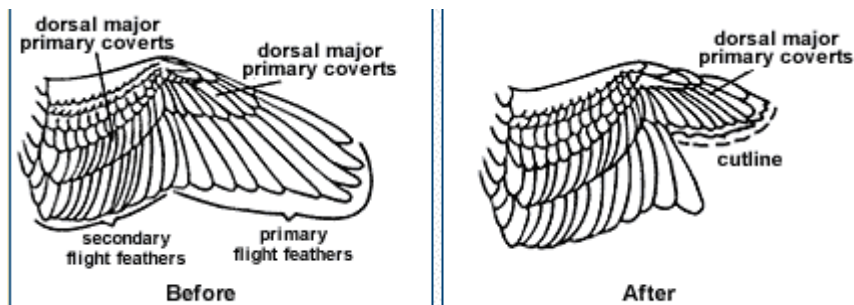


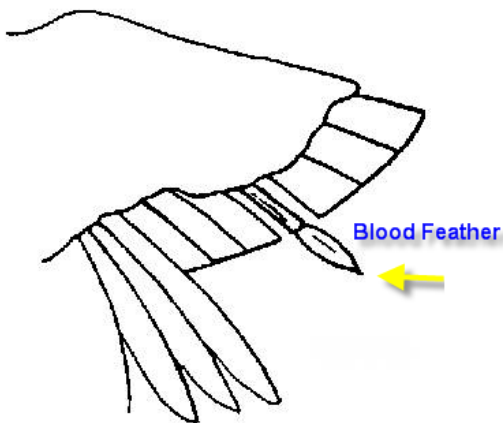
# Clipping Wings

Below you can see the proper wing feathers to cut as well as how many. Larger birds do not require as many feathers to be cut as smaller birds. Smaller birds have more lift, and require a few more feathers to be trimmed.

For a very large bird it is recommended to start with 4-5 primaries and do a little test flight to see if more are required to be cut. Same with small birds, only start with 5-6 primaries and do a test flight.



NEVER cut a primary feather that is new and still sheathed with blood supply! Wait until this feather is almost done growing in to trim it.



**Here is a more in depth article of “considerations of clipping wings”**

The position of the pet bird in our society is changing. The true family member pet bird is emerging as a more significant portion of companion bird practice. The general nutritional status has improved for the pet bird, with the increased usage of formulated diets. Preventative health care has improved in veterinary practices, with more diagnostic tests, more treatments and earlier clinical diagnoses being available. In mature veterinary practices that provide care for pet bird species, clinical patterns of diagnosed conditions are shifting from infectious diseases towards metabolic, neoplastic and behavioral disorders. These changes most likely represent the evolution and maturation of the role of the pet bird in society and the successful delivery of veterinary medical services to these animals. With this shift to include behavioral disorders has come an increased sensitivity and awareness of some of their causes.

The veterinary profession has weakly addressed behavioral disorders of parrot species in the past. Presently, some of the more commonly discussed psittacine behavioral disorders in avian veterinary circles include attention-demand behavior, territoriality, biting, screaming, reproductive issues, phobic type behavioral problems, or psychotic issues including obsessive-compulsive type disorders. Feather picking, once organic etiologies have been eliminated or ruled down on the differential diagnosis list, is often viewed as a behavioral problem, and is frequently addressed with mechanical restraint devices, such as collars, or pharmacological intervention. Realistically, these types of behavioral disorders are, in reality, quite advanced. As a result, successful intervention and resolution of the problem is much more challenging if not impossible to achieve. In contrast, earlier behavioral diagnoses are much less commonly diagnosed, addressed or reported. Increased clinical sensitivity to these disorders in their earlier phases of development should lead to earlier recognition, earlier intervention, and a much higher clinical success rate. This paper describes some of the considerations necessary to optimally restrain and perform routine grooming procedures, and will describe some of the clinical consequences that can result from incorrect procedural technique. Specifically, the technique of physical restraint and the nature of wing and nail clipping are re-examined, considering the real or potential problems that these procedures can generate in pet birds if done incorrectly. Many of these problems that can occur are behavioral ones, with a very real impact on the nature of the human-animal bond and the physical and mental well-being of the bird.

### **Physical Restraint**

All grooming procedures require physical restraint. Done correctly, physical restraint and grooming procedures should not be problematic for companion birds. Physical restraint and grooming done incorrectly can damage or even permanently destroy the nature of the human-bird bond and the doctor-client relationship. In a typical veterinary setting, physical restraint is performed with the use of a towel. Holding the towel with the ends draped over each hand, eye contact is made and the bird is approached from the front. The bird is shown the towel, and then gently wrapped from the front or back. With the bird gently wrapped, grooming procedures can be performed respectfully and with effective control. Following the procedure, step the bird down from the towel to a perch, then ask it back for reassurance and positive reinforcement. Although restraint can be frightening, trust and respect can be mutually reinforced in a favorable manner, enhancing the experience. (1)

The specific nature and manner of restraint that is delivered during routine grooming appointments can have a lasting effect on the doctor-patient relationship, the client-practice relationship, and the owner-bird bond. (1, 2) Even the most technically correct wing trimming job, done with aggressive or disrespectful restraint techniques, can lead to failure in the long

term picture. Attention to alarm calls the bird produces, calming the birds before, during and after restraint, and taking time to make sure that comfort and trust is achieved and reinforced is important. When using towel restraint, "Mr. Towel" needs to remain a good thing for the pet bird, and the "Harpy Eagle Grab" technique needs to be avoided. (1,2) Towel fearfulness is a learned behavior, not an intuitive one in companion birds. With those birds that are fearful of towels or towel restraint, desensitization exercises, as a part of a behavior modification program has immense value for the bird, the owner, and veterinarian.

## **Wings**

### **Anatomy of flight plumage**

Flight feathers of the wing (remiges) and tail (retrices) differ from contour feathers of the body by being stiffer and longer. The base of the feather has little or no down, a reduced or absent after feather (hyporachis), and is anchored directly to the bone with connective tissue. Parrots have a total of ten primary remiges and twelve secondary remiges on each wing. The primary flight feathers are numbered from 10 to 1, with number 10 being the outermost feather. Medial to primary flight feather 1, secondary flight feather 1 begins, with the secondaries continuing up to 12. The tertiary flight feathers begin medial to secondary number 12, and are variable in number. There are twelve (six pairs) of retrices. The base of the feather shaft is the proximal umbilicus, and the distal umbilicus is the portion of the shaft where the barbules begin to emerge. The non-feathered portion of the shaft (scapus) is the calamus, and the feathered portion is the rachis. (3)

### **Aerodynamics of flight in birds**

The principles of flight are the same for a bird or a light airplane. An airplane's propeller moves it forward (thrust); as air passes over the wings, they lift it skyward. A bird's jointed wing provides both lift and thrust. Wing tips, operated by the carpal muscles, twist like propeller blades on the down stroke, thrusting the bird ahead. The length and integrity of the outermost primary feathers (primaries number 10-6) directly influence the effectiveness of the thrust that the wing is able to provide. The inner wing, powered by separate shoulder muscles, provides lift. The inner primary feathers (primaries number 5-1), secondary feathers and tertiary feathers help to allow the wing to provide lift. The length and integrity of these feathers directly influence the amount of lift (coasting ability) that the wing can provide.

Depending on the body mass of the bird, different types of wing feather clips can provide different types of results. Separating the function of lift from that of thrust, the varying types of results obtained can be anticipated. Clipping only the outer flight feathers will result in a reduction of thrust that is provided by the down stroke of the wing. Lift will still be provided by the feathers of the inner wing, resulting in reduced thrust with adequate lift, and an effective reduction of flight capacity. The anticipated effect should be one of a reduced thrust (take-off), slow decent to the ground. Clipping only the inner primary flight feathers will result in a reduction of lift that is provided by the inner wing. Reduced lift, with thrust still being provided by the outer primaries, will result in a more forceful thrust (take-off), and a more direct decent or fall to the ground. Unilateral or asymmetrical clipping of the feathers should result in an imbalanced delivery of lift or thrust, and a much less controlled take-off or descent.

### **The goals of wing clipping**

When clipping the wings of a bird, the goals to be accomplished are fairly common. These include the temporary removal of flight, the limitation of flight or the modification of flight (4) Wing clipping is commonly used in pet birds to prevent escape and to control mobility. Limited

mobility has value in pet birds with its concurrent limiting of "attitude" and behavioral problems that can have a root in uncontrolled mobility. (1,2) Considerations to be made with companion or display birds would include the cosmetic appearance of the clipped wing and its effectiveness. Effectiveness is generally determined by the result(s) obtained, the removal or modification of flight. The effectiveness of a wing clip is less commonly also gauged by the amount or absence of harm that it has generated. While it is true that trimmed wings are an unnatural situation for companion birds, most aspects of their lives as human companions are unnatural. (2) Parrots with trimmed wings are far more dependent on their owners than are untrimmed birds. These trimmed birds depend on their owners more for transportation from place to place, for social contact and for comfort. Decreased mobility results in increased dependency and need for owner interaction with most pet parrot species.

A less commonly discussed, but critically important goal of wing clipping is to "Do No Harm". (2,5) The bird can experience fear or physical injury and pain during the process of physical restraint. Fear of restraint can become destructive to the continued doctor-patient relationship, and to the human-bird bond. Fear leads to distrust, and distrust can lead to problems in the home and a loss of the nature of the desired relationship between all parties involved. Wings that have been clipped excessively short can result in a loss of control of a bird's fall to the ground, resulting in fear of falling, pain, psychological trauma, and the development of behavioral problems between the owner and the bird. These problems that result from incorrect wing clipping most certainly can "do harm", and it is becoming increasingly important to try to avoid them.

### **Types of popular wing trims**

There are numerous thoughts and opinions on how to trim wings. Popular recommendations have included both unilateral and bilateral trims. Unilateral trims were recommended in the past because they could provide a circular decent, and would effectively eliminate flight. Overall, unilateral wing trims were not popularly accepted for a variety of reasons. Cosmetically, they are generally viewed as unappealing, and the circular decent that they generated was typically not a controlled one for the bird. Injuries resulting from uncontrolled flight or descents were commonly cited. The bilateral wing trim patterns that are used are multiple and varied. In some of the popular "show clips", the outer 2-3 remiges (primaries 10-8) are not cut, and the others are cut behind them. The location of the cut of the remiges #7 and lower varies from the calamus near the skin and below the dorsal wing coverts, to varying lengths and angles of the rachis. With these varied types of show clips, the cosmetic appearance of the crossed outer primary flight feathers over the back of the bird is viewed as an aesthetically pleasing and desirable goal. In other types of wing clips, the outer primary feathers are cut at varying angles and lengths. As with the show clips, primary, secondary and tertiary remiges may be cut at varying lengths, angles and numbers, depending on the knowledge, experience and preferences of the groomer.

### **Problems associated with wing trims**

Numerous real or potential problems can result from incorrect wing trimming procedures. Poor restraint technique can easily produce fear and rapidly learned behavioral patterns of resistance. Increased patterns of fear-driven resistance can result in more aggressive restraint technique, which can augment resistance and fear even more.

Cosmetic or show-type clips, sparing the outermost primary flight feathers, by definition, require that more of the remaining primaries or secondary feathers be cut to remove lift and flight

ability. If the outermost primaries are broken or moulted, the bird will experience a dramatic reduction or loss of thrust and lift. This effect can also be generated by directly cutting all of these feathers. Complete or partial removal of the majority of lift, by removing the ability of the bird to use its wings for stabilization, can result in numerous consequences. Inability to stabilize itself, the bird will be more vulnerable to falling from the shoulder or the perch. A hard or uncontrolled fall can result in a progressive loss of trust between bird and owner, leading to biting, refusal to respond to the "step up" command. Uncontrolled falls can result in injuries to the sternum and ventral pygostyle, fractured legs, and fractures of the beak tip. These injuries result in physical pain, and can lead to an escalation of further distrust between bird and handler. Excessively short trimmed primary remiges can be uncomfortable, leading rapidly to feather shaft mutilation and splitting behaviors. Grooming experiences combined with inappropriate restraint technique can result in fearfulness, towel-based fear reactions, restraint-based fear reactions, biting, and an erosion of the trusting relationship between owner, bird and veterinarian. Physical and psychologically traumatic experiences, over time, increase vulnerability to psychogenic illnesses, which may be manifested by self-damaging events, including feather pulling, feather mutilation or other self-mutilatory behaviors. Combined, these events can result in permanent or partial damage to the quality of the human animal bond, and permanent or partial damage to the quality of life of the bird.

A recent behavioral case report in the Journal of the American Veterinary Medical Association indirectly highlights some of the consequences that can result from "routine grooming". (6) In this report, a young African Grey parrot was initially seen at a veterinary practice for a routine wing and nail trim at 6 months of age. The specific nature of the wing and nail trim performed was not described. Feather picking was reported shortly after this visit. Early in the progression of the bird's disease, the picking was described as being "limited to the bird's feet and feathers". This picking progressed to "loss of feathers over the entire body, except for the head and neck", and some degree of skin excoriation and bleeding over the next eight months. Treatments applied including the application of an Elizabethan collar, offering toys, increased attention, decreased attention, punishment, medroxyprogesterone, diazepam and antibacterial shampoos. With a course of delicately balanced pharmacological intervention, and a plan for lifetime medication, this bird is reportedly improved, but not fully returned to normalcy. This article did not discuss or address the potential for the initial grooming experience as a very likely underlying triggering role in the problem, the potential roles of some of the treatments that were applied, nor did it offer any discussion of other possible causes of the problem.

**Clinical considerations**<br> It is entirely possible that wing trimming may not be as simple and "routine" as it has been perceived in the past. It is important when restraining companion birds, to avoid creating fear-based anticipatory behavior, and to reinforce the "step-up" and "step-down" commands. Fearfulness of towel restraint should be avoided, substituting trust in its place. The nature of the specific wing trim to be done requires experience, knowledge of the species, client communication and some degree of post-trim evaluation. By follow-up evaluations (telephone or in-house), the behavioral profile of the bird can be monitored after wing trimming. Overall performance and satisfaction (both the veterinarian and the owner of the bird) will validate the specific technique over time. Not all wing trims should be assumed to be the same. Additionally, when performing routine grooming procedures, it may be important to consider that not all wing trims must serve the primary goal of elimination of all flight capability at the first attempt. A less aggressive reduction of flight capability can be "fine tuned" at a later date, but an excessive trim cannot. A more gradual reduction of lift, aimed to balance the reduction of

flight capacity is more likely to successfully maintain the physical and mental stability of the bird. These considerations are particularly important, viewing the potential harm that can be caused by an excessive or imbalanced trim. If a more gradual wing trim is performed, it is important to advise owners that there may still be flight capability in the bird, and that they should be cautious at home until the effectiveness of the trim is clearly apparent.

### **Conclusion**

In summary, routine grooming of wings and nails should be viewed as a more involved procedure than in the past. Consideration for the longevity and quality of the human-animal bond between owner and bird, and bird and veterinarian dictates that more thought and interpretive follow-up occur than has in our past. The importance of gentle, respectful and reassuring restraint is very important to maintaining physical and psychological health of pet birds. With a balanced reduction of lift and thrust, effective flight reduction can be accomplished without a loss of control for most pet birds, and it is logical to expect that different degrees of wing clips should be required for different species and individuals. Nail trims, balanced with environmental cage management, an awareness of the behavioral picture of the patient, an understanding of the nature of the wing trim present, and respectful restraint techniques, should be a favorable thing for the owner, the bird, and the veterinarian. "Routine" grooming procedures can be performed in a manner that enhances and augments the nature of the doctor-client-patient relationship, rather than damages it, if we are to reconsider techniques that we once thought were basic, but now know to think differently.

### **References:**

1. Spadafori, G, Speer, BL; *Birds for Dummies*, IDG Books Worldwide, Foster City, 1999.
2. Wilson, L: Behavior Problems in Pet Parrots. In: Olsen, GH, Orosz, SE; *Manual of Avian Medicine*, Mosby, St Louis, 2000, pg 124-147.
3. Abramson, J, Speer, BL: Anatomy and Physiology. In: Abramson, J, Speer, BL, Thomsen, JB: *The Large Macaws*. Raintree Publications, Fort Bragg, 1995, pp 39-71.
4. Hillyer, EV: Physical Examination. In: Altman, RB, Clubb, SL, Dorrestein, GM, Quesenberry, K: *Avian Medicine and Surgery*. WB Saunders, Philadelphia, 1997, pp. 139-141
5. Davis, CS; Parrot psychology and behavior problems. *Vet Clin North Am Small Anim Pract*, 1991; 21:1281-1288.
6. Juarbe-Diaz, SV; Vet Med Today: Animal Behavior Case of the Month. *JAVMA*, Vol 216, No 10, May 15, 2000, pp 1562-1564