

SPECIALTY SPOTLIGHT

KAREN B. FARVER, VMD, DACVD

Dr. Karen Farver graduated from Auburn University summa cum laude. She then graduated from Colorado State University of Veterinary Medicine with honors. She completed her internship in Small Animal Medicine and Surgery at Louisiana State University and her residency at the University of Pennsylvania. She was awarded board certification status as a diplomate of the American College of Veterinary Dermatology in 2005. She is published in the Journal of Veterinary Dermatology and has given numerous lectures for veterinary continuing education courses and University seminars. She is actively involved in private practice as well as involved in clinical trial research evaluating innovative new therapies for the treatment of allergic dermatitis. Her interests include allergic skin disease, ear disease, immune mediated and autoimmune skin disease. She is a member of the American College of Veterinary Dermatology, the American Academy of Veterinary Dermatology, American Veterinary Medical Association and is American Animal Hospital Association dermatology specialty accredited.

CASE STUDY:

Reese is a 8 year old male neutered Lab. He presented with a history of severe non-seasonal pruritus and recurrent skin and ear infections since 1 year of age. The primary vet performed an allergy test which revealed reactions to several foods, grasses, and trees. Reese's diet was changed to an over-the-counter novel protein diet. However his pruritus was unchanged after two months. Allergy hyposensitization, was started based on the blood test, however after nine months of therapy Reese's symptoms were unchanged and he was referred.

On physical examination, Reese was moderately pruritic with erythematous outer ear canals and interdigital skin. No fleas or ectoparasitic infections were found. Due to the nonseasonal symptoms and a prescription diet had not been performed, we first prescribed a hydrolyzed diet for eight weeks. We also cleared his pyoderma and ear infections. After eight weeks, Reese's pruritus was still significant, therefore intradermal allergy testing was performed, revealing multiple reactions to grasses, trees, and cats. He did have exposure to cats and therefore it was included with the pollens. The allergy hyposensitization vaccine was reformulated to contain the new allergens. After three months of therapy, the owner reported that Reese's pruritus was 50% improved. After six months of allergy immunotherapy based on skin testing, Reese was minimally pruritic in the winter and would flare mildly in the spring and fall, with symptoms which were manageable without any oral therapies.

When do you use allergy testing?

Allergy testing is used to formulate immunotherapy. Allergy testing is not used to determine if a patient is atopic. This is because there can be false positives and negatives on all allergen tests, with some having more than others. It is essential to distinguish between allergy and other phenomena before allergy testing.

What types of tests are available?

Intradermal skin testing and IgE blood testing.

What types of blood test are available?

Radioallergoabsorbent (Rast) testing is an outdated form of allergy testing that measures specific allergen antibody. It is not recommended. ELISA-enzyme linked immunosorbent assay is the preferred IgE blood test. This involves the binding of allergenic IgE antibodies in the circulating bloodstream.

What does intradermal allergy testing (IDT) measure?

It is a physiologic test. (IDT) directly tests the skin, the organ where the immunologic reactions and clinical lesions develop. IDT evaluates the presence of bound IgE in skin, its ability to bind the allergen, and the allergens ability to cause mast cell release and wheal formation. As a result, assuming properly diluted threshold testing strength, the incidence of clinically irrelevant positive reactions should be lower than IgE blood testing. Evaluation of wheal diameter, inflammation, and turgidity is standardized with objective evaluation in comparison to a



Karen Farver,
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NEWS & EVENTS

UPCOMING CONTINUING EDUCATION & EVENTS

For questions or to R.S.V.P. for any of these events please contact Sarah Spurgeon at events@metro-vet.com or 610.666.1050

CONTINUING EDUCATION CLASSES CARDIOLOGY FOR TECHNICIANS: Understanding the diseases behind the treatments

August 7

Reg.: 6:30pm, Lecture: 7pm – 9pm

Risa Roland, DVM, DACVIM (Cardiology)

Dinner provided – 2 PVMA credits

(See inside for details)

COMMUNITY OUTREACH

Alex's Lemonade Stand

August 13 • 8am – 6pm

MVA is proud to be hosting an Alex's Lemonade Stand benefiting children with cancer.

(See inside for details)

Canine/Feline CPR Classes

August 28 • 6:30pm – 8pm

MVA will be holding quarterly lectures on Canine/Feline CPR & basic first aid for our community of pet owners.

Includes: presentation, hands-on sessions and important take-home materials.

MVA 5K & Family Fun Run Events

September 21 • 7:30am – 12pm

MVA 5K & Kids Fun Run events, with all proceeds benefiting Red Paw Emergency Relief Team.

(See backside for details)

METROPOLITAN VETERINARY ASSOCIATES & EMERGENCY SERVICES

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DERMATOLOGY

Karen B. Farver, DVM, DACVD

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Suzie Weaver



positive and negative control for each patient. This minimizes false positives. When a wheal is mildly positive some subjective evaluation by the clinician is performed. Research has found that in these cases, different clinicians still had agreement on evaluation of wheal diameter.

IDT can also be used to aide in the evaluation of a type IV delayed allergic reaction. IDT allows for customization of regional allergen panels based on geographic location. This minimizes non relevant pollens that may not be in the area, but that would be positive on an IgE blood test.

Is IgE the same in both the skin and blood, and does all IgE cause a physiologic reaction?

There can be increased IgE in the skin, due to increased inflammation focally, that is not circulating in the blood stream. This is one reason for why there will be a negative IgE blood test but a positive skin test. In fact, no evidence has shown that IgE circulating antibody and IgE skin antibody should or do correlate.

Heterogeneity of IgE has been reported in both humans and dogs. It is hypothesized that there may be both IgE+ and IgE- present in the body, with the former being the cause of disease and the latter being nonpathogenic. This could be one of the reasons why some normal dogs have circulating antibody that tests positive on a blood test, but the dogs do not have a physiologic skin reaction and do not have atopic dermatitis or a positive skin test.

How do the different ELISA labs compare to each other?

There are multiple labs offering ELISA testing and each uses a slightly different method to detect the circulating blood IgE levels.

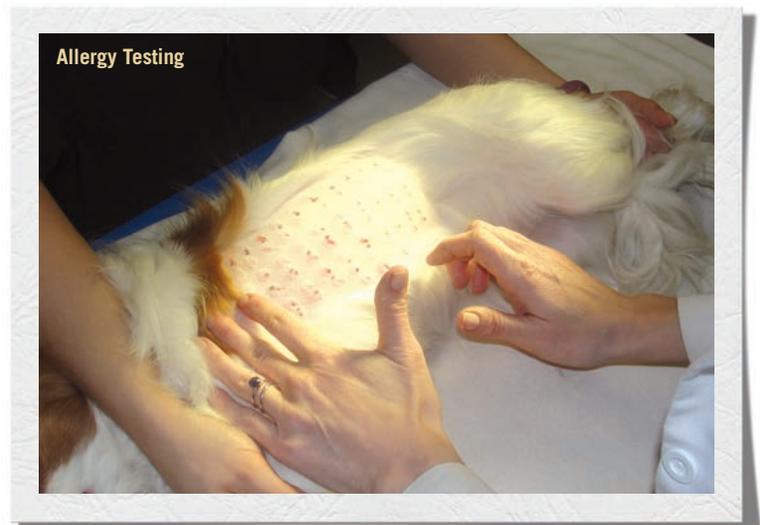
Veterinary SIVT (Serum In Vitro Testing) laboratories perform testing with no outside regulation of their standardization, reagents, calibration, quality control, and reporting procedures. Therefore SIVT laboratories use on staff expertise and laboratory procedures to ensure reliability. Any reports of specificity and sensitivity of methodology are based on in house research not outside sources. In one study, portions of the same serum sample were sent to a laboratory for testing at different times, with different identifications. The test results showed an unacceptable level of variation. Multiple studies have shown that different laboratories have little agreement in results reported. The most recent study, published in Veterinary Dermatology February 2014, compared treatment recommendations compared to chance alone on submitted serum of 10 atopic dogs. The samples were sent to ACTT, VARL, Heska, and

Greer. The overall kappa value (comparing the chance the results could agree by chance alone) was slight ($k=.11$). 85.1% of allergen treatment recommendations were unique to one laboratory or another in this study. Research has also only shown partial correlation between serum test results and intradermal testing. The variation in reproducibility and false positive results has prompted the American College of Veterinary Dermatology Task Force on Canine Atopic Dermatitis to summarize that "few critical studies have evaluated performance of these (IgE) tests and current inter-laboratory standardization and quality control measures are inadequate."

How does an ELISA test work and how can a clinician maximize the use of ELISA results?

If a clinician is to use a company that offers IgE testing, the specificity of the IgE detection reagent is critically important to minimize false positive reporting of IgG binding in the blood. If a company does indeed have technology capable of binding only IgE and not IgG, then it has excellent specificity for circulating IgE. This does not mean the lab does not report false positives. The next step for ELISA testing is to correlate the blood IgE binding to a measurement. Because there are no standard quantitative reference preparations, commercial SIVT labs do not report quantitatively. Instead they use semi-quantitative assays where the end signal of optical density (OD) is converted to a score on comparison with intra assay standards. Finally each laboratory has its own method of determining cutoffs for their scoring systems. If a company has a very low cut off and then recommends these low OD allergens be included in the immunotherapy, then it is more likely they are reporting antibody that is not clinically relevant. This is one place where clinical interpretation becomes important.

If the test is a universal test and not regional, the company may be reporting positives that the patient is not exposed to and are clearly false positives. Even if the level of IgE reported is high and all steps have excellent methodology, a patient without atopic dermatitis may have high circulating IgE in the blood but no physiologic reaction in the skin. Likewise a patient may have a physiologic reaction in the skin, where all the



reaction is focused, and no detectable IgE in the blood. For these reasons, if a clinician is going to use these tests, they should not follow the blanket recommendations made by the company for immunotherapy. The patient's symptoms, history, and local environment (especially for tree pollens, cat, and mold) should be cross referenced with pollen counts and pollen relevancy in the area to help to determine which allergens are most likely to be relevant and should be included.

If only one test is to be performed, allergists and veterinary dermatologists regard IDT as the test of choice to yield the most diagnostic results in atopic dogs. For asthmatic cats an IgE blood tests may correlate more with IDT results and disease. Efficacy of immunotherapy has been reported anecdotally to be increased by combining results of both intradermal allergy testing and allergy serology to formulate a vaccine, although cost may be a prohibitive factor. This allows for evaluation of both the blood and the physiologic response in the skin. It may be of particular value in cases where multiple signs of allergy such as conjunctivitis or upper airway disease are present, in addition to atopic dermatitis.

How does immunotherapy work?

Immunotherapy works through a shift from a Th2 response to a Th1 response. Regulatory T cells are critical in the suppression of the

Th2 polarization. They act on dendritic cells, mast cells, basophils, and eosinophils, through the effects of IL-10 and TGF beta. There is an increase in IgG antibody and IFN-gamma and a decrease in IL-4 production.

Why should clients consider Immunotherapy?

Based on research reports, between 60% and 90% of dogs receiving allergy immunotherapy will exhibit at least 50% improvement in clinical signs with complete response to therapy taking 2-12 months. The reports for subcutaneous therapy are 60-90%, while reports for sublingual therapy are 66%. A 50% reduction in pruritus is typically considered favorable, as it may permit elimination of corticosteroids or other adjunctive medications that could lead to increased tumor production over time. Approximately 50% of cases may be able to stop immunotherapy in 3-5 years and still stay in remission.

Reports have shown an increased efficacy of immunotherapy when managed by a dermatologist. However the same results may be obtained by any clinician that is experienced, up to date and dedicated to communication and close monitoring. 70% of cases that receive immunotherapy with a dermatologist have deviations from the standard protocol, with immunotherapy at reduced dose or different frequencies. This is similar to the practice of human desensitization where the dose of

immunotherapy is individualized. Concurrent medications should be medications that control infection and parasites, but do not inhibit immunotherapy.

In summary, the success of immunotherapy depends on first accurately diagnosing the cases that should start it, accurately determining which pollens should be included in the immunotherapy, sourcing a reputable allergen source, and managing the dose, frequency, duration between injections, and concurrent medications used during immunotherapy. With careful attention to these details, over 90% of atopic dogs can be satisfactorily controlled.

MOST COMMON ALLERGIES:



Food



Air



Outdoors



Bugs or Other Insects

CONTINUING EDUCATION CLASSES

CARDIOLOGY FOR TECHNICIANS: UNDERSTANDING THE DISEASES BEHIND THE TREATMENTS

BY: Risa Roland, DVM, DACVIM (Cardiology)

WHEN: Thursday, August 7, 2014

TIME: Registration & Dinner: 6:30pm, Lecture 7pm – 9pm

WHERE: CHADWICK'S RESTUARANT
2750 Egypt Road, Audobon, PA 19403

2 PVMA Credits, Dinner will be provided

This lecture will focus on emergency and hospitalized cardiac patients (both canine and feline). It will provide an extensive overview of the most common cardiac diseases that lead to hospitalization.

WITH RESPECT TO EACH DISEASE, WE WILL COVER:

- Classic historical findings
- Cardiovascular physical exam findings
- Diagnostic tests used to diagnose, treat and reassess the patient
- Common cardiac emergency drugs used in stabilization
- Treatment protocols used in emergency management and stabilization
- Overview of diagnostics used to manage chronic cardiac cases

Please RSVP to any of the CE classes to Sarah Spurgeon at 610.666.1050 or events@metro-vet.com.

Alex's Lemonade Stand

FOUNDATION FOR CHILDHOOD CANCER

WHEN: Wednesday, August 13, 2014

TIME: 8am – 6pm

WHERE: Metropolitan Veterinary Associates

2626 Van Buren Avenue, Norristown, PA 19403

ALEX'S LEMONADE STAND FOUNDATION (ALSF) MISSION:

To raise money and awareness of childhood cancer causes, primarily research into new treatments and cures. To encourage and empower others, especially children, to get involved and make a difference for children with cancer. Alex's Lemonade Stand Foundation (ALSF) shares the vision of our founder and creator, Alexandra "Alex" Scott—a cure for all children with cancer.

WAYS TO DONATE:

- Visit: <https://www.alexlemonade.org/mypage/117524/donate>
- Text LEMONADE E117524 to 85944 to donate \$10 (charge will appear from your cell phone carrier)
- Visit our lemonade stand on August 13th between 8am – 6pm

ITEMS BEING SOLD AT OUR BOOTH ARE:

- Lemonade
- Various baked good

Please RSVP to Sarah Spurgeon at 610.666.1050 or events@metro-vet.com.

AlexLemonade.org

You're Invited

WEDNESDAY

10.8.14

9:30AM TO 4:00PM

Social Media for the Veterinary Professional

ABOUT: A day-long workshop in internet marketing, social media and website optimization. You'll learn the most popular social media applications and how to use them to best promote your veterinary practice. This workshop isn't just information, it's small working groups of experts giving you step-by-step instructions on how to use Facebook, Twitter, Google+, blogging and other popular social media tools to their best advantage.

GIVEN BY: Halow Tassava Consulting Group

LOCATION: Chadwick's Restaurant & Bar – 2750 Egypt Road • Audubon, PA

SPONSORED BY: Metropolitan Veterinary Associates®

REGISTER: melinda@halowtassava.com



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CANINE / FELINE CPR FOR THE COMMUNITY

Metropolitan Veterinary Associates® will be holding quarterly lectures on Canine/Feline CPR for our community of pet's owners.

WHEN: Thursday, August 28, 2014

TIME: 6:30am – 8:00pm

WHERE: Metropolitan Veterinary Associates,
2626 Van Buren Avenue, Norristown, PA 19403

PRESENTER: Nicole Thomas, Veterinary Nurse
Snacks will be provided

Classes will included:

PRESENTATION

- Introduction
- Assessing your pet's vital signs – what is normal
- Recognizing when CPR is necessary
- Managing breathing and cardiac emergencies in your pet – performing CPR

HANDS-ON SESSION

IMPORTANT TAKE HOME MATERIALS

Please RSVP to any of the CE classes to Sarah Spurgeon at 610.666.1050 or events@metro-vet.com.

Space is limited.



MVA 5K & FAMILY FUN RUN EVENTS

Join MVA for our **5K Run/Walk and Family Fun Events** benefiting Red Paw Emergency Relief.



Each year Metropolitan Veterinary Associates® organizes a 5K Run/Walk (leashed dogs encouraged to join) benefitting a local non-profit organization.

MVA, partnering with Valley Forge Children's Academy, are proudly organizing a 0.8 mile **Kids Fun Run** filled with obstacles. (Ages 4-12)

Registration required as space is limited.

EVEN MORE FAMILY FUN!

**FOOD & BEVERAGES • MUSIC • GIVEAWAYS • BOUNCY HOUSE
MAGIC • VENDORS • HOSPITAL TOURS • AND MORE!**

DATE: Sunday, September 21st

LOCATION: Metropolitan Veterinary Assoc.,
2626 Van Buren Ave. Norristown, PA

MVA 5K FEE: \$20 in Advance, \$25 after September 14

KIDS FUN RUN FEE: FREE to all Participants

REGISTRATION: 7:30am – 8:45am

ONLINE REGISTRATION AT: MVA5K.com

MVA 5K EVENTS: 9:00am

KIDS FUN RUN EVENTS: 9:30am

FAMILY FUN: 10am – 12pm

PARTICIPANTS: FREE T-Shirt to all registered prior to September 14

FOR MORE INFORMATION CONTACT:

Sarah Spurgeon at 610-666-1050, or events@metro-vet.com

Special Guest Appearance by:

STEVE MORRISON of 93.3 WMMR's Preston & Steve Show

RAIN OR SHINE Nothing will stop this run/walk! Please dress appropriately and remember to leash your dog.