IMPING: A GUIDE TO WING REPAIR

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Greg Glendell discusses the health and behavioural benefits of repairing a parrot's wings by splinting donor feathers from the same species

MANY parrots kept as household pets are still subjected to flight deprivation by wing clipping procedures.

It is usually carried out by cutting some or all of the primary flight feathers on both wings; this being done at the level of the greater wing coverts.

The common given reasons for wing clipping are to prevent loss of the bird, make it easier for the owner to handle the bird, and to reduce aggression.

Even immature birds are still clipped by some breeders before they have been able to develop their wing muscles.

This practice can have lifelong welfare implications for the birds. In general, the issue of clipping to allow easier handling of the bird by its owner can instead be addressed by basic training of the bird.

The bird is taught to fly to and from the owner (and other places) on a verbal cue and, during training, is rewarded for its compliance. Read the article "Who's a naughty parrot, then?" in VT38.05 for more on this point.

More harm than good

More vets, particularly those who specialise in avian medicine, are reluctant to carry out any wing clipping since they are familiar with the adverse effects on the birds. All flying birds use flight as their first means of escaping any perceived danger; they simply jump into the air and fly to safety.

Crucially, birds need to gain height when fleeing from any adverse stimuli– –this reaction is incredibly fast and appears to be a reflex, with the bird having no conscious control of its initiation. Clipped birds can still be seen employing this reflex action, but it can mean crash-landings and injuries if the bird hits any hard surface as it falls. Although clipping is often justified on grounds of safety, it also poses serious risks for the bird.

Furthermore, the failure of a clipped bird to employ its primary predator-escape reflex may cause it to become fearful, even of harmless stimuli, with further behavioural problems more likely.

While many bird keepers and breeders may have a reasonable knowledge of their bird's needs, few seem to know much about flight and its importance to a bird's physical and behavioural welfare.

Primary purpose

The primary feathers (the 10 outermost wing feathers) are usually clipped short.

While these feathers provide the bird with its main means of propulsion, they are also used in braking when the bird wishes to slow down or alight; a reversethrust action is employed by sweeping the primaries forward by extension at the wrist. When these feathers are clipped, the bird cannot reduce its landing speed and is forced to crash-land.

During the moulting process the main flight feathers (12 secondaries and 10 primaries on each wing) are replaced one or two at a time. The typical flight feather growth rate in psittacines is 3-5mm per day, regardless of the species. This is how a small bird like a cockatiel can moult within a few weeks, but a large macaw may take more than a year to do so.

In parrots, moulting starts by shedding a central primary, usually primary number six. The other primaries are then replaced in both directions along the primary web – primary numbers one and 10 are the last ones to be replaced.

Once this moulting sequence is understood, it is clear why the growing blood feathers are vulnerable to breaking on any clipped bird, since they lack the protection they need from adjacent, normal full-length feathers.

Broken blood feathers can bleed profusely unless action is taken promptly to stop this. Broken blood feathers on a clipped bird can disrupt the whole moulting sequence and the bird may never acquire its normal complement of 10 primaries.

Although the initial wing-clipping may have been carried out as a temporary measure, it can have long-lasting, and potentially permanent, effects on the bird. It is here where repairing the bird's wings by imping can greatly help the bird return to normal.

Imping

There are several advantages to repairing a bird's wings by imping. First, it can prevent the breaking and bleeding of current and future blood feathers, which is particularly important with heavy-bodied birds that have a high wing loading, such as grey parrots and Amazon parrots, as these species are prone to crash-landings.

Since imping restores flight immediately, it gives nervous and fearful birds much more confidence. Imping also assists a clipped bird to moult and replace its flight feathers normally.

Imping is normally carried out under general anaesthetic, but some birds are quite relaxed while being held in a towel and can be imped without anaesthesia.

First, the wings are examined to determine which feathers need repairing. The clipped feather stumps do need to be in reasonable condition and of sufficient length for imping to be effective. With a grey parrot or Amazon there should be at least 3cm of length left in the clipped feathers to accept the donor feather and its splint.

In cases where all 10 primaries have been clipped it is not usually necessary to replace all of them to regain flight. So long as the bird has at least six outermost primaries restored, it will be able to fly. However, it is important to imp next to any growing blood feathers, wherever these are in a clipped wing.

Next, the donor feathers are prepared. These should be from the same species wherever possible since the curvature of the feathers varies, even between closely related species. Each bird's 10 primary feathers is different in terms of shape, size, depth of leading edge and notches and margins, meaning the correct donor feather should be prepared for each clipped stump.

Close examination (or good photographs) of a normal wing for the species in question can help here. Generally, primary numbers seven, eight and nine have deeper notches and margins than the other primaries and primary number 10 has a very narrow leading edge.

Preparation

The donor feathers are prepared by cutting the hollow shaft at about the same point the clipped bird's own feathers have been cut. A splint is prepared for each feather to be imped. The splint must be made from strong material in order to cope with the forces that will be exerted on it during flight. Green bamboo, whittled from larger pieces, or bamboo from chopsticks and skewers can be

used.

Half of the splint is inserted and glued into place in the donor feather using quick-setting epoxy resin. Typically for a grey parrot or Amazon, the splint will be 30mm to 35mm long. Bigger, thicker splints are used on larger birds, while for a small bird the splint may be only 15mm long. The splint should be a good, snug fit inside the donor shaft, then glued in place and allowed to set.

Insertion

Once all the donor feathers are prepared they can be inserted into the bird's wing.

Test the fit of each donor feather again so the splint fits snugly into the bird's clipped feather stump. Then inject a small amount of glue into the feather stump and insert the splinted feather.

Slide it in until the shaft of the donor feather touches the shaft of the bird's feather. In order to allow the bird to fly easily, the donor feather needs to follow the natural line and position of a normal feather in that position in the wing, so rotate it until it lies in the correct spot.

Open and close the wing to check it looks correct when folded and extended. It is best to work from the innermost feathers outwards and it is important to make sure the glue does not come into contact with any other feathers, so you may need to shield these using plastic sheeting as you work along the wing.

Return to normality

The bird should be prevented from flying or any vigorous flapping until the glue is completely hardened; normally, this takes 24 hours. Once imping is completed, the feathers should look no different from the bird's own feathers – imping is invisible when done well.

Birds rarely interfere with imped feathers and will preen them as though they were their own. Indeed, having restored the bird's wing to its normal state, the imped full-length feathers probably feel much more normal than the feather stumps caused by the clipping.

Restoration of flight by imping is likely to be of further significant benefit as flying parrots seem less prone to selfharming behaviours.

If the practice of wing-clipping was dispensed with and birds were taught basic flight commands, then companion parrots would fare better as pet birds and have fewer behavioural problems.

• For more information on imping, contact Greg Glendell via mail@greg-parrots.co.uk

Greg Glendell runs a free feather donor service in conjunction with *Parrots* magazine and can

supply flight feathers from most pet species to any vets who may need them for imping procedures.