

## **Leading Vet's Investigation of Bone Deformities in Grey Parrots**

*By Rosemary Low*

In recent years an increasing number of deformed or malnourished hand-reared Grey Parrots are offered for sale in the UK. In many cases neither the breeder nor the purchaser is aware that there is anything wrong with the bird. That is not just sad but frightening – that inexperienced people are producing young parrots which might be crippled for life or have to be euthanised at an early age. Bird magazines have used several heart-rending stories of young parrots, most often Greys, with deformed beaks or broken legs yet there is no mention of the cause of the problem.

These deformities are due not to accidents or inherited defects, as some might believe, but to one factor: calcium and/or Vitamin D deficiency. It results in weak bones that fracture easily after the chick is about three weeks old, or in a crooked spine or a deformed beak. Sadly, these deformities are not recognised by many breeders who continue to rear more young with the same problems until one has such serious fractures that veterinary help is sought.

The problem is greater today because it is not uncommon for people without any background in parrot breeding to start with Greys. There was a time when everyone progressed gradually from Cockatiels, lovebirds or Ringnecks to the larger parrots. During their early years with the prolific species they learned the basics of parrot breeding. Even although the smaller species are much less susceptible to calcium deficiency, the breeders at least knew what a healthy chick should look like.

Having said that, however, one of the most disturbing aspects of osteodystrophy is that it is not always apparent to the naked eye. Some calcium-deficient chicks are sold in good faith by the breeder. A leading vet in the UK has a particular interest in this problem and strong documentary evidence of its seriousness. He is Nigel Harcourt-Brown from Harrogate, also a breeder of Pionus parrots to the third generation -- something that can be claimed by very few breeders worldwide.

As one of only four vets in the UK with a diploma in avian medicine and surgery (there are only 23 diploma-holders in Europe), he is one of the most authoritative

sources available. Furthermore, he has a particular interest in British-bred Grey Parrots.

In a paper published in April 2003 in *The Veterinary Record*, he wrote that it is widely accepted that Greys are often affected by clinical signs that can be attributed to a lack of calcium and Vitamin D in their diets. Adult pet birds can suffer from hypocalcaemia, resulting in convulsions, adult breeding birds can be affected by egg-binding and osteoporosis, and growing birds can suffer deformities of the bones (osteodystrophy). Juvenile osteodystrophy results in the bones bending and twisting as the bird grows heavier. These deformities are permanent.

During his study of pet parrots that were plucking their feathers, each bird was anaesthetised and examined. The examination included the bones and joints to assess any abnormalities. Each bird was then x-rayed using the same film, screens and processing, as well as using the same views and positions. The radiographs were carefully examined for signs of skeletal diseases and, if necessary, were compared with x-rays and skeletons of wild-caught grey parrots.

Thirty-four hand-reared Grey Parrots, ranging in age from 16 weeks to 13 years, were x-rayed. The breeders and their diets were unknown. The results were highly disturbing. Fifteen of these birds (44%) had signs of osteodystrophy, although none of the owners had realised that the parrot had a bone or a limb problem.

Some were severe cases. Twelve of the birds could not fly; in ten cases this was due to wing-clipping, feather plucking or because the bird was not allowed out of its cage. The other two parrots were flightless due to wing deformities. Some of these birds appeared to adopt a wide-based stance when perched normally. Five birds had apparent leg problems, such as a deformed foot, a lame leg or flat feet. The tibiotarsus, the bone that takes all the weight when the bird is walking or standing, was affected in every case of osteodystrophy. In 25% the pelvis was also affected. In addition, limb deformity causes abnormal weight distribution and this leads to pressure sores on the feet.

Mr Harcourt-Brown told me that all these Grey Parrots had been sold as “normal” for high prices. In another case, in which the parrot was brought for treatment due to the fractures it had suffered, x-rays revealed that the number of fractures was 29.

The study showed the importance of a diet that contains adequate calcium and Vitamin D, especially for the laying female from about six weeks before egg laying commences. Mr Harcourt-Brown pointed out that using a calcium supplement in the drinking water is not as effective as using a powdered supplement on the food. To use sufficient calcium in the water makes it so unpalatable that the birds will not drink the solution. If the solution is weak enough for them to drink, it does not provide sufficient calcium or Vitamin D to fulfil the nutritional requirements. This does not happen if the powder is sprinkled on the food. Powdered supplements are absorbed well, in spite of some claims to the contrary. I would suggest that for a pet bird the calcium is placed inside a favoured item of food, such as a grape. For breeding birds it can be added to the soft food or rearing food and they will not even be aware that it is there.

Mr Harcourt Brown's study suggested that although in some cases the deformities were quite severe, none of them appeared to be related to the bird's obsessive feather plucking and chewing.

#### Reference

Harcourt-Brown, N., 2003, Incidence of juvenile osteodystrophy in hand-reared grey parrots (*Psittacus e.erithacus*), *The Veterinary Record*, April 5, 438-439.