

## **An Outbreak of Methicillin-Resistant Staphylococcus Aureus (MRSA) in a Collegiate Gymnastics Team.**

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**Background:** The subjects of this case are six healthy, physically active, Caucasian, single females, ages ranging from 18-20 years old. All athletes are members of a Division I Collegiate gymnastics team. Athletes have no prior history that would put them at risk for MRSA. All athletes involved reported small red pustules on their extremities and initial athlete experienced symptoms for two weeks prior to reporting them. Upon evaluation, the athletic trainer found a number of the pustules to contain yellow fluid. **Differential Diagnosis:** The differential diagnoses of MRSA include furuncle, abscess, spider bite, boil, cellulitis, and folliculitis. All of these infections being generalized into a type of skin irritation. **Treatment:** Culturing the wounds of two athletes presenting with symptoms proved to be MRSA. The six athletes presenting with symptoms as well as all other athletes and staff (for precautionary reasons) were treated with Bactrim DS along with mupirocin nasal ointment during the first outbreak. Thirteen days after being prescribed the first medication it was found that three athletes had reoccurring symptoms suggesting a relapse. Athletes presenting with reoccurring symptoms were then treated with a combination of Bactrim DS and Rifampin. During both outbreaks all involved were encouraged to bathe with chlorhexidine gluconate solution 4.0% w/v daily. Athletes involved were prohibited from athletic activity until the infection was under control. University personnel disinfected the choice areas in the gymnasium that were able to be cleaned, along with the locker room and weight training area. The areas not able to be sanitized in the gymnasium included the bars, beam, and vault because they are made of suede that cannot be exposed to water without destroying the surfaces. The mats with mesh as well as the floor with foam on the undersurface also could not be sanitized due to the water that would be used in cleaning. After the second intervention all signs and symptoms of MRSA subsided, and those infected were permitted to continue athletic activity. **Uniqueness:** The uniqueness of this case is that even though MRSA was previously known to infect hospital-setting patients and is now presenting more in the athletic arena, the prevalence among non-contact athletes is rare. The sport of gymnastics has little to no body contact during practice or competition. This factor significantly lowers the risk of acquiring skin infections between teammates. In this case not only was one athlete infected but we saw several outbreaks within one team. Cleanliness was also unique to this case due to the lack of safe sanitizing agents to disinfect the gymnastics equipment as stated above. **Conclusions:** As MRSA is becoming increasingly common in athletics, it is important that athletic trainers (often being the first healthcare professional an athlete will consult) not dismiss the possibility of such an infection to present in a low body contact sport. This case also demonstrates a need for research and development of a cleaning agent that would be effective as well as safe to use in all gymnastics facilities. **Word Count:** 496