Approaching Feather Loss, Feather Picking and Self Mutilation

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Feather and skin problems are common and challenging to deal with. There is a long list of differential diagnoses whilst their clinical appearance may be the same. The causes are often divided into Medical and Behavioural and in many cases there are multiple diagnoses. When dealing with these cases, clinicians need to be aware and clients need to be warned, that these cases can be complex, may need multiple visits, a lot of diagnostics (i.e. money) and may never be cured.

Identifying Feather Problems

Feather Pickers generally have healthy head feathers. The most common sites of feather picking are the axilla, flank, sternum, dorsum, thighs and wing web. Feather loss on the head is due to rubbing, other birds plucking or feather diseases. The most common sites of Self-Mutilation are the sternum, wing web, shoulders and dorsum. Owners often confuse moulting with feather problems.

Three main clinical syndromes have been identified;

1. Feather plucking by other birds (Cannibalism).
2. Medical Causes, i.e. feather picking/self mutilation caused by organic disease.
3. Behavioural Causes, i.e. feather picking/self mutilation caused by psychological problems

1. Feather Plucking of an Individual by Other Birds

- ***Nestlings by parents***. Generally involves body, spreading to head, tail and flight feathers. Severe cases can lead to mutilation and death and require removal and hand rearing. Mild cases can be ignored. These chicks will often become pluckers of their offspring.

- ***Fledglings.*** Young African Lovebirds are often victims, occurs just after fledging. Lesions can be mild to severe. Remove affected chicks.

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- ***Adults in Overcrowded Conditions.*** Seen in pet shops and aviaries. Dorsal body feathers affected. Mainly seen in Budgies, Neophemas, Lovebirds, Finches, and Quail. Remove the ringleaders and improve conditions.

- ***Adult Males Plucking Females in Breeding Season.*** Mainly in Psephotus spp and Rosellas. Severe cases need separation.

- ***Adults Plucking Adults, Non Seasonal.*** Seen in Gang Gangs, Eclectus, Corellas, Conures and Macaws. Usually involves flight and tail feathers. May also self mutilate soft tissues. Alleviate boredom, place birds in a flock, work up self mutilators.

2. Medical Causes of Feather Picking

Allergy The allergic response of birds is not yet fully understood. Preliminary studies, response to cortisone, antihistamines, vaccine therapy and exclusion diets have indicated that some feather pickers are suffering from an allergic pruritis. Wheat, sunflower and Aspergillus appear to be the most common allergies seen. However, the current allergen screen only consists of 12 allergens. Cooking fumes and cigarette smoke are also thought to be contributors to allergic pruritis. This is an area of significant development.

Ectoparasites. Mites are rarely a cause of feather picking as they don't cause much pruritis and they are uncommon in healthy birds**.** Mites may live on the skin, within the feathers or only get onto the bird to feed, e.g. Red mite. They can be seen with the naked eye, moving on the bird or within the feather structure as small dots. The most common mites encountered in Australia are Scaly Face and Leg Mite (knemidocoptes), Biting lice (ornithonyssus spp) and Red Mite (Dermanyssus spp). They are generally easily treated with pyrethrin sprays or Ivermectins.

Endoparasites. The parasite most commonly associated with feather picking is the protozoan, giardia. It is commonly reported in Cockatiels in the USA. The mechanism is unknown but thought that they interfere with nutrient absorption. Giardia is not as commonly reported in Australia, but a number of birds have been reported to stop feather picking after treatment with antiprotozoal drugs. A commonly reported protozoan in Australia is Cochlosoma. There is little evidence of intestinal worms causing pruritis.

Poor Environment Low humidity due to central heating, cigarette smoke, lack of access to bathing, are thought to cause dry, brittle feathers, especially in rainforest species. Many birds will pick at the abnormal feathers.

Endocrine Imbalances Despite much speculation, endocrine problems appear to be a rare cause of feather picking. Moult is controlled by the interaction between the adrenals, thyroid and gonads but the exact relationship is incompletely understood.

Accurate diagnosis of endocrine disorders is also problematic. One case of hypothyroidism has been shown to be associated with feather picking.

Infectious Dermatitis and Folliculitis Skin infections can be pruritic. Primary skin infections are uncommon, generally the infections occur secondary to other causes of feather picking or self-mutilation. Bacterial or fungal infections are found. Some birds will respond dramatically to treatment of Chlamydiosis (psittacosis). Diagnosis is by Biopsy, culture or response to treatment.

Viral Infections Psittacine Beak and Feather Disease (PBFD or Circovirus), Polyoma virus and Agapornis poxvirus have been associated with feather picking. The exact mechanism of the pruritis is unknown. In the African Lovebirds with poxvirus, polyfollicles are often seen. Polyfollicles are abnormal follicles that produce multiple feathers from one follicle.

Malnutrition This is one of the most common medical problems seen in pet birds. Seed diets are the major cause of this problem. Chronic malnutrition leads to abnormalities in the skin; feathers and the moulting process. Many cases of feather picking improve with better nutrition.

Neoplasia Feather picking is often associated with skin tumours and Xanthomas. Xanthomas are areas of dermal infiltration of lipid and appear as diffuse yellow patches with a Morrocan leather appearance. Some cases of feather picking and self-mutilation have been reported that are directly over internal tumours or systemic fungal infections.

Heavy Metal Poisoning with Lead and/or Zinc This is a very common problem especially in the larger species. Usually it is manifested as an acute systemic illness with vomiting, depression and weakness being the most common clinical signs. A number of reports from here and overseas have indicated that some birds, particularly with the chronic, low-grade form of toxicity, have stopped feather picking after chelation therapy.

2 Behavioural Causes of Feather Picking

Stress Too much household activity/traffic near the cage.
Too little exercise.
Poor socialisation at a young age. Commonly seen in mass produced or wild caught birds. These birds find many seemingly innocuous and or novel situations difficult to cope with.
Loss of companion birds or favoured people.
Seasonal problem, coinciding with reproductive behaviour.

Boredom Confined to cage for long periods
Little interaction with owner
Limited diet
Few toys, lack of visual and aural stimulation

Attention Seeking

Typically plucking occurs only when owner present **and** eye contact is made.

Control Device

Similar to a tantrum, used by bird when blocked from desired objects or activities. Owner desperate to prevent feather picking, gives in rapidly.

Separation Anxiety

Typically plucking only occurs when owner absent, may be out of house or just out of sight.

Other Behaviour Problems Present

Birds that also have problems with biting, screaming, depression, phobic or stereotypical behaviours, are likely to be feather picking for behavioural reasons.

Poor Wing Trims or Feather Trauma

Feathers cut too short are believed to be a cause of feather picking. Birds that fall, due to wing trims that prevent flying, especially young birds, are prone to damaging feather follicles, which can trigger feather picking.

Making a Diagnosis.

History

This is a key step. The use of questionnaires is increasing, particularly if behavioural causes are suspected. A sample is included at the end of the notes. Useful information includes;

- Age of bird at commencement of picking
- Duration of problem and seasonality.
- Where it started on the body
- Origin of bird; hand raised, wild caught, 2nd hand etc.

- Single or multiple birds, and number affected.
- Type of cage, furnishing and contents, Indoor or outdoor caging
- Diet
- Household members and pets and any changes that have occurred.

There is almost no limit to the amount of information that can be obtained.

Physical Exam

Feathers are examined for ectoparasites, evidence of chewing, developmental abnormalities and color changes. The skin is examined for damage, inflammation and other signs of dermatitis.

Faecal Exam

A faecal float and direct smear are done for Flagellates and their cysts. Giardia is commonly reported in the USA in Cockatiels. Smaller flagellates such as Cochlosoma are more likely to be seen in Australia. A Gram Stain is performed to characterize bacteria and yeast.

Hematology and Biochemistry

FBC and Biochem screen are performed. Typically in birds, ALT, LDH, CK, Amylase, Uric Acid, Glucose, Calcium and Total Bile Acids are done.

Chlamydia Testing

A number of birds have stopped picking or self-mutilating in response to long (7 week) courses of Doxycycline. Currently a simple, in house test for chlamydia is not available. PCR is still being developed, and Clearview Chlamydia Antigen test lacks sensitivity and specificity. One of the more useful tests is the Immunocomb Psittacosis Antibody test. The antibody response seems more consistent as antigen shedding can be intermittent. It is more time consuming than Clearview, however.

Zn and PB Blood Levels

While not proven, many believe that heavy metal poisoning, particularly the low grade, chronic form, is a frequent cause of feather picking. Discuss the sampling requirements with an experienced laboratory, as artifacts due to sample collection and storage, are common.

Radiography

Radiographs can be useful in diagnosing heavy metal poisoning, the presence of tumors, systemic fungal infections and other tissue abnormalities associated with self-mutilation, and other disease processes such as liver disease.

Cultures

Cultures of skin, feathers and feather follicles can be done. These need to be interpreted carefully, considering what are normal flora and the likely mix of bacteria present.

Biopsy

Biopsy of skin and feather follicles can be very useful in diagnosing infectious diseases such as PBFD, Polyomavirus and Mycobacteria. Structural defects and other inflammatory conditions can be identified

Allergy Testing

Still in the development stage, some birds have shown demonstrable allergic responses through either skin testing, treatment with antihistamines or cortisone, or the use of exclusion diets. Wheat, sunflower and Aspergillus appear to be the most common allergies seen. However, the current screen only consists of 12 allergens to date. It is currently a specialist procedure and your local avian veterinarian can help direct you to a suitable center.

Specific Syndromes Associated with Individual Species, seen in Australia

African Lovebirds

1. Severe, extensive feather picking and self-mutilation of the patagial membrane, shoulder, neck and occasionally cloaca are affected. Death due to secondary infection and hemorrhage may result. It may be associated with polyfollicles. In the USA, Agapornis poxvirus 7 has been isolated in many cases. Treatment with antibiotics, antifungals, diet changes, and allergy testing have been unrewarding. This is one of the few conditions where the use of Elizabethan collars is both necessary and helpful. Prognosis is guarded.
2. Generalised feather picking, as seen in other parrot species, with the same range of etiologies.

Budgies

1. Feather picking with polyfollicles, similar to Love birds, but without the severe self-mutilation. The polyfollicles are common on the neck and tail base. Etiology unknown.
2. Generalised feather picking, as seen in other parrot species, with the same range of etiologies is seen but at a much lower incidence. It is postulated that budgies are better adapted to cage and aviary living

Rosellas

Plucking of the chest and abdomen. Seen in males and females and is generally associated with the breeding season. They can be mild to very severe with birds completely denuded, leaving only head feathers.

Lorikeets

Males and females, plucking of the chest and abdomen. Similar to Rosellas but non-seasonal.

Cockatiels

Plucking of the chest, shoulders and dorsal wings. Apparent pruritis of the feet and cloaca also. Non seasonal. Commonly associated with Giardia in the USA, less so in Australia but a significant number respond to anti-protozoal drugs.

Gang Gangs

Very difficult and severe form of feather picking, often completely plucking themselves. Rarely mutilate the skin. This is generally regarded as a psychological condition, but there has been good success in treating this condition with removal of sunflower seeds from the diet and adding lots of chewable bush foods such as Banksia and Casuarina cones and branches.

Galahs, Corellas and Sulphur Crested Cockatoos

1. Chewing of flight and tail feathers exclusively, or chewing body feathers with or without tail and flight feathers. This syndrome is often seasonal and seems linked to sexual frustration.
2. Severe mutilation of the skin and soft tissues especially over the sternum, often with feather picking. This is only seen in pet birds and in young Galahs in particular, is associated with hysterical anxiety behaviour. These birds will scream and throw themselves around the cage.

Ecletus Parrots

They can feather pick themselves or their mates. It may be seasonal, associated with breeding activity or non-seasonal and associated with erythema and seborrhoea. The non-seasonal form has been associated with either PBFD or an allergy to sunflower seeds and Aspergillus.

Asiatic Parrots (Indian Ringnecks etc.)

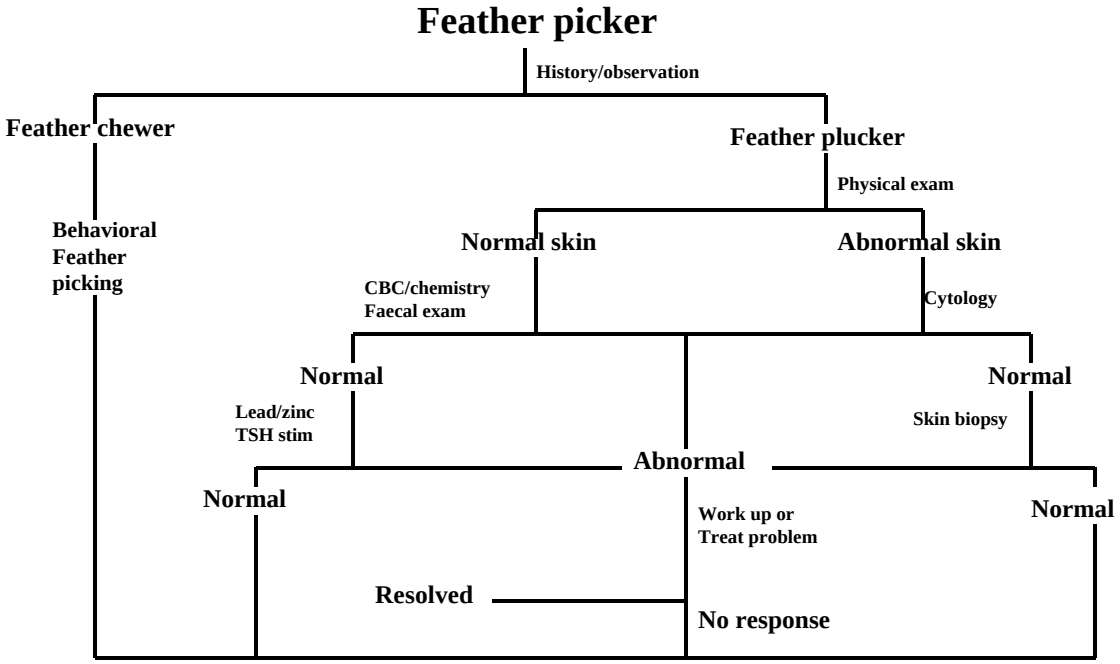
Feather picking is sometimes seen in pet birds and body, tail and flight feathers are affected. This appears to be psychological and the birds are highly strung and emotional.

African Greys

Young adults will shred body tail and flight feathers. They seem to grow out of it.

Macaws and Conures

Birds of all ages and sexes plucking body, tail and flight feathers. The Queen of Bavaria Conure seems to be severely affected.



Taken from*:* *Welle, KR , Clinical Approach to Feather Picking, Proc Annu Conf Assoc Avian Vet,* 1999 pp119-124

Recommended Reading:

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