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Management of Allergic Skin Diseases in Dogs and Cats

TOOLKIT

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Cytology Guide for Dermatology Cases

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BY JULIA E. MILLER

Performing and interpreting cytology is fundamental in the evaluation of dermatologic cases. Without cytology, patients may be treated based on "first best guess," which may lead to misdiagnosis, and expensive ineffective treatments, and erosion of client's confidence in the veterinarian's care. The dermatologic minimum database consists of impression cytology, skin scraping, and ear cytology (if there is ear disease). Skin and ear cytology should be second nature to the practitioner and included as part of every dermatologic work up. This guide will cover the ABCs of cytology collection and interpretation for dermatology cases.

Materials needed

Diff-Quik

This standard, in-house stain is all that is required for dermatologic cases. It is important to keep the stains covered and change them regularly as debris may float in the liquid and attach to the slide creating false positive findings. Heat fixing slides with fire before staining is not required or recommended for dermatologic samples (including ear cytology) and slides are easily interpreted without this messy step.

Compound microscope

The microscope should be equipped with 5x, 10x, 40x, and 100x (oil immersion) objectives to be thorough when interpreting cytology. Be familiar with the working parts of the microscope including the iris diaphragm, as this should be closed to effectively evaluate skin scrapings. Protect the microscope by covering it with a soft fabric or pillowcase when not in use and schedule regular professional cleanings to keep the objectives in working order.

Sampling tools

Frosted glass slides offer sample security and coverslips are recommended for skin scrapings. Additional items to keep in clinic include clear acetate tape (single or double-sided), cotton-tipped applicators, toothpicks, toothbrushes, metal spatulas, scalpel blades, and mineral oil.

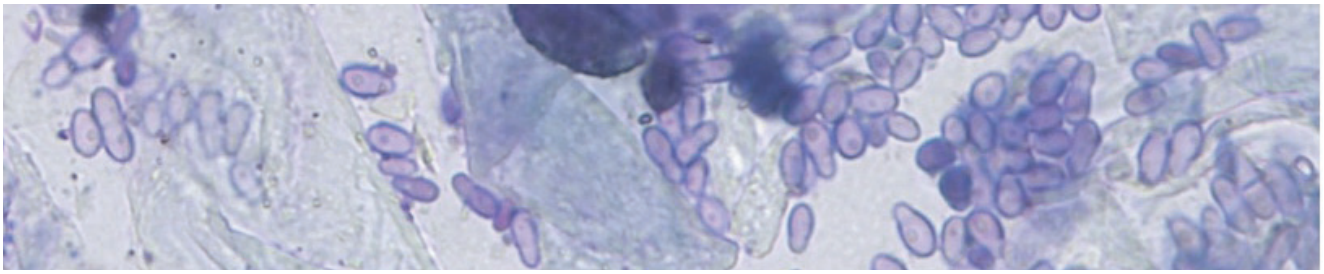
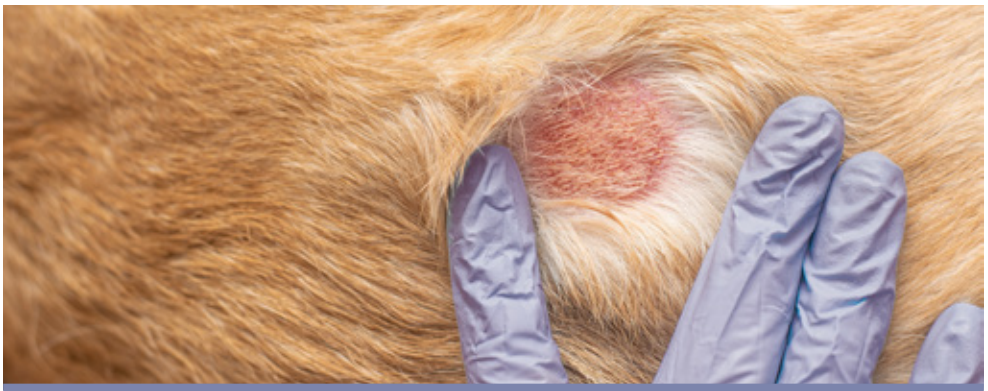


Photo courtesy of Ashley Bourgeois, DVM, DACVD

How to collect cytology samples

Techniques

There are numerous ways to collect cytology, and the method chosen should be based on the type of lesion present and the disease process suspected.



Clinical Differential		Collection method
Ectoparasites	*Sarcoptes scabiei*	Superficial skin scraping
	Notoedres cati	Superficial skin scraping
	Demodex canis, felis, injai	Deep skin scraping Trichogram Direct impression Acetate tape impression
	Demodex gatoi	Superficial skin scraping Acetate tape impression Fecal floatation
	Cheyletiella	Acetate tape impression Flea combing Trichogram Superficial skin scraping
Infectious – bacterial		Impression cytology Acetate tape impression Bacterial C&S
Fungal	*Malassezia*	Impression cytology Acetate tape impression
	Dermatophyte	Trichogram Dermatophyte culture +/- PCR Impression cytology Acetate tape impression
	Other	Impression cytology Fungal C&S
Autoimmune		Impression cytology
Disorders of the hair shaft		Trichogram

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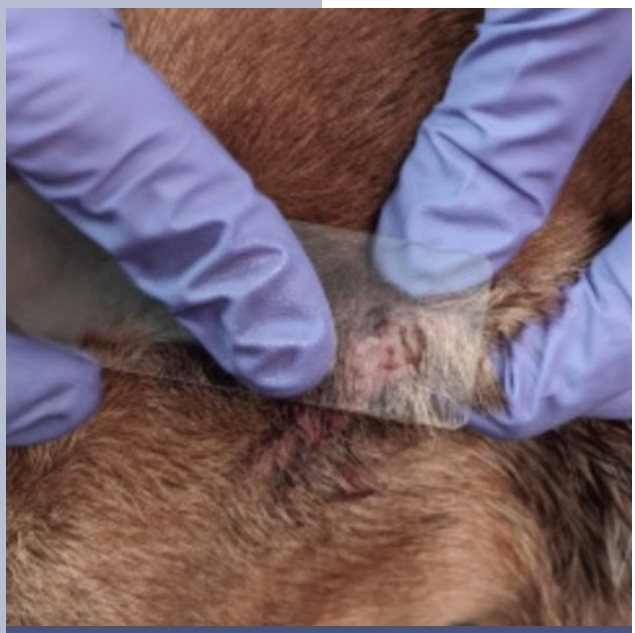

Image 1: Direct impression sampling technique.

Image 2: Toothpick impression sampling technique.

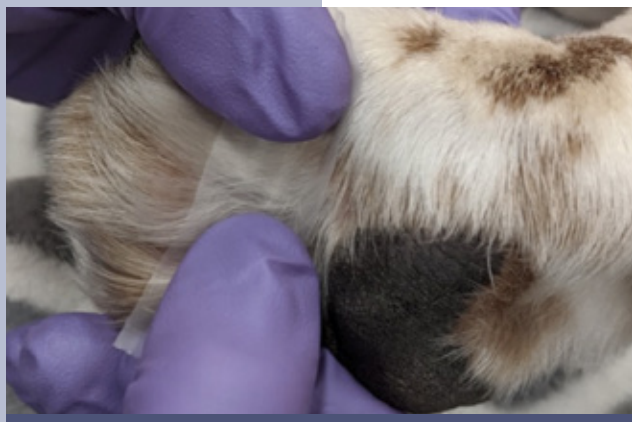

Image 3: Acetate tape sampling technique.

Direct impression smear

Often the most useful dermatologic diagnostic, this is effective for exudative lesions (pustules, exudate beneath crusts, erosions/ulcers) as well as some dry lesions. If there is a crust present, use the side of the microscope slide to remove the crust and sample the exudate beneath. Gently pinch the skin and press or smear the slide onto the skin (**Image 1**). Pressing the slide as opposed to smearing may provide better cellular morphology with less cell damage.

Impression smear

In areas where it is difficult to press a glass slide (facial folds, interdigital spaces, claw folds, ear canals) collect samples with a cotton-tipped applicator or toothpick (**Image 2**). The sample should be rolled or smeared onto the slide.

Acetate tape impression

Lesions that are dry (lichenified skin, epidermal collarettes) or in difficult locations to press a glass slide (interdigital spaces, claw folds, facial folds) may benefit from sampling with an acetate tape impression (**Image 3**). Acetate tape will provide high cellularity and may decrease false negative results, particularly when *Malassezia* dermatitis is suspected. When staining these samples skip the light blue fixative step.

Skin scrapings

Superficial

Volume is extremely important as there may be very few of the suspected ectoparasite (particularly *S. scabiei*). Using a scalpel blade (sharp or dull side) or a metal spatula, either dip the instrument in mineral oil or apply oil directly to the skin of the animal. At a 30-90-degree angle, perform a wide-sweeping, superficial scraping. No capillary bleeding is required. Collect all material by scraping the instrument on the sides of the microscope slide vigorously. Scraping multiple sites is advised and, when possible, scrape papules or light-colored crusts. Using a coverslip creates a uniform surface and ensures complete evaluation of all collected material.

Photos courtesy of Ashley Bourgeois, DVM, DACVD

Deep

To thoroughly evaluate for *Demodex canis/injai/felis* mites, it is important to squeeze the affected skin between the thumb and forefinger to extrude the mites from the hair follicle. Apply mineral oil to the skin or the scraping instrument, hold the scraping instrument at a 30-90-degree angle and scrape the skin in short, vigorous strokes until capillary bleeding is produced. Collect all material by scraping the instrument on the sides of the microscope slide vigorously. Using a coverslip creates a uniform surface and ensures complete evaluation of all collected material.

Trichography

Gentle collection of hairs is important to preserve their architecture and it is recommended to pluck hairs with fingers or rubber-covered hemostats. Mineral oil applied to the slide before collection ensures the hairs will not be lost.

How to interpret cytology results

Practice makes perfect

The key to becoming comfortable with interpreting cytology is to spend time at the microscope with every dermatology case. Pattern recognition and confidence will develop over time.

Microscope methodology

It is important to have a standardized protocol when approaching slide review. Begin with the 4x objective and perform a general scan of the entire slide. This may reveal different populations of cells and ensures nothing is missed. Evaluate all populations of cells on high power to further characterize what cells are present. Multiple high-power fields should be examined to assess general pattern.

Cell types

The most common cell types found in skin cytology include keratinocytes, neutrophils, macrophages, eosinophils, red blood cells, and infectious agents.

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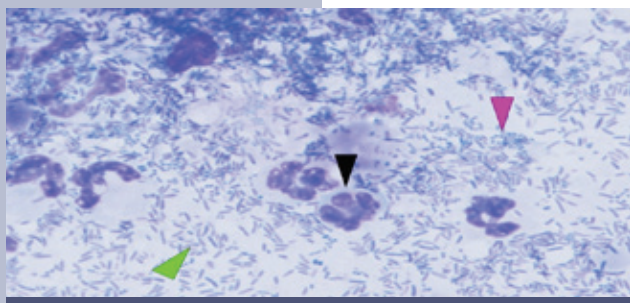

Image 4: Ear cytology with mixed infection. Black arrow: neutrophil. Pink arrow: cocci bacteria. Green arrow: rod-shaped bacteria.

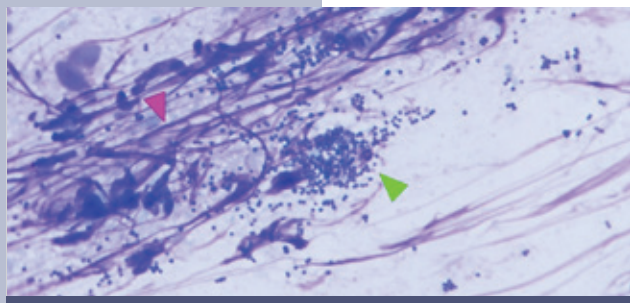

Image 5: Staphylococcal infection. Pink arrow: neutrophilic streaming. Green arrow: cocci bacteria.

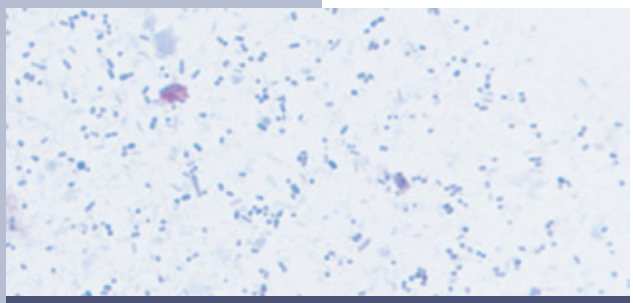

Image 6: Bacterial overgrowth.

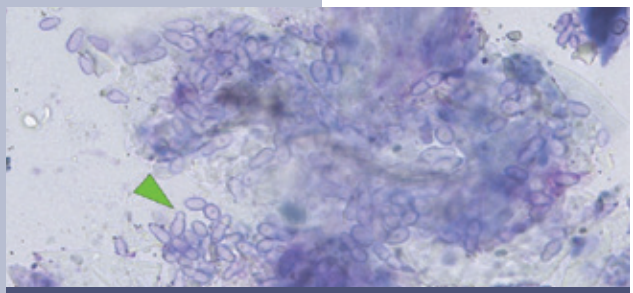

Image 7: *Malassezia spp* on acetate tape cytology. Green arrow: *Malassezia* (note light staining on tape).

Interpreting cytology is pattern recognition based on the general population of cells. A single, unknown or highly unusual cell can likely be ignored.

- Neutrophils indicate inflammation (sterile or infectious) and nuclear streaming is present when neutrophils are fragile and degenerate (or if the sample is smeared).
- Macrophages indicate chronic or deep inflammation or potentially a fungal infection. Pyogranulomatous inflammation contains neutrophils and macrophages.
- Eosinophils indicate the presence of ectoparasites, foreign bodies (including deep furunculosis), drug reaction, or allergy (cats).
- Bacteria should be identified based on morphology (rods, cocci) (**Image 4**). Pathogenic bacteria are very small and only appreciable at 40x or 100x.
- Fungi should be identified based on morphology (*Malassezia spp.*, *Blastomyces*).

Bacterial infections

To definitively diagnose a bacterial infection there must be neutrophils in the presence of bacteria, preferably intercellular bacteria (**Image 5**). Bacterial overgrowth should be diagnosed when there are many bacteria with no neutrophils present (**Image 6**).

Malassezia

Malassezia spp. typically adhere to keratinocytes and *Malassezia* dermatitis should not produce suppurative inflammation (**Image 7**). If neutrophils are noted on the cytology, thoroughly evaluate for bacteria as well.

Pyogranulomatous inflammation

Deep inflammation is characterized by neutrophils and macrophages, with variable plasma cells and eosinophils (**Image 8**). In the presence of bacteria, this is indicative of bacterial folliculitis and furunculosis. If no bacteria are noted on cytology, this type of inflammation may be due to sterile inflammation from furunculosis (ingrown hairs, demodicosis, etc.), a deep fungal infection (blastomycosis, etc.), or an autoimmune disease (sterile nodular panniculitis, etc.).

Photos courtesy of Ashley Bourgeois, DVM, DACVD

Autoimmune

Cytology findings of sterile inflammation accompanied by specific clinical findings may indicate the presence of an autoimmune disease. For example, in addition to neutrophilic inflammation, acantholytic keratinocytes (AKs) are typically present in cases of superficial pemphigus (**Image 9**). AKs are very large, round, basophilic cells. If an autoimmune disease is suspected, skin biopsies are required for a definitive diagnosis.

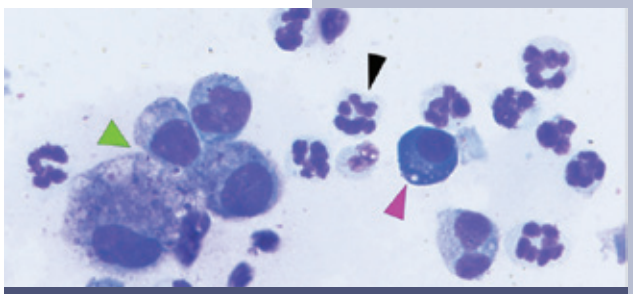

Image 8: Sterile pyogranulomatous inflammation. Black arrow: nondegenerate neutrophil. Green arrow: macrophages. Pink arrow: plasma cell.

Ectoparasites

When assessing a skin scraping, or trichogram, close the iris diaphragm on the microscope to allow for better visualization of the mites (**Image 10**). Examine the entire slide at 4x as there may be very few ectoparasites, eggs, or feces. Negative skin scrapings never completely rule out ectoparasites and if clinical suspicion is high but the skin scraping is negative, a treatment trial is warranted.

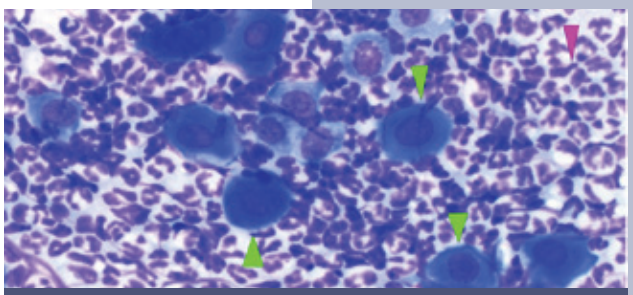

Image 9: Sterile neutrophilic inflammation with AKs. Pink arrow: nondegenerate neutrophils. Green arrows: AKs (note very large size).

Trichography

To interpret a trichogram it is important to have a foundational knowledge of the normal hair structure. Normal hair shafts are uniform in diameter and taper at the tip. A trichogram may reveal abnormalities in the pigmentation of the hair (color dilute alopecia), abnormalities in the structure of the hair (dermatophytosis, **Image 11**), broken hairs (feline traumatic hypotrichosis), and/or ectoparasites (*Demodex canis*, **Image 10**).

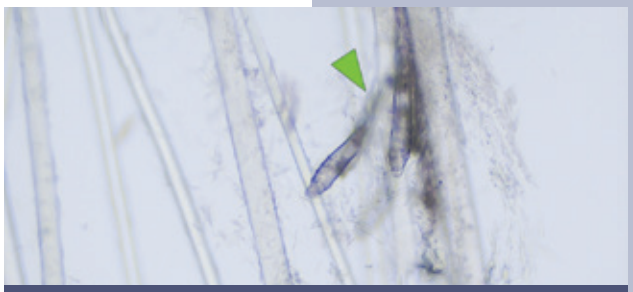

Image 10: Demodex mites from a trichogram (green arrow).

Use your resources

Cytology and dermatology textbooks are very helpful and it is recommended to keep a user-friendly reference within easy reach. Additionally, there are automated resources being developed that may provide a simpler approach to interpreting cytology.

As with all things in veterinary medicine, a definitive diagnosis requires diagnostics, and dermatology cases are no different. The more cytology is performed, the more comfort and expertise a practitioner will gain. Cytology everything.

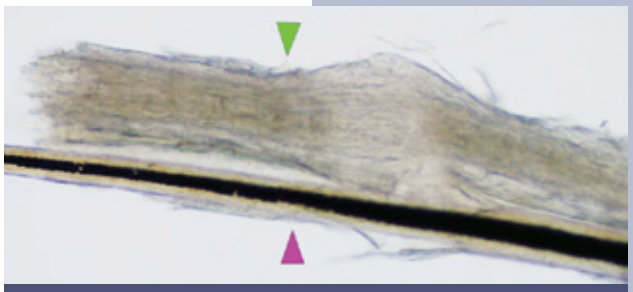

Image 11: Dermatophytic hair (green arrow), normal hair (pink arrow)

Guide for Dermatology Biopsies

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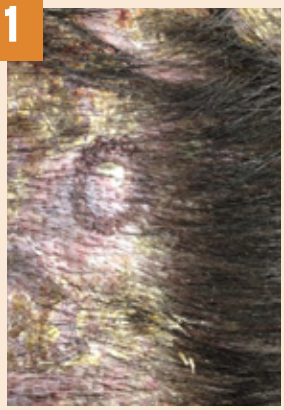
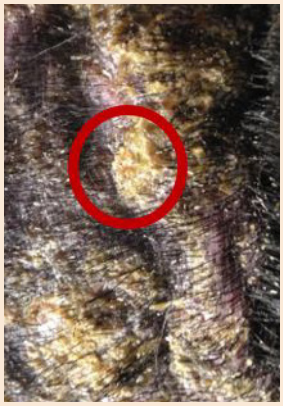
BY JULIA E. MILLER, DVM, DACVD

Skin biopsies are an integral part of advanced dermatologic diagnostics, and they should not be used as a "last resort." Below is a general guide to follow when taking skin biopsies.

1

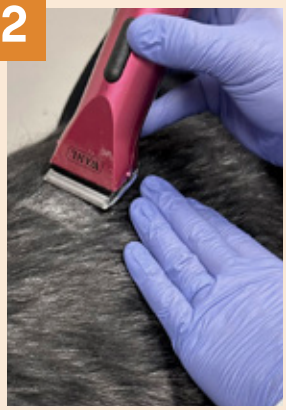


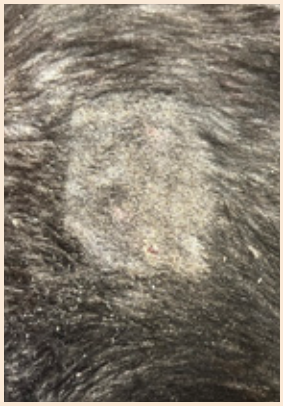


Lesion selection

Primary lesions (pustules, papules, plaques, etc.) are recommended if present. If there are no primary lesions, choose the most active secondary lesion. For example, choose a light-colored crust with exudate beneath it over a dark, dry crust.

2

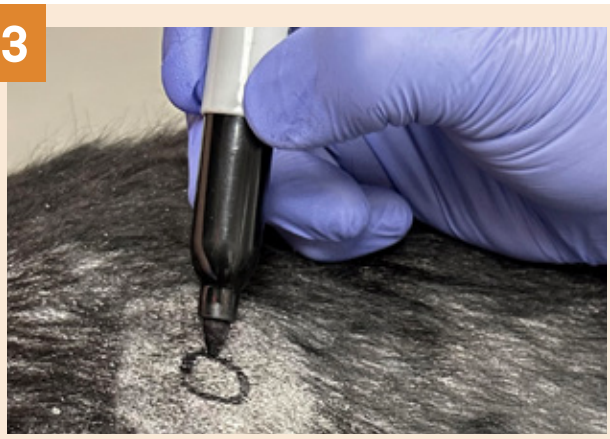


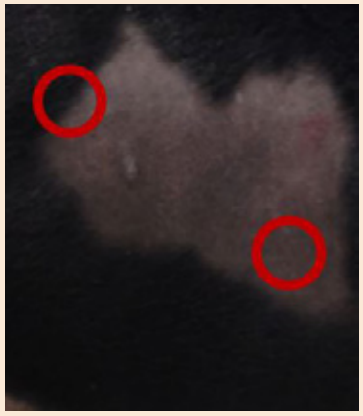


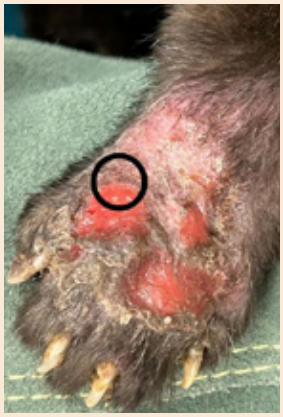
Do not surgically prep the area

Close clipping and prepping with antiseptic solutions will remove the surface abnormalities that may be essential for an accurate diagnosis. Crusting dermatoses must have crusts submitted!

3







Site selection

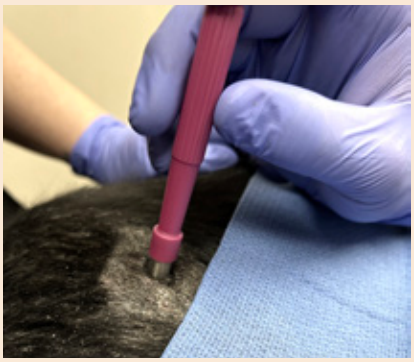
Do not choose the "junction of normal and abnormal." For most dermatologic lesions, taking a biopsy directly in the center of the lesion will yield the best results. Exceptions to this rule are ulcerated and alopecic lesions. A junctional biopsy is necessary in ulcerated skin and an elliptical, not punch, biopsy should be taken to avoid laboratory sampling error. For alopecic skin, it is recommended to take several samples from affected skin and one from "normal" skin.

Photos courtesy of Andrew Simpson, DVM, MS, DACVD

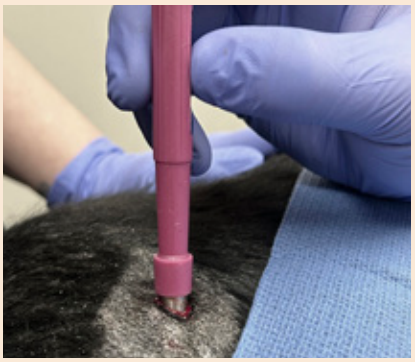
4

Biopsy technique

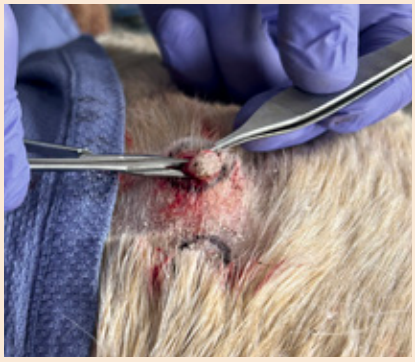
Local lidocaine infusion into the subcutis directly under the biopsy site provides excellent analgesia and allows for biopsies to be taken without sedation in some patients.



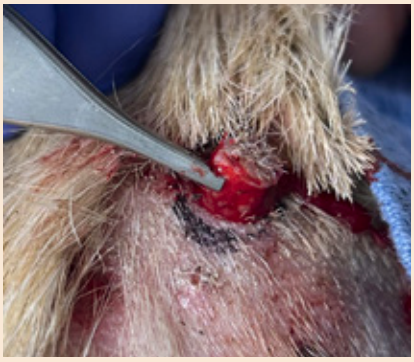
Punch biopsies provide the most efficient sampling method and the standard size that offers the most information is a 6mm punch. Do not reuse punches as they become dull and will damage the sample.



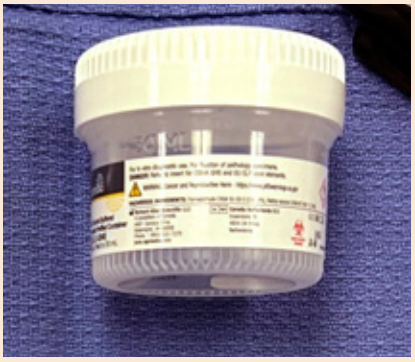
When performing a punch biopsy three things are important: skin tension, punch pressure, and punch rotation. A unidirectional rotation of the punch is recommended for fragile lesions.



Gentle sample handling is critical! Do not handle the dermal plug with forceps as this will create significant crush artifact that may invalidate the sample. Instead, use forceps to grasp the deep, subcutaneous tissue attachment before excising.



When possible, take at least 3 biopsy samples. The histopathologic diagnosis may not be found in all samples and multiple pieces provide the best chance for an accurate diagnosis.



Place samples in 10% neutral buffered formalin solution in one jar. If you practice where temperatures stay below freezing, do not allow the formalin to freeze before the sample fixes as this creates freeze artifact which may invalidate the sample. Instead, keep the jar in the clinic for 24 hours before shipping or add isopropyl alcohol to the formalin (1:9 ratio) to prevent freezing.

5 Laboratory submission

It is ideal to choose a laboratory that specializes in dermatopathology as interpreting the histopathology of inflammatory skin diseases requires a high level of skill and expertise. Always include a detailed history. Clinical photographs are usually very helpful as well.

6 Interpreting results

Dermatopathology is not a perfect science and in some cases, samples may not provide a definitive diagnosis. If the results do not fit the clinical picture of the patient, contact the laboratory to discuss the case with the pathologist as special stains, deeper sections, etc. may be necessary.

Guide for Topical Therapy in Allergic Dogs and Cats

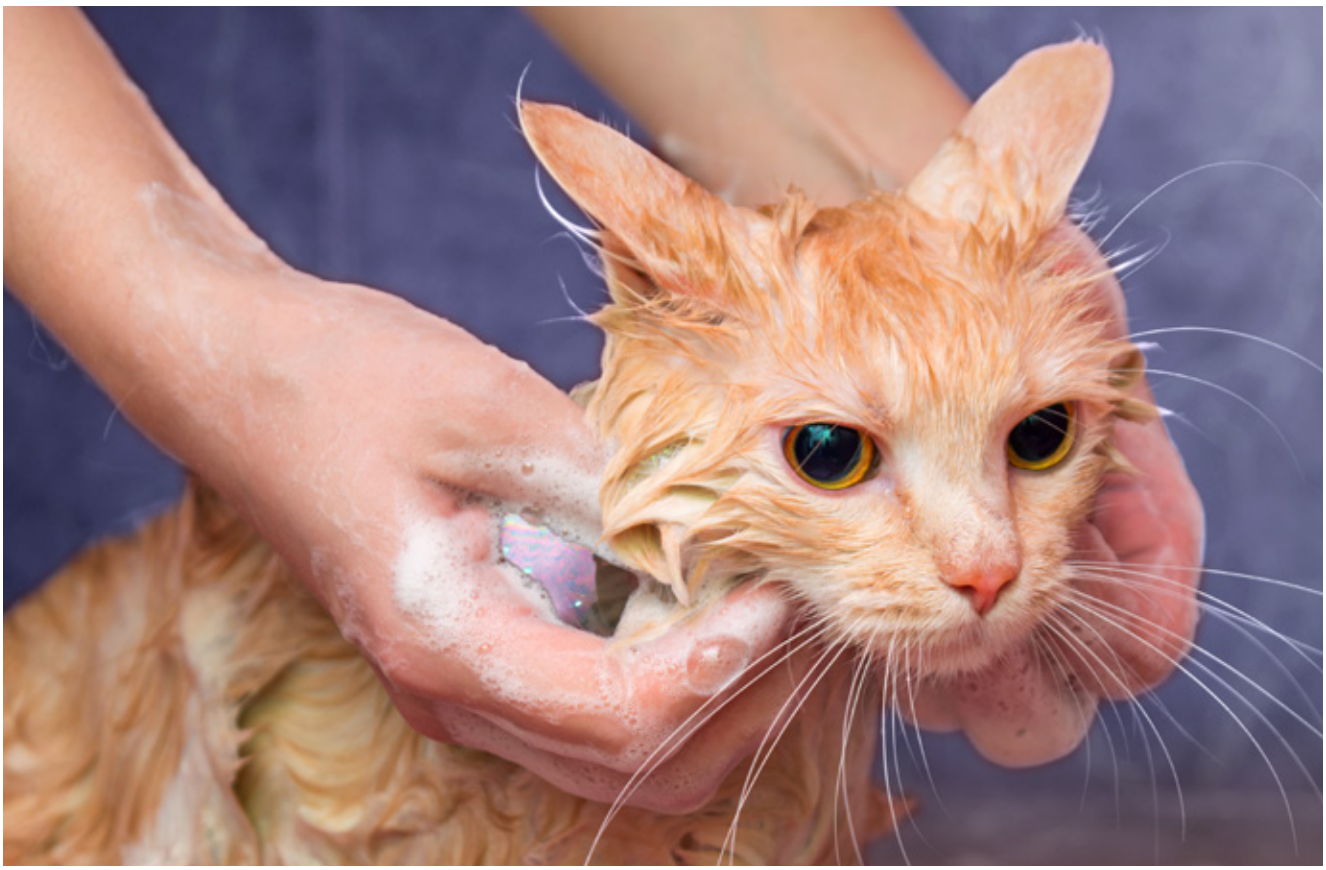
JULIA E. MILLER, DVM, DACVD

Topical therapy plays an important role in the multimodal management of allergic pets. As adjunctive treatment, topical therapy may reduce the dependence on systemic medications and may also increase the efficacy of said therapies. Managing allergic pets with an inside-out as well as outside-in approach offers a complete treatment plan that will improve success.

Client communication is critical before dispensing topical products. Honest, open conversations regarding the client's ability and *willingness* to use the topical are paramount. Topical products are only effective if they are used appropriately, and routinely, which requires excellent client education and compliance. In recent years, more user-friendly formulations have been developed to enhance compliance and improve the benefits of topical therapy.

Formulations

Various delivery systems with new and improved active ingredients are available both over the counter and by prescription. Selection of topical products should be based on surface area to be treated, need for residual activity, amount of hair in the treatment area, type of lesion, and, most importantly, owner ability.[1]



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Formulation	Description	Frequency
Shampoos 	Shampoos remain a cornerstone in topical therapy due to their effectiveness and ability to treat the entire pet, even in areas with a high density of fur. Of concern, however, is the intense client compliance they may require. For medicated shampoos to be effective they must be left on for 10-15 minutes before rinsing.[1] This may reduce their practicality and thus reduce their effectiveness. For this reason, shampoos as a sole therapy may not be practical and combining them with a leave-on product may offer the most effective treatment.	Daily to every other day to treat bacterial pyoderma or *Malassezia* dermatitis, 1-2 times per week for maintenance/ preventative care.
Rinses 	After bathing, rinses have an increased residual effect and treat the entire pet, however most are designed to be rinsed off after 5 minutes which increases client effort. These are particularly useful as moisturizing agents.	1-2 times per week after bathing
Spot-ons 	Aimed at treating the entire pet, these products contain diffusing agents and are easy to use with excellent residual effects.	1-2 times per week
Mousses and sprays 	Excellent residual effect and ease of application may make these products more desirable. In areas with a high density of fur, however, they may be more difficult to apply. They are often combined with shampooing to achieve maximal clinical results.	Daily to treat bacterial pyoderma or *Malassezia* dermatitis or 1-2 times per week for maintenance/ preventative care.
Creams, ointments, gels 	Excellent for focal lesions that do not cover large body areas, particularly in skin that does not have a high density of fur.	Daily
Powders 	Beneficial for moist lesions due to their drying properties. May be particularly beneficial in the intertriginous skin of the ventral paws, face folds, tail folds, axillae, and inguinal areas.	1-2 times per week

Ingredients

The clinical needs of the pet must be considered when choosing a topical product. For an actively or recurrently infected pet, a product with more potent antimicrobial properties may be preferred. For an atopic pet, a product that replenishes the epidermal barrier may be highly beneficial. Numerous products on the market contain active ingredients that cover multiple clinical needs, thus making them more desirable. Table 1 is a non-exhaustive list of ingredients and their clinical benefits.

Antimicrobials

Chlorhexidine-containing products are highly effective for active bacterial and fungal infections. 2-4% concentration products have shown to be effective in treating bacterial pyoderma including pyoderma caused by multidrug-resistant bacteria.[2] Chlorhexidine has increased antifungal properties when the concentration is 3% or greater, and if it is used at a 2% concentration with the addition of an azole.[2] Many other active ingredients have potent antimicrobial properties and their usage may be considered in chlorhexidine-sensitive patients or if chlorhexidine resistance is suspected.

Glucocorticoids

Topical inflammation management has shown to be beneficial in treating acute allergic flares as well as chronic atopic dermatitis.[3,4] Selection of glucocorticoid based on potency is paramount. Highly potent glucocorticoids, like betamethasone, are intended for short-term use (1-2 weeks) and may cause skin thinning, comedones, alopecia, infection, and calcinosis cutis with prolonged use.[4] Safer options that have proven to be beneficial in managing atopic patients include hydrocortisone or 0.015% triamcinolone.[3,4]

Epidermal barrier support

Increasingly, management strategies for atopic dermatitis in pets have focused on the benefits of improving epidermal barrier function. Atopic dogs have impaired barrier function due to a defective lipid barrier in their stratum corneum.[5] Topical lipids moisturize skin, prevent transepidermal water loss, and prevent allergen absorption when used regularly.[4] Adding routine epidermal barrier support into the treatment protocol for an allergic pet may decrease allergic flares and secondary infections, and may reduce the need for systemic medications. Numerous active ingredients promote epidermal barrier function and their inclusion in topical products has advanced the multimodal management of allergic pets.

Table 1: Active ingredients in topical products[1]

Therapeutic goal	Examples of ingredients
Antimicrobial	Chlorhexidine, acids, azoles, benzoyl peroxide, sulfur, hypochlorite, enzymes, essential oils, phytosphingosine, silver
Epidermal barrier support	Sphingolipids (phytosphingosine, ceramides), EFAs, ophytrium, glycosaminoglycans, cholesterol, essential oils
Moisturizing	Propylene glycol, EFAs, glycerin, colloidal oatmeal
Anti-inflammatory	Glucocorticoids, phytosphingosine, essential oils
Antipruritic	Glucocorticoids, pramoxine, lidocaine, diphenhydramine, colloidal oatmeal
Antiseborrheic	Sulfur, acids, benzoyl peroxide, zinc, tar
Drying	Acids, benzoyl peroxide

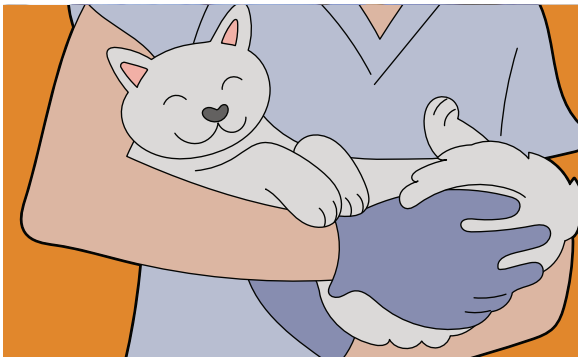
Creating a topical management protocol

1. Encourage owner compliance.

- **a.** Have an open, honest conversation about what is feasible for the client.
- **b.** Promote the benefit of multimodal therapy in managing allergic pets.
- **c.** Utilize technicians/assistants for client communication.

2. Consider what you are treating.

- **a.** Infectious skin disease requiring antimicrobials?
- **b.** Allergic skin disease that would benefit from epidermal barrier support?
- **c.** Pruritic skin that requires anti-inflammatory/ antipruritic treatment?



3. Recheck patient

- **a.** Adjust protocols if needed for patient or client
- **b.** Utilize technicians/assistants for client communication.
- **c.** Create a maintenance plan to improve allergy management and help prevent flares.

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Busting Common Myths about Cutaneous Adverse Food Reactions (CAFRs) in Dogs and Cats

Insight from an AAHA Webinar, "Adverse Food Reaction? Think Novel Protein"

BY SARAH HOFF, DVM, MPH, DACVD | SPONSORED BY HILL'S PET NUTRITION

Here are some pearls of wisdom from a veterinary dermatologist to help you make diagnostic and treatment decisions for your patients with confidence based on the latest research and real-world experience. They can also be used as talking points for discussions with your clients.

"Forget ears and rears": Distribution of skin lesions tells you NOTHING about the cause of an animal's allergic dermatitis[1].

Not all allergies respond well to steroids. Only about 50-60% of dogs with cutaneous adverse food reaction (CAFR) respond well to glucocorticoids. Cats fare only slightly better, with 50-70% responding well[2]. So don't rule out food allergies when your patients don't respond to treatment with steroids! Some pets with CAFR don't respond as well to Apoquel either, but this has not been evaluated in clinical studies.

Chicken is NOT the top food allergen in dogs and cats. In fact, it's number 3 on the list for both species[3]. Both dogs and cats have been found to react the most to beef, followed by dairy in dogs and fish in cats.

In addition to recommending a diet elimination trial, it is important to treat the pet's secondary conditions (infection, pruritus, inflammation, etc.) from the very first appointment! They will not necessarily go away on their own with the diet elimination trial, and it will help to improve compliance when you make the pet more comfortable.

Grains are NOT a major cause of food allergies in animals, contrary to what many pet owners and some veterinary professionals believe.

Some dogs and cats (as many as 20%) will have both dermatological and gastrointestinal signs as part of their CAFR[4], so this is important to pay attention to. According to Dr. Hoff, when both signs are present at the same time, it's a CAFR until proven otherwise!

The only way to diagnose a CAFR is through a restrictive diet elimination trial for at least 8 weeks! Other tests such as bloodwork, biopsy, intradermal testing, and saliva or hair testing have all been proven to be ineffective in diagnosing CAFRs in dogs and cats[5]. It is also important to remember that without challenging the pet with the original diet or individual ingredients, it is impossible to definitively diagnose a CAFR.

Most dogs will have responded to a diet elimination trial within 8 weeks, but for cats it can be helpful to keep going for up to 12 weeks if they have not responded by week 8[6].

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There's no one perfect diet to use for a diet elimination trial. The one you choose will depend on the patient, their diet history, and what the owner feels they can do.

- **Home-cooked diets:** some dermatologists prefer these as you have total control over what the patient eats. Some owners will also prefer this option. However, they are very labor intensive, require a very dedicated owner, and there can be concerns about compliance. If they are used long term, a veterinary nutritionist should be consulted to make sure they are balanced.
- **Novel protein diets:** These can be great choices for many pets, as long as the diet history is known so that a truly novel protein can be chosen. They may cause fewer gastrointestinal side effects when compared to hydrolyzed protein diets. It can be harder to find a "novel" protein these days, as many pet food manufacturers are using more exotic proteins in their over-the-counter diets. There is also always the chance that a pet will develop a new allergy to the novel protein diet over time.
- **Hydrolyzed protein diets:** These can be a good choice when the pet's diet history is not known or a novel protein can't be found (if the owner has constantly been switching proteins, for example). It is possible for some pets to still react to the parent protein depending on how sensitive the pet is and how small the protein hydrolysates are[7]. Because the proteins are broken down into such small molecules, pets can be at higher risk for developing hypoosmotic diarrhea. Constipation is also a concern with these diets for some pets.

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ENGLISH VERSION

Elimination Diet Trial

BY ANDREW SIMPSON, DVM, MS, DACVD

Your veterinarian suspects that your pet may have a food allergy that is contributing to their skin and/or ear disease. The only way to accurately diagnose a food allergy is to conduct an elimination diet trial. This involves feeding your pet a diet that does not contain ingredients to which they may have developed an allergy and monitoring your pet for signs of improvement. If your pet improves on the new diet, your veterinarian may recommend feeding their previous diet briefly and looking for any flareups of their condition. This helps to confirm their food allergy.

The goal of the diet trial is to feed a diet that ideally contains either a hydrolyzed protein or one that does not contain ingredients that your pet has previously eaten, usually a prescription diet. Simply switching brands or changing from one protein source to another may not be sufficient because many diets may have some cross-contamination from other ingredients that are not listed on the label. A home-cooked diet consisting of a novel protein and novel carbohydrate can also be used for the diet trial, but a board-certified veterinary nutritionist should be consulted to make sure the diet is balanced.

The total length of the diet trial can depend on the individual response of pets, which can range from 4-12 weeks, with most dogs and cats responding by 8 weeks.

Patient's name: _____

Your veterinarian is recommending the following diet to be fed exclusively during the diet trial:

_____

Recommended recheck date: _____ /_____ /_____

Gradually switch to the new diet over 3-5 days (¼ new diet+ ¾ old diet, then ½ + ½, then ¾ new diet + ¼ old diet).

This diet must be fed exclusively; no other foods or treats should be fed during this period unless otherwise instructed by your veterinarian. The prescription diet kibble can be used as treats or rewards.

Flavored chew toys, rawhides, animal-derived bones, flavored synthetic bones, chewable medications, flavored toothpaste, dental chews, chewable supplements, and people food should not be given during the trial period.

Unflavored synthetic toys (i.e. rubber, plastic) can be offered.

Heartworm and flea/tick preventatives: Your veterinarian may recommend injectable, topical, or flavorless oral substitutions if your pet takes any flavored oral preventatives.

Oral medications need to be directly administered into your pet's mouth or hidden within the canned version (if available) of the prescription diet recommended. Other options typically used to hide pills should be avoided (e.g., cheese, lunch meat, peanut butter, pill pouches/pill treats, etc.).

Inform all family members, friends, and neighbors who might offer your pet any treats or foods that a diet trial is being conducted.

If there are multiple pets in the household, it may be necessary to either feed your pets in separate rooms, or feed all same-species pets the prescription diet during the trial.

It may be necessary to keep your pet in a separate room while you eat if they tend to scavenge the floors for dropped food items.

Please contact your veterinarian if they are not eating the prescribed diet or if they are experiencing vomiting or diarrhea after starting the diet.

Tracking Progress During the Elimination Diet Trial

1. Below is a table to chart your pet's progress as you proceed through the food trial.
2. Please rate your pet's skin lesions (reddened skin, red bumps, hair loss, crusts/dry patches) as none, mild, moderate or severe.
3. Please rate your pet's itchiness on a scale from 0 to 10 (1=none, 10=severe/intense)
4. Bring this chart filled out to reference during follow-up visits or progress calls.

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Time	**Pet's Lesions** Rate: none, mild, moderate or severe	**Pet's Itchiness** Rate: 0 to 10 (1=none, 10=severe/intense)	Comments
Day 0 (initial appointment)			
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
Week 7			
Week 8			
Week 9			
Week 10			
Week 11			
Week 12			

SPANISH VERSION

Dieta de Eliminación

POR ANDREW SIMPSON, DVM, MS, DACVD

Su veterinario sospecha que su mascota tiene una alergia alimentaria que contribuye a su condición dermatológica. La única forma de diagnosticar una alergia alimentaria es mediante una dieta de eliminación. Esto requiere que usted elimine los ingredientes de la comida de su mascota que podrían causar una alergia, monitoreándole por señales de mejora en su condición dermatológica. Si su condición mejora, su veterinario puede recomendar que vuelva a ofrecer su comida anterior brevemente para confirmar la alergia.

El propósito de la prueba es ofrecer una dieta que contenga una proteína hidrolizada o que no contenga alergenos comunes de su alimento anterior. Usualmente, se recomienda una dieta terapéutica recetada por su veterinario. El hecho de cambiar de una marca a otra o de una proteína a otra no siempre es suficiente, ya que algunos alimentos de mascotas pueden tener ingredientes que no están enumerados en el empaque debido a la contaminación cruzada en la fábrica. Se puede usar una dieta cocida en casa que consista en proteínas y carbohidratos que su mascota no haya consumido antes, pero solo bajo la dirección de un veterinario especializado en nutrición para asegurar que la comida sea balanceada.

La duración total de la dieta de eliminación depende en la reacción de su mascota al cambio de comida. Puede ser entre 4 y 12 semanas. La mayoría de las mascotas responden en un periodo de 8 semanas.

Nombre de mascota: _____

Su veterinario recomienda que la siguiente comida sea ofrecida exclusivamente durante la dieta de eliminación:

_____

Fecha de su próximo chequeo: _____ /_____ /_____

Cambie la comida gradualmente a lo largo de 3 a 5 días (empiece ofreciendo ¼ del alimento original + ¾ del alimento nuevo, luego 1/2+1/2, luego ¾ del alimento nuevo + ¼ del alimento original)

Debe ofrecerse la comida exclusivamente; no se debe ofrecer ningún otro alimento durante la dieta de eliminación a menos que su veterinario le indique lo contrario. Se puede usar la comida seca como una golosina.

No se deben ofrecer juguetes, huesos, medicamentos, cueros, pasta dental, suplementos, ni ningún otro artículo con sabor durante la prueba. Tampoco se debe ofrecer comida de la mesa.

Se puede ofrecer juguetes sintéticos sin sabor.

Prevención del parasito del corazón y de pulgas/garrapatas: Pregunte a su veterinario si es recomendable sustituir otro producto que no tenga sabor para la duración de la prueba. Este puede ser una inyección, un medicamento tópico, o un preventivo por vía oral sin sabor.

Los medicamentos tomados por vía oral deben administrarse directamente en la boca o escondidos en el alimento recomendado. No se deben usar otras comidas como queso, carne, mantequilla de maní, o golosinas para esconder medicamentos durante la dieta de eliminación.

Informe a toda la familia, sus amigos, vecinos, y cualquier otra persona que pueda ofrecer comida a su mascota que no deben hacerlo durante la prueba.

Si hay más de una mascota en la casa, puede ser necesario ofrecer la misma comida a todas las mascotas de la misma especie o separarlas mientras comen.

Si su mascota intenta comer comida de la mesa que caiga al piso, puede ser necesario enviarla a otra parte de la casa mientras las personas comen.

Contacte a su veterinario si su mascota no quiere comer la comida recomendada o si presenta diarrea o vómitos después de consumirlo.

Tabla de Progreso de la Dieta de Eliminación

1. Esta tabla es para documentar el progreso de su mascota durante la dieta de eliminación.
2. Favor de calificar las lesiones dermatológicas de su mascota (eritema, pápulas, alopecia, costras, piel seca) así: nada, leve, moderato, o agudo
3. Favor de calificar la picazón de su mascota de 1 (lo más leve) a 10 (lo más agudo).
4. Tenga esta tabla consigo en cada consulta con su equipo veterinario para compartir el progreso con ellos.

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Semana	**Lesiones** Rate: none, mild, moderate or severe	**Picazón** Rate: 0 to 10 (1=none, 10=severe/intense)	**Comentarios**
Dia 0 (Primera Cita)			
1ª Semana			
2ª Semana			
3ª Semana			
4ª Semana			
5ª Semana			
6ª Semana			
7ª Semana			
8ª Semana			
9ª Semana			
10ª Semana			
11ª Semana			
12ª Semana			

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