

FEATHER DESTRUCTIVE BEHAVIOUR

Feather destructive behaviour (FDB) is a common presentation in pet and aviary birds, although it is not usually seen in their wild counterparts. It often has a multi-factorial aetiology, and can be a complex and challenging condition to treat. This article will give an outline of the potential causes of FDB and suggests an approach to its investigation and management in pet parrots.

What is FDB?

Birds are unique amongst the animal kingdom in possessing feathers. Feathers have a number of functions; providing a means for flight, being involved in thermoregulation, and acting as a means of communication, especially for reproductive purposes. FDB occurs when a bird plucks out or damages its feathers. It may progress from feather picking, where a bird may just chew on its feathers, to a more severe form that involves self-trauma to the skin or underlying structures.

Why do birds pick their feathers?

The causes of FDB can be divided into two main categories: medical and behavioural. Stress, in some form, is often part of the cause. It is important to investigate and rule out medical causes of FDB before considering a behavioural aetiology. Medical causes of FDB may directly relate to the skin and feathers, or may relate to stressors from a primary disease process elsewhere in the body. Factors such as an inadequate diet, infection (bacterial/viral/fungal/parasitic), access or exposure to toxins or allergens, and internal metabolic or endocrine disease may all result in birds displaying FDB and/or self-mutilating. In some birds mild irritation from over-preening moulting feathers may trigger an itch-chew cycle and progress to FDB. Behavioural causes of FDB include stressors associated with a lack of stimulation/boredom, anxiety, sexual frustration, attention seeking behaviour, and sleep deprivation. Psychological causes of FDB may develop as an extension of normal preening behaviour: the bird may not have been taught to groom normally as a youngster if it was hand reared; or a lack of environmental stimulation or foraging opportunities (wild birds usually spend about 80% of their time foraging, with the remaining time spent grooming or engaging in social activities) may predispose to inappropriate preening behaviours that may lead to FDB and/or self mutilation.

An Approach to Investigate FDB

While some cases of FDB are easily dealt with, it is important that owners of birds with FDB understand the complex nature of the condition, and that even if an underlying cause can be identified and treated, the behaviour may never completely resolve.

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Full history and clinical examination, including:

- Nutrition: Diets containing high proportions of seeds are deficient in many essential vitamins and minerals required for normal skin and feather growth and development, as well as predisposing to immunosuppression (with consequent secondary infections) and metabolic and endocrine diseases.
- General husbandry: type and location of cage; type of cage furniture; access to toys; presence of other pets in household; time spent out of cage per day; relationship with owner; how long the bird is alone per day; sleep cycle
- Access to potential toxins and/or irritants or allergens e.g. heavy metals, cigarette smoke,

high dust environments, pollens, moulds

- Onset and duration of condition: acute vs chronic; any obvious triggers
- Location of FDB on body: picking over a certain location may be associated with pain in that area.

N.B. feather-picking birds will usually pluck their body below the neck. If the head is affected, consider that another bird may be picking the affected bird (e.g. parents over-grooming chicks)

- When FDB occurs: is owner present or absent? Does FDB occur when the owner is present but not paying attention to the bird? Does the bird appear (or have a history of being) highly-strung or anxious? Does the bird interrupt other behaviours to feather pick?
- Origin of bird: parent reared vs hand reared?
- Close examination of skin & feathers: assess for abnormal feather growth (which may indicate an infectious, inflammatory or metabolic aetiology) vs normal feather growth but with damage to the feather shaft, vane or skin. Is the bird moulting? Do the feathers appear of normal quality? Are there any feather colour changes? Does the skin appear inflamed/infected? Are there follicles with more than one feather developing (polyfolliculosis)? Is there any evidence of ectoparasites? (N.B. ectoparasites are rare as primary causes of FDB). Consider cellotape strips or impression smears of skin to examine for bacteria/yeasts, and/or skin biopsy.
- Reproductive activity: Have there been any recent nesting attempts/eggs laid? Does the bird masturbate?
- Generalised evidence of ill thrift: Poor body condition, abnormal beak or feather condition, abnormal limb conformation, ocular or nasal discharge, dirty vent

- Radiographs: may be used to examine for organomegaly, heavy metal particles, GIT stasis, foreign bodies, eggs, female reproductive disease
- Blood tests to examine for metabolic and endocrine disease and infectious or inflammatory conditions
- Faecal examination (wet smear, faecal float, Gram's stain): examine for GIT nematode eggs, coccidian eggs, flagellate protozoans (e.g. Giardia, Spironucleus), Macrorhabdusornithogaster (also known as avian gastric yeast), changes to normal GIT bacteria (psittacines should normally have 90% gram positive cocci and rods, with evidence of a mixed population) and yeast populations (occasional yeast – usually Candida spp – is normal, but if numerous, or fungal hyphae are present, this may indicate overgrowth)

Infectious disease testing:

Common viruses that can affect feather growth and development include circovirus (the causative agent of psittacine beak and feather disease) and polyomavirus; PCR tests are commercially available. Chlamydia psittaci infection may cause liver disease and affect feather quality; PCR and ELISA tests are available for in-house use and commercial testing. The latter also has zoonotic implications.

I've done the initial diagnostics, now what?

If the history, physical examination and first-line diagnostics (CBC/biochemistry, radiographs, faecal examination) do not reveal an obvious cause, consider skin specific diagnostic testing such as culture and sensitivity of any lesions, examination of cellotape strips to assess skin microflora, and skin biopsies. Any underlying medical cause should be treated appropriately. In many cases, especially those with a chronic duration, a medical aetiology for FDB or self-mutilation cannot be identified. In this instance, a

behavioural origin may be implicated. Many avian behavioural problems stem from a lack of understanding of the unique nature of bird behaviour, and the owner's attempts to impose their own demands on the bird.

Management options for the FDB bird

Addressing the following factors may help to reduce FDB in companion birds:

Diet: A balanced diet is one of the most important components of bird husbandry, and stress caused by malnutrition is a common cause of FDB. A well-balanced psittacine diet should include a nutritionally balanced proprietary pellet/crumble (75%), fruit and vegetables (25%) and some seeds and/or nuts, depending on species (5%). Weaning birds that have been 'seed junkies' their whole life onto a pelleted diet can be challenging, and a gradual conversion is recommended.

Bathing

Many parrots are originally native to tropical regions, where rain showers are a common occurrence. Daily misting with water is an easy way for clients to bathe their birds. Other options include the use of shower perches, which can be a fun bonding experience for some birds and their owners. This provides enrichment for the bird as well as assisting with skin health. Shampoos and soaps should not be used on birds during bathing, as these may be harmful. Birds that are sick should not be bathed, since they are more prone to hypothermia.

Sleep

Birds should optimally have 10-12 hours of undisturbed sleep at night. This is often not possible where cages are positioned in busy areas of the house, with artificial lighting extending day length and human activity levels. Moving the cage to a dark, quiet room, or having a separate sleeping cage in such an area may be required so that the bird can get optimal sleeping conditions. Birds generally prefer a constant sleep schedule, and many will even request their owners to put them to bed.

Stress reduction

Ask the client if there are any particular things in the bird's environment that may have triggered the FDB. Was the onset associated with a change in the household such as a new family member or pet, a diet change, or different handling or interactions with the bird? Ensure the bird is getting enough attention from the owner, with at least 2 hours of out of cage interaction every day (longer if possible). Just as with feline stress related urinary tract disease, perceived stress can be an important trigger for FDB, even if it is not immediately obvious to the owner.

Keep it interesting

Birds are highly intelligent and need lots of mental stimulation, especially during periods when they are left alone in their cages. Even if an apparently adequate number of toys are provided, rotating them at least weekly will keep the toys more interesting. Bear in mind that removing a favourite toy may be stressful to the bird, so warn clients to be mindful of this and replace it if there are any concerns. There are a variety of different toys on the market, and some of the more complex toys that require the bird to interact closely with the toy can be a fun challenge for the bird. Food dispensing toys are usually popular, and allow the bird to 'work' for their food

Using foraging related toys can be a great source of enrichment, and allow the bird to use more of its time foraging with less time spent focused on preening or FDB, mimicking a more natural daily pattern of time use. Some birds will require training to use these types of toy, but often a gradual switch from free feeding in bowls to foraging for foods in a variety of toys and locations can be used to provide enrichment for the bird. A radio left on when the bird is alone for extended periods may help to provide 'company'. If a bird is highly bonded to its owner and a degree of separation anxiety is suspected, playing audio or video of the owner to the bird may also help. Cage placement within the home is also important. Whilst placing a cage near a window may provide some visual stimulation for the bird, it is important that the bird does not feel stressed by activity outside the window, such as being stared at by the wandering neighbourhood cat or other predators. Appropriate hiding areas should always be provided.

Reduce sexual frustration

Some cases of FDB can occur when a bird's natural instinct to mate is suppressed. Many birds bond strongly to their owner, whom they may perceive as their mate. When owners choose to spend time with other people, or accidentally stimulate the bird by inappropriate behaviour (e.g. stroking along the back, or cuddling or nuzzling the bird), this can cause immense frustration to the bird. In some instances hormonal manipulation with medications (e.g. use of a deslorelin implant or leuprolide acetate injections) may help to 'switch off' the internal reproductive drivers for the birds, but this is rarely successful on its own, without concurrent environmental and management changes.

Medical intervention

If underlying medical conditions are identified, these should be treated as appropriate. Traditional methods of preventing FDB, such as the application of an Elizabethan collar and/or the use of psychotropic drugs have been found to be much less effective than implementing a behavioural modification programme, and should generally be considered as a last resort. As with hormonal manipulation, using behaviour-modifying drugs may be a useful part of the treatment plan in some cases, but are not a magic bullet. Use of such medication alone is insufficient without concurrent changes to the bird's environment and management. The use of Elizabethan collars may prevent FDB and especially self-mutilation in the short term, but will not address the underlying problem. Whilst suitable for acute intervention to allow wounds to heal and stop an itch-chew cycle from escalating, their long-term use is incredibly stressful for birds, and may inhibit activity and mobility levels.

Behavioural modification

Many common bird behavioural problems, including FDB, arise from the failure of the early socialisation process (especially for hand-reared birds) or failure of the human 'flock' to recognise and understand normal bird behaviour (or a combination of the two). The current approach to avian behavioural training and management (as with other companion animals) involves the positive reinforcement of desired behaviours via food reward, giving attention or other motivators. Bird behaviour is a complex and a constantly evolving field, and referral to an experienced avian practitioner or animal behaviour professional is recommended. This all sounds like hard work....what is the prognosis?The length of time the bird has shown FDB, and the ability to resolve or reduce its underlying trigger(s) are key factors in the long-term prognosis for birds with FDB. Where there is no obvious

underlying medical cause, a reduction in the frequency or severity of the picking, rather than complete resolution, is generally considered to be a successful outcome. Even if the FDB does resolve, damage to the feather follicles is often permanent, and may result in the loss of affected feathers, or development of feather follicle cysts. Clients should be counselled at the onset of investigations and treatment that while some cases may be simply resolved, FDB can be a complex and challenging condition that may require a great deal of commitment to manage or resolve and that, in some cases, feather damage may be permanent. New horizons

The role that allergens and hypersensitivity reactions play in FDB in birds is currently poorly understood. The use of intradermal skin testing to assess the potential for atopic dermatitis caused by environmental allergens, particularly moulds, dust mites and pollens in birds is currently being investigated, and desensitisation vaccinations are being trialled.