

## Case history

Name: ..... Ralph  
 Breed: ..... Labradoodle  
 Age: ..... 2  
 Sex: ..... Male  
 Weight (at start): ..... 30.3kg (4.77st)  
 Condition: ..... Bilateral hip dysplasia  
 Owned by: ..... Phil and Maggie Crathern  
 Surgical procedures: ..... None  
 Medication: ..... Previcox

### INTRODUCTION TO HYDROTHERAPY

Maggie and Phil noticed that Ralph was lame in his hind legs, and seemed unstable. When he was five-and-a-half months old, Ralph was diagnosed with bilateral hip dysplasia, when an x-ray revealed severe right hip subluxation and left hip luxation. Because of his young age, surgery was not an option, and he was therefore prescribed Carpriveve, a type of analgesic medication, to relieve the pain caused



by inflammation of the joints. Ralph experienced vomiting as a side effect of his medication, and was given Previcox as an alternative. It was hoped that the anti-inflammatory medication would minimise his clinical signs and discomfort, thus managing the condition and negating the need for corrective surgery. At the time of examination, Ralph was showing no signs of osteoarthritis; surgery was to be reconsidered in the future if arthritis was progressing, and if any deterioration was evident.

Ralph is a very active and playful dog, which, unfortunately, was not helping his condition: the vet advised that his exercise be restricted. This was a difficult proposition for Maggie and Phil as there were other dogs in the family, and Ralph became frustrated about not being able to interact with them. Even though he had very high energy levels, Ralph had evident muscle wastage around his pelvic region, which increased joint instability. As a Labradoodle, his growth development and predicted adult conformation meant that he was going to be a very large dog, his increasing weight putting more strain on the body. At the time of his examination, happily, Ralph was showing no sign of osteoarthritis.

It was vital that Ralph built his strength to reduce the likelihood of further problems associated with hip dysplasia and fast growth rates, and give him the best chance of a normal life. The vet suggested

*Care must be taken during the growth period of large breeds to assist prevention of developmental disorders.*

*continued over*



*Phil with Ralph and companion Albert.*

hydrotherapy as a form of exercise not only for Ralph's condition, but also to burn off excess energy. Ralph was referred for treatment immediately.

### **AIM OF PROGRAMME**

To build and maintain muscle mass to support the hip joints, manage any osteoarthritic changes, and obviate the need for surgery.

### **PROGRAMME DURATION**

Ralph first came for hydrotherapy on 27 October 2009, and had five minute sessions, three times a week. Tasks to be completed at the centre: To swim in a buoyancy jacket with rope attachments to the rear 'D' ring for pelvic support. Due to his long ears and low head disposition, Ralph wore a head flotation ring to lift his head and keep it in line with the rest of his body (and also prevent his long ears from getting too wet). Tasks to be completed at home: Short lead walks only, no jumping or stair climbing, and strict weight management.

### **PROGRESS REPORT**

Ralph's water therapy sessions were reduced to two times a week from 1 December 2009, as his fitness level



*Ralph swims very steadily, and needs no encouragement.*



*Rope attachments are used to support Ralph; he becomes panicked with a therapist in the pool.*

was sufficient to enable him to have less frequent but more intense sessions.

Ralph has always been a relaxed and steady swimmer, taking every stroke at his own pace. To encourage more cardiovascular intensity, on 26 January 2010, the jets (which cause turbulence) were introduced. Subsequently, Phil and Maggie reported back to Animal Magic that Ralph had demonstrated some stiffness and lameness; a result of over-exercise. Consequently, from 30 January, the jets were no longer used and his sessions were reduced to one a week. Ralph coped well with longer swim durations (up to 20 minutes) at a lower intensity, which proved effective for stamina and strength development.

The vet has been pleased with Ralph's progress so far, although there is a possibility that a total hip replacement procedure will be required for both hips at some point. Ralph's weight has been maintained throughout his program, although it was advised that he should lose weight. Phil and Maggie have put him on a diet to reduce the weight that is putting pressure on his joints. Even though he is not considered overweight and is in good overall condition, a dog in his circumstances should be as lean and fit as possible.

On 20 November, unfortunately, Ralph ruptured his cranial cruciate ligament and so hydrotherapy was postponed until he had sufficiently recovered from a lateral imbrications procedure. Hydrotherapy will be beneficial for the dysplasia and rehabilitation of his left hind leg, assist in prevention of a secondary cruciate injury to his right hind leg, and help ward off osteoarthritis. A cruciate rupture will put added strain on Ralph's hips and further complications will occur if his right cruciate also becomes injured. Strict weight management and exercise restriction (no playing, reduced land-based activity), although appearing unfair, is vital to Ralph's recovery.



*Ralph is lifted into and out of the pool as he is not keen on the ramp.*

*When she first began hydrotherapy, Duchess required support of the pelvic region and encouragement of her hind limbs.*



*continued over*

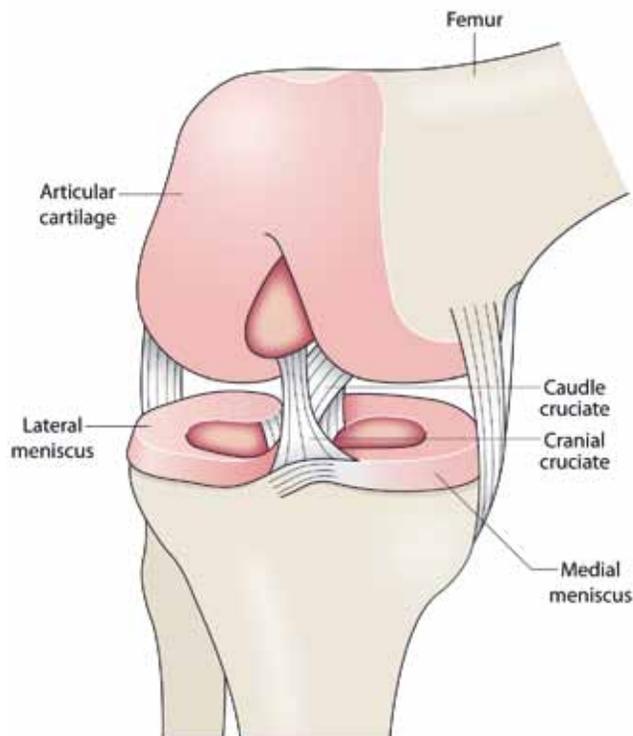
Several structures make up the knee joint, including the caudal and cranial cruciate ligaments which cross over one another inside the joint. These strong, fibrous bands join the femur (thigh bone) to the tibia (shin bone), and together work like a hinge, allowing the knee to bend whilst providing stability. A cruciate rupture of the cranial ligament is one of the most common orthopaedic conditions, resulting in hind limb lameness and osteoarthritis of the knee; however, it is rare for the caudal cruciate ligament to become injured.

The shin bone is held in place by the cruciate ligament (caudal and cranial). Following a rupture, the knee becomes unstable when weight is applied to it, because the top of the shin bone is no longer perpendicular to the length of the thigh bone. Resulting instability and pain mean that the dog will tend to hold up the affected leg.

Cruciate ligament injury can occur acutely because of trauma (a fall, knock or jump), or chronically (over time). Tearing of the cruciate ligament causes instability of the knee joint, which ceases to function properly. Most cruciate ligament tears in dogs occur gradually, resulting in low-level lameness that may or may not improve over time. Cruciate injury in a chronic form involves slow, progressive degeneration, which can lead to a partial tear or complete rupture (the latter exacerbated by trauma, or actually caused by trauma, depending on the strength and condition of the ligaments. However, it is common for the injury to occur without any particular incident and appear 'random.'

While acute ligament injury may occur because of a single incidence of trauma, the majority of ruptures occur during ordinary daily activity, due to secondary progressive and irreversible degenerative changes within the ligament itself.

Precisely why the cruciate ligament ruptures is not entirely understood, but is believed to be due to a combination of bone development, body conformation, and subsequent gait abnormality. Abnormal bone growth may result in irregular pressure and forces on the ligaments that lead to the degeneration process. Cruciate injury occurs



*It is more common for the cranial ligament to rupture than the caudal ligament. (Courtesy Dave Russell)*

frequently in overweight, middleaged/older dogs, with larger breeds most commonly affected. All dogs can suffer from a cruciate injury, although some breeds seem more predisposed than others, which indicates the influence of a genetic factor. A dog that is over-exercised and/or overweight will put extra and unwanted strain on the knees as well as other body joints.

### CLINICAL SIGNS

A dog with cruciate degeneration may show mild clinical signs which appear to resolve and then reappear. This is common in highly active dogs,