

ANIMAL REHABILITATION CASE SERIES

POST OPERATIVE IVDD

A monthly case report on common orthopaedic conditions where rehabilitation can play an important role in helping your patients improve their quality of life.



IVDD is a common condition that veterinarians see in practice.

When used in a post-operative setting, rehabilitation can be useful in:

- Restoring neurological function
- Improving strength in the hind limbs
- Improving spinal stability
- Restoring normal ambulation
- Helping owners feel more in control with managing their pet's condition after surgery
- Objectively tracking changes in the patient's condition and function
- Restoring a pet's quality of life



Owner's Concerns:

- Recovery is slower than normal
- Improve Peach's quality of life
- Get walking normally again
- Reduce need for future surgery

BACKGROUND:

Peach is a 3yo female Dachshund who was treated surgically with a hemilaminectomy after being diagnosed with IVDD.

Veterinary Pre-Op Clinical Signs:

- Sudden onset
- Non-ambulatory in hind limbs
- Weak VMF
- Spinal segmental reflexes normal to increased in both hind limbs
- Good superficial pain response
- Intact deep pain

Veterinary Diagnosis/Treatment:

- CT confirmed type 1 IVDD at T13/L1 and L1/L2
- Hemilaminectomy was performed to remove the disc material compressing the spinal cord

Veterinary Post-Op Clinical Signs:

- 4 days post-op Peach regressed
 - Absent deep & superficial pain sensation
 - Absent VMF
- Repeat MRI confirmed no new disc bulge or haematoma but was some spinal cord swelling
- Peach remained in hospital for 6 more days (11 days total) before she was deemed to be stable and then released

AIM OF REHAB, INTERVENTIONS & COST

Based on the goals Peaches owners wanted to achieve, our aim of rehab in the short to medium term was to **improve neurological function** while **building strength in her hindlimbs**. In the long term, our focus was to **improve core stability** to **minimise the risk of future IVDD** episodes in the adjacent discs.

Our interventions included: **Class 4 laser therapy** in the first 2 weeks to stimulate healing and minimise swelling, followed by **underwater treadmill** twice a week for 4 weeks followed by once a week for 4 weeks. **Home exercises** were also prescribed and updated throughout the whole time. We also provided Peach with **PAWZ rubber booties** to help her grip on slippery surfaces and protect her paws when knuckling.

Cost: **\$1238 for 12 consults over 8 weeks.**

MEASUREMENTS & RESULTS

We've excluded the majority of testing and just shown the most relevant findings. Upon request we are happy to provide a more detailed report.

Test	Pre Rehab (4 weeks post-op)	Post Rehab (Week 8) (12 weeks post-op)
Stance	Can stand for 1-2 seconds supported	Stands for extended time without issue
Ambulation	Non ambulatory	Able to walk for 800m with rests every 100m
Functional	N/A	Can do sit to stand Can hold a 3 leg stand
Mid Femoral Muscle Bulk (Gulick Tape)	13.5cm LHL 15cm RHL	14.5cm LHL (↑ 1cm) 16cm RHL (↑ 1cm)
HL Neurological Signs: VMF Deep Pain Placing Sign Patella Reflex	Absent L, Slight R Absent Bilaterally Absent Bilaterally 1/5 Bilaterally	Present Bilaterally Present Bilaterally Present Bilaterally 2/5 L, 3/5 R

IVDD REHAB SUMMARY:

Post-surgical IVDD cases which are **slow to progress** often leave owners feeling like there is little they can do to help their pet, and that perhaps an expensive surgery wasn't the right choice.

While clinical signs such as an absent deep pain response do indicate a poor prognosis, from our experience it's really important to **keep the owners positive and motivated** to do the best for their pet. These cases **often take much longer** than normal IVDD recoveries, but they can still **achieve a great outcome** in the long term - so long as the owner is patient and committed to sticking to the rehabilitation plan.

In cases where recovery is slow, or unlikely to ambulate, we can provide patients with mobility aids such as **wheelchairs, slings, harnesses** or **PAWZ rubber boots** to help with grip to protect paws from knuckling.

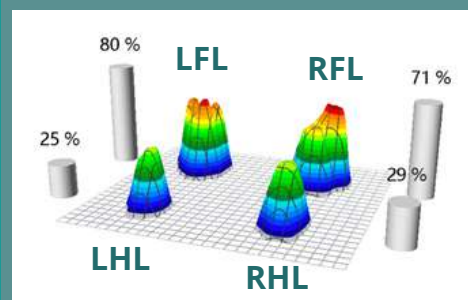
Peach is a great example where the **early prognosis was poor**, but her owners were committed to doing everything they could to help her walk again. In the two months we worked with her we saw **improvements in muscle bulk**, neurological signs, functional ability and **gait**.

GAIT ANALYSIS

(Forceplate Treadmill)

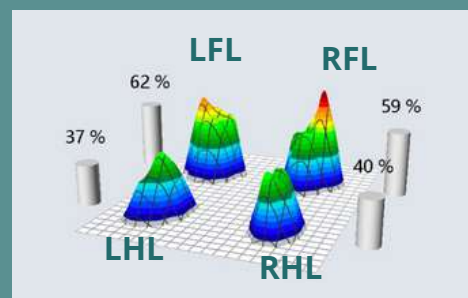
Initially Peach was non-ambulatory so we were unable to perform a gait analysis until 8 weeks post-op which is when she started to walk unassisted.

Mid Rehab (Week 4) (8 weeks post-op)



You can see how Peach was shifting her weight forwards to minimise the pressure on her hindlimbs.

Post Rehab (Week 8) (12 weeks post-op)



With another 4 weeks of rehab under her belt, Peach was now weight-bearing much more ideally, and we were at a point where we could discharge her.

If you have a post surgical IVDD case that you think rehabilitation may assist with, contact us to discuss how we can help.