Prevalence of Methicillin-Resistant Staphylococcus aureus (MRSA) Among Groups of Personnel at an Equine Racetrack

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Exposure to horses increases the risk of developing methicillin-resistant Staphylococcus aureus, making it an occupational hazard for the horse-racing industry; lack of barn cleanliness, poor hygiene, and overuse of antibiotics may explain this problem. Authors' addresses: Biology, Hollins University, Roanoke, VA 24020 (Hovda, Godard); Veterinary Services, Minnesota Racing Commission, Shakopee, MN 55379 (Wilson); e-mail: thovda@hollins.edu. *Corresponding author. © 2011 AAEP.

1. Introduction
Exposure to horses increases the risk of developing methicillin-resistant Staphylococcus aureus (MRSA), making it an occupational hazard for the horse-racing industry.

MRSA, a transmittable pathogen among human beings and equines, is spread by indirect contact, increasing its ability to infect equine-based communities such as racetracks.

2. Materials and Methods
Twenty individuals with no racehorse exposure and 100 racetrack personnel were screened for MRSA, using nasal swabs; a health and occupational survey was also obtained. Samples were plated on TSA and MRSA chromogenic media, and positives were confirmed with oxacillin media and coagulase tube testing. No MRSA strain analysis was performed.

3. Results
Overall, 21% of subjects tested as positive (26/120). When grouped according to occupation, 33.33% of grooms (7/21), 33.33% of trainers (7/21), 31.25% of veterinary personnel (5/16), 19% of ancillary personnel (4/21), 9.52% of jockeys and exercise riders (2/21), and 5% of control subjects (1/20) tested as positive. Those who spent 10 or more of the previous 24 hours around equines and those who had spent at least 28 of the previous 31 days in contact with horses had significantly higher rates of MRSA ($\chi^2 = 7.31, df = 1, p < 0.05$, and $\chi^2 = 7.28, df = 1, p < 0.05$, respectively). Those who had come into contact with sick horses within the previous 24 hours had a significantly higher incidence of MRSA than those who had not interacted with sick equines ($\chi^2 = 5.636, df = 1, p = 0.018$). These results may be explained by lack of barn cleanliness, poor hygiene, and overuse of antibiotics.