

# germ warfare

**A superbug found in schools and gyms, drug-resistant staph has infected teens across the country. Are you at risk? Photographed by Horacio Salinas.**

**O**n October 15, 2007, with mid-semester break only two weeks away, seniors at Virginia's Staunton River High School should've been happy. Instead, students were grieving the death of classmate Ashton Bonds, a well-liked seventeen-year-old. His passing—caused not by school violence, but possibly by a lack of campus cleanliness—was the result of the bacteria known as methicillin-resistant *Staphylococcus aureus* (MRSA).

Staunton High is one of dozens of schools across states such as Washington, Virginia, Michigan, Delaware, Kansas, and Kentucky that closed temporarily to disinfect against MRSA. But what exactly is MRSA? *Staphylococcus aureus* (or "staph") is a bacteria that can be found just about everywhere: door-knobs, gym equipment, even on the surface of skin. "Most people don't realize that staph is so common that up to 30 percent of the population carry the bacteria in their noses," says Buddy Creech, M.D., an assistant professor of pediatric

infectious diseases at the Monroe Carell Jr. Children's Hospital at Vanderbilt University in Nashville. Most of the time, the bacteria is benign: For healthy people, intact skin effectively acts as a barrier against staph. But if the bacteria enters the skin through a bug bite, cut, or scrape, an infection—usually minor—can result. In these cases, simple antibiotics that doctors can prescribe (such as drugs related to penicillin) wipe out most strains of staph.

MRSA (pronounced *mur-sah*) is unusual, though, because it is both resistant to common antibiotics *and* virulent: If undetected, it can spread quickly within the body. MRSA infections need to be treated early for the best outcome—rarely, severe cases can cause pneumonia; bone, joint, or blood infections; and even death, as in the case of Bonds or twelve-year-old New Yorker Omar Rivera, who may have contracted the disease at his Brooklyn school.

"Without a doubt, teens—even very healthy ones—appear to have been disproportionately affected," notes Creech. "It's not totally clear why yet, but one theory is that adults have ►

had a lifetime to gradually train their bodies to have immunity against this infection. Teens, however, haven't lived as long, so they're more vulnerable."

Many experts also point to the increased use of antibiotics as the cause of the superbug. "Staph is in the news all the time now. It's scary, but people should realize it's nothing new," says evolutionary biologist Marlene Zuk, Ph.D., a professor at the University of California, Riverside, and the author of the book *Riddled with Life* (Harcourt). "Ever since the emergence of antibiotics decades ago, bacteria have been evolving to become resistant. It's survival of the fittest—another example of Darwin's theory. MRSA, the strain of staph we're dealing with, fought back against antibiotics by mutating to become resistant to the drugs." The result, says Zuk, is a superstrong strain of bacteria that's tough to keep under control.

**T**here's no question that MRSA is more dangerous now than in the past," adds Darshak Sanghavi, M.D., a pediatrician and assistant professor at the University of Massachusetts Medical School. "In the past, we've had issues with drug-resistant staph in hospitals. But it hasn't been a problem at schools until very recently. This strain is more dangerous."

A study from the Centers for Disease

Control and Prevention (CDC) reported that MRSA is not only stronger but also more widespread than previously thought. The CDC estimates that, in 2005, nearly 95,000 Americans

were infected with severe MRSA, causing about 19,000 deaths—more than the number of Americans who died from AIDS that year.

Schools (like hospitals and gyms, where MRSA is also common) are more susceptible to MRSA because they're crowded and often unclean environments. "Technically, any place where people come into close contact with each other is a potential danger zone," notes Creech. "It's important to be aware of how MRSA is transmitted and what the symptoms look like."

According to Creech, warning signs include boils on the

skin that are red, swollen, and pus-filled. "They look like pimples gone bad," he explains. "They're angry, large, and, at times, painful to the touch." Another red flag, says Sanghavi, is a persistent fever that isn't accompanied by other flu-like traits (such as a cough, runny nose, or sore throat). If any of these symptoms sound familiar, says Creech, "talk to your parents, visit your doctor, or see a school nurse."

Like most bacteria, MRSA grows rapidly in warm, damp environments, so make sure to exercise special caution at the gym or spa. Because MRSA is spread through skin-to-skin contact (you can't "catch" it through coughing or sneezing, like a cold), it's impor-



**SAFETY FIRST**  
TAKING PRECAUTIONS IS THE BEST PREVENTION.  
FREQUENT AND THOROUGH HAND-WASHING CAN THWART  
THE SPREAD OF MRSA.





**NASTY BUG**  
EXPERTS BELIEVE THAT  
OVERUSE OF ANTIBIOTICS MAY  
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OF DRUG-RESISTANT STAPH.

# Schools in Several States Report Staph Infections

By IAN URBINA

SANDY SPRING, Md., Oct. 18 — When the football players here at Sherwood High School were not getting the message about washing their uniforms and using only their own jerseys, the school nurse paid a surprise visit to the locker room. She brought along a baseball bat.

"Don't make me use this," the nurse, Jenny Jones, said, pointing out that seven players on the team had already contracted a deadly drug-resistant strain of bacteria this year. "Start washing your hands," she said. "I mean it."

School officials around the country have been busy this week to scrub the news and reassure parents upon students' return to school.

It's important to frequently and thoroughly wash hands with soap and water. When a sink's not handy, use an alcohol-based sanitizer (like those from Purell or Bath & Body Works).

Also, it may not seem polite, but don't share. Research shows that using personal products that belong to others—such as razors, bath towels, hairbrushes, and makeup—could be a potential hazard. Any open cuts should always be covered with bandages until completely healed to avoid exposure to bacteria.

Finally, try to keep MRSA in perspective. Infections from the bacteria are generally easily treated in healthy people. Says Sanghavi, "Don't fear school. Just be aware of the problem and don't get lulled into a false sense of security about MRSA because of the deep cleanings some districts have done after recent outbreaks." Prevention, he says, is key. "It's as easy as washing hands and covering cuts," Sanghavi explains. "After all, good hygiene shouldn't stop after the media spotlight on the issue fades." —RICHA GULATI

MRSA (pronounced MEER-suh) is a strain of staph bacteria that does not respond to penicillin or related antibiotics, though it can be treated with other drugs. The infection can be spread by sharing items, like a towel or a piece of sports equipment that has been used by an infected person, or through skin contact with an infected person.

On Wednesday, scores of events were held in the ICU.



**HIGH ALERT**  
THE SEEMINGLY PERVASIVE MRSA HAS MADE FRONT-PAGE HEADLINES IN NEWSPAPERS ACROSS THE COUNTRY.

## damage control

**Keep germs at bay with these stay-healthy tips.**

### gym dandy

Working out is great—but sharing equipment isn't. Remember to bring your own mat for yoga; disinfect equipment with cleansing wipes; and cover weight machines with clean towels before getting physical.

### hands on

"Don't just do a quick splash of water," says Douglas Shenson, M.D., associate director of Clinical Preventative Services at Yale-Griffin Prevention Research Center in New Haven, Connecticut. Wash your hands with soap and warm water for at least 20 seconds and dry them thoroughly.

### game time

Your sports match may have left you exhausted, but don't wait to wash up. "Shower right after a game and use plenty of soap," advises Shenson. If you choose to shower in the locker room, safeguard feet with flip-flops.

### cut and dry

Wounds shouldn't go unprotected. Says Shenson, "Make sure you don't have any open bug bites, sores, or cuts—a clean, dry bandage will do the trick." Check in with a doctor if the irritation doesn't lessen within a week.

—MAURA LYNCH