IT'S LOUD AND CLEAR

EAR DISEASE IN DOGS IS PAINFUL

EXPERT GUIDANCE ON HOW TO MANAGE THE PAIN ASPECT OF OTITIS EXTERNA IN DOGS

Dechra

WE'RE BUILDING LIFELONG EAR PARTNERSHIPS

IT'S LOUD AND CLEAR

EAR PAIN IS NOT JUST A SYMPTOM; IT'S A BARRIER TO EFFECTIVE CARE

Otalgia, or ear pain, is a less recognised and undertreated aspect of canine otitis externa[1] and veterinary staff play a vital role in:

- Recognising and addressing ear pain
- Educating caregivers on the topic
- Choosing appropriate therapies based on case specific factors
- Building Lifelong Ear Partnerships beneficial to long-term ear health

This guidance document has been created to provide expert insights that empower you to treat otitis externa more effectively by putting pain management at the centre of care.

"With no clear guidance, vets express strong interest in education and step-by-step advice for management of the pain aspect of ear disease."

MARKET RESEARCH OTI25

"Most vets recognize pain as important in otitis, but many still use 'otalgia' and 'otitis' interchangeably, indicating pain is an overlooked component of ear disease."

MARKET RESEARCH OTI25

DIFFERENTIATING PAIN FROM PRURITUS

"Vets often struggle to tell pain and pruritus apart in canine otitis, as overlapping signs like scratching and rubbing make diagnosis unclear."

MARKET RESEARCH OTI25

HOW DO I DIFFERENTIATE AN ITCHY EAR FROM A PAINFUL ONE?

Otitis is the term used for ear inflammation whereas otalgia focuses on the pain commonly associated with and caused by ear inflammation. Market research[1] and expert insights indicate that although there is overlap certain signs are more suggestive of pruritus and some of pain. Pain is more likely associated with chronic and/or suppurative otitis externa but there is no confirmed link between the severity of pain and lesion scores.[2]

The individual interpretation of pain means that it is not possible to estimate the degree of pain from the patient's perspective. **Pain is both a physical sensation and an emotional and cognitive response.**

Signs related to the physical sensation needs to be interpreted alongside signs of the emotional domain such as the four potential behavioural responses to protective emotion described in the Heath model as **avoidance, repulsion, appeasement** and **inhibition**.[3]

Pain and pruritus can be co-existent and the discomfort related to the physical impact can be associated with fear-anxiety motivation. When pruritus is not resolved through scratching, the emotion of frustration is commonly triggered. Behavioural responses associated with these emotions may appear. An example is vocalisation during the act of scratching that can be associated with pain being coexistent with pruritus.

Note that not all these signs may be seen in the consultation, especially in an anxious patient and it is unlikely that a clear-cut differentiation between pruritus and pain will be possible within a single consult in a veterinary practice context.

Pruritus	Pain
Headshaking	Head tilt and/or dropped pinna
Rubbing	Behavioural signs associated with the protective emotional dimension of pain such as reduced activity and vocalisation
Scratching	Behavioural responses associated with cognitive aspects of pain such as being avoidant or repelling in association with physical contact with the head or face due to anticipation of pain

CREATED IN COLLABORATION WITH:

Prof. Tim Nuttall

BSc BVSc Cert VD PhD CBiol FRSB MRCVS

Professor Tim Nuttall is an RCVS Specialist in Veterinary Dermatology and Head of Dermatology at the University of Edinburgh Royal (Dick) School of Veterinary Studies. Tim runs a busy referral dermatology clinic, with a particular interest in the immediate and long-term management of otitis in dogs. Tim has written over 130 clinical and scientific publications and has presented over 200 lectures throughout the world. He is a passionate advocate for improving antimicrobial stewardship and pain relief in otitis.

Dr. Matthew A Gurney

BVSc CertVA PgCertVBM DipECVAA FRCVS RCVS&EBVS™ European Specialist in Veterinary Anaesthesia and Analgesia

Dr. Matt Gurney is specialist in anaesthesia and analgesia and trained at the University of Liverpool. Matt is passionate about pain management, lectures on the subject globally and is the author of several international anaesthesia publications. In 2020 Matt was awarded the Fellowship of the Royal College of Veterinary Surgeons for Meritorious Contribution to Clinical Practice. Matt is one of the co-founders of The Zero Pain Philosophy, an educational resource for vet professionals, and a Past President of the European College of Veterinary Anaesthesia & Analgesia. www.zeropainphilosophy.com

Dr. Sarah Heath

BVSc DipECAWBM(BM) PGCert Vet Ed FHEA FRCVS

Dr. Sarah Heath is an RCVS and EBVS® European Veterinary Specialist in Behavioural Medicine and Clinical Director and owner of Behavioural Referrals Veterinary Practice in Chester. Sarah is the author of the Heath Model and promotes the concept of Comprehensive Veterinary Healthcare, which takes into account physical, emotional and cognitive aspects of health in non-human animals. She has a special interest in the interplay between emotional and physical illness and particularly in the role of pain.

HOW DO I APPROACH A DOG WITH A PAINFUL EAR?

TOP TIPS FROM A SPECIALIST IN BEHAVIOURAL MEDICINE:

During the consult:

- Remember that pain is **both a physical sensation and an emotional and cognitive response**.
- Assessing the patient through a combination of patient history, physical examination and observation of behavioural responses is recommended in every case.
- It is conventional to assess pain via behaviour shown in the practice but it is important to remember that the patient's behaviour will be impacted by all three domains of their health.
- Remember that **experiences from previous vet visits can influence** the behavioural response in the context of the consult room through learning (cognitive health). Collection of information about behaviours at home, such as a reponse to palpation of the ear or touching it during social interaction with caregivers will be useful in order to determine if the response is consistent between contexts.
- Use **dog friendly clinic approaches**[4] to help reduce any unnecessary protective emotion during the visit and maximise the success of examination.
- When dealing with a fearful dog, the use of food cues (if they increase engaging emotional bias) could be beneficial and in milder cases of ear disease, neurological distraction through scratching another part of the body during the vet's examination of the ear is often helpful.
- In communication with caregivers the use of **human animal health analogies** can help, especially when discussing the emotional impact and explaining the interplay between emotion and perception and therefore significance of the pain. It is important to emphasise the bilateral nature of the relationship – emotional challenge influences pain perception and significance and pain can also influence emotional health.
- Provide caregivers with tips on how to **look for signs of emotional pain** as well as the more traditional physical health signs of scratching and vocalising. It is important to help them recognise the emotional indicators in terms of body language changes and behavioural responses (avoidance - repulsion - appeasement - inhibition). The pain can result in body language and behavioural change when the ear is not being touched, and this can be harder for caregivers to recognise so education around this is helpful.
- It can also help to educate caregivers about signs of emotional arousal and give advice as to how they can adjust the dog's environment and other emotional inputs to help reduce this.

Caregiver advice:

- Homework on **forming positive association with touching and examining** the ear is essential. In a relatively mild state of physical disease it is easier to introduce appropriate handling and thereby establish opportunities to monitor and prevent escalation of the physical condition through appropriate early management.
- Working on increasing positive associations with the veterinary environment through confidence visits is often beneficial to lower the dog's starting point of protective emotional bias and emotional arousal when coming for consultations.
- Provision of advice about ear healthcare during a puppy's first visit to the practice will help to improve early detection of problems and thereby improve treatment success.
- **Provision of emotional and cognitive health advice as part of a Lifelong Ear Partnership will help to improve caregiver understanding of their pet and their ability to regularly check the physical health status of their pets' ears so that the patient is presented to the veterinary practice earlier.**

DAISY – AN ACUTE CASE OF OTITIS EXTERNA

HISTORY

- 1 year and 10-months old neutered Labrador Retriever
- No previous history of ear disease, and all prior practice visits have been for preventative care
- Itchy, red and sore right ear.

First observations:

Upon entering the consult room, Daisy is notably apprehensive.

She attempts to flee the room, shows lip smacking, and immediately rolls onto her back with her tail tucked between her legs upon being approached.

RECOGNITION & EAR EXAM

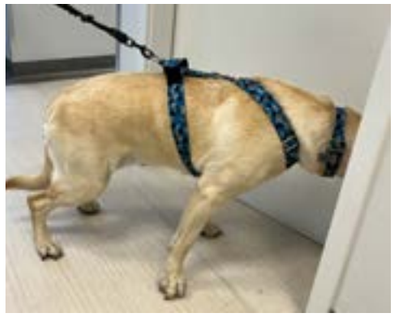
Recognising pain:

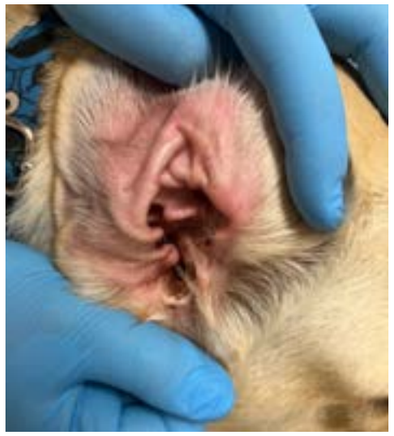
The individual interpretation of pain means that it is not possible to be certain of the degree of pain from Daisy's perspective.

There are signs of swelling and erythema suggesting some physical sensation of discomfort for Daisy. Based solely on the physical health part of the health triad one might presume that the pain is mild in this case but other **factors from Daisy's emotional and cognitive health domains could make it considerably more painful from her perception**. Pain is likely to be exacerbated by movement, touch, and topical treatment.

Daisy has shown signs consistent with a protective emotional bias (avoidance, trying to leave the room and appeasement through rolling over on interacting with people) and high emotional arousal (lip smacking), both can lead to changes in her behaviour which could lead to misinterpretation of a pain assessment in the consult room and a careful approach is advised.

Clinical examination must not be forced on Daisy and otoscopy must only be performed if she tolerates it. Muzzling and restraint will add to Daisy's distress and make approaching her ears more difficult. Practice a dog friendly clinic approach to help **reduce any unnecessary protective emotion** with triggers such as food on a licking mat. If appropriate consider the use of sedation.





Ear examination:

- The ear canal is open, mobile, and pliable
- Moderate erythema and swelling, with a mild ceruminous brown exudate
- Otoscopic examination is difficult, and Daisy does not allow a full examination of the horizontal ear canal and tympanic membrane.

ACTION

TOP TIPS FOR CASE MANAGEMENT

GUIDANCE FROM DR. SARAH HEATH

- **Caregiver communication:** The use of human animal health analogies can help. It would be important to emphasise the bilateral nature of the relationship i.e. emotional challenge influences pain perception and significance and presence of pain can lead to emotional challenge.
- The relatively mild physical state of the ear may reduce the caregiver perception that Daisy's ear might be painful. It can be helpful to explain that pain is very subjective and therefore any signs from Daisy that she is experiencing pain are valid.
- **During the consultation:** The use of food cues, if they increase engaging emotional bias, could be beneficial and neurological distraction through scratching another part of Daisy's body during the vet's examination of the ear can be helpful. However reducing pain before attempting examination is important.

GUIDANCE FROM PROF. TIM NUTTALL

- This is an **acute erythroceruminous otitis externa** (ECOE) with no chronic changes, most likely to be associated with a *Malassezia* or staphylococci overgrowth (dysbiosis). Cytology is useful to distinguish *Malassezia* from staphylococci and reduce unnecessary antibiotic use. Cytology may be more easily obtained from the opening of the vertical ear canal with a gloved finger.
  - Daisy's condition should rapidly respond to a topical steroid or a topical steroid/antimicrobial treatment.
  - There is little to no risk of a ruptured tympanic membrane in a case like Daisy's.
  - Consider a leave-in gel if daily treatment will be difficult and distressing for Daisy and her caregiver(s).[5]

GUIDANCE FROM DR. MATT GURNEY

- Daisy may **require sedation** for proper examination.
- Use targeted topical treatment combined with 3 days of NSAID – if Daisy does not respond within 3 days, her caregiver is advised to re-present/call to discuss further NSAID treatment.
- Systemic NSAID will aid comfort for topical treatment but a topical steroid is required to reduce the inflammation.

IMPACT

Case impact:

From a dermatology perspective focus lies on the primary cause of otitis rather than reversing any perpetuating factors. The majority of cases of recurrent otitis externa in dogs are associated with atopic dermatitis or food allergy.[6,7] Daisy's history and clinical signs are most consistent with an **underlying atopic condition**. Further investigation to diagnose and manage the primary cause must be done if the otitis doesn't resolve or recurs.

There is a need for education of Daisy's caregiver(s) on the importance of addressing the underlying disease and long-term ear management.

From a behaviour perspective encourage the caregiver(s) to form positive association with touching and examining the ear. In this relatively mild state of physical disease, it could be easier to introduce appropriate handling and establish better opportunities to monitor Daisy and prevent escalation of the physical condition through early management.

Aversion and resistance to topical treatments can:

- Affect treatment efficacy with a risk for disease progression and exacerbation of pain
- Preclude topical treatment in the future
- Disrupt Daisy's bond with her caregiver(s) and worsen her anxiety for future vet visits.

DAVE – WHEN EAR DISEASE BECOMES CHRONIC

HISTORY

- 9 years old, neutered Cocker Spaniel
- Repeated episodes of otitis externa, treated with a variety of products with varying success
- Bilateral, foul-smelling ears

First observations:

Dave is a calm and friendly dog – as evidenced by his general demeanour and response to clinical examination.

However, he shows marked distress with clear anticipation of pain when his head and ears are approached and with the slightest contact.

RECOGNITION & EAR EXAM

Recognising pain:

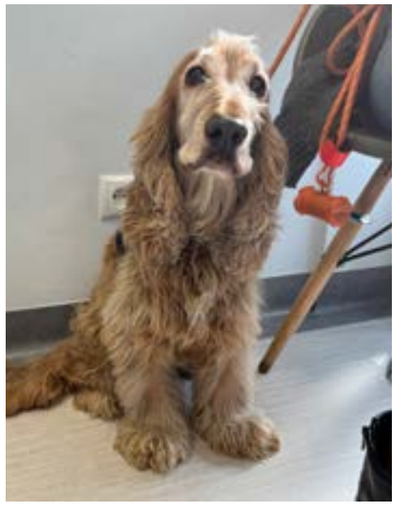
Pain is both a **physical sensation and an emotional and cognitive response**. A case like Dave is expected to be severely painful and may be markedly exacerbated by touch, movement and topical treatment. A display of repulsion behaviour can be associated with fear-anxiety, and this needs to be considered when assessing the case.

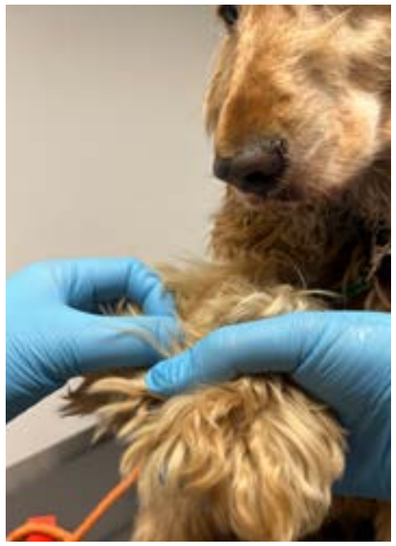
Dave has suppurative otitis, which is painful and not pruritic. This issue is long standing and there is acute and chronic pain present, which needs to be addressed.

Otoscopy must only be performed once Dave is heavily sedated or anaesthetised. Muzzling and restraint is unethical, will add to his distress, and make approaching his ears even more difficult.

Ear examination:

- Highly reactive to even very gentle manipulation of the pinnae
- Severe erythema and swelling with ulceration at the entrance to the external ear canals and a copious foul-smelling purulent discharge
- Otoscopy is not possible due to Dave's distress.





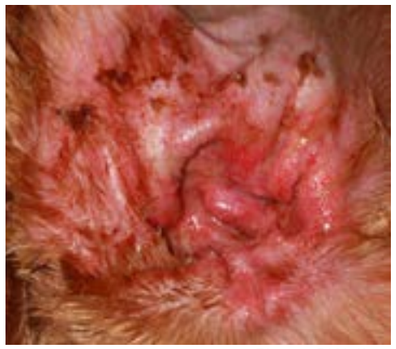


Photo: C Walker

ACTION

TOP TIPS FOR CASE MANAGEMENT

GUIDANCE FROM DR. SARAH HEATH

- **Caregiver communication:** With Dave the recognition of pain may be easier for the caregiver as distress and challenging behaviour may be more readily associated with pain. Explaining that, in addition to the physical aspects of pain, there are also emotional and cognitive aspects, may help to increase understanding of the impact on Dave.
- **During the consultation:** The use of a dog friendly clinic approach is key and pain relief before attempts at clinical examination is essential. The use of cues for engaging emotion during the examination may not be effective if Dave has a higher degree of protective emotion from his more advanced disease and there is a risk of poisoning the cue. It would therefore be more appropriate to examine Dave under general anaesthesia.
- Remember that treatment compliance may be related to inhibition, which is associated with protective emotion, and be aware that this **response may change rapidly if it is perceived by the patient as being unsuccessful**. If another behaviour response is selected it will be at the same intensity i.e. there will not be a gradually increase in intensity of the new response. Being aware of this can help avoid being taken by surprise by a potential shift to repulsion and improve safety.

GUIDANCE FROM PROF. TIM NUTTALL

- This is an **acute suppurative otitis** that is likely a result from the recurrent earlier episodes of ear inflammation. It is commonly associated with a *Pseudomonas aeruginosa* infection, although other Gram-negative bacteria or a mixed infection is possible.
- A thorough approach to treatment that **addresses all Dave's triggers** will be needed. Failed attempts at treatment encourage antimicrobial resistance (AMR) and biofilm production that will worsen the prognosis.
- Dave will need effective **analgesia**, systemic **prednisolone**, an **ear flush** to remove all the purulent material and a **topical antibiotic** effective against bacteria (identified by cytology as antimicrobial susceptibility tests are not useful and poorly predict the response to topical therapy).
  - Commercial preparations containing polymyxin B, aminoglycosides and fluoroquinolones would be the first choice.
  - Note that none of the long-acting ear medications are licensed for suppurative otitis involving Gram-negative bacteria.
  - It is advisable to check the tympanic membrane as suppurative otitis is a risk factor for ruptures. An off-label solution of an injectable antibiotic will be required if the ear drum is ruptured.
  - Referral to a specialist is recommended if the otitis does not respond to first-line treatments.
  - Chronic and established infections may be medically irreversible and require a total ear canal ablation (TECA). This is a high-risk procedure with an ongoing suppurative otitis.

"Caregiver awareness, understanding and ability to administer treatment are all barriers to successful management and there is a need for communication help."

MARKET RESEARCH OTI25

GUIDANCE FROM DR. MATT GURNEY

- **It is likely that general anaesthesia is required** – to enable examination, ear cytology and cleaning.

My recommendation:

  - Use an alpha-2 agonist of choice; medetomidine 5-10 µg/kg IV or 10-15 µg/kg IM or dexmedetomidine 5-7 µg/kg IV or 10-15 µg/kg IM, combined with methadone 0.2 mg/kg IM or IV as premedication.
  - Once sedated add ketamine 1-2 mg/kg IM for additional analgesia and to reduce hyperalgesia. A ketamine infusion can be considered as part of the anaesthesia

- Nerve blocks are helpful when managing ear pain.[8] The recommendation is to use the auriculotemporal and greater auricular blocks in combination. For further information visit: www.zeropainphilosophy.com
- NSAIDs are not appropriate since systemic steroids are required to control the inflammation. Paracetamol 10-20 mg/kg PO TID is preferred and can be combined with both systemic steroids and NMDA antagonists.
- It is important to understand and address the **chronicity of pain** and the ongoing analgesia to control it. Think of chronicity as pain that no longer serves a purpose. The question to ask is; **has this pain persisted longer than a week?** If so, this suggests additional analgesia to prevent further chronification and it is recommended to consult a pain specialist.

IMPACT

Case impact:

Dave will need life-long and ideally topical maintenance therapy to prevent relapses.[9]

There is a suspicion of ongoing central sensitisation which requires sufficient pain management for an extended period to minimise the risk of ongoing chronic pain.

Earlier handling/treatment without analgesia may have triggered aversion to handling/topical therapy – anxiolytics and behavioural therapy may be needed.

The following causes and factors needs to be addressed:

- *Primary* – most likely to be atopic dermatitis, with much lower risk of a tumour or foreign body. Other conditions are unlikely given the history and clinical signs.
- *Predisposing* – pendulous ears, hairy ears, increased density of ceruminous glands, and lip fold dermatitis.
- *Perpetuating* – acquired chronic pathological changes including hyperplasia, glandular ectasia, stenosis and biofilm formation.

Dave's reaction to mild palpation of the ear pinnae means that direct work on forming positive associations is not yet possible. It is important to focus on **lowering resting emotional arousal and increasing self confidence**.

Once the ears are in remission, the primary and predisposing triggers must be identified and managed to prevent relapses. Proactive management of these earlier would have probably avoided the progression to the severe otitis Dave has now.

Upon entering the consult room Dave was described as compliant – it is possible that he is inhibited. Working on increasing positive associations with veterinary visits through confidence visits would be beneficial so that he is at a lower starting point of emotional arousal and has more engaging emotional bias when he is coming for consultations.

Long term behavioural consequences related to cognition:

1. Protective emotional associations with the vet practice and with handling around the face and ears
2. The risk of poisoning the cue if using food in situations where the protective emotional response is predominant. If emotional management is used, these risks are reduced.

BERT – EARS BEYOND MEDICAL THERAPY

HISTORY

- 7 years old, neutered Bernese Mountain Dog
- Referred for chronic, end stage otitis
- Documented as “head-shy” with a history of caregivers struggling with topical treatment
- Caregivers are aware that extensive surgery is likely required.

RECOGNITION & EAR EXAM

Recognising pain:

The individual interpretation of pain means that it is not possible to be certain of the degree of pain from Bert’s perspective.

Based solely on the physical health part of the health triad, one might presume that the pain is more severe in this case and exacerbated by handling, touch, and movement.

This is a result of years of inflammation and repeated ear infections. The history of chronic disease, and a report that the caregivers and referring vet have struggled to manage ear disease, raises the possibility of **significant cognitive consequences and anticipatory emotion of anxiety.** These factors could be exacerbating Bert's perception of the pain and the impact of the physical domain of pain thereby compromising this welfare.

Pain assessment involves assessing body language and behavioural responses related to the protective emotional aspects of pain, as well as responses to physical pain sensation. In the photo of Bert, you can see body language signs, such as whale eye and ear position indicating protective emotional bias, which could be related to pain or anxiety but most likely a combination.

As Bert has been living with chronic pain for a considerable time; it may even have become “normalised” and there is a risk of signs of pain (e.g. reduced activity and head/ear aversion) being ascribed to aging and/or temperament.

Photos: Ewa Konarzewska, Dermawet

Ear examination:

- Ear canal shows much reduced pliability and mobility
- Severe stenosis with swelling and moderate ceruminous to seborrheic exudate
- Otoscopy is not possible due to degree of stenosis of the ear canal.

ACTION

TOP TIPS FOR CASE MANAGEMENT

GUIDANCE FROM DR. SARAH HEATH

- **Caregiver communication:** The use of **human animal health analogies** can help especially when communicating the emotional impact and explaining the interplay between emotion and perception and therefore significance of the pain. Bert has advance state ear disease which can make it easier for caregivers to appreciate the potential for pain in comparison to milder and less advanced cases.
- It is important for the caregiver to recognise that the **pain results in a range of responses**. Some directly related to the physical aspects of the ear and the lesions within it, but also others related to the emotional impact of the pain. When Bert is showing signs of behavioural change and body posture when the ear is being touched, through his own contact with it via scratching or through human contact, it can be easier to recognise pain. However, the pain can result in body language and behavioural change when the ear is not being touched, and this can be harder for caregivers to recognise so education around this is helpful.
- Advice to the caregiver about **interactions before the consultation and how to minimise emotional arousal is helpful**. For example, do not walk or play with Bert directly before the appointment.
- **During the consultation:** Examination is likely to be associated with appreciable levels of protective emotion and associated behavioural responses which will make the consultation less successful so **pre-empting this with anxiolytic medication** could be beneficial.
- The use of a course of systemic pain relief and anti-inflammatory medication prior to the appointment is also advisable. The aim is to reduce potential for protective emotions including pain and fear-anxiety during the consultation. If direct examination is required during this consultation the use of an appropriate sedation protocol would be advisable as attempts to physically examine conscious are very likely to increase protective emotion and risk cognitive consequences which could be detrimental if surgery is planned and **after care will be needed both at home and with vet revisits.**

GUIDANCE FROM PROF. TIM NUTTALL

- This is **severe and advanced chronic ECOE**. It is most likely to be associated with a mixed bacterial overgrowth (dysbiosis) with *Malassezia* and suppurative infection is less likely. However, this is irrelevant now as topical therapy is not possible and systemic antimicrobial therapy will not be effective.
- Otoscopy will not be possible and shouldn’t be attempted.
- Cytology will be of little value – it can only be obtained from the pinnae and this may not be representative of the ear canal. In addition, topical or systemic antimicrobial treatment isn’t feasible.
- It is highly **likely that Bert will need surgical intervention**. To determine if this is the case, even though his ear canal won't be pliable, its mobility should be assessed - if it is fixed and immobile, medical therapy is unlikely to help, and he will require a total ear canal ablation (TECA).
- Should medical intervention be considered, Bert needs immediate therapy with **effective analgesia and prednisolone at 1-2mg/kg daily for up to 3 weeks to open the ear canal**. If the latter is not effective, the other option is intramural depot triamcinolone injections. Without opening or removing the ear canal any other therapy will be futile.

GUIDANCE FROM DR. MATT GURNEY

- As already stated, it will be difficult to manage Bert's condition without surgery
- For TECA surgery a multimodal approach to pain is warranted with post operative pain assessment using a validated pain scale.
- **My recommendation is:**
  - Use an alpha-2-agonist of choice; medetomidine 5-10 µg/kg IV or 10-15 µg/kg IM or dexmedetomidine 5-7 µg/kg IV or 10-15 µg/kg IM, combined with methadone 0.2 mg/kg IM or IV as premedication.
  - A ketamine infusion is recommended; 10 µg/kg/min during surgery, weaning to 2-5 µg/kg/min post-surgery according to pain score.
  - If systemic steroids are warranted do not use NSAIDs but paracetamol 15 mg/kg IV TID.
  - Nerve blocks are helpful when managing ear pain.[8] The recommendation is to use the auriculotemporal and greater auricular blocks in combination.
    For further information visit www.zeropainphilosophy.com
- Pain score the patient post-op using a validated pain scale and if pain score indicates intervention, administer methadone 0.2 mg/kg IV.
- Are there signs of nociception during surgery? Suggested actions: administer additional methadone 0.1 mg/kg IV or top up with alpha-2 agonist 2 µg/kg of either medetomidine or dexmedetomidine.

IMPACT

Case impact:

There is a high probability of **central sensitisation** in Bert's case and a risk of ongoing chronic pain if this is not managed.

Once the chronic pain is alleviated, he may be much more accepting of handling and treatment. However, the **experience of pain and treatment without analgesia may have triggered aversion**. The long-term cognitive consequences can be reduced if emotional management is employed. In the case of Bert medication management of protective emotion is a consideration together with appropriate use of sedation to reduce the formation of cognitive associations, which could hamper the investigation, treatment and recovery management.

With the presumption that Bert is prescribed TECA surgery, it is important to ensure that the caregiver(s) is educated on this topic. Is the other ear affected but not as severely? If so, how do we best prevent a similar progression. Most TECAs are avoidable if the PPP triggers are proactively managed at an earlier stage.[9]

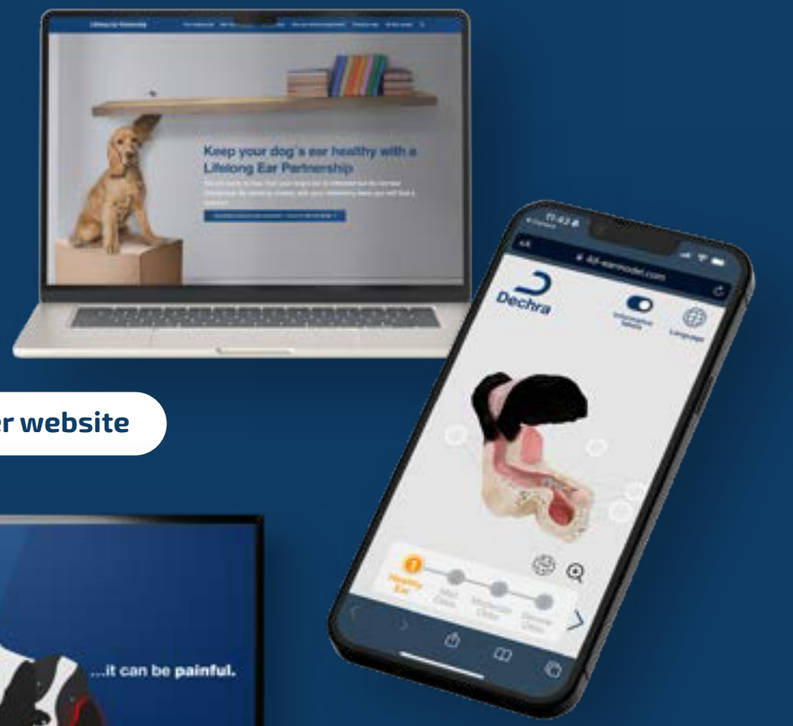
The following causes and factors needs to be addressed:

- *Primary* – most likely to be atopic dermatitis given the breed and history. This can be confirmed using clinical signs elsewhere on the skin.
- *Predisposing* – unclear, but not overly relevant at this stage.
- *Perpetuating* – the immediate treatment priorities are to manage pain post surgery. The primary and predisposing triggers must be identified and managed to prevent relapses in the other ear and involvement of the remaining pinna after a TECA.

WE'RE BUILDING LIFELONG EAR PARTNERSHIPS

Communication is key to successful case management and market research[1] tells us there is a need for helpful tools to explain topics like; why you may be insisting on performing ear cytology, the importance of pain relief or the need to investigate and plan for management of any underlying disease.

Check out our resources to support your client conversations, in practice, before or after the consult, covering educational needs as well as practical hints and downloadable assets to support a Lifelong Ear Partnership.



Caregiver website

Award-winning 4D ear model

Animated videos

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