

# Physiotherapy – an unusual case for treatment

**Although veterinary physiotherapy is a new and growing industry in Ireland, its versatility as a treatment option has been acknowledged for decades in the UK. Veterinary physiotherapist, Jane Tyrrell RVN AdvCertVPhys, discusses how it was used, along with traditional techniques, to assist in the recovery of a very unusual patient**

As veterinary nurses, we are unfazed by explosive leavings, whatever the direction. We are proficient in ignoring the rancid smell of anal glands on our clothes. And we are top of the class in smiling and nodding as people tell us how lucky we are to cuddle with puppies all day long. However, in between the regular glimmers of the job, we are challenged by more and more irregular cases, those that force us to delve into our repository of knowledge generated throughout our academic careers. In particular, in terms of physiotherapy, although we have been armed with the foundations, we tend to think of physiotherapy as it relates to canine and equine practice, as research is limited otherwise. So, when we are faced with these cases, how do we approach them? How do we care for and facilitate the recovery of other species, outside the 'norm'? To demonstrate the novel use of physiotherapy techniques in the recovery of a candidate patient, a case study of a Galah cockatoo that suffered significant trauma to her right leg is being used. This case is discussed below in detail, including the initial examination, the examination by a specialist avian vet, the physiotherapy treatment plan employed and the bird's recovery to date.

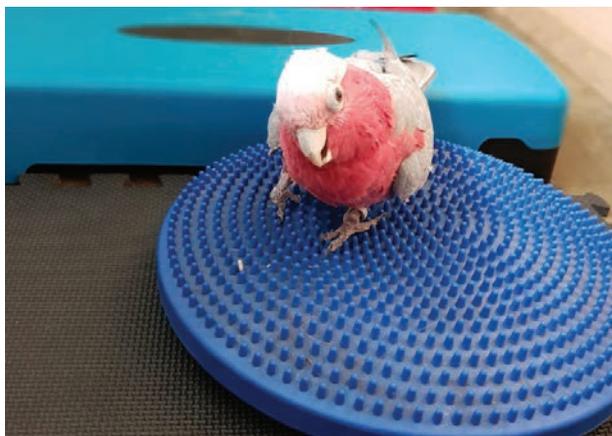
## CASE IN QUESTION

The patient in question, a 10-year-old female Galah cockatoo, was found with threads from a fleece bed wrapped around her right leg between the tibiotarsus and the digits. It was estimated that she had been in this way for four to five hours. On initial examination, by the attending specialist avian vet, blood perfusion to the limb was noted as being good and there seemed to be no fractures present on palpation. However, the intertarsal joint had significant swelling and there was no deep pain reflex on three of the four digits of that limb. The vet decided to forego X-rays and administer Meloxicam with a view to re-examining the limb two weeks later.

The recovery phase was initiated on the following day with basic practices being employed to reduce stress within the patient's environment. Although she was able to use the limb, it was circumducted with every stride to avoid using the tarsus. Therefore, she was immediately moved from her cage to a small animal crate with several layers of towels as bedding and a very low and wide perch to prevent further injury while the limb healed. Birds tend to find wider rougher perches easier to grip, but in addition to this, the rougher perches also provide increased proprioceptive input for the damaged nerves. While in her crate, she was observed as favouring the use of her beak to manoeuvre instead of using her injured limb.

## TREATMENT

Physiotherapy treatment was then started in earnest with the use of pulsed magnetic field therapy (PMFT) for analgesia, nerve regeneration and inflammation reduction. In practice, cryotherapy could be used instead to provide some analgesia and vasoconstriction. During these sessions, she was discouraged from using her beak in place of the limb. Initially, sessions were carried out two to three times daily and proprioceptive exercises were included later to stimulate nerve impulses. Due to the nature of the injury and the restriction of movement outside of supervised sessions, the patient was prone to weight gain, so treats were offered sparingly and more interactive rewards such as play were used instead. The patient was encouraged to complete proprioceptive tracks (Figure 1), ranging from corners of different types of flooring such as gym mats, towels, carpets and slate, as well as cat litter and wobble cushions. Great care had to be taken with these tracks as the patient's wings were not clipped and she tended to fly to the end of the course if it was too long. At this stage, although she was progressing well, her deep pain responses had still not returned. Unfortunately, 11 days after the initial trauma she self-mutilated her toes, removing P2 and P3 in two of the digits. She was rushed to a local vet where she was bandaged, transferred to an avian vet and two days later, underwent surgery to amputate P1 from both digits.



**Figure 1**

She returned home one day post-op and PMFT was used to aid in the reduction of the swelling and for pain relief in conjunction with her medications (oral Meloxicam and Tramadol). Phototherapy or thermotherapies could not be used every day as the limb was bandaged. However, both red and blue light therapies were used when the bandage was reapplied every three days. Also, during this time, and while the digits were exposed, we worked on flexing

and extending the phalangeal and metatarsal-phalangeal joints on her remaining digits as well as the joints further up the leg which were all held in stasis due to the bandage. We also encouraged correct positioning of her limbs and remaining digits during this time by allowing her to partially weight-bear with her remaining digits on that limb. This may not always be possible as it requires the bird to remain calm while being held. Luckily, this cockatoo had been trained to be held for nail clipping, so this wasn't as foreign a concept to her as it might be to other birds. If there is any doubt about the patient's ability to remain calm, this exercise should be avoided as it may cause injury to the patient as well as injury to the handler.

At four weeks post-op, it was decided to remove the bandage and the remaining dissolvable sutures. The wound was not completely healed but the restriction on the joints caused by the bandage warranted the slightly earlier removal. During the time between removal of the bandage and complete healing of the wound, a home-made collar was used to prevent her from mutilating the area further. As the collar can cause balancing issues and instability, she had padding on her foot for almost a month. In addition to this, she was given more towels on her flooring and soft ban was used under the vet wrap on her perch. Her bedding had to be changed multiple times daily to prevent faecal contamination of the wound. At this point, phototherapy (both red and blue light) was reintroduced on a daily basis.

## RECOVERING

The therapy continued, to encourage correct foot placement and simple step up exercises from hand to hand (as if she was climbing stairs) were used to strengthen her perching grip (Figure 2). Once the wound had healed, her collar was removed. Her physiotherapy sessions then decreased gradually from daily to once per week. As it stands now, her grip has improved substantially, she has been reintroduced to her normal cage and is using the injured limb more often than her beak. She still had padded vet-wrapped perches for a few months afterwards while she continued physiotherapy and relearned how to perch with only two digits, but now smaller perches (both smooth and rough) have been introduced to allow her to contract her grip even more and aid in improving her balancing. She has also begun flying again and we are working on getting her to land on a hand rather than a floor/chair to also encourage her to place her digits correctly around a finger as well as continuing to employ proprioceptive tracks to improve her grip and use of the toes.

Given how slow her progress has been due to the longer wound-healing time, she has done remarkably well. This case was significantly more challenging than digit amputations in other species due to the dexterity that birds are required to have when it comes to their digits. However, when equipped with the foundation knowledge and a workable schedule of individual smaller goals, buckets of patience and a bit of ingenuity, many outside the 'norm' cases can be aided with even the most basic



Figure 2

physiotherapy techniques allowing us to bring our patients through to recovery in everyday practice.

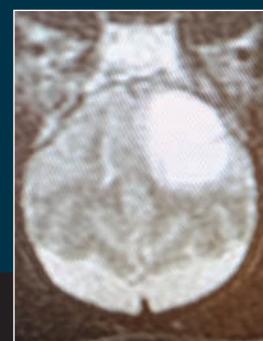
It should be noted that the physiotherapy carried out in this case study was performed by a trained veterinary physiotherapist. So, with this in mind, if you are unclear or unsure of any methods used, speak to a trained physiotherapy professional before attempting to employ a similar schedule of therapy.

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