1. Why do cytology?

There are so many ways in which this technique can be of benefit.

Cytology:

- Increases your chance of reaching a more specific diagnosis
- Helps you prescribe a more targeted treatment
- Ensures prudent use of antimicrobials by reducing the tendency to dispense empirical therapy
- Helps you to monitor response to therapy
- Improves your ability to give clients pointers on prognosis
- Provides tangible and visual findings to present to owners, increasing understanding and communication
- Allows better clinical outcomes, creating better client satisfaction

All with a technique that is quick, inexpensive, and easily undertaken within your clinic

2. Prepare your slides

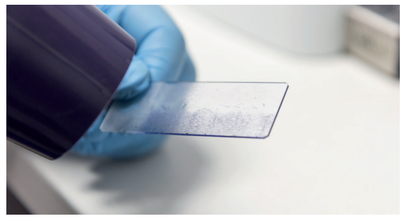
Depending on the nature of the sample, the slide should be air-dried (purulent material) or gently heat-fixed with low heat (waxy/oily material). A hairdryer or a cigarette lighter can be used for heat fixation.

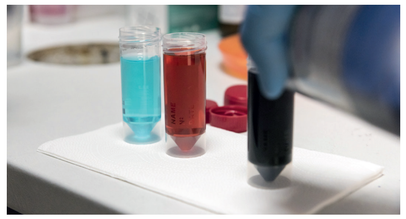
Consider wearing gloves or using forceps to protect your hands from long-lasting stains. Use a rapid stain such as modified Wright stain (Diff-Quik®). Remember that samples for suspected otic parasites are interpreted on low power without staining.

1. Fixative: alcohol
2. Solution I: cytoplasmic, eosinophilic, red/pink
3. Solution II: nuclear, basophilic, blue/purple

Top Tips:

- Dip the slide in each solution 5-8 times
- Allow any excess solution to drain into the jar and touch the end of the slide on a paper towel. This prevents any dilution of the next solution
- After solution II, dip in distilled water or rinse the side with no sample under tap water
- Air dry, use a hair dryer (low heat) or blot in bibulous paper





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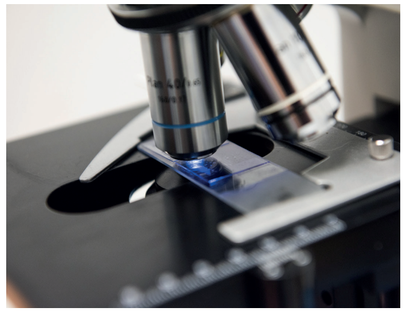
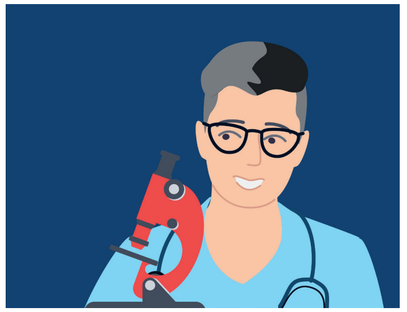
3. How to use a microscope

Start to examine the unstained sample under low power (x10 objective) to detect any otic parasites.

Move on to the stained samples and scroll through them systematically using low power to select areas for closer inspection with higher magnification. Causative organisms such as yeast and bacteria can be detected using dry, high-powered lenses (i.e. x 40). However, for true detail, you should examine your sample under the oil immersion lens (x100 objective lens).
The application of a cover slip when using oil immersion is recommended.





4. Interpretation

Interpretation of cytological slides requires some experience and the more you practice, the easier it will become.

- Practice how to identify inflammatory cells and signs of infection, various microorganisms as well as evidence of biofilm and artifacts