

Methicillin-resistant *Staphylococcus aureus* (MRSA)

What is MRSA?

MRSA is a type of bacteria that is resistant to certain antibiotics. Although MRSA is primarily found in people, animals can also be infected.

Is MRSA a health risk for myself or my family?

MRSA does not usually cause illness in healthy people or animals. If a person or animal has a compromised immune system due to old age, recent surgery, cancer etc. exposure to MRSA could threaten health.

How is MRSA transmitted to people and animals?

Direct skin-to-skin contact is the most common way MRSA is transmitted, but it can also be transmitted by contaminated objects such as bandages.

What are the symptoms of MRSA in people and animals?

MRSA most commonly causes skin infections or wound infections.

Can a pet or person have MRSA and not be sick?

Yes, people and pets can carry MRSA on their skin or in their nose and have no outward signs of illness. This is called colonization.

How is MRSA diagnosed?

A swab taken from the affected area is submitted to a laboratory for bacterial culture. If your pet is diagnosed with this bacterial infection, we recommend that you consult your physician for examination and recommendations.

If my pet has an MRSA infection, what can I do to avoid getting infected?

1. **Follow all wound care instructions from your veterinarian.**

2. Avoid situations that allow for bacteria to be easily transferred, such as direct contact with affected wounds, nose-to-nose and mouth-to-mouth contact while your animal is contagious.
3. Practice good hand hygiene. You, your family, and others in close contact should wash hands frequently with soap and warm water or use an alcohol-based hand sanitizer, especially after changing the infected animal's bandage or touching an infected wound.
4. Keep cuts and scrapes clean and covered when in contact with your pet. Wear disposable gloves when cleaning infected wounds and if possible, when touching items such as the animal's bedding, bandages or any other objects that may have been in contact with the infected wound.
5. Clean washable items that become soiled with hot water and laundry detergent (use bleach if possible). Drying laundry in a hot dryer, rather than air-drying, also helps kill bacteria.
6. Use a household disinfectant or bleach solution to clean any surfaces contaminated by wounds or drainage.
 - To make bleach solution mix 2 teaspoons bleach into one quart of water.
 - Be sure to make a new bleach solution every day.
 - Never mix bleach with other cleaners, especially ammonia.
7. If anyone in your home has recently had surgery or is immuno-compromised, he/she should avoid contact with the infected pet, the pet's wound and any contaminated items such as bandage materials.

For more information go to:

- **Minnesota Department of Health**
www.health.state.mn.us
- **Centers for Disease Control**
www.cdc.gov

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Methicillin-resistant *Staphylococcus* species

What are methicillin-resistant *Staphylococcus* species?

Methicillin-resistant staphylococcal species are increasing in frequency and are a common cause of bacterial skin infections in companion animals. These bacteria are resistant to antibiotic methicillin and other types of antibiotics. Some resistant *Staphylococcus* bacteria may include *Staphylococcus intermedius*, *Staphylococcus aureus*, and *Staphylococcus schleiferi*. Staphylococcal species are commonly found as normal skin flora of animals and humans and many are **not** resistant.

Are methicillin-resistant *Staphylococcus* a health risk for me, my family, or my pet?

Methicillin-resistant staphylococci usually do not cause illness in healthy people or animals.

How are methicillin-resistant *Staphylococcus* transmitted to people and animals?

Direct skin-to-skin contact is a common route of transmission, but methicillin-resistant staphylococcal species can also be transmitted by contaminated objects such as bandages, environmental surfaces, hands, or bites.

What are the symptoms of methicillin-resistant *Staphylococcus* infections in animals?

The most common symptoms are skin infections (such as boils or abscesses), ear infections, and wounds. Humans can get similar types of infections.

Can a pet or person have a methicillin-resistant staphylococcus infection and not be sick?

Yes, sometimes people and pets can carry these bacteria on their skin or in their nose and have no outward signs of illness. This is often called colonization.

How are methicillin-resistant staphylococcal infections diagnosed?

A swab taken from the affected area on your pet is submitted to a laboratory for bacterial culture. Often, we test that bacteria isolated against a number of antibiotics. We are looking for antibiotics that will work against a particular bacteria (i.e. antibiotic sensitivity).

How are these infections treated and for how long?

Antibiotics may be prescribed by your veterinarian. The length of treatment may vary so please consult with your veterinarian. If infections persist this may be a sign of a resistant infection. With persistent infections, your veterinarian may want to culture the wound.

Is the risk of contamination to people or other animals still present if the infection is resolved?

The risk is greatly reduced once the infection has resolved.

If my pet has a methicillin-resistant staphylococcal infection, what can I do to avoid getting infected?

Remember your risk is minimal and hand washing is a key way to prevent transferring the resistant bacteria.

Other Suggestions

1. Follow all care instructions from your veterinarian.
2. Avoid situations that allow for bacteria to be easily transferred, such as direct contact with affected wounds, nose-to-nose and mouth-to-mouth contact while your animal is contagious.
3. Practice good hygiene. You, your family, and others in close contact should wash their hands frequently with soap and warm water or use an alcohol based hand sanitizer, especially after changing the infected animal's bandage or cleaning/touching an infected area.
4. Keep cuts and scrapes clean and covered when in contact with your pet. Wear disposable gloves when cleaning infected ears, skin or wounds and if possible, when touching items such as the animal's bedding, bandages or any other objects that may have been in contact with the infected area.
5. Clean washable items that become soiled with hot water and laundry detergent (use bleach if possible). Drying laundry in a dryer also helps to kill bacteria.
6. Use a household disinfectant or bleach solution to clean any surfaces contaminated by wounds or drainage.
 - To make bleach solution, mix 2 teaspoons bleach into one quart of water.
 - Be sure to make a new bleach solution every day.
 - Never mix bleach with other cleaners, especially ammonia.
7. If anyone in your home has recently had surgery or is immuno-compromised, he/she should avoid direct contact with the infected pet, the pet's infected area/wound and any contaminated items such as bandage materials.

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Multi Drug Resistant (MDR) Organisms

What are multi drug resistant (MDR) organisms?

They are bacteria and other microorganisms that have developed resistance to antimicrobial drugs. Common examples of these organisms include:

- * *Acinetobacter*
- * *E. coli*
- * *Enterococci*
- * *Klebsiella*
- * *Salmonella*
- * *Staphylococcus aureus and intermedius*

What is the difference between colonization and infection?

COLONIZATION means that the organism is present in or on the body but is not causing illness.

INFECTION means that the organism is present and is causing illness.

What conditions increase the risk of acquiring these organisms?

There are several risk factors for both colonization and infection:

- * protracted or severe illnesses requiring hospitalization
- * previous exposure to antimicrobial agents
- * invasive procedures, such as:
 - o intravenous catheters
 - o urinary catheters
- * weak immune system: seen in animals with underlying diseases and very young or old animals

What precautions should care givers take for infected animals in their homes?

- * Hand washing is the best way to prevent ongoing transmission.
- * Towels used for drying hands after contact should be used only once (e.g. paper towels) or washed after use.
- * Disposable gloves may be worn if contact with body fluids such as urine or drainage from abscesses occurs. If gloves are worn, hands should be washed after removal.
- * Bedding should be changed and washed on a routine basis especially if it is soiled.
- * The ill pet's environment should be cleaned routinely or when soiled with body fluids (e.g. urine, feces, or abscess drainage).

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