

Prevention and Control of **Methicillin-resistant Staphylococcus aureus (MRSA)** in veterinary hospitals

1. Should my practice implement an infectious disease control policy?

Yes. MRSA can be spread by close contact with infected people or the things they touch and will readily contaminate suitable microhabitats found throughout veterinary facilities. An infectious disease control policy should address: policies for identification and management of MRSA cases, measures to prevent the spread of MRSA and infectious organisms (including cleaning, hand washing, and the rational use of appropriate antibiotics and disinfectants), and infectious disease control audits. This policy can be written with broad language so it could be applied to various communicable and zoonotic diseases.

2. What routine measures can I take to prevent the spread of MRSA in my clinic?

1.) Correctly perform hand hygiene and disinfection of surfaces and equipment between patients. It is important that methods used for hand decontamination and environmental disinfectants used are effective against MRSA. Antibacterial gels or hand rubs attached to uniforms and kennel doors are a visual cue for cleanliness and can be quickly used before and after handling an animal, and before touching pens, keyboards etc. When hands are soiled, soap and water **must** be used. It is important to avoid using materials and equipment that can't be cleaned at hand touch sites, e.g. consider using waterproof keyboards, flat keyboards or keyboard covers.

2.) Wear simple uniforms/coats (e.g. side-fastening coats or smock-type scrub suits) that can be laundered on site.

3.) Wear gloves and disposable aprons for direct contact with patients, body fluids, lesions and other contaminated materials. These must be changed between patients. Face and eye-protection should be worn if aerosols are likely to be generated.

4.) Cover existing wounds or skin lesions with waterproof dressings.

5.) Isolate patients with, or suspected of having, a communicable infection.

6.) Use antibiotics in a rational manner in order to minimize the development and spread of antibiotic resistance.

7.) Practice high standards of aseptic technique for all invasive procedures. This includes: minimizing surgery staff to necessary personnel only; use of sterile gowns, gloves, hats and masks; proper sterilization of equipment and restricting use to a single patient;

employing single use, disposable equipment where appropriate; effective disposal of contaminated material; and as stated above, hand hygiene and disinfection of surfaces between patients.

8.) Institute strict standards of cage cleaning:

- Cages should be cleaned and bedding replaced at least once daily.
- Cages should be cleaned and disinfected thoroughly between patients.
- Soiled bedding must be disposed of or cleaned and disinfected as soon as possible. There must be **no** contact with clean bedding or other animals.

9.) Dispose of waste and sharps properly.

10.) Apply approved procedures for sterilization and disinfection of instruments and equipment.

11.) Ensure that your staff is aware of, understands, and adheres to infection control guidance. Designate specific staff members to monitor and enforce infectious disease control measures, and undertake infection control audits.

More information about infection control in veterinary hospitals can be found in the Veterinary Standard Precaution Compendium available on the National Association of State Public Health Veterinarians' website

<http://www.nasphv.org/documentsCompendia.html>.

A Model Infection Control Plan for Veterinary Practices is also available. This document provides a generic infection control plan that can be modified to meet the needs of your facility or practice. It is available at:

<http://www.nasphv.org/Documents/ModelInfectionControlPlan.doc>

3. Should we routinely monitor for MRSA?

This is a very controversial area. Post-infection cultures cannot be used to determine how the infection occurred with any reliability. Many culture methods are qualitative rather than quantitative and as it is unfeasible to have any completely sterile practice environment, you are almost certainly guaranteed to find something. No figures for acceptable microbiological levels in medical or veterinary premises have been established, so the information may not be informative.

4. Should we routinely swab our staff for MRSA?

No. Surveillance of staff is highly controversial and issues of consent, confidentiality, stigmatization and further action must be addressed. Screening can also miss transiently contaminated staff, who may still act as a source of infection if they fail to observe adequate hygienic precautions. Colonized staff that is scrupulous about hygiene may

actually be of less concern. Screening should therefore only be done to identify problems in infectious disease control, and not to apportion blame or as a substitute for control measures. If screening is performed, any resident animals (e.g. the practice cat) should also be screened.

Remember, it is difficult to prove that an infection was acquired in the practice in the absence of pre-admission culture, as asymptomatic and/or transient carriage is not uncommon and is not necessarily relevant.

Any MRSA-positive staff, or owners of MRSA-positive animals that wish to be tested, should be referred to their doctor for advice on treatment and any further action.

5. What about animals that visit healthcare facilities?

Animals that routinely visit healthcare institutions include dogs and cats taken into nursing homes, hospices, hospital wards and children's wards, etc. These animals will benefit mental wellbeing of the patients; however, there is the possibility that these animals could be carriers of MRSA or other zoonoses, or act as mechanical vectors for transmission between patients and staff. The risk of this compared to the risk from other patients, staff and visitors should, however, be kept in proportion.

Steps that could be taken to minimize any risk include:

- Ensuring that the animals are clinically healthy, vaccinated, and on thorough endo- and ecto-parasite control programs, preferably under the supervision of a veterinarian.

- Groom animals to remove loose hairs and scale, and, when possible, bath with an effective antibacterial shampoo prior to visiting.

- Prevent access high-risk patients such as those with implants and epidermal or mucosal barrier defects, colonized or contaminated by MRSA, immunosuppressed, etc.

- Staff and patients should wash their hands with an effective disinfectant immediately after handling an animal. The floor and other hard surfaces that the animals come into contact with should also be disinfected.

- Licking and other forms of mucosal contact between the patient and the animal should be avoided.

- Animals should not climb on beds or other furniture. Where this is necessary (e.g. with cats and other small animals or bedridden patients) an impermeable pad (e.g. incontinence pad) should be placed under the animal. If contamination is suspected the surface should be disinfected or the bedding changed as appropriate.

-Animals should not be present when patients are eating, during cleaning and changes of bandages, and when any medical or surgical procedures are undertaken.

-Routine screening of animals is expensive, time-consuming and the results may be confusing. However, if hospital personnel are cultured and/or monitoring for MRSA then visiting or resident animals should be monitored as well.

6. Is MRSA reportable to the Health Department?

No; however, the Virginia Department of Health is available to answer your questions, address your concerns and assist you in educating your clients about MRSA and their pets.

References:

Centers for Disease Control and Prevention, www.cdc.gov

National Association of State Public Health Veterinarians, Veterinary Standard Precautions Compendium, www.nasphv.org/documentsCompendia.html

Department for Environment Food and Rural Affairs, www.defra.gov.uk