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**FIRST RESPONDER:
MRSA STAPH
INFECTIONS**

MRSA Staph Infections: Coming to a Workplace Near You

A strain of antibiotic-resistant staph bacteria has recently moved out of the hospital setting and into the general public.

by Mark Christensen

If you have not heard of MRSA (methicillin-resistant *staphylococcus aureus*) yet, you will very soon. MRSA (it is generally verbalized as *mersa*) used to be found only in hospitals. But as a result of 50 years of prescribing penicillin-related antibiotics for infections, the bacteria that cause staph infections have mutated and grown resistant to common antibiotics. Those resistant bacteria, MRSA, have presented themselves in the form of a new "super bug" that has moved quickly into the general public. And it's a super bug that's much more difficult to kill than previous staph bacteria.

The MRSA being discussed is referred to as community-acquired MRSA (CA-MRSA). There is also hospital-acquired MRSA (HA-MRSA), but the present focus is on the community-acquired form. Although a MRSA staph infection can lead to lost time for workers—and in severe cases, death—there are steps that can be taken to try to prevent staph infections in work environments. But first, let's take a look at this new super bug.

■ What are some of the symptoms of a MRSA staph infection?

The Centers for Disease Control (CDC) says that community-acquired MRSA is "most often present as a skin or soft tissue infection such as a boil or abscess." People with a minor infection commonly describe it as a "spider bite." The affected area can be swollen and red in color and have pus or other drainage present.

If not treated immediately, MRSA staph infections can continue their march all over the body and even infect the heart and lungs and cause pneumonia. If the lungs become

infected, symptoms such as shortness of breath, chills, and fever could appear. Medical attention should be sought if there is any indication that a MRSA infection is present. Pay special attention to pus-filled infections.

According to Dr. David Bearden, a clinician specializing in infectious diseases, "Recent reports suggest that 60 percent of pus-forming skin infections seen in hospital emergency rooms across the country are caused by MRSA."

■ How does MRSA spread?

Staph bacteria, including MRSA, can live

on the skin. Therefore, something as simple as shaking hands can spread the bacteria. Any open wound is a potential entry point for MRSA. Hard surfaces have the potential to host the spitelul bacteria. So, walls, floors, and similar surfaces may carry MRSA. Crowded living conditions and poor hygiene are contributors to the spread of bacteria, including MRSA.

The CDC says MRSA is "transmitted most frequently by direct skin-to-skin contact." Any situation where large groups live or work together may be a breeding ground for the offending organisms. Gear and tools

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can harbor the bacteria. Even weights and equipment at a fitness center can transmit MRSA.

An Ugly Beast Comes Out of Hiding

"MRSA has been an important infection-causing bug in the hospital for over 20 years. It was nearly unheard of as an infection cause outside of the community until the late 1990s. Even then, it was a rare event," says Bearden. "The rapid rise from only sporadic reports to primary pathogen is alarming."

Yes, the brisk pace at which MRSA

INFECTION STRATEGY

moved from hospitals to the mass population has caught many off guard. It used to be that hospitals and long-term care facilities were where staph infections occurred, but not anymore. Now, according to the CDC, the infections "occur in otherwise healthy, non-hospitalized persons without contact with healthcare personnel or other colonized patients."

Public awareness of community-acquired MRSA first began to take shape in the late 1990s, when the CDC released a report chronicling four MRSA-related deaths of children in the Midwest. None of the four children had been hospitalized within the previous year. At the time, the CDC said that the four cases "demonstrate the potential severity of community acquired MRSA infections." After the report, community-acquired MRSA kept a low profile. Cases in hospitals grew rapidly, but the best known as community-acquired MRSA stayed out of sight until about 2000. At that point, a trickle of cases started appearing. However, in the past few years, the number of staph infections in the general population due to MRSA has

exploded. MRSA is a ticking time bomb, ready to detonate.

The Infectious Diseases Society of America makes it crystal clear how concerned it is about infectious diseases such as MRSA. "These are life-threatening drug-resistant infections, and we're seeing them every day," says IDSA President Martin J. Blaser, MD. "What is worse is that our ammunition is running out and there are no reinforcements in sight."

Penicillin-related antibiotics do not kill MRSA. Common triple-antibiotic ointments that are found on drugstore shelves and in the first aid kits across the country also don't kill MRSA. So treating wounds in the old-fashioned way may not kill the infection-causing bacteria.

Even Our Healthiest Citizens are Getting Infected


In parts of the United States, stories of famous athletes getting MRSA infections have made headlines. The St. Louis Rams and the Cleveland Browns have had high-profile cases of MRSA infections within

their football programs. Part of the challenge for professional football players, and collegiate players for that matter, is the fact that MRSA bacteria can enter the body through a minor wound such as a turf burn. The MRSA bacteria can live on towels, walls, floors, and other surfaces—such as, theoretically, artificial turf. And even though these men are world-class athletes, a staph infection can debilitate one of them within hours.

Brian Russell of the Cleveland Browns is a prime example of how MRSA can stop a great athlete in his tracks. A recent Associated Press article reported that Russell said he went from "being in tiptop shape, to a few hours later, being knocked on my butt and having surgery." It doesn't matter how strong or healthy a person is—MRSA can bring him or her down. And as Brian Russell can certainly attest, a MRSA infection can spread within hours.


Prisons Feel the Impact

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have had a major problem with MRSA. In a prison setting, even if an inmate is issued clean bedding, clothing, and towels, it is possible for the fabric to become contaminated with the MRSA bacteria. One prison in Mississippi had an accumulated total of 31 inmates with MRSA infections, according to a report to the CDC.

The Los Angeles County Jail system reported that in 2002 there were 928 inmates who tested positive for MRSA in their confined environment—before MRSA broke out into the general public. The costs associated with treating an inmate with a MRSA infection are high, so prison systems feel the pinch of increased dollars being spent on the infections that arise.

Steps for Prevention

- *Wash your hands.* The simplest thing to do to help stop the spread of MRSA is to wash your hands. When washing hands, do it for at least 10 to 15 seconds. If soap and water are not available, use an alcohol-based hand sanitizing gel.
- *Treat cuts, scrapes, and abrasions immediately.*

New wound-care treatments for minor cuts, scrapes, and abrasions are starting to appear in the marketplace. Look for one that kills MRSA, or ask your first aid supplier whether it has a wound care gel or ointment that kills MRSA. Also, keep wounds covered with a bandage until healed. Open wounds can receive and/or host MRSA.

■ *Shower after physical activity.* The upsurge in sales of all-over deodorant body sprays reinforces the fact that fewer people are showering after physical activity these days. Bacteria grow best in warm, moist environments such as those created after physical activity. Parents may want to alert their teenage and older children to the need to shower after physical activities such as sports.

■ *Properly clean tools, gear, and equipment.* Take time during the work day to clean the tools and equipment that can accumulate MRSA. Situations where workers share tools and gear may be ripe for the spread of infection-causing bacteria.

■ *Avoid contact with other people's wounds or bandages.* Bacteria can live on wounds and bandages and can easily spread. Never touch

another person's wound directly.

■ *Avoid sharing personal items such as towels or razors.* Razors are especially troublesome in relation to spreading MRSA. It is possible for razors to break the skin and create opportunities for MRSA and other bacteria to enter the body. Bacteria can live on towels and similar items. It can be helpful to dry towels and clothing items in a dryer instead of hanging them up to dry. A warm to hot dryer helps to kill bacteria.

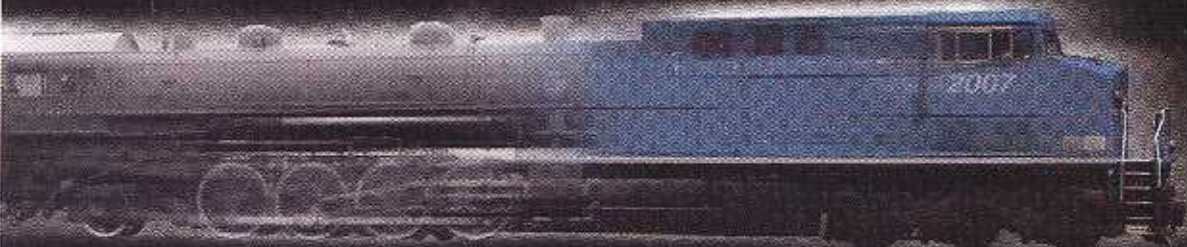
■ *Wipe down gym equipment before and after it is used.* Some facilities offer gym equipment or a fitness center for workers. Be sure to wipe down the equipment with an appropriate cleaning solution.

Learning about MRSA and taking preventive steps in the workplace, and at home, can help to turn the tide in the war against MRSA infections. ■

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