

# The Intersection of Medical and Behavioral Issues in Avian Health

LafeberVet Webinar Program #1281347

Yvonne R.A. van Zeeland, DVM, MVR, PhD, DECZM (Avian, Small Mammal)

- Veterinary health professionals are accustomed to looking at problems as either medical OR behavioral
  - Medical problems in birds
    - Non-specific signs of illness, such as lethargy, anorexia, and a fluffed and ruffled appearance
    - More specific clinical signs
    - Oculonasal discharge with upper respiratory problems
    - Sneezing and abnormal breathing with respiratory problems.
    - Neurologic signs, like seizures
    - Vomiting or regurgitation and diarrhea, typical of gastrointestinal disease
    - Orthopedic problems, such as wing droop
  - Behavioral problems
    - Examples
      - Aggression or biting
      - Fear or phobia, anxieties
      - Destructive behaviors
      - Excessive vocalization
    - Owners that seek help are much more likely to go to a behaviorist
    - Many behavior “problems”, such as destroying furniture
      - Are actually expressions of natural behavior
      - There are also stereotypic behaviors, that owners do not recognize as a problem, but are instead simply interpreted as fun, repetitive behaviors
- Some complex conditions, such as [feather damaging behavior](#) (FDB) and auto mutilation, do not have clear cut distinctions between behaviors and medical problems.
  - Multiple factors can contribute
    - There can be underlying medical issues that manifests as a behavior
    - Pain, discomfort, irritation, pruritus can lead to [FDB](#), auto mutilation
    - Evolutionary behaviors and needs
    - Imprinting of hand reared baby birds
    - Neurotransmitters: endorphins, serotonin, dopamine
    - Stress hormones:
      - Nor/epinephrine
      - Corticosterone
      - Sex hormones
    - Early living environment
      - If a bird is...

- Not well socialized
      - Unaccustomed to changes in environment
    - If the early living environment is very different from that of the adult age
    - These can all lead to problems at a later age
      - Suboptimal current living conditions that are not meeting the needs of the bird
  - FDB can result from an initial trigger
    - An underlying medical issue
    - A suboptimal living environment > can be called a maladaptive behavior
  - Behavior can then lead to physical changes.
  - Different factors can also start to interact or lead to multiple active issues at the same time, especially whether there's learning involved
- There are three categories for many abnormal behaviors, like FDB or auto mutilation
  - (1) Medical causes
    - Primary feather conditions
    - Primary skin conditions
    - Systemic diseases
  - Suboptimal living environment
    - (2) Missing appropriate stimuli
      - Social interaction
      - Foraging opportunities
      - Space for exercise space
      - Bathing
      - Fresh air
      - Sunlight (lack can also potentially lead to vitamin D deficiency)
    - (3) Exposure to aversive stimuli
      - Potential predators
      - Certain sounds
      - Large or abnormal objects
- A behavior issue can be an underlying or contributing factor to a medical issue
  - Behavior problems can contribute to the onset of medical issues
    - Hemorrhage
    - Wounds
    - Infection from self-mutilation
  - Interaction between behavior and environment, or multiple factors involved with behavior problems
  - A bird may develop aggression because of medical problem
    - Example #1: A bird with neurologic deficits > cannot perch normally or may actually fall > can become anxious > bites your hand
    - Example #2: Visual deficits > unable to see someone approach > anxious when you try to touch it or it may become aggressive
  - FDB can arise because of medical issues

- Damage to blood feathers are attacked
    - Disruption of the skin barrier
    - Infection or inflammation of the skin or feather follicles
  - Behavior problems can contribute to the onset of medical issues
    - Bite
    - Fall, or
    - Collision injuries
  - Apparent medical conditions can represent normal behaviors
    - Reproductively active birds
      - Chronic egg laying
      - Regurgitation
        - Behavior-related
          - Often observed in a specific context
            - Sexually bonded bird in the presence of the owner
            - In front of a mirror or another particular object
          - The process is very controlled
          - The bird is BAR
          - Can be a ritualized behavior
        - Can be observed with medical issues
          - Excess saliva
          - Food may be thrown everywhere against the sides of the cage
          - Additional signs of illness may be observed
- Chronic stress
  - Corticosterone
    - Prolonged exposure to glucocorticoid steroids leads to immunosuppression
    - Immunosuppression can lead to...
      - Gastric ulcers
      - Secondary infections
        - Fungal infections
        - Macrorhabdus
  - Behavioral conditions associated with stress
    - Abnormal repetitive or ritualized behaviors (i.e. FDB)
    - Anxiety-related disorders
- Medical and behavioral work-ups basically involve the same systematic and critical thought processes
  - Veterinary diagnostic process
    - Objective is to identify the underlying physical disease, lesion, or disorder that leads to clinical signs

- Focuses on internal pathologic processes that affect animal's health (internal factors)
    - Obtain a thorough history > perform a complete physical exam > DDX list determines additional testing > diagnosis determines treatment and prognosis
  - Behaviorist diagnostic process
    - Similar workup but we focus on the behavior instead of clinical signs
    - Focuses on the animal's environment and how this affects behavior (external influences)
    - Objective is to identify environmental factors that influence behavior
    - Antecedents > Behavior > Consequences (ABCs)
  - Determining which factor(s) play a role will often require both a medical and behavioral work-up
  - Close observation of behavior can be helpful to identify the issue
    - Example: FDB due to pruritus or discomfort appears different from stress-related FDB
    - Close observation allows timely detection of subtle signs that indicate a medical problem
  - Sudden changes in behavior should warrant suspicion for medical issues
- Veterinary visits can be a significant source of stress
  - Birds are exposed to a variety of stressors
    - Sounds, smells, and visual stimuli
    - Traditional capture and restraint techniques resemble approach of a predator
    - May be subjected to stressful or painful procedures
  - "Flooding" or "Response blocking": intense and rapid exposure to fear-invoking objects or situations
  - Negative experiences increase the risk to learn aggression or fear
    - Associative learning (classical conditioning)
    - Operant conditioning (negative reinforcement)
    - Can be significant contributor to behavior problems, like fear biting or FDB
  - Recognize early warning signs
    - Read and understand [bird body language](#)
    - Prevent fear behavior from escalating (over threshold) in the first place (anticipate)
  - [Minimize stress and anxiety](#)
    - Limit exposure to stressful stimuli (aversive visual and/or auditory cues)
    - Approach the bird in a calm and quiet manner
      - Begin with a hands-off interaction whenever possible that allows the bird to acclimate
      - Low stress handling, least intrusive method
      - Allow the bird to recover in between procedures
      - Consider the use of restraint devices, sedation, or anesthesia

- Challenges associated with treatment
  - Difficulty with medicating fearful or aggressive birds
    - Stress of repeated handling and restraint
    - Minimize stress by
      - Offering medication in favored food items
      - Medication training to accept Rx via syringe through:
        - Shaping
        - Desensitization and counterconditioning
  - Medical treatment of behavior problems may sometimes be indicated
    - Psychoactive drugs
    - Medical intervention: chemical or surgical castration when hormone involvement is suspected
  - Focus first on modification of the environment
    - Least intrusive
    - Most effective
    - Can be useful for medical issues
      - Adjust placement of perches, bowls, and other cage furniture
      - Encouraging or restricting exercise
  - Integrated treatment strategies use a combination of interventions to increase the odds of success

## References and further reading

### Journal articles

Mans C. Sedation of pet birds. *Journal of Exotic Pet Medicine*. 2014; 23(2):152-157.  
doi: [10.1053/j.jepm.2014.02.009](https://doi.org/10.1053/j.jepm.2014.02.009)

van Zeeland YRA, Spruit BM, Rodenburg TB, *et al.* Feather damaging behaviour in parrots: A review with consideration of comparative aspects. *Applied Animal Behaviour Science*. 2009; 121(2):75-95. doi: [10.1016/j.applanim.2009.09.006](https://doi.org/10.1016/j.applanim.2009.09.006). Available at [https://slunik.slu.se/kursfiler/DO0029/40006.1213/Papegojor\\_och\\_fjaderplockning.pdf](https://slunik.slu.se/kursfiler/DO0029/40006.1213/Papegojor_och_fjaderplockning.pdf). Accessed January 22, 2025.

### Websites

[Busy Beaks Academy](#)

[The Animal Behavior Center](#)