

DERMATOLOGY PEARLS

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Environmental Control in Methicillin-Resistant Infections

Pets treated for a methicillin-resistant infection in a hospital environment must be treated as infectious, and isolated from the general hospital population. In one study, in 13 veterinary clinics with at least one MRSP+ case in past year, MRSP was cultured from 4/141 (3%) of veterinary personnel and from 31/200 environmental cultures in 7/13 clinics, illustrating the importance of environmental decontamination. Outpatients with suspected or known methicillin-resistant infections should not be allowed to contact other patients in the waiting room, and should immediately be ushered into an exam room. Gloves and gowns or dedicated labcoats should be used when handling the animals or any in contact items such as bowls or bandages. Pens and stethoscopes must also be dedicated to the patient. Disposable thermometer covers should be used or digital thermometers discarded after the animal is discharged. In humans, the most critical step for reducing MRSA transmission is hand hygiene, frequent hand washing was shown to reduce MRSA colonization in equine veterinarians, and the same likely applies to small animals. Hand hygiene, whether done by hand washing or alcohol based hand sanitizers, should be performed before patient contact, before aseptic procedures, after contamination of the hands, after removing gloves, and after patient contact. MRSA can survive up to months on inanimate surfaces, depending on environmental conditions and long term survival of MRSP is also likely, as MRSP was isolated over a 6 month period from household environmental sites and, in some households, beyond resolution of MRSP infection in the pet. The importance of environmental cleaning was highlighted by the finding that MRSA carriage in a kennel of rescue dogs resolved spontaneously with regular kennel cleaning alone.

Following discharge, just as with any patient, all examination room tables, floors, door and sink handles, light switches, scale surfaces, cage items and medical equipment used on animals with methicillin-resistant infections must be disinfected with appropriately diluted disinfectants allowed to contact surfaces for the time listed on the product label (typically 5-10 minutes or longer), after removal of any organic debris that could potentially inactivate disinfectants. Staphylococci, including methicillin-resistant staphylococci, are susceptible to most commonly used disinfectants. Accelerated Hydrogen Peroxide (Accel USA www.viroxaccel.com) is a relatively new disinfectant composed of hydrogen peroxide, surfactants, wetting agents and chelating agents with a broad-spectrum sanitizing and bacteriocidal claim in 30 seconds against vegetative bacteria including MRSA. It is also a general virucide (effective vs. parvovirus with a contact time of 5 minutes) and appears also to be effective in the environmental control of dermatophytes; it has activity even in the presence of organic and inorganic debris. The development of a good general infection control program in the hospital (rather than focusing solely on MR staphylococci) is probably the most important factor for reducing MR staphylococcal transmission, and helpful guidelines can be found at:

[http://www.wormsandgermsblog.com/uploads/file/CCAR%20Guidelines%20Final\(2\).pdf](http://www.wormsandgermsblog.com/uploads/file/CCAR%20Guidelines%20Final(2).pdf)

Other useful recommendations for MRSA and MRSP infection management can be found at <http://www.wormsandgermsblog.com/promo/services/>, and at <http://www.cdc.gov/mrsa/>. Additionally, the British Small Animal Veterinary Association has posted helpful online guidelines for MRSA management in veterinary hospitals at <http://www.bsava.com/Advice/MRSA/tabid/171/Default.aspx>