent staph and MRSA skin infections.

- Keep hands and body clean by washing thoroughly with soap and water and showering immediately after exercise.
- Keep cuts and abrasions clean and covered with a clean, dry bandage until healed.
- Avoid sharing personal items like towels and razors that come into contact with your bare skin.
- Wipe down shared athletic equipment, in the gym and on the field, before and after use.
- Use a barrier like clothing or a towel between your skin and shared equipment.
- Avoid contact with other people's wounds or material contaminated from wounds like used bandages and towels.

In the past, MRSA was associated with patients with weakened immune systems who were infected in a healthcare facility like a hospital, dialysis center, or nursing home. In recent years MRSA has spread into other places where people are in close contact, like athletic facilities. The CDC estimates that about 14 percent of MRSA cases in the U.S. occur outside healthcare settings.

Symptoms of a Skin Infection

MRSA and other staph infections are usually transmitted by direct skin-to-skin contact or contact with shared items or surfaces. Staph bacteria can grow on the skin and cause boils, folliculitis, cellulitis, or infect breaks in the skin.

In a study of populations thought to be at increased risk for community-associated staph infections, the CDC was able to identify several factors associated with the spread of skin infections. These include, close skin-to-skin contact, openings in the skin, contaminated items and surfaces, crowded living conditions, and poor hygiene. CDC also determined that excessive sweating can increase the chances of developing an infection because staph bacteria thrive in warm, humid environments.

Most skin infections caused by staph bacteria start as pus-filled pimples or sores which may be red, swollen, and painful. Bacteria can also enter the skin through an inflamed hair follicle or oil gland. So infections can occur in hair-covered areas of the body like the back of the neck, groin, buttocks, armpit, or beard in men. They can also enter through pimples that have been picked at, cuts and scrapes, bug bites, or skin that has been burned.

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Common symptoms of a staph skin infection include

- Pain or swelling around a cut or other wound
- Pimple-like boils or other pus-filled sores
- Blistering, peeling or scaling of the skin, most commonly in infants and young children
- Swollen glands (lymph nodes) in the neck, armpit or groin

A New Test for Staph and MRSA

There are several lab tests doctors can perform to detect and diagnose a staph infection. Typically the doctor will swab the affected area or take a sample of pus to test.

FDA recently cleared the first rapid blood test for MRSA that can identify both the *S. aureus* and MRSA bacteria within two hours. The test is prescribed by a doctor and is used only in patients who are suspected of having a staph infection. Using this test, along with others, can help doctors diagnose a staph or MRSA infection, but the test will not rule out other complicating conditions or infections.

How Staph Infections Are Treated

Most staph infections are treatable. If you suspect you have a staph infection contact your healthcare provider. Only they can properly diagnose and treat a staph infection.

Treatment of staph infections does not always require antibiotics. In certain cases, a doctor may treat the infection by draining fluid from pus-filled boils and covering the area with bandages. Sometimes antibiotics may be necessary. If you are given an antibiotic remember to take all of the doses, even if the infection is getting better, unless your doctor tells you to stop taking it. Do not share antibiotics with other people or save unfinished antibiotics to use at another time.



If the infection is not getting better a few days after visiting your doctor, contact them again. If other people you know or live with get the same infection tell them to go to their healthcare provider.

Staph Infections Can Come Back After Treatment

It is possible to have a staph or MRSA infection come back after it has been treated. To prevent this from happening, follow your doctor's instructions while you have the infection, and practice good hygiene and other prevention steps once the infection is gone.

For More Information:

- The National Library of Medicine's collection on Staph Infections www.nlm.nih.gov/medlineplus/staphylococcalinfections.html
- CDC has created a questions and answers resource for parents and school officials to help prevent the spread of MRSA in schools. www.cdc.gov/Features/MRSAinSchools/

The ABCs of Skin Infections Caused by Staph Bacteria

Below are some common skin infections that can be caused by *Staphylococcus aureus* or MRSA bacteria.

Boils: an infected hair follicle that causes a painful, red-to-purple pus-filled bump on the skin's surface

Carbuncles: a cluster of boils that form a connected area of infection under the skin and often form on the back of the neck, shoulders, or thigh

Cellulitis: an infection of the skin and the fat and tissues underneath that appears as a red, hot, irritated and painful area of skin and is common in the face and lower legs

Folliculitis: clusters of small, itchy white pus-filled bumps that form around hair follicles

Impetigo: a contagious skin infection of pus-filled blisters or sores on the hands and face. The sores break open in a few days allowing pus that leaks from them to form a thick honey-colored crust. Impetigo is a common skin infection in children. (Impetigo can also be caused by bacteria other than *Staphylococcus aureus*.)

Stye: a red, swollen bump on an eyelid caused by an infected eyelash follicle



MICROWAVE OVENS

What you need to know before you get cooking

The microwave oven is one of the most popular appliances; millions of homes have one. Think about how many times you use a microwave every day:

You're running late for school so you heat up a bowl of oatmeal. In the afternoon you want a snack so you grab a pack of microwaveable popcorn. That night, after soccer practice, your Mom is too tired to cook, so she reheats last night's lasagna in the microwave.

Microwave ovens are popular because they cook food in a short amount of time, and have become a fixture in the American kitchen. According to *Appliance Magazine*, only DVD players and digital televisions were shipped out of U.S. factories in greater numbers than microwave ovens and ranges during 2006.

FDA has regulated the manufacture of microwave ovens since 1971. And, under a strict safety standard, sets and enforces rules of performance to assure that radiation emissions from microwave ovens do not pose a hazard to public health.

How Microwaves Cook

Microwaves—the actual waves produced by these ovens—are a type of electromagnetic radiation similar to radio waves. These waves cause water molecules in food to vibrate. These vibrations produce the heat that cooks the food. The waves are produced by an electron tube within the oven called a magnetron. They are reflected within the oven's metal interior and are absorbed by food.

Contrary to popular belief, microwave ovens do not cook food from the "inside-out." When thick foods are cooked, the outer layers are heated primarily by microwaves while the inside is cooked mainly by the transfer of heat from the outer layers.

Microwave Oven Safety

Special care must be taken when cooking or reheating meat, poultry, fish, and eggs to make sure they are prepared safely. Microwave ovens can cook unevenly and leave "cold spots," where harmful bacteria can survive. For this reason, it is important to use the following safe microwaving tips to prevent foodborne illness.

Microwave-Safe Containers: Use cookware made for use in the microwave oven. Glass, ceramic containers, and all plastics should be labeled for microwave oven use. Plastic storage containers such as

Did You Know?

Most injuries related to microwave ovens are the result of serious thermal burns from hot containers, overheated foods, or exploding liquids.

There have been rare instances of radiation injury due to unusual circumstances or improper servicing.



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margarine tubs, take-out containers, whipped topping bowls, and other one-time use containers should not be used because they are not intended for microwave oven use. These containers can warp or melt, possibly causing harmful chemicals to migrate into the food. Generally, metal pans or aluminum foil should not be used. The microwaves will reflect off metal surfaces, causing them to cook unevenly and possibly damaging the oven. The exception to this rule would be the very thin layer of aluminized plastic used in packaging such as microwave popcorn bags.

Carefully read the packaging label for detailed heating instructions because some frozen dinners are “microwave only” (designed only to be heated in a microwave oven) while others are “dual ovenable” (designed to be used in either a microwave or conventional oven). Use plastic film wraps for their intended purpose and in accordance with the directions provided. Some films will state on their labels that there should be a one inch or greater space between the film and the food during heating or cooking in a microwave oven.

Erupted Hot Water Phenomena: Hot-water eruption can occur if you use a microwave oven to super-heat water in a clean cup. ("Super-heated" means the water is hot beyond boiling temperature, although it shows no signs of boiling.)

A slight disturbance or movement may cause the water to violently explode out of the cup. There have been reports of serious skin burns or scalding injuries around people's hands and faces as a result of this phenomenon.

Adding items such as instant coffee or sugar to the water before heating greatly reduces the risk of hot-water eruption. Also, follow the precautions and recommendations found in microwave oven instruction manuals; specifically the heating time.

Pacemakers: At one time there was concern that leakage from microwaves ovens could interfere with certain electronic pacemakers. Today's pacemakers are designed to be shielded against electrical interference. Consult with your doctor if you have concerns.

Checking For Leakage: There is little cause for concern about excess microwaves leaking from ovens unless the door hinges, latch, or seals are damaged. If you suspect a problem, contact the oven manufacturer; a microwave oven service companies; your state health department; or the closest FDA office, which you can locate online by visiting www.cfsan.fda.gov/~dms/district.html.

Tips for Using A Microwave Oven

Here are some tips to help you cook, defrost and reheat food safely in your microwave oven.

Cooking

- Arrange food items evenly in a covered dish and add some water if needed. Cover the dish with a lid or plastic wrap; loosen or vent the lid or wrap to let steam escape. The moist heat that is created will help destroy harmful bacteria and ensure uniform cooking. Cooking bags also provide safe, even cooking.
- Do not cook large cuts of meat on high power (100 percent). Large cuts of meat should be cooked on medium power (50 percent) for longer periods. This allows heat to reach the center without overcooking outer areas.



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- Stir or rotate food midway through the microwaving time to eliminate cold spots where harmful bacteria can survive.
- When partially cooking food in the microwave in order to finish cooking on the grill or in a conventional oven, transfer the microwaved food to the other heat source immediately. Never partially cook food and store it for later use.
- Use a food thermometer or the oven's temperature probe to make sure the food has reached a safe temperature. Always allow standing time, which completes the cooking, before checking the internal temperature with a food thermometer.
- Cooking whole, stuffed poultry in a microwave oven is not recommended. The stuffing may not reach the temperature needed to destroy harmful bacteria.

Defrosting

- Remove food from packaging before defrosting. Do not use foam trays and plastic wraps because they can melt or warp at high temperatures. Melting or warping may transfer harmful chemicals into food.
- Cook meat, poultry, egg casseroles, and fish immediately after defrosting in the microwave oven. Some areas of the frozen food may begin to cook during the defrosting time. Do not save partially cooked food for later use.

Safety Tips for Using Microwave Ovens

- Follow the manufacturer's instruction manual for recommended operating procedures and safety precautions.
- Don't operate a microwave oven if the door doesn't close firmly or is bent, warped, or otherwise damaged.
- Never operate a microwave oven if you have reason to believe it will continue to operate with the door open.
- Don't stand directly against a microwave oven (and don't allow children to either) for long periods of time while it is operating.
- Refer to the instruction manual for your oven. Some microwave ovens should not be operated when empty.
- Do not heat water or liquids for excessive amounts of time.

Reheating

- Cover foods with a lid or a microwave-safe plastic wrap to hold in moisture and provide safe, even heating.
- Heat ready-to-eat foods such as hot dogs, luncheon meats, fully cooked ham, and leftovers until steaming hot.
- After reheating foods in the microwave oven, allow standing time. Then, use a clean food thermometer to check that food has reached the correct temperature. Visit the USDA website for safe internal temperatures.

For More Information

- FDA Center for Devices and Radiological
www.fda.gov/cdrh/consumer/microwave.html
www.fda.gov/cdrh/radhealth/products/microwave.html
- U.S. Government Food Safety Web Site
www.foodsafety.gov/~fsg/fs-mwave.html
- USDA Food Safety Education
www.fsis.usda.gov/is_it_done_yet



Learn About It Online: Food Allergies

Did you know that more than 160 different foods can cause allergic reactions? Looking for more facts about food allergies? Then check out the Food Allergies: What You Need to Know web page. Experts estimate that each year millions of Americans have allergic reactions to food products and life-threatening reactions like anaphylaxis (pronounced: ana-fa-lax-iss) result in around 30,000 emergency room visits each year.

- Learn the symptoms of food allergies and what to do if symptoms occur.
- Read about the top food allergens and the food labeling that can help you identify whether certain foods contain allergenic ingredients.

**VISIT the Food Allergies:
What You Need to Know Website**

www.cfsan.fda.gov/~dms/ffalrgn.html

to learn more



Calendar of National Health Events

April	May	June
<p>Alcohol Awareness Month</p> <p>SAMHSA's National Clearinghouse for Alcohol and Drug Information P.O. Box 2345 Rockville, MD 20015 (800) 729-6686 (877) 787-8432 Spanish (240) 221-4017 (240) 221-4292 (Fax) NCADI-info@samhsa.hhs.gov www.ncadi.samhsa.gov</p>	<p>Asthma and Allergy Awareness Month</p> <p>Asthma and Allergy Foundation of America 1233 20th Street NW, Suite 402 Washington, DC 20036 (800) 7-ASTHMA (727-8462) (202) 466-7643 (202) 466-8940 Fax info@aafa.org www.aafa.org</p>	<p>Home Safety Month</p> <p>Home Safety Council 1250 Eye Street, N.W., Suite 1000 Washington, DC 20005 (202) 330-4900 info@homesafecouncil.org www.homesafetycouncil.org/homesafetymonth</p>

Other health events that may be of interest to teens are listed on our website at
<http://www.fda.gov/cdrh/fdaandyou/calendar.html>

About FDA & You



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