

Canine Hydrotherapy



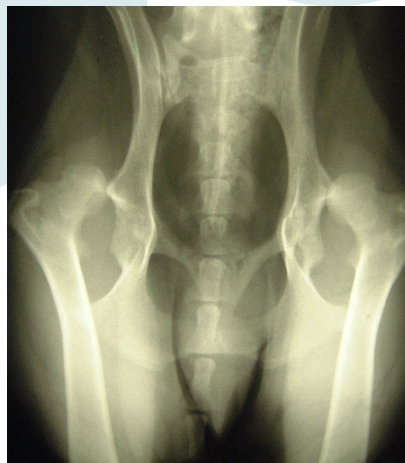
Canine Hydrotherapy. Study of a seven month old Labrador with severe hip dysplasia and narrowing of the disc space causing muscle atrophy of the hind limbs and caudal lumber muscles.

Zak was seven months old when he was referred to us by his vets. He was a quiet, gentle and extremely affectionate Labrador who was experiencing problems that were becoming more obvious as he grew. Zak was very long in the leg, there was very noticeable muscle atrophy of the hind limbs and lumbar muscles and his hind limb gate was unstable. He carried his hind limbs so closely together that his feet crossed on occasions. Zak also had an arched lumber spine (lumbar kyphosis). This was not the picture you would expect of a "bouncing" young Labrador. In fact, Zak did not bounce, he wiggled vigorously to show his pleasure when made a fuss of, but was otherwise quiet and a little subdued.

Zak was born in March 2004, and Charmaine, Zak's owner, first noticed problems when Zak was five months old. He started to arch his back when walking and when going to sit he would put all his weight on his front legs, then tuck his hind legs underneath. He was quiet and lethargic, content to lie on his back and play and not run around. Most noticeable of all were his underdeveloped hind legs. When Zak did run, he bunny hopped both hind legs together.

Zak was x-rayed and the x-rays then forwarded to a specialist orthopaedic referral centre for further diagnosis. These showed Zak had eight lumbar vertebra, a congenital abnormality where the first

sacral vertebra is lumbarised, the articulation between this vertebra and the rest of the sacrum was distorted and narrowed and the ventrodorsal view showed a vestigial lateral process on the right hand side. Further X-rays of the pelvis showed severe hip dysplasia, with both femoral heads lying outside the acetabulae. Both acetabulae were poorly formed and there was flattening of the opposing surface of the femoral heads, possibly caused by abnormal wear on the dorsal acetabula rim.



pre opp x-ray

It was decided that at this stage the lumbar sacral deformity was not necessarily a clinical problem. Although degenerative changes could be enhanced in this area by the abnormality and cause problems later on, this was to be monitored.

The hip dysplasia was Zak's main problem and he was showing marked pain in this area. Total hip replacement was the most

preferable surgical route to take, but Zak was too young for this, under twelve months. Zak was also possibly too small for the smallest femoral stem. It was decided to follow conservative treatment for the time being, whilst Zak matured. He was put on an ongoing course of NSAID's and referred to us for hydrotherapy.

We first saw Zak in October 2004 and after an initial assessment started him on a course of hydrotherapy. His first session was unremarkable after being lifted into the pool and attached to our harness line he splashed and circled in the water till he orientated himself and then settled to swim for just two minutes. At this stage we restricted Zak's normal exercise to five minute lead walks, twice a day. He was sore and wobbly and it was crucial we knew if any increased lameness was caused by the swimming or inappropriate exercise. This way we can monitor dogs very closely.

After three sessions Zak gained his confidence and started to walk up the ramp into the pool rather than being lifted in. Things didn't go without a hitch and at the fourth session Zak came into us more lame. Charmaine reported his exercise hadn't changed, but he was more playful and may have twisted on that leg at home. We swam Zak for the same time again and he recovered progressing well at each session thereafter. After five sessions he started swimming without support floats. In this short time, just two and a half weeks, he had gained a little more strength and looked less

wobbly. By the sixteenth session, Zak had reached his full swim fitness and was swimming on full jet current and full air. This jet current and air flow makes swimming more of a challenge. We call it power swimming.

Zak continued to swim weekly until the end of January when by this time he had built more muscle, and was looking stronger and fitter. He was full of himself, playing more and becoming more of a challenge to his owner. His lead exercise was increased and we all felt he had a good chance of making a quick recovery if he underwent surgery. At the beginning of February surgery for an excision arthroplasty of the right leg was undertaken. Charmaine collected Zak from the vets the next day, he was only using three legs, but three days later he was back on all four. He met Charmaine at the bottom of the stairs, Robert Jones bandage in his mouth. Charmaine told me "I am sure he was expecting his morning walk".

Everyone was cautious and Zak remained off swimming for four weeks and I would have liked to have swum him sooner. Zak returned to us on 5th March, starting again for just two minutes, but this time with no need for support floats. He progressed quickly again, swimming twice a week reaching thirteen minutes by the time he had his second excision arthroplasty on 23rd March. During this time, Zak was unable to swim on jets (we only introduce jet swimming as the dogs reach a suitable level of fitness). He became lazy and started to float, we introduced toys and games to keep him moving and got him swimming in circles instead. By 23rd March, he was confidently bearing weight on his right leg just six weeks post surgery, partly due to the hydrotherapy pre surgery and also due to a strong mental attitude from Zak.

After the second operation, Zak walked out of the vets on all four legs, returning to swimming on 8th



post opp x-ray

April after just seventeen days, and everyone was more confident this time. He progressed well with only one relapse after six weeks showing as intermittent non-weight bearing of the left hind leg. A course of NSAID's helped and by 7th June Zak was back to full swimming fitness, his muscle build up was noticeable and he was so keen to swim, we now needed to keep a tight hold of him to prevent him hurtling up the ramp and leaping into the water from the top. He was discharged from the specialist vets care, eleven weeks after the second operation and was being monitored carefully by his regular vet.

He no longer needed NSAID's and Charmaine was finding him strong and wilful. His full character was now shining through.

Zak was never going to be able to avoid surgery, but his recovery each time has been remarkable.

Swimming pre surgery has many benefits;

Introducing a dog to the indoor pool environment early allows them to become familiar with their surroundings and those handling them and they become confident swimmers. This introduction to water is not always easy and becomes stressful for all concerned when undertaken post surgery when the dog is most vulnerable and in discomfort.

Dogs that are confident in the water and have gained full swimming

fitness pre surgery will get fit more quickly again afterwards, allowing us to advance them sooner to the stage of healing, recovery and muscle gain.

Post surgery it is generally acceptable to swim dogs once sutures have been removed and there is no risk of infection. However this needs to be well controlled under strict supervision. Swimming soon after surgery has benefits mentally, giving dogs the knowledge they can still move freely and with less discomfort. This keeps them bright and positive encouraging them to use injured limbs sooner and with confidence.



Zak – fifteen weeks after his second operation

As you can see from the photo taken of Zak in July this year, fifteen weeks after his second operation. We still have a way to go, but the improvements we have seen in eight months have been immense. His spinal abnormality still gives concern for the future, but at this time there is no evidence of clinical problems. Zak continues to improve and still swims weekly.

We as hydrotherapists hope that such a recovery is always possible. All that we ask is that we are given the chance to try. However, what we must never forget is that none of this would ever be possible without the dedication, encouragement and of course the love that the owner gives to their dog.

I would like to thank the orthopaedic vets concerned for their considerable help with Zak and this article, also Charmaine and a bouncing Zak.

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