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Athletes Susceptible to Antibiotic-resistant Staph Infections

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Description

Methicillin-resistant Staphylococcus aureus, commonly referred to as MRSA, is a type of staph that causes infections resistant to a class of common antibiotics that includes methicillin, penicillin, amoxicillin and oxacillin. While MRSA infections were traditionally associated with extended hospital stays, they are now becoming more common in everyday life.

Newswise — Methicillin-resistant Staphylococcus aureus, commonly referred to as MRSA, is a type of staph that causes infections resistant to a class of common antibiotics that includes methicillin, penicillin, amoxicillin and oxacillin. While MRSA infections were traditionally associated with extended hospital stays, they are now becoming more common in everyday life. In fact, this newer form of MRSA known as community-associated MRSA (CA-MRSA) can affect otherwise healthy individuals without any recent healthcare-related issues – raising fears that the infection can strike anyone, anywhere or anytime.

Now, dermatologists are finding that MRSA infections have become increasingly common among people participating in sports, including high school and college athletes. In the report entitled, “Methicillin-resistant Staphylococcus aureus and athletes,” published online in the *Journal of the American Academy of Dermatology*, dermatologist Brian B. Adams, MD, MPH, FAAD, associate professor of dermatology at the University of Cincinnati and director of dermatology at the Veterans Administration Medical Center, in Cincinnati, addressed the occurrence of MRSA in athletes and recommendations for preventing the further spread of the infection.

“Our review found that physical contact, shared facilities and equipment, and poor hygiene all contribute to MRSA among athletes,” said Dr. Adams. “With slight modifications in these areas, individuals participating in contact and non-contact sports can reduce their risk of contracting MRSA.”

Dr. Adams noted that CA-MRSA most frequently appears as an infection of the skin and underlying tissues, and looks like a pimple, boil or abscess, sometimes with draining fluid or pus. These lesions may be red, swollen, warm and tender to touch. The most widely reported contact sport linking MRSA infections to athletes is football. In fact, football players experience a variety of factors predisposing them to MRSA infections. These include skin injuries that can occur during play, turf burns from artificial turf that can exacerbate skin trauma, and even an athlete’s ingrown toenail can lead to a MRSA infection.

One prominent study conducted during the 2003 football season of members of the St. Louis Rams professional football team found eight occurrences of MRSA infection among five of the 58 Rams players – or 9 percent of the team. Dr. Adams pointed out that all of the lesions occurred on areas of the skin not covered by clothing or equipment where players had suffered turf burns. The players that experienced the infections were more likely to have a higher body mass index and play the lineman or linebacker position.

“Considering all factors, the authors of the St. Louis Rams study concluded that frequent antibiotic use, compromised skin barriers, skin contact between players, close proximity of teammates, and inadequate hand and personal hygiene by trainers and athletes may have contributed to the team’s MRSA outbreak,” said Dr. Adams. “In addition, infections found in players from an opposing team suggested that transmission may have occurred during play.”

Other studies of high school and college football players concluded that shared facilities were likely responsible for MRSA transmission. In each instance, the main risk factor included more than 10 cuts, abrasions or turf burns. One study found that whirlpool use greater than or equal to two times per week increased the risk of MRSA infection in players with covered lesions; in another study a member of the high school dance team developed MRSA infection – with the only link to the football team involving the use of a shared weight room where the dance team changed into their uniforms before football games.

Rugby is another sport that also involves intense physical contact and could potentially expose players to risk factors for contracting MRSA. For example, Dr. Adams explained that the limited use of padded equipment in rugby creates the potential for more skin-to-skin contact but also reduces the risks associated with abrasive, shared or unclean equipment. “One report from the United Kingdom found that five members of a rugby team developed large abscesses on the upper areas of their arms, back, neck and face,” said Dr. Adams. “Because the MRSA infections developed only in forward players, the investigators concluded that the outbreak probably resulted from sustained physical contact rather than from transmission through shared facilities or equipment.”

In addition, studies show that wrestlers, who often engage in prolonged physical contact and experience frequent mat burns, also may be prone to MRSA infections. In a statewide survey of high school athletic trainers, the Texas Department of Health noted six MRSA infections involving wrestlers; another report issued by the Indiana Department of Health identified two high school wrestlers infected with MRSA.

“In this latter study, the two affected teammates had never wrestled each other because they competed in different weight classes,” said Dr. Adams. “Therefore, transmission of MRSA may have occurred through the use of shared items instead of personal contact – although the high level of person-to-person contact in wrestling remains a potentially significant means of transmitting the infection.”

Dr. Adams noted that additional studies among athletes point to shared personal items as contributing factors for MRSA transmission. Two separate outbreaks involving college athletes in Pennsylvania and California resulted in multiple football players requiring hospitalization due to MRSA infections. The reporting health departments in each instance recognized the sharing of unwashed bath towels, balms and lubricants as possible modes of transmission of the infection.

While numerous studies have identified potential risk factors for MRSA infection among athletes, few studies have examined the effect of preventive hygienic practices. In an investigation conducted by the University of Southern California over the course of three football seasons from 2002 to 2004, the number of MRSA infections among the same college players declined over the three-year period when preventive hygienic measures were implemented. These interventions included covering wounds, using hexachlorophene 3% (an antibacterial skin cleanser), prohibiting multiuse pump lotions or other topical massage products, and educating players and trainers about hygiene and the importance of not sharing equipment, towels or other personal items.

“It appears that the primary mode of MRSA transmission involves person-to-person contact, but the significance of this risk factor varies among different sports,” added Dr. Adams. “Even in largely non-contact sports such as soccer, volleyball, cross-country, fencing and weight lifting, outbreaks of MRSA infections have been reported – suggesting that shared facilities or shared personal items were the likely culprit.

At a minimum, Dr. Adams recommends that all those involved in athletics follow the Centers for Disease Control and Prevention’s (CDC’s) measures for preventing MRSA infections among sports participants, which includes:

• Cover all wounds. If a wound cannot be covered adequately, consider excluding players with potentially infectious skin lesions from practice or competitions until the lesions are healed or can be covered adequately.

• Encourage good hygiene, including showering and washing with soap after all practices and competitions.

• Ensure availability of adequate soap and hot water.

• Discourage sharing of towels and personal items, such as clothing or equipment.

• Establish routine cleaning schedules for shared equipment.

• Train athletes and coaches in first aid for wounds and recognition of wounds that are potentially infected.

• Encourage athletes to report skin lesions to coaches and ask coaches to assess athletes regularly for skin lesions.

Dr. Adams recommends seeing a dermatologist if you notice any unusual symptoms that could indicate a skin infection.

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