Lifelong Ear Partnership

1. Why do cytology?

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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

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2. Meet and greet

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Not only do veterinary staff need to be skilled communicators, but as veterinary professionals, we are also often faced with patients who are fearful of us. In one study, over three-quarters of dogs presenting within a veterinary clinic, demonstrated fearful behaviours (Döring *et al*, 2009).

A combination of current otic pain (otalgia) and previous stressful experiences, as a result of examination and/or an unfamiliar environment, can lead to the expression of fear-related behaviour and lack of compliance.

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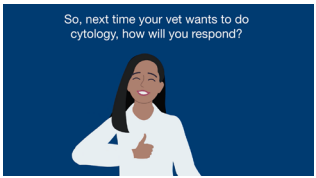
It is important that we recognise and address such behaviour as soon as possible.

1. Greet your patient to create a nice experience. Remember the dog will need to have its ears handled on multiple occasions

2. After your initial clinical examination, put your examination gloves on (if you haven´t already) and approach the ear in a careful but still decisive way to explore the level of otalgia. **Tip:** Collecting material on your gloved finger might be your best chance of getting a “rescue cytology sample” if all else fails. The dog might need sedation, general anaesthesia, and/or anti-inflammatory treatment to reduce swelling and/or to provide analgesia before being properly investigated

3. Start building the Lifelong Ear Partnership teamwork you need and gain owner commitment, you may wish to advise them to watch the animated video that describes why you want to perform cytology



Reference: Döring *et al* (2009) Fear-related behaviour of dogs in veterinary practice. *The Veterinary Journal* 182; 38-43

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3. Collect your sample

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Pick a sampling technique you prefer, using a cotton bud, gloved finger, or cytology brush. **Practice makes perfect**, and don´t forget to **always sample both ears** for reference.

Top Tips:

- Practice your sampling skills on healthy dogs you come across. This way you will improve your technique and you will get a good perspective on how cytology looks from an asymptomatic/normal dog ear
- Mark your slides with a pencil and use the same slide for both ears
- Roll, don‘t smear or rub your sample onto your slides, as this might destroy cell morphology
- If otic parasites are suspected, remember to collect slides for microscopy on low magnitude without staining
- If you have a clinical suspicion of treatment failure or a more complicated opportunistic infection, collect samples for culture and susceptibility testing at the same time

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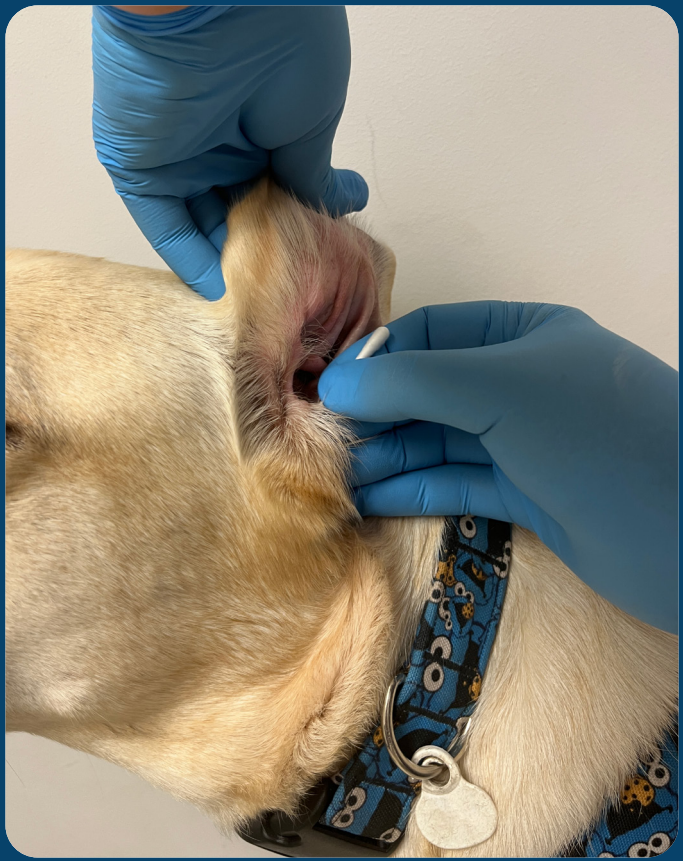

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4. Prepare your slides

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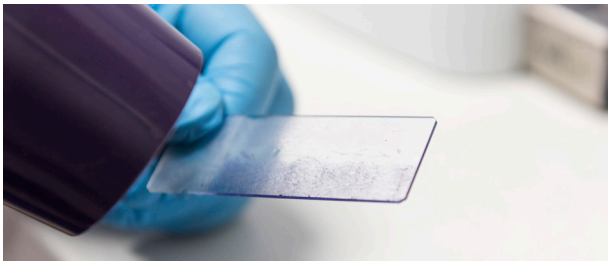

Depending on the nature of the sample, the slide should be air-dried (purulent material) or gently heat-fixed with low heat (waxy/oily material). A hairdryer or a cigarette lighter can be used for heat fixation.

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

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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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5. How to use a microscope

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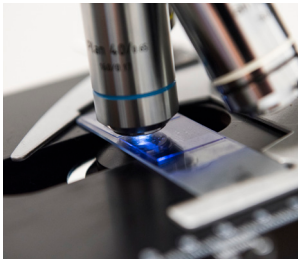

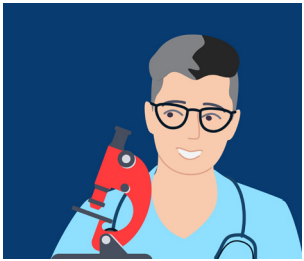

Start to examine the unstained sample under low power (x10 objective) to detect any otic parasites.

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. x40). 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.

For more tips on how to best use your microscope, please visit the ear cytology case study 1 on Dechra Academy

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6. Interpretation

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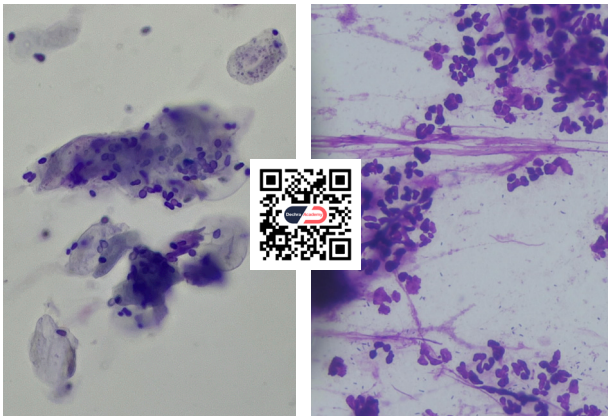
Interpretation of cytological slides requires some experience and the more you practice, the easier it will become.

- Practice how to identify inflammatory cells and signs of infection, various microorganisms as well as evidence of biofilm and artifacts
- Further advice and tips for ear cytology are available by completing the ear cytology course on **Dechra Academy**



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7. Establish teamwork

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After you have recorded all findings in the patient record, it is time to explain to the owner what has been discovered and what the next steps are.

Remember you are the coach of the much-needed teamwork, to reach the successful case outcome you all want.

You should communicate your cytological findings and the treatment plan with the owner at this stage. **The 4D ear model can assist you** to visually describe the resulting changes within the ear canal.

This is also the suggested time to discuss the primary cause of the condition, what needs to be further investigated, and the importance of revisits and a long-term plan.

The designated website for owners and/or the animated videos that refer to these topics can be used to help at this stage.

Top Tips:

At the revisit, it might be appropriate to introduce a long-term ear-diary for owners to monitor their dog´s ear disease. These are available by visiting xxx or speaking to xxxx as an editable PDF or for print.

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www.ear-inflammation.co.uk