

# Precautions being taken to help battle MRSA infections

## New test at Salem hospital can better identify infections

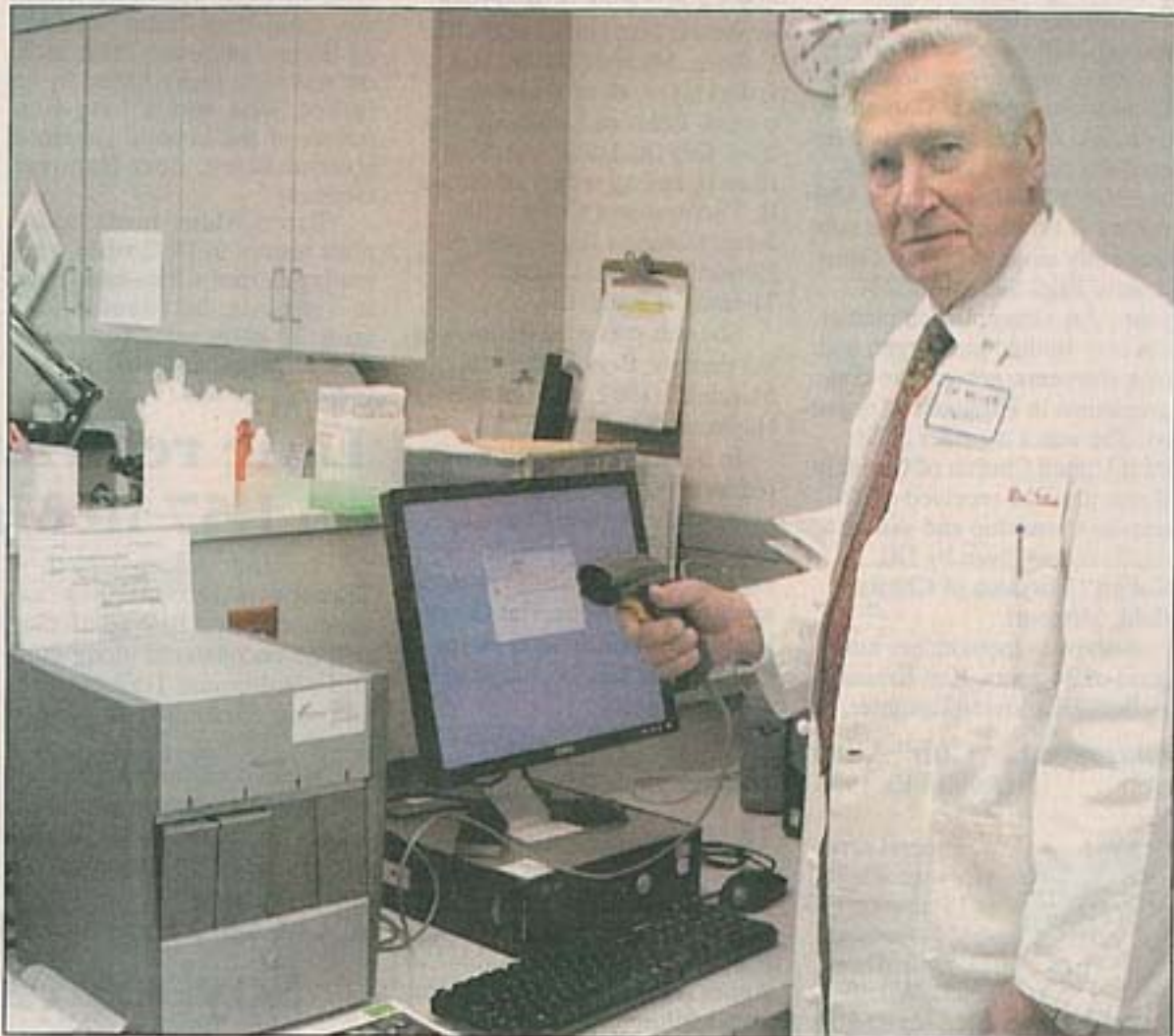
By **BOB HANEY**

Staff Writer

The media has been featuring stories on what many people believe is a new "super virus," causing quite a stir to the population. In reality, methicillin-resistant staphylococcus aureus (MRSA) isn't new at all ... but the increased frequency of it has become a concern across the United States. MRSA is a mutated form of staph infection and can be very dangerous.

Staphylococcus aureus is often referred to as "staph." Staph is a bacteria that is carried in the nose and on the skin of healthy people. Sometimes, staph bacteria can cause an infection. Staph bacteria is one of the most common causes of skin infections in the United States. Most infections are mild and present as pimples or boils, and can be effectively treated by drainage of pus with or without antibiotic therapy. However, serious infections such as pneumonia and bloodstream infections can occur.

Some staph are resistant to antibiotics. This happened when the bacteria began mutating as a result of several factors. Seventy years ago, staph aureus was universally sensitive to a new antibiotic called penicillin. It quickly gained resistance to penicillin and progressively became resistant to newer antibiotics, as well.



(Staff Photo by Bob Haney)

**Dr. James Miller, medical director of Salem Township Hospital's laboratory, shows the new GeneXpert apparatus that will help to keep the local hospital free from MRSA exposure.**

Antibiotic-resistant staphylococcus aureus, isn't at all new, but recent reports in the media have increased public awareness and even generated a certain amount of anxiety. This condition, caused by a simple form of

bacteria that was once routinely cured by penicillin, has taken on a new pattern of change which is making it something of which the public should take notice. It is now a life-threatening bacteria, yet with a few simple precautions

it can be easily controlled. Over 94,000 serious or life-threatening MRSA infections occur yearly, resulting in nearly 19,000 deaths.

Salem resident John Luse

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# MRSA

knows first-hand about MRSA, having had two bouts with the bacterial infection. Both have been similar in nature and costly in both time and money.

Luse said, "It puts lots of things on hold."

Luse is receiving treatment at home with home health care. He takes the antibiotic Vancomycin intravenously, the only thing presently that works on MRSA, which takes approximately three hours a day. Add to that the nurses changing the bandages on his two wound sites, which are hooked to a machine that constantly draws the poison away and causes the blood to rush to the area for healing purposes. When Luse's MRSA infection was discovered, the wounds were surgically cleaned and then left open to heal from within. Luse is glad to report that he is almost through with his treatment and hopefully, after a two month period, he will be "back among the living," as he put it.

Dr. James Miller, a pathologist who comes to the Salem Township Hospital from St. Louis, estimates that a MRSA infection can add \$40,000 to a hospital bill, as well as many

added days of recovery.

Miller will be the physician in charge of the hospital's the MRSA testing using the new GeneXpert machine which has been put online following its recent purchase. The machine, which makes Salem an area leader with what they are doing, will detect MRSA carriers in a much shorter time period through a modern technology not used by other area hospitals. Following a painless swab of matter from the nose, a patient can be checked for MRSA in as little as two hours, instead of having to be quarantined for 72 hours in the hospital.

Miller said that the country of Denmark had a very serious problem with MRSA and by being very aggressive, much like Salem Township Hospital is doing, they have gotten a handle on their MRSA situation.

Miller said, "Staph is a very common organism which was susceptible to penicillin. The bacteria that penicillin could kill off are dead, but the ones that were left became resistant to the drug. The antibiotic era is here, and we don't think much about it. We take an antibiotic and our illness

goes away. However, strains are mutating and are resistant to our drugs, in spite of our efforts to control them. They continue to mutate."

Miller added, "For example, colds are caused by viruses. Technically, they are not treatable, but people go to the doctor, who gives them an antibiotic figuring it can't hurt anything. It is having a prophylactic effect, a preventative measure in a sense. It is very important for a patient to take all of their prescribed medication, even if they feel better. If you quit your medication, survivors of the bacteria will mutate. The same thing can happen if people take other people's leftover antibiotics. Don't take other people's medications. Bacteria can sometimes survive and keep on growing."

MRSA once primarily resided in hospitals and other health care institutions, such as nursing homes. Hospitals are especially vulnerable to these resistant organisms since they care for sick people who may have weakened immune systems, open wounds or who are subjected to surgical procedures, invaded with tubes and catheters, and inten-

sively treated with antibiotics. MRSA now represents about 25 to 40 percent of staph aureus infections in hospitals.

Now there is a completely different bug called "community-acquired MRSA." It is genetically distinct from the hospital-acquired variety and originated outside of the hospital environment about 10 years ago. This is clearly an infection that is spread within the community, particularly in schools, day care centers, sports teams, and prisons, and finds its way into hospitals as patients require treatment. Community-acquired MRSA is more virulent than the other variety of staph aureus and is apt to cause more severe infections. Some may be life threatening, occurring in the bloodstream or in the organs. Fortunately, the vast majority of infections are skin infections that appear as pustules, boils, or abscesses. The wounds are often red, swollen, painful, and have pus or other drainage, and more serious infections are the exception.

Factors that can help with the spread of MRSA in the community setting are crowding, frequent physical contact with oth-

ers, compromised skin, contaminated surfaces, shared personal items, and cleanliness, according to the Marion County Health Department. MRSA is usually spread by direct skin-to-skin contact or contact with shared items or surfaces that have come into contact with someone else's infection. Schools, institutions, sports teams, athletic clubs, and day care centers must further their efforts to institute basic sanitation and disinfection measures. Individuals must become more aware of the importance of avoidance of sharing personal items, appropriate hand-washing, and covering wounds.

Good hygiene is the key tool in regard to preventing the spread of MRSA infections. Simply washing ones hands is a real help in keeping the bacteria under control.

Miller said, "Hand washing is essential for a minimum of 15 seconds each, with 30 seconds more effective."

Miller also emphasized, "Hand washing is the most important thing. The anti-bacterial lotions are fine as well. Institutions are using a bleach solution to spray on for the purpose of

killing leftover bacteria. Even though skin-to-skin contact is the most effective, the other way it spreads is that someone touches, for example, a doorknob that has been touched by a carrier. Those bacteria can live for days on an inanimate object."

Salem Elementary School Superintendent Mark Cartwright told the board at this month's meeting that the district was stepping up what they are doing to prevent MRSA infections. Cartwright said that they are now disinfecting high traffic areas and using bleach water to disinfect desks and other equipment. The district has recently purchased a new tool called an ultraviolet wand, which will kill many kinds of bacteria, including MRSA. The wands are used for hard-to-reach areas and computer keyboards. Cartwright said that they were "trying to be a little more proactive than normal" about MRSA.

Miller said, "In a sense, we do have what I call a limited epidemic in regard to MRSA. Anytime you have something that kills that many people, precautions should be taken. Cleanliness is very important."