



CASE STUDY

Hydrotherapy Solutions For Degenerative Myelopathy Rehabilitation

When Kenai, a 9-year-old yellow Labrador, began stumbling on walks, his owners thought it was just aging. Within months, the toe-dragging became frequent falls, and veterinary specialists diagnosed degenerative myelopathy, a progressive disease similar to ALS in humans. The solution: specialized underwater treadmill therapy designed for this challenging neurological condition.

THE CHALLENGE: Managing Progressive Neurological Decline

Degenerative myelopathy (DM) presents unique rehabilitation challenges that differ significantly from typical orthopedic conditions. This progressive spinal cord disease affects older dogs, typically after age 8, with onset beginning as subtle incoordination in the hind limbs and toe scuffing that progresses over 6 months to one year. Common breeds include Labradors, Corgis, and Boxers.

Unlike traditional rehabilitation, where strengthening is the primary focus, DM requires a fundamental shift in approach. The challenge lies not in building muscle strength, as the neural pathways are degenerating, but in maintaining function and quality of life as the disease progresses through its stages.

THE SOLUTION: AquaPaws Systems

Enable Stage-Appropriate Therapy

Advanced aquatic therapy provides an ideal environment for DM patients through precise, adaptable protocols that match disease progression.

The key therapeutic principle is "proximal stability for peripheral mobility." When the trunk is stabilized, limb movement becomes more coordinated.

Research demonstrates that early aquatic therapy following orthopedic surgery can:

- **Dogs can walk at a safe, natural pace**
thanks to precise speed control that adjusts as the disease progresses
- **Unsteady patients stay secure during exercise**
with advanced safety features designed for neurologically impaired dogs
- **Therapy adapts to each dog's abilities**
through variable water depth that provides just the right amount of support
- **Dogs stay comfortable during longer sessions**
with temperature control systems that maintain optimal conditions

Stage-Appropriate Therapy Protocols:

Early Stage: Walking exercises with terrain variation, core strengthening through balance challenges, and three-leg standing exercises that shift weight to the hind limbs.

Middle Stage: Supported walking with harness systems and frequent rest periods. Controlled speed reduction helps force coordinated gait patterns while preventing falls.

Late Stage: Transition exercises using water's buoyancy support and static strengthening that allows muscle contraction in a modified gravity environment. The "use what you got" philosophy maximizes remaining neural connections.

The controlled aquatic environment provides natural compression and stability while reducing gravitational stress on weakened muscles and uncoordinated limbs.

THE RESULT: More Good Days and Extended Quality of Life

Clinical research demonstrates the effectiveness of controlled physiotherapy in DM management.

The landmark study by Kathmann et al. showed that daily controlled physiotherapy significantly increases survival time in dogs with suspected degenerative myelopathy. Additional research by Polizopoulou et al. evaluated therapeutic protocols in 12 DM dogs, supporting the safety and efficacy of structured exercise programs.

Paralleling research in human ALS patients, studies by Paganoni et al. demonstrate that moderate-intensity exercise is safe and beneficial for neurological conditions, while high-intensity training proves detrimental. These studies showed that moderate exercise programs resulted in better function and quality of life without adverse effects.

Real-World Benefits:

- Extended survival time through consistent, moderate exercise protocols
- Happier, more confident pets who maintain coordination and mobility for longer periods
- More good days with families as dogs experience reduced fatigue through water's supportive properties
- Enhanced compensatory movement patterns that maximize remaining function

Success in DM therapy is measured not in strength gains, but in prolonged independence and maintained quality of life. Patients typically maintain functional mobility for extended periods when proper aquatic protocols are implemented.

Today, Kenai continues his aquatic therapy sessions, walking confidently in his AquaPaws system while his family enjoys precious additional time with their beloved companion.

Contact our team to learn how AquaPaws systems can help extend quality of life for DM patients in your practice.



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