



*Season's
Greetings!*



GCVS Pet Medical Views

December 2010



The *Veterinary* Medical Center
Innovative. Experienced.

In this issue:

State of the Art Pet Care Learn how pharmacogenetics is helping prevent serious drug reactions in our pets

Don't forget to subscribe and receive this newsletter directly to your inbox every month!

Zoo News Do you know about the new exhibit opening in December?

Christmas Safety Tips Be aware of some hidden dangers during the holidays to avoid a trip to the veterinary emergency clinic this year!

Save the Date for Gulf Coast's January Blood Drive Make sure to set some time aside to donate and save a life!

Meet Bandit Escamilla our Patient of the Month!

Houston SPCA December Drive Help us collect much needed supplies for the SPCA. All donations will be taken to the SPCA center to help our local cats and dogs in need

MDR1 Mutation testing for High Risk Pets

Melissa Endicott, DVM, DACVIM (Oncology)

Ever wonder why some dogs or some breeds tolerate drugs better? We have all heard about collies and adverse reaction to ivermectin, but there are many other breeds and drugs that can have similar problems. MDR1 is a gene which is responsible for making a certain protein. Dogs with mutations in the MDR1 gene have a deficient or defective protein allowing for increased toxicity of some drugs that use this protein for metabolism. Although the most commonly reported breed is Collies (approximately 70% carry the mutation), many other breeds such as Australian shepherds, English shepherds, German shepherds, whippets and sheepdogs can have MDR1 mutations placing them at risk for unexpected drug reactions.



This Australian Shepherd is one of the breeds known to be at risk for the MDR1 mutation

Pharmacogenetics is the study of how genetic variability in animals influences the absorption and metabolism of certain drugs in the body. It is now possible to test for the MDR1 mutation which allows your veterinarian to identify if your pet is at risk for drug reactions to certain medications.

Many drugs may cause reactions in pets with this mutation. The most commonly reported is ivermectin but other anti-parasite drugs may also have increased risk of toxicity in patients with the MDR1 mutation. These agents are typically safe when included in heart-worm preventions but higher doses should be avoided. **If you are worried about your pet, please do not stop giving heart-worm medication without speaking to your veterinarian first.** Other commonly used medications such as acepromazine, butorphanol, cyclosporine, digoxin and doxycycline may be affected by MDR1 mutations.



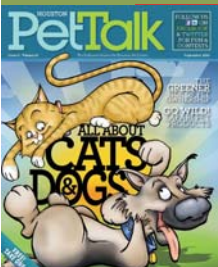
A simple cheek swab provides enough sample for MDR1 mutation testing

In Oncology (a specialty area of veterinary medicine focusing on cancers of the dog and cat), mutations in the MDR1 gene may affect the elimination of chemotherapy agents which is a significant concern as these drugs often have serious side effects at high levels. In high risk breeds, an oncologist may delay the use of certain chemotherapy agents until your pet's MDR1 status can be determined. Once we can confirm a patient's MDR1 status we can safely adjust the chemotherapy doses to still provide an effective dose while minimizing toxicity and potential side effects. In some cases this may delay aggressive chemotherapy by 1 to 2 weeks until we can prove a patient's status. Routine testing during a wellness visit could eliminate treatment delays and unnecessary toxicity in these high risk breeds.

Veterinarians in general practice can easily include genetic testing as part of an initial puppy visit or routine wellness exam. MDR1 testing is performed using a simple cheek swab or blood testing. Patients can be tested as soon as a puppy has been weaned. I would encourage any high risk breed, and any patient with previous drug reactions to be tested. There are many known drugs affected by this pathway but there may be more medications we have not found yet. This test is simple, inexpensive, easy to perform and one day may save your pet's life.



MAKE SURE TO VISIT THE HOUSTON ZOO'S NEWEST FAMILY MEMBERS IN THEIR NEW AFRICAN FOREST HABITAT! THE AREA OPENS DECEMBER 10TH, AND WILL HOUSE CHIMPS, RHINOS, KUDU ANTELOPE AND OUR OLD FAVORITES—THE GIRAFFES. THIS NEW EXHIBIT PROMISES TO BRING THE AFRICAN SAFARI EXPERIENCE TO OUR HOUSTON DOORSTEP.



GCVS is in PetTalk!

Make sure to pick up a copy of PetTalk in our lobby and check out our GCVS article this month and every month! Read about new and exciting advances in veterinary medicine offered at Gulf Coast Veterinary Specialists. Don't forget to peek at their social calendar too for lots of pet related events in the Houston area!

Tips for a Safe Christmas Holiday With Your Pet

With all the festivities and excitement surrounding the holidays it can be easy to overlook some important safety tips for our furry friends. Take a moment to “pet proof” around the house so that your holidays are not spent at the emergency clinic.

- Do not feed your pet table food. It is too high in fat and can cause serious digestive problems.
- Beware of food gifts! Dogs especially are good at sniffing out goodies under the tree. Keep all gifts in an area where your pets cannot “seek and destroy!”
- Be careful if using tinsel to decorate your tree. Cats especially, may be tempted to eat the tinsel which can result in a serious intestinal obstruction requiring emergency surgery.
- Glass ornaments may be very tempting for pets to knock down and play with. Glass can cause serious trauma to the mouth and intestinal tract if ingested.
- Several holiday plants are also toxic to pets. Although most do not cause life threatening illness, they can result in severe vomiting/diarrhea and abdominal pain. Poinsettias, amaryllis, mistletoe and holly are all known to be toxic to dogs and cats and should be kept out of reach.
- Holiday lights are beautiful, but they can also be dangerous to the curious cat or dog. In addition to causing severe mouth burns,

when electrical cords are chewed, electrocution can cause severe and life threatening fluid to accumulate in the lungs

- Although not related directly to Christmas, the colder weather results in the increased use of heat wraps such as ThermoCare. When eaten, these wraps contain a high amount of iron which results in vomiting/diarrhea and even liver failure if enough iron is ingested.
- Even the most calm pet can be overwhelmed with holiday parties and visitors. Make sure that your pet has a quiet area to relax and feel safe if you are expecting a houseful of guests.

The holidays are a fun time for everyone! By taking a few precautions ahead of time, your pet will be right there celebrating with you!



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Save a Life! Join us January 12, 2011

Gulf Coast has teamed up with the Gulf Coast Regional Blood Center and will host a blood drive Jan. 12, 2011 from 9am-1pm. Please call (713)693-1144 to set up an appointment to donate!

Eye Opening Facts Regarding Blood Donations

- One donation can save up to three lives!
- The Gulf Coast region needs **1000 units per day** to meet the regional need
- Less than 5% of the eligible population donates blood
- O negative is the universal donor and most in demand for whole blood transfusions

 Gulf Coast Regional
Blood Center
Commit for Life.



PATIENT OF THE MONTH

Bandit Escamilla—Internal Medicine and Critical Care

Meet Bandit! Bandit is a loving 3 year old Shih Tzu that presented to Gulf Coast Critical Care in May 2010. Bandit had a severe anemia (low red blood cell count) and had already received a blood transfusion prior to reaching Gulf Coast. With some preliminary testing, we were able to determine that Bandit's immune system was attacking and destroying his red blood cells. He was placed on an aggressive regimen of immune suppressing medications. His red cell count



stabilized, but his cells continued to be "sticky" meaning that his immune system was still working hard to destroy the red blood cells. With some additional time in the hospital, the medications were finally able to get Bandit's immune system under control! He did not need any additional blood transfusions during his stay. Bandit went home and has been doing very well. We see him twice a month to make sure things are going well—and he always greets us with a bark and a tail wag—and then

some more barking! He is slowly being taken off of his medications and his immune system seems to be staying under control. All throughout his illness, Bandit has been a joy to work with and his family has been a constant source of love and support for him. We are thrilled that he is doing so well at home!

Through the month of December—please help us collect donations for the Houston SPCA. Bring your donation to the lobby of Internal Medicine & Critical Care.

Houston SPCA Wish List



- Non clumping cat litter
- Collars/Leashes (nylon works best)
- Pet grooming supplies
- Pet toys (dogs and cats)
- Soft dog treats for training
- Gallon size ziploc bags
- Batteries (AA, AAA, C, D and 9V)
- Can Openers
- Cotton swabs and cotton balls
- Hand Sanitizer
- Large towels
- Paper towels

Everyone at Gulf Coast Veterinary Specialists would like to wish you and your family (especially the furry ones!) a very Happy Holiday Season! Stay safe and best wishes for a Happy New Year!

