

## Cases of bacteria resistant to antibiotics on the rise.

By Juliana Goodwin

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CA-MRSA, a type of staph bacteria that is resistant to many antibiotics, is on the rise.

Dr. Tim Jones of Steeplechase Family Physicians in Springfield said he's seen a 20- to 30-percent increase in community MRSA cases in just the past five years.

Dr. Randall Cross with Skaggs Occupational Health Services in Branson has seen more cases in the past three years than in the 18 years before that.

MRSA used to be found in hospitals and health care settings, but over the years a new MRSA has emerged -- dubbed community-associated (CA-MRSA) because outbreaks occur in the community and spread to healthy people.

It's usually a skin infection, although it can become serious and even deadly.

The good news is there are simple precautions people can take to help prevent the infection, particularly good handwashing habits, says St. John's infectious disease physician Dr. William Sistrunk. It's also important to recognize the signs of MRSA and treat it early, doctors say.

MRSA stands for methicillin-resistant staphylococcus aureus. It accounts for about half of the estimated 12 million staph infections in this country, according to the Centers for Disease Control.

CA-MRSA is not the same MRSA found in hospitals, says Dr. Robert Daum, MRSA expert and professor of pediatrics, microbiology and molecular medicine at the University of Chicago.

"They are totally different strains; they just both happen to be resistant to methicillin," he says.

### **Recognize MRSA**

People often mistake MRSA for a spider bite.

That's what Trever Collins thought a few years ago.

Then an 18-year-old from Nixa, Collins was a wrestler who noticed a spider bite on his arm. His coach told him to watch it because MRSA was going around.

After a few days, his arm swelled and was painful. He went to his doctor, who told him to come back if the swelling got worse. Collins was back the next day. His physician did not diagnose MRSA and sent him home.

The next day -- six days from the time Collins noticed the "bite" -- his arm was swollen from his shoulder to his hand. He went to the emergency room and was diagnosed with an MRSA infection.

"It was nasty. They had to cut my arm with a scalpel. All the pus hit the ceiling when they cut it open. There was so much pressure," Collins says.

He was hospitalized for three days and put on intravenous antibiotics in the hospital, followed by oral antibiotics when he got home.

"The doctor said if I came in a day later, I could have died from it," Collins says.

While the vast majority of infections are not life-threatening, MRSA killed nearly 20,000 people in 2005 -- the latest year available -- according to CDC figures.

Most people don't realize it, but anywhere from a quarter to half of the population live with staph on their body without any problems, says Daum.

This is known as colonization.

The problem arises when there is a break in the skin in an area that has been colonized or exposed to staph, says Sistrunk.

When there's a cut, the organism takes advantage of an opportunity and decides there is more food living under the skin, so it multiplies and enters the opening.

The infection is contagious, says Daum.

"We have a large study going on. We go out to the households of everyone with a MRSA infection. The preliminary message is CA-MRSA strains are very, very contagious. Family members of folks who have it are at high risk for colonization and potentially infection," says Daum.

Because it's contagious, outbreaks can occur in close contact sports like football or wrestling and in locker rooms, says Jones.

Children are susceptible because they don't have stellar hand-washing habits and tend to get cuts and scrapes, says Cross.

People with weakened immune systems are at risk, says Sistrunk.

Doctors are seeing people of all ages and with various severities of infection. Take Connie French of Springfield who, a few weeks ago, noticed a minor irritation on her stomach.

"I didn't even worry about it. The second day I thought, 'Hmm, this looks like little abrasions,' and stuck a Band-Aid on it. Then a couple days later, I got really scared. It went from being nothing to being really sore," French says.

She went to the doctor, who told her she had MRSA. She was put on a 10-day cycle of antibiotics.

French has no idea how she got MRSA.

MRSA is becoming so common that Cross and Jones say when a patient comes in with a boil that looks like MRSA, the doctors culture it, assume it's MRSA and treat it as such. If they wait for the culture to come back to confirm MRSA, the infection could get worse, says Cross.

MRSA becomes dangerous when it becomes invasive, meaning it gets into the lungs or bloodstream.

About 90,000 Americans get an invasive MRSA infection each year, according to the MRSA Research Center at the University of Chicago Medical Center.

## **Prevention**

The basic key to prevention is good handwashing habits and use of alcohol-based hand sanitizers, says Sistrunk.

Athletes should not share towels or equipment, they should change and wash their clothes after practice, and wipe down athletic equipment, says Jones.

Parents should teach their children not to pick their nose because that can colonize staph in the nose, says Cross.

Keep all cuts covered with a bandage until healed.

If someone gets a boil or abrasion and there is fever or pain associated with it, call your doctor, echoed these experts.

The public can help prevent the rise of antibiotic resistant bacteria by avoiding unnecessary use of antibiotics and by completing the cycle of antibiotics when a doctor prescribes them, says Sistrunk.

In time, more antibiotics will be developed to deal with MRSA, but they are slow to come to the market, he says.

## Concerns

Even though CA-MRSA is usually just a skin infection, the danger is its "widespread drug resistance," says Jones.

If a patient has a sinus infection, Jones has 10 antibiotics he can prescribe. If the patient has MRSA, the options are limited and if one or two don't work, then the patient can be in trouble, he says.

Collins says his first day in the hospital, the antibiotics did not work and doctors switched to another antibiotic on day two.

Another concern is this strain could become resistant to more antibiotics.

"That is the fear and that is not an unfounded fear at all," says Cross.

There is still much to learn about CA-MRSA.

"My concerns are we don't understand why or how to control them or how to stop them," says Daum. "This CA-MRSA problem is a brand new, totally different problem. It's driven by strains we didn't even recognize 10 years ago. Where did they come from? I don't know. Why are they so efficient in spreading around to healthy people? I am just learning."

## Recognizing the signs of MRSA

Most staph skin infections, including MRSA -- methicillin-resistant *Staphylococcus aureus* -- appear as a bump or infected area on the skin that may be:

- Red
- Swollen
- Painful
- Warm to the touch
- Full of pus or other drainage
- Accompanied by a fever

If you suspect MRSA, cover the area with a bandage and contact your health care professional, especially if you have a fever.

To learn more, visit [www.cdc.gov/MRSA](http://www.cdc.gov/MRSA).

Source: Centers for Disease Control and Prevention

## **Glossary**

- MRSA: stands for methicillin-resistant Staphylococcus aureus, which is a type of staph bacteria that is resistant to antibiotics.
- Staph: a type of bacteria commonly found on the skin and in the nose. In most cases, staph lives in these areas of the body and does not cause infections. However, for unclear reasons, a small percentage of people develop staph infections.

Source: STOP MRSA Now

## **Preventing MRSA**

- Scrub up -- Wash your hands frequently with soap and warm water for at least 15 seconds (the time it takes to sing "Happy Birthday" twice) or use an alcohol-based hand-rub sanitizer.
- Wipe it down -- Use a disinfecting bleach solution to wipe down and disinfect hard surfaces. Make sure to use clean cloths to avoid spreading MRSA from one surface to another. (1 tablespoon of disinfecting bleach diluted in 1 quart of water)
- Cover cuts -- Keep any nicks or wounds covered with a clean, dry bandage until healed.
- Don't share -- Especially personal items, like towels or razors, that come into contact with bare skin.
- Use a barrier -- Keep a towel or clothing between skin and shared equipment.

Source: STOP MRSA Now, an organization founded to stop the spread of MRSA