

# What's So Important About Cytology?

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Clinicians often overlook collecting cytology samples from patients with dermatological or otic disease because of time constraints. In some instances, inexperience in evaluating the slide may also be a factor. In an era where clients want instant answers, cytology of skin and otic lesions is an inexpensive, high yield test. In-house cytology can aid in the selection of appropriate therapy or additional diagnostic procedures, such as biopsies or cultures, and in the evaluation of the patient's progress once therapy begins.

Cytology requires minimal equipment: microscope slides, scalpel blades, sterile needles, mineral oil, cotton-tipped applicators and good quality sticky tape. Keeping a small basket equipped with these tools in each examination room ensures cytology samples can be easily and quickly acquired. Collect samples while examining the patient (if cooperative) and explain to the client the benefit of evaluating them. The client will see the lesions, sometimes for the first time, and feel included in the care of their pet. Whether the client agrees to sample evaluation or not, collecting them in this manner efficiently uses appointment time. The veterinary technician can stain and perform the initial evaluation while the clinician continues to examine the patient and collect a more detailed history.

The key is to become familiar with the various techniques for cytology sample collection and use them often. The more familiar the clinician or technician is with cytology, the faster sample collection and interpretation will occur. Attending lectures or on-line courses detailing cytological techniques and interpretation of results is unquestionably worth the time and money invested.



*Ear Mite Eggs*

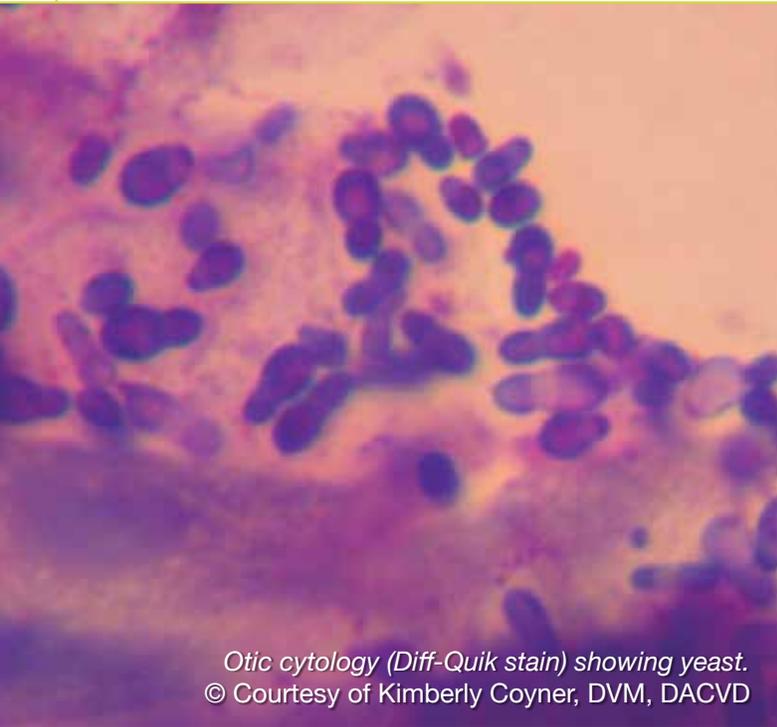
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Once the decision is made to include cytology as a routine step in the evaluation of patients with dermatological disease, educate the entire veterinary team about the benefits of cytology so the client receives a consistent message. Determine standards for sample collection and staining methods, then schedule a lunch meeting to educate the entire clinic team. It might be time to purchase a new microscope or at least have the current one cleaned and adjusted. Bacteria can grow in cytology stains. Set up separate staining systems for 'clean' (blood smears, effusion cytology) and 'dirty' (dermatological and otic) samples. In a busy multi-veterinarian practice, stains may need to be discarded weekly to every two weeks to prevent contamination artifact.

Are you still questioning the benefits of incorporating surface cytology into your practice? Here are some examples of how cytology can provide answers or at the very least, aid in treatment selection or further testing. Let's say that during a dermatological examination, a few pustules are found. Examining direct impression smears (multiple touch preparations) from the ruptured pustule's surface can determine whether the pustule is secondary to an infection (*i.e.*, finding toxic neutrophils with extra- or intra-cellular bacteria) or a sterile disease. If cytology suggests a bacterial infection and the patient has been receiving systemic antibiotics, the clinician can discuss antibiotic resistance with the client and then recommend bacterial culture and sensitivity testing. If impression cytology shows healthy neutrophils with multiple round purple-stained cells, a sterile pustular disease, such as the pemphigus complex, should be

## What's So Important About Cytology? (continued)

considered and skin biopsies recommended. If rod bacteria and toxic neutrophils are seen in exudate collected from an inflamed ear, the clinician can communicate to the owner the need for culture and sensitively testing, aggressive therapy, and the importance of re-evaluation appointments.



*Otic cytology (Diff-Quik stain) showing yeast.*  
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Cytology can provide all of this information in five minutes or less.

Cytology is also useful for monitoring response to treatment, in particular for patients with otitis externa. Remember to record cytology findings in a patient's medical record so results can be compared at subsequent examinations. If rod bacteria, neutrophils and red blood cells are found in an otic sample during re-evaluation of a patient where cocci and neutrophils were previously seen, a different therapeutic protocol is warranted because the infection has progressed. Dermatological and otic diseases can be challenging and frustrating for clinicians and owners alike. Owners want their pets to be comfortable and healthy as quickly as possible. In-house cytology

provides instant information to aid in the selection of appropriate treatment and monitoring of the pet's progress once therapy has begun. A more comfortable pet means a happier owner. A satisfied client is unlikely to leave the practice and more likely to recommend the clinic to other pet owners. Interacting with appreciative clients and resolving or controlling a pet's health issue leads to less conflict and higher job satisfaction for the entire veterinary team.

So in summary, why do cytology? Performing in-house cytology routinely in patients with dermatological or otic diseases benefits patient care through rapid diagnosis and focused treatment plans, increases owner satisfaction and confidence with the veterinary practice, decreases clinician frustration and emotional fatigue and increases practice income. Who would have guessed so many benefits could come from such a simple procedure?

Do you want more information regarding cytology? Dechra has sponsored a cytology webinar on the VetFolio website. This webinar is presented by Kimberly S. Coyner, DVM, DACVD. Dr. Coyner provides an in-depth discussion on how to obtain, prepare and interpret diagnostic cytologic samples from inflammatory and nodular skin lesions and otitis, as well trichograms and dermatophyte cultures. In order to take this course you will need to have a VetFolio subscription, either paid or a 30-day trial. After you set up your login information, you will be able to access this course and receive CE credit.

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