

Building Blocks of Dermatology Diagnostics: The Importance of Cytology in Dermatology

Michele Rosenbaum, VMD, Dipl. ACVD | Cory Penn, DVM | Anonda Haskin, DVM

Dermatologic cases, including skin and ear disease, make up a significant portion of a small animal veterinarian's daily caseload.¹⁻³

- Dermatology is a top reason for veterinary visits³
- A recent survey of veterinarians indicated that 30% of their canine patients and 11% of their feline patients presented with and were treated for pruritus^{*}
- Dermatologic diseases affect the quality of life of both the patient and the pet owner⁴

How to evaluate the dermatologic patient[†]

1

Initiate a diagnostic workup

- Review and investigate patient's history
- Perform physical exam, focusing on the skin and ears⁵

2

Assemble differential diagnosis list

- Determine additional diagnostic testing required⁴

3

Minimum Diagnostic Dermatology Database[‡]

- Skin scraping
- Skin cytology (impression smears or swabs)
- Ear cytology
- Mineral oil prep for ear mites
- Flea combing
- Fecal analysis

Owners are more likely to be open to skin cytology because they can easily visualize and feel the lesions.⁶

Cytology is an important diagnostic tool in dermatology⁷

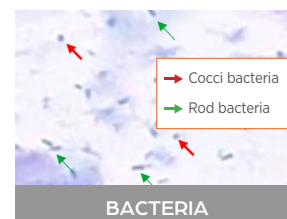


In dermatology cases, cytology may help:

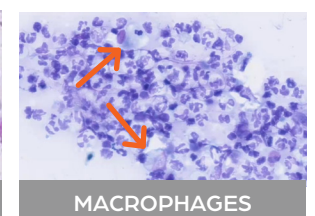
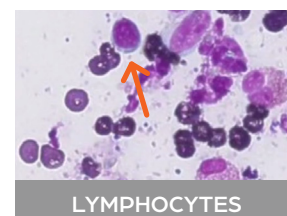
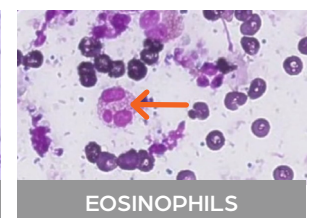
- Identify infectious agents
- Determine the presence of inflammatory cells
- Track changes in infectious agents and inflammatory cells over time

Providing reasoning behind the dermatology diagnostic workup and discussing how this can lead to better outcomes for the patient can help pet owners see the value of cytological testing.

Infectious agents



Inflammatory cells



High-resolution images from Vetscan Imagyst™.

^{*}Results of a survey of veterinarians in the United States.

[†]All puppies, kittens, and adult cats should have a fungal culture. This is also necessary in adult dogs with a supporting history (eg, lack of response to antibiotics, exposure to a new kitten from a shelter).

[‡]Selection of further diagnostic tests can be determined.

Dermatologic diagnostic testing informs clinical decisions but is underutilized

According to a survey of veterinarians in the United States¹:

- Only 41% of dogs and 33% of cats treated for pruritic conditions received diagnostic testing during their visit
- Barriers to skin cytology testing include:
 - Cost (perceived financial strain on pet owner)
 - Time spent by veterinary staff preparing/reading the test and by the pet owner in the hospital
 - Comfort level performing the tests due to lack of training and short staffing

49% of veterinarians surveyed indicated more cytological testing should be performed¹



Get expert-level results while you spend time with patients⁸

Vetscan Imagyst™ analyzes skin impression smears, ear swabs and skin swabs. Using the power of artificial intelligence (AI), Imagyst quickly and reliably detects yeast, inflammatory cells and bacteria and differentiates between cocci and rods.



Prepare sample

- Sample preparation using 2 common techniques for skin cytology testing



Imagyst performs the analysis

- Consistent analysis, regardless of variability in personnel, training or microscope performance
- Access expert review by a Zoetis clinical pathologist for further evaluation via digital image transfer when needed⁹



Get accurate results

- Results are delivered efficiently and accurately, giving you more time with patients⁸



Add on remote pathologist review of AI results

A Zoetis clinical pathologist can review AI results when requested⁹



Consult with our remote specialists via ZoetisDx at no additional charge using Virtual Laboratory by Zoetis

Our global network of specialists is available to discuss results and a path forward for complex cases¹¹

⁸Option to send digital slide image to our network of clinical pathologists as needed. Additional costs may apply.

¹¹The use of VETSCAN® FUSE plus at least one Zoetis Diagnostics instrument or service, such as Vetscan Imagyst, required.

References: **1.** Data on file, Study: Impact of IMAGYST AI Diagnostic Tool on Current Cytology Testing Landscape, C Space 2022, Zoetis Inc. **2.** Hill PB, Lo A, Eden CA, et al. Survey of the prevalence, diagnosis and treatment of dermatological conditions in small animals in general practice. *Vet Rec.* 2006;158:533-539. doi:10.1136/vr.158.16.533. **3.** Nationwide[®]. Dermatitis, otitis externa among most common conditions that prompt veterinary visits. March 28, 2022. Accessed November 15, 2022. <https://news.nationwide.com/032822-most-common-conditions-that-prompt-veterinary-visits/>. **4.** Bergvall K. History, examination and initial evaluation. In: Jackson H, Marsella R, eds. *BSAVA Manual of Canine and Feline Dermatology*. 4th ed. British Small Animal Veterinary Association; 2021:13-23. **5.** Paterson S. Core investigation and laboratory techniques. In: Jackson H, Marsella R, eds. *BSAVA Manual of Canine and Feline Dermatology*. 4th ed. British Small Animal Veterinary Association; 2021:24-31. **6.** Fisher D. Cutaneous and subcutaneous lesions. In: Cowell RL, Valenciano AC. *Cowell and Tyler's Diagnostic Cytology and Hematology of the Dog and Cat*. 5th ed. Elsevier; 2019:74-101. **7.** Albanese F. Cytology. In: *BSAVA Manual of Canine and Feline Dermatology*. 4th ed. British Small Animal Veterinary Association; 2021:32-40. **8.** Data on file, Study No. D870R-US-22-053, 2023, Zoetis Inc.