

PET FOODS AND DIAGNOSTICS OF THE “NEAR” FUTURE

Key Point

“Wholesome nutrition is the key to a healthy immune system and resistance to disease. ”

The Gut-Skin Connection

- ❖ diet = potent mechanism to alter cellular environment
- ❖ especially in GI tract (intestinal biosis and dysbiosis)
- ❖ diet supports metabolism and vital functions of skin

Food Sensitivity & Intolerance

- ❖ diet long recognized cause of hypersensitivity-like skin reactions in dogs, cats, people
- ❖ delayed sensitivities 2-72 hrs after eating; difficult to connect symptoms with foods
- ❖ high correlation of delayed sensitivity with amount and frequency of food eaten

Food Sensitivity & Intolerance

(cont'd)

- ❖ primary food allergens : corn, wheat, soy, beef, eggs, milk
- ❖ secondary food allergens: lamb, rabbit, venison, buffalo, chicken, turkey, barley, millet, oatmeal, salmon, white fish, rice, quinoa, potatoes, peanut butter

Food Sensitivity & Intolerance (cont'd)

- ❖ 3rd most common after flea bite sensitivity and atopy (inhalant allergy)
- ❖ at least 15% of all allergic skin disease
- ❖ no age, breed, sex predilection
- ❖ most affected animals eating offending foods for > 2 years

Food Sensitivity & Intolerance

(cont'd)

- ❖ mimics other skin syndromes
- ❖ major complaint is pruritis (itching)
- ❖ pruritic bilateral otitis externa
- ❖ secondary seborrhea, pyoderma



























Food Sensitivity & Intolerance (cont'd)

- ❖ 15% have concurrent GI tract issues
- ❖ some peripheral lymphadenopathy, especially cats
- ❖ tension-fatigue, malaise, dullness
- ❖ non-seasonal and poor response to steroids

Management & Therapy

- ❖ create healthy acid-base balance through optimal nutrition
- ❖ diet elimination trials for 4-8 weeks; often poor compliance
- ❖ must be individualized; use nutrigenomic principles
- ❖ avoid additives & supplements; avoid switching from diet-diet







Special Diets

Restricted Antigen Source

❖ Commercial source or homemade diets of restricted or novel antigens are given for 6-12 weeks. Many pets are now reactive to diets with lamb and rice.

Liver Cleansing Diet

❖ White potato + sweet potato (50/50) and white colored fish – 2/3 potato mix and 1/3 fish. Season with garlic, mixed Italian herbs or parsley, salt and pepper. Later, can add chopped carrots, and scrambled eggs, if tolerated. Liquid or other gluten-free multivitamin



Dietary Effects of Soy Protein

- ❖ Effects on thyroid function (inhibits thyroid peroxidase)
- ❖ Soy isoflavones present in most premium cat foods
- ❖ Effects protected by dietary iodine; pet foods rich in iodine
- ❖ Potential trigger of feline hyperthyroidism
- ❖ Soy is a phytoestrogen; concern for dog and cat diets [skin, hair coat, immune response, delayed puberty, infertility]

Supplements for Balancing the Immune System

- ❖ Immune function requires zinc, selenium and vitamin E, vitamin B₆, and linoleic acid; and carotenoids, especially lutein and beta-carotene.
- ❖ Sterols + sterolins in combination = immune balancing and stress modulating fats from fruits, vegetables and medicinal plants.
- ❖ Natural antioxidants and preservatives (e.g. vitamins E and C, citric acid, rosemary, turmeric, oregano, blueberries).

Dietary Supplements

- ❖ Novel or restricted protein source diet, probiotics, antioxidants
- ❖ Carotenoids, kelp, garlic, high fiber foods, nutritional herbs
- ❖ Medicinal herbs, vitamins E and C, whole apple cider vinegar
- ❖ Essential oils, flower essences, unpasteurized yogurt
- ❖ Taurine and DMG for epileptics, milk thistle or denosyl methionine as liver cleanse, herbal pain remedies

Some Other Common Supplements

- ❖ **Bee Pollen** – for infections, colds, rich in vitamin B complex
- ❖ **Colostrum** – stimulates and regulates immune system
- ❖ **DGP** - Dog Gone Pain; herbal remedy for pain
- ❖ **DLPA**- D,L phenylalanine; endorphin stimulant for chronic bone and muscle pain
- ❖ **Ginger** – mostly for digestion
- ❖ **Medicinal Mushrooms** - dried reishi and maitake; many antimicrobial , anticancer, and immune support properties
- ❖ **MSM** - methylsulfonylmethane; anti-inflammatory for joints
- ❖ **Oils** – wild salmon, coconut, hemp, olive, canola ; for fatty acids, skin and coat conditioner
- ❖ **Transfer Factor** - for immune enhancement and stress control
- ❖ **Yuca (Cassava)** – not Yucca ; used for IBD , gluten –free starch

Selenium/Thyroid Connection

- ❖ Individuals deficient in selenium show clinical signs of hypothyroidism because tissue levels of thyroid hormones are depleted, while blood thyroid levels rise
- ❖ Diagnosis could be overlooked on the basis that blood levels of thyroid hormones appear normal

Excess Iodine & Thyroiditis/Hypothyroidism

- ❖ Iodine excess causes alterations in thyroid activity, blocking both its characteristic functions and cell proliferation
- ❖ Feeding excessive amounts of iodine in foods and supplements (kelp, seaweed) reduces thyroid function
- ❖ Contributes to the rising prevalence of hypothyroidism in young dogs, and hyperthyroidism in older cats
- ❖ Iodine increases auto-antigenic potency of thyroglobulin leading to induction of autoimmune thyroiditis

Nutritional Management of Aggression

- ❖ High quality lower protein diets
- ❖ Increasing dietary tryptophan (turkey)
- ❖ Limit "hot foods" (venison, chicken, mutton)
- ❖ Limit high copper foods (lamb, unless grass fed)

Herbs / Nutrients to Use with Caution

- ❖ Rosemary and Oregano– added today as pet food preservative and antioxidant. NOT to be given to epileptics. (Peppermint Oil can help protect epileptics)
- ❖ Grapes and Raisins – toxic to dogs; acute renal failure
- ❖ Corn, Corn Starch, Fructose from Corn – associated with food sensitivity, intolerance.
- ❖ Chicken, Venison, Mutton – “hot foods” in Chinese medicine.
- ❖ Beef, Cow’s Milk – food sensitivity , intolerance.
- ❖ Wheat, Soy – food sensitivity , intolerance.
- ❖ Lamb – too much copper unless grass fed.
- ❖ Onions – produces “ Heinz body” hemolytic anemia.
- ❖ Vasoactive Amines – tuna, mackerel, skipjack, bonito

Nutrigenomics

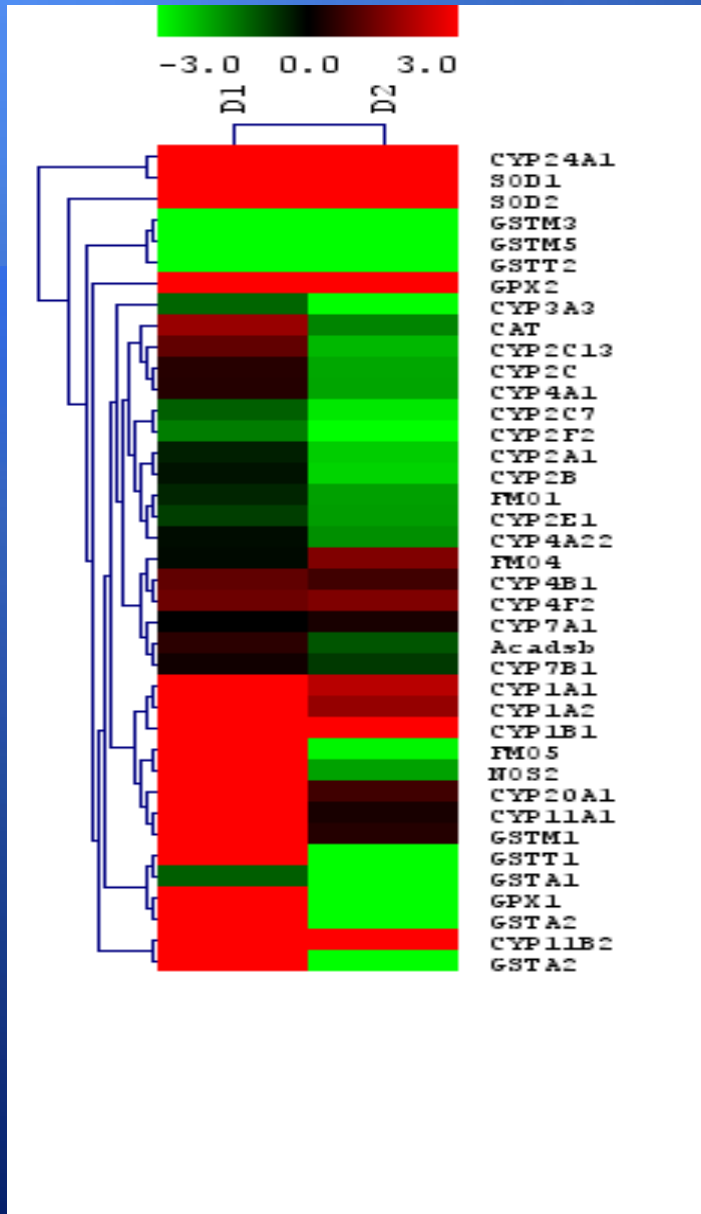
- ❖ emerging science that studies the molecular relationships between nutrition and the response of genes in the genome in promoting health
- ❖ different diets alter gene expression, and protein/metabolite production
- ❖ specific nutrients affect body responses in a form defined as a “signature”
- ❖ individual response = “molecular dietary signature”

5 Basic Concepts of Nutrigenomics

- ❖ diet can be serious risk factor for a number of diseases
- ❖ common dietary ingredients act on animal genome directly /indirectly, to alter gene expression/structure
- ❖ degree of dietary influence on balance of healthy and disease states depends on individual's genetic makeup

5 Basic Concepts of Nutrigenomics (cont'd)

- ❖ certain diet-regulated genes play a role in onset, incidence, progression, and/or severity of chronic diseases
- ❖ dietary intervention based on animal's nutritional requirement/ status plus genotype used to prevent, mitigate or cure chronic disease

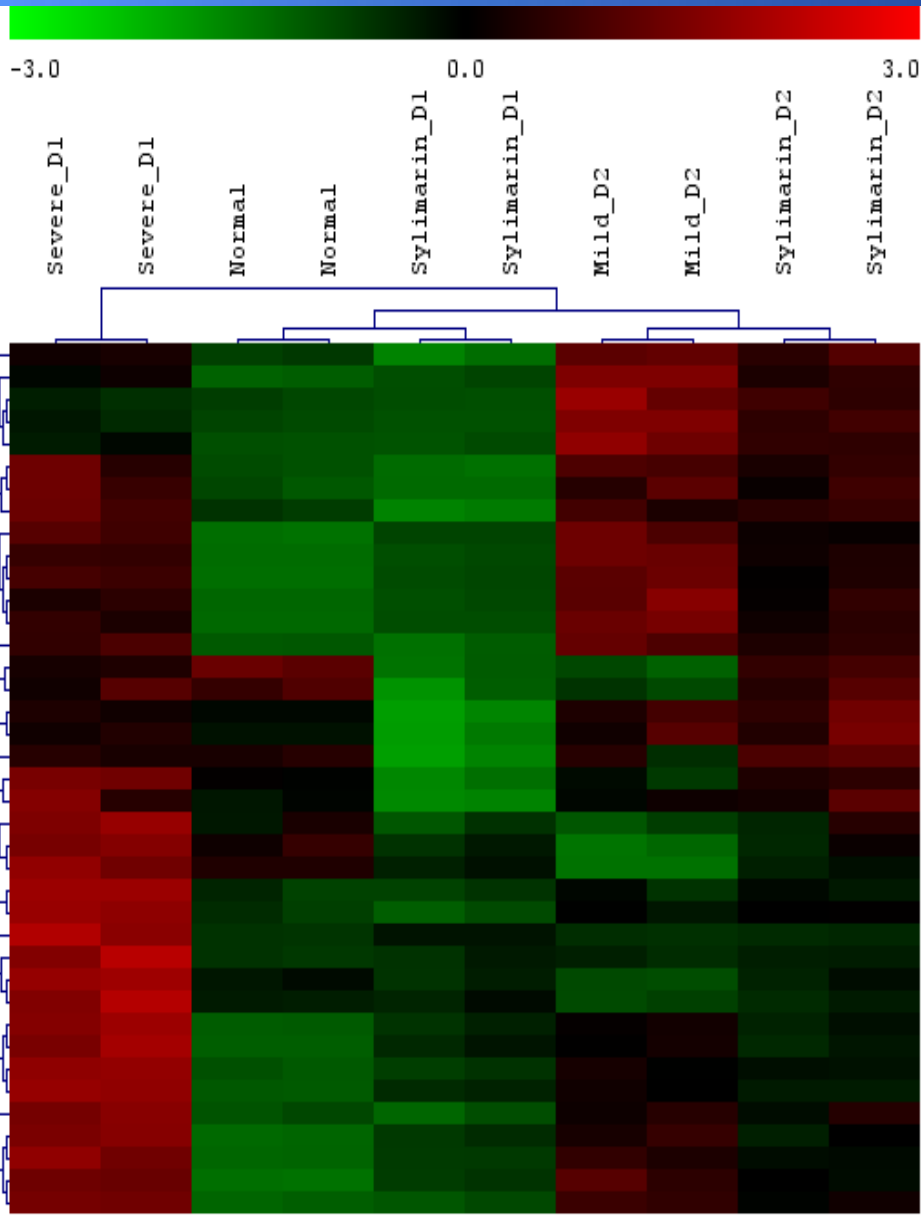


What is the Alternative ?

MDS

Molecular Dietary Signature

Dog



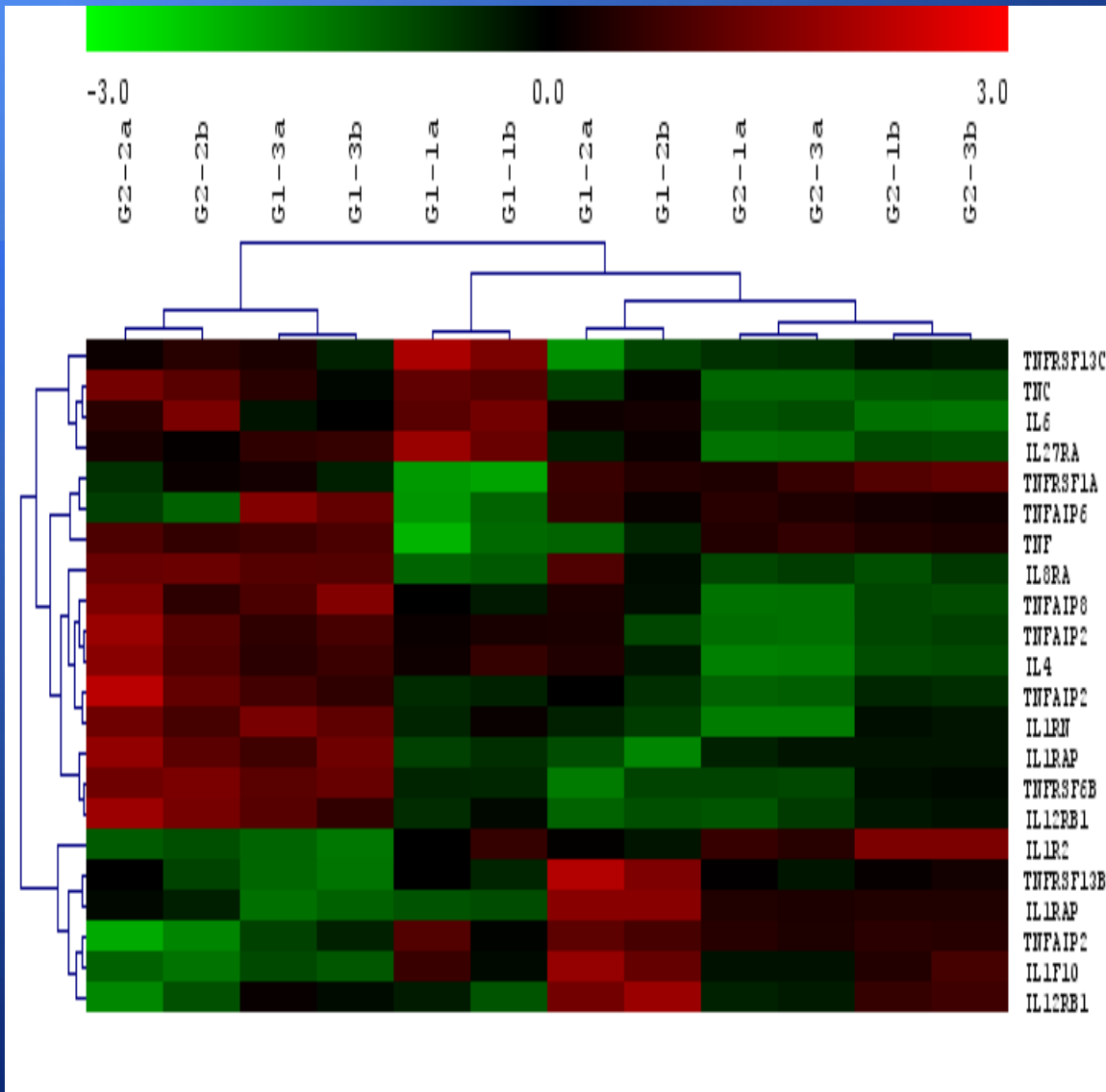
“Heat Map “ Dog

Liver Cleansing

MDS

Molecular Dietary
Signature

28 days on
Silybum
marianum (milk
thistle)



“Heat Map”
Molecular
Dietary
Signature

DOG

Arthritis

28 days on
Andrographis
paniculata +
Curcuma longa

Dietary Diagnostics

Food Sensitivity -- Prior Testing

- ❖ typically based on IgE, IgG 4, and immune complexes with complement
- ❖ high sensitivity but lower individual specificity
- ❖ measures more immediate-type reactions

Dietary Diagnostics

Food Sensitivity -- Newer Testing ●●● 1, 2, 3

- ❖ newer tests can use serum, saliva or feces
- ❖ ELISA or other immunoassay platforms
- ❖ identify IgG, IgA, or immune complexes to foods in serum
- ❖ IgA or IgM antibodies to foods in saliva
- ❖ antibodies to foods appear in saliva before GI tract clinical/biopsy diagnosis of IBD or “leaky gut syndrome”
- ❖ saliva testing can thus reveal the latent or pre-clinical form of food sensitivity

Food Sensitivity

-- Future Testing

Three Levels of Testing

● ● ● 1, 2, 3

- ❖ Saliva Screening Kit --- POS owner/ vet clinic testing; 65 % of market, several times annually for life
- ❖ Tests for salivary IgA and IgM reactants in healthy pets and those with known or suspected food intolerances
- ❖ Client obtains test kit [from vet or pet supply store], follows directions, adds saliva, seals kit, sends to diagnostic laboratory

NutriScan®

Salivary Diagnostics for Food Intolerance

NutriScan is a novel patented diagnostic test based on saliva, which can reveal the latent or pre-clinical form of food sensitivity or food intolerance. Test panels are for the most common allergens including:

Panel 1

beef
corn
wheat
soy
milk (cow)
lamb
venison
chicken
turkey
white fish

Panel 2

egg (hen)
barley
millet
oatmeal
salmon
rabbit
rice
quinoa
potato
peanut (peanut butter)

Tests measure IgA and IgM antibodies in saliva rather than IgE and IgG antibodies in serum or feces. For more information, please visit nutriscan.org



ADVANTAGE OF THE NUTRISCAN DIFFERENCE

Your dog has itchy skin, a leaky gut?

	NUTRISCAN	OTHER FOOD SENSITIVITY TESTS
What is the test?	Intolerance+ Sensitivity	Hypersensitivity (Allergy)
Medium tested	Saliva	Serum
Antibody measured	IgA <u>and</u> IgM	IgE <u>or</u> IgG
How performed	Home use or Vet visit	Veterinary visit required
Addressing the real food issues	Delayed and long term food issues- Excellent clinical correlation	Immediate food issues only; poor clinical correlation to more delayed food reactions
Which foods	20 antigens (2 panels of 10 each:-a primary and a secondary panel)	About 20 antigens
Price per panel	\$130 or \$250 for both panels	Varies –about \$100

Vets and pet owners need to concentrate on more long term control of food-related health issues, rather than the more immediate acute hypersensitivities. Otherwise animals will not get better.

The patented NutriScan is the only available test to provide this clinical information on food intolerance.



HEMOPET
11561 Salinaz Avenue
Garden Grove, CA 92843
USA

NutriScan[®]



Food Sensitivity Saliva Test for Dogs

NutriScan[™]

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NUTRISCAN[™]

Food Sensitivity Test Kit

NutriScan™



SALIVA TEST FOR FOOD SENSITIVITY

Does your dog itch? Have a leaky gut?
Could it be food sensitivity?

This saliva test, for your dog, can solve the problem.

Have your dog chew on the salivary rope inside this kit. Send the saliva sample, in the provided tube, to the address indicated on the included mail-to label. Results will be sent back to you.

Easy. Simple. Accurate.

Kit Includes:

1. Saliva collection tube
2. Rope(s)
3. Test request form
4. Instructions
5. Mailing label



Developed by a Veterinarian.
Tested by a Veterinarian.
Safe and more accurate than other
food sensitivity tests for dogs.

NutriScan™

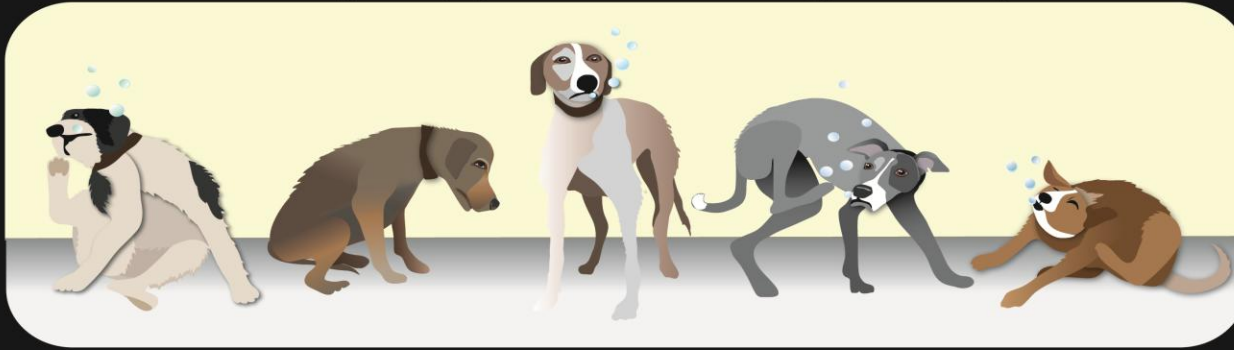
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www.hemopet.org
www.nutriscan.org
US Patent 7,867,720

The NutriScan Advantage

1: Food Allergy vs. Food Intolerance

Itching and burping-stomach discomfort-belching gas- more itching



2: Testing Difference

Food Allergy Test
Blood draw-serum- Stress.



Food Allergy Test
Intradermal, skin patch- Ugly!



Food Intolerance Test
NutriScan Saliva Rope- NO stress.



3: Foods Tested 20 Foods tested

Sad Dog



Embarrassed Dog



HAPPY DOG!



Problems with your dog? It may be his thyroid!

If your dog is lethargic, losing his hair, gaining weight or suddenly becomes aggressive, perhaps the last thing you (or your vet!) would think about is his thyroid. Unfortunately, however, thyroid disorders can cause literally dozens of health and behavioral problems in dogs and frequently go undiagnosed or are misdiagnosed. And the real tragedy is that most thyroid problems are treatable with the right medical care and a well-informed owner can often minimize the chance of a thyroid disorder occurring in the first place.

Noted veterinarian Jean Dodds and co-author Diana Laverdure have done the dog owning public and their vets a great service by writing *The Canine Thyroid Epidemic*. The book is written in such a way to inform both the average dog owner and animal health care professionals about the ways in which thyroid disorders occur, can be prevented and treated.

You will learn about:

- The role of the thyroid and why it is essential to a dog's health.
- How to identify the clinical signs and symptoms of thyroid disorders.
- The types of lab tests needed to identify thyroid problems and how to administer the proper medicines.
- How an increasingly toxic environment can impact your dog's health.

What experts are saying about *The Canine Thyroid Epidemic*

There's probably no one in the dog world who garners as much respect from all quarters as Dr. Jean Dodds. Her latest work alarms and alerts us to an epidemic of thyroid disease of staggering proportions. It alarms us as we witness the early age at which the disorder now commonly appears, and alerts us to how commonly we aggravate the problem through breeding, vaccination and feeding practices. **Steve Marsden, DVM**

The Canine Thyroid Epidemic is an amazing, life-saving gift to countless dogs and the people who love them. This expertly crafted guide provides the tools, advice and information needed to help dog parents navigate this complex, often misdiagnosed and misunderstood disease. From recognizing the signs to finding the right veterinarian to long-term management, I can't imagine a better resource. Thanks to Dr. Dodds and Ms. Laverdure for shedding light on this epidemic in terms we can all understand. **Melanie Monteiro, author of The Safe Dog Handbook**

Dr. W. Jean Dodds has raised the awareness that canine hypothyroidism is not only about low thyroid hormone levels, but in fact, it's a continuum of disease that often begins with the immune destruction of the thyroid gland (autoimmune thyroiditis) and progresses over time to end-stage disease (hypothyroidism). Not only is this book a great "eye opener" for pet lovers but also should serve as a reference for veterinarians whether they are in veterinary school or have many years experience in private or university practice. **Rhett Nichols, DVM, ACVIM (Internal Medicine)**

Dr. W. Jean Dodds received the D.V.M. degree with honors in 1964 from the Ontario Veterinary College, University of Toronto. She is the owner of Hemopet, the first nonprofit national blood bank program for animals. She and her husband live in Santa Monica, California. Diana R. Laverdure received a bachelor of arts in English magna cum laude from Tufts University. A lifelong dog lover, and journalist for over twenty years, she is a frequent contributing writer on dog health and dog care topics to a variety of national dog magazines. She and her dog Chase live in Boynton Beach, Florida.

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Diana R. Laverdure

The Canine Thyroid Epidemic

Answers You Need for Your Dog

THE CANINE THYROID EPIDEMIC Answers You Need for Your Dog

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