



# GCVS Pet Medical Views

October 2010



The *Veterinary* Medical Center  
Innovative. Experienced.

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## Methicillin Resistant Skin Infections in Our Pets

Dr. Valerie Fadok, DVM, DACVD

Methicillin resistance in *canine* skin infections is becoming much more common in the Houston area. It is critical to make the diagnosis early and institute aggressive topical therapy to get this disease under control, as there may be limited antibiotic options!

Because of recent health headlines, most people are familiar with MRSA, however, most dogs with resistant infections **do not** have MRSA (methicillin resistant Staph. aureus). Rather, they have MRSP (methicillin-resistant Staph pseudintermedius) or MRSS (methicillin-resistant Staph. schleiferi). These species are less likely to be contagious to people.

### What is methicillin resistance?

Methicillin resistance can occur in any of the Staph species. Methicillin resistance occurs when the *mecA* gene inserts itself into the bacterial genome. This gene makes it very difficult for antibiotics to bind to the bacteria, making them ineffective.

The good news is that the *mecA* gene can be removed during further bacterial replication, making those bacteria sensitive to antibiotics again.

### How do we diagnose methicillin resistance?

Our level of suspicion for a methicillin resistant bacteria is raised when a dog's skin infection has failed to respond to 2 different classes of antibiotics or if new lesions develop during treatment. A culture and sensitivity is needed to identify the species of Staph. and to choose the correct antibiotic.

### How to we treat methicillin resistance?

Many skin infections we see are superficial. Based on the culture results, your veterinarian will make the best antibiotic choice. Although we strive to choose medications with few side effects, this may not always be possible with methicillin resistant bacteria. Often, medications such as chloramphenicol or amikacin must be used. Chloramphenicol can cause vomiting and anorexia in our pets and your veterinarian may recommend the use of probiotics to help minimize this. Amikacin can cause damage to the kidneys and so evaluation of a urine sediment will most likely be recommended by your veterinarian in addition to bloodwork before and after treatment to evaluate kidney values. Topical therapy may also be recommended. With all treatment, it is very important to follow all dosing instructions for the recommended course of treatment.

### How do we prevent the development of methicillin resistant infections?

Most antibiotic resistance is not induced, but rather we select for it. This means that the best way to prevent methicillin resistance in our canine skin infections is by using topical therapy whenever possible and by being aggressive with systemic therapy when necessary. To prevent future problems, it is important to finish the entire course of antibiotics as prescribed. If administering pills to your pet is difficult, you may want to discuss if a long acting antibiotic injection is appropriate for treatment. Finally, addressing any underlying cause of the skin infection will help give us our best chance at preventing frequent recurrences and decreasing the likelihood of selecting for resistant bacteria.

### What is the risk of infection to humans?

The good news about MRSP (which is what dogs typically have) is that the risk to humans is very low. This bacteria is well-adapted to dog skin and cannot adhere well to human skin. Very young people (babies), the elderly, and immune compromised could be at increased risk. Even with a confirmed case of MRSA (which is not common in the dog), transmission to people remains low. The most important thing we can do to avoid the spread of resistant bacteria is frequent and thorough hand washing.

If you have any questions about antibiotic resistant skin infections in your pet, please don't hesitate to speak to your veterinarian or one of our dermatologists at (713) 693-1188.



## Hidden Halloween Dangers

Make sure to keep your pets safe this Halloween! Unfortunately, there are lots of hidden dangers and we want to make certain you don't spend your Halloween night at the veterinary emergency room.

### Don't let your pets eat candy!

- **Chocolate** Dogs and cats cannot tolerate chocolate and can easily be overdosed with theobromine—the toxic component in chocolate. Dark chocolate contains the highest level of this toxin and signs include vomiting, diarrhea, hyperactivity, increased urination and even seizures.
- **Xylitol** This is an artificial sweetener. Even in small amounts, when ingested by dogs, xylitol will cause a rapid drop in blood sugar. This can lead to vomiting/diarrhea and severe seizures. If left untreated, liver failure can occur. Xylitol does not affect cats.
- **Candy wrappers and tin foil** These wrappers are not well digested and



can post a choking hazard or even intestinal obstruction.

- If you are thinking about having a Jack-O-Lantern or candles as decorations, make sure to keep pets away. Curious pets can knock candles over easily, causing harm to themselves or property.
- Keep decorations and wires away from pets. Both dogs and cats have been known to chew on electrical wiring which can result in mouth burns and even severe lung fluid/trauma.
- Keep your pets in a secure area during Trick or Treating. Many pets can become stressed by so many visitors (and the door bell ringing) and may even try to escape through the front door with all the commotion.

Always make sure your pets have proper identification in the event they get lost. An ID tag on a collar or a microchip offer the best chance of recovery.

# Gulf Coast in the Community

## Upcoming Events—Mark Your Calendar!

### Citizens for Animal Protection: Howl-O-Ween Dog Walk and Expo October 30

Join GCVS at LaCenterra located in Cinco Ranch (Katy, TX) for an afternoon of fun! There will be a 1 mile walk to raise funds for orphaned animals. Call Bark Hotline (Hershey Grace) at 281-477-9055 with questions. Pre-registration and on-site registration available! Registration starts at 8am with the dog walk starting at 9am. Make sure to pick up a GCVS goodie bag!



## August Events

### Gulf Coast Veterinary Specialists sponsors the 6th Annual Symposium

Symposium gives us a chance to meet our referring veterinarians. GCVS believes strongly that we are part of your veterinarian's team and strive to keep that relationship strong. This meeting provides 15 hours of continuing education to our local veterinarians and technicians. This year we had over 200 guests. Our Gulf Coast doctors highlight new treatments available for some of the most common problems facing our referring veterinarians.

Thanks to all who supported this year's Symposium meeting and we look forward to seeing you next year!



### Gulf Coast at Minute Maid Park

Gulf Coast Veterinary Specialists had a blast visiting with everyone at "Dog Day at Minute Maid Park!" We couldn't believe how many four legged Astros' fans turned out to enjoy the afternoon. Junction Jack, the Astros' mascot, even managed to stop by for a quick visit and have some fun with the GCVS crew. Apparently all the good vibes were contagious because the Astros scored a win—the perfect ending to such a great event! See you next year!



## It's Raining Cats and Dogs!

The GCV Foundation Golf Tournament is being held October 15th, 2010 in the Woodlands and this year, their theme is, "It's Raining Cats and Dogs!" Participants will get the opportunity to play some great golf and support a great cause all at the same time.

The Gulf Coast Veterinary Foundation was established in 1993 to help

support veterinary training. The Foundation is active in sponsoring continuing education meetings for Gulf Coast veterinarians. The Foundation also provides scholarships for residents in training to become board certified specialists.

Through their efforts, the Foundation works hard to ensure that the Gulf Coast will always have access to the best veterinary care available.



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e-mail

Name

## Maxie — Internal Medicine & Critical Care

Maxie presented to the Critical Care team for having a fever. After our initial testing, we could not find the cause of her fever, but she responded well to antibiotics. Maxie did well initially, but then started to be lethargic again. At her recheck exam, she did not have a fever, but we noticed her red cell count was very low and made a diagnosis of immune mediated hemolytic anemia, a condition where the immune system is hyperactive and destroys the body's red blood cells.

Maxie was placed on medications to suppress her immune system, but she continued to destroy her red blood cells. As a result, additional medications were added to her treatment regimen and it was very "touch and go" with her red cell count hanging in the balance. Maxie needed a blood transfusion and even a new state of the art treatment for IMHA called IVIG (Intra-Venous ImmunoGlobulin) to stop her red cells from being destroyed. Slowly Maxie's red cell counts stabilized. However, her red cells were still "sticky" indicating that her immune system was still misbehaving and she was at risk for a relapse.

Finally, after finding the right combination of medications and with some time, her condition was under control and her red cells were no longer "sticky." Maxie showed the spirit of a true fighter and with the love of her family is doing very well at home! We miss her kisses and tail wagging in ICU, but are very happy to see her doing so well on rechecks!



## Odin — Dermatology



Dermatology's patient of this month is Odin Noonan, a wonderful and plucky 8 yr old neutered male English Bulldog. Odin and his folks have been suffering with his skin disease for some time, and it is a complicated one! Dr. Katherine Irwin has been working closely with the Noonans to discover that Odin has an autoimmune skin disease called pemphigus foliaceus (PF). In this disease, the body makes antibodies against its own skin cells, causing blistering and pustule formation. We treat this disease with a combination of steroids and other drugs meant to repress the overactive immune response. BUT Odin has an additional complication and that is infection with a methicillin resistant Staphylococcal bacterium (MRS). Many dogs with PF get secondary bacterial infections, but these drug-resistant infections are a real challenge. Nevertheless, Odin is slowly but surely moving forward with his treatment. It is a slow process which must be individualized to his needs. Hats off to Odin, to the Noonans, and to Dr. Irwin for helping this great dog.

### Just for our Spooktacular Facebook Fans! (If you're not a fan-join quickly!)



Join us on Facebook for October's contest! Post a Halloween picture of your pet in costume under the contest thread and one winner from each page (Internal Medicine & Critical Care, Dermatology and Oncology) will get a Halloween gift basket! Post until Oct. 29 and we will announce the winners on Facebook Oct. 30! Happy Hauntings Facebook fans!

