

Methicillin-Resistant Staphylococcus aureus (MRSA)

DISEASE IN ANIMALS

MRSA is a *S. aureus* strain that is resistant in vivo to all beta-lactam antibiotics including the semisynthetic penicillins.

Reporting: Animal cases are not required to be reported to the Ohio Department of Agriculture or USDA APHIS Veterinary Services. Voluntary reporting to the [local health department](#) (LHD) is encouraged, especially when the animal has come from a commercial source or has been in a public or medical setting.

Transmission: In animals, *S. aureus* is not a commensal organism as it is in humans. MRSA is spread through contact with contaminated individuals and environments. For the most part, MRSA is a human pathogen that sporadically infects animals. However, true zoonotic MRSA strains have emerged which are being maintained in the animal population, particularly in equine and swine.

Clinical signs: Animals can be colonized, acting as asymptomatic carriers; or they can develop suppurative infections. As in humans, these infections can be life threatening.

Diagnostics:

- Culture
- PCR: detects *mecA*
- Latex agglutination: detects PBP2a

Case definition:

- Suspected: Clinically compatible case with exposure history.
- Probable: Clinically compatible case with positive culture.
- Confirmed: Isolation of MRSA based on sensitivity pattern or molecular diagnostics.

DISEASE IN HUMANS

Reporting: Outbreaks in humans are required to be reported to LHD.

Human illness: Infections most often present as skin or soft tissue infections. The involved site is red, swollen, and painful and may have pus or other drainage. Infection can result in more serious illness such as septicemia or pneumonia. Such manifestations are characterized by shortness of breath, fever, and chills.

Personal protection: Correctly perform hand hygiene and disinfection of surfaces and equipment between patients. It is recommended that veterinary hospitals develop Infection Control Plans as described in the [NASPHV Compendium of Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Personnel](#).

FOR MORE INFORMATION

Disease in Animals

[Iowa State University Center for Food Security and Public Health Animal Disease Factsheets](#)

Disease in Humans

[ODH--MRSA Resources and MRSA and Antibiotic Resistance in Companion Animals](#)
[CDC--MRSA](#)