Mid-Winter 2022

BURLINGTON
EMERGENCY & VETERINARY
SPECIALISTS

SERVICE SPOTLIGHT

NEUROLOGY/NEUROSURGERY

Diagnosing and treating a neurological disorder can be challenging, which is why primary care veterinarians across the region turn to BEVS for assistance. Our Neurology Department, led by Allison Cowan, DVM, DACVIM (Neurology), and her team, work closely with our surgery, internal medicine, and rehabilitation departments, providing comprehensive and appropriate care to help each patient recover as fully as possible.

Neurologic conditions in animals typically show up acutely and urgently. In this complex field, there is little margin for error, so making an early diagnosis and providing proper treatment is especially important. Our job is to give your patients every advantage for optimizing their quality of life and pet parents peace of mind.

Types of Neurological Disorders in Pets

Neurology covers a large spectrum of diseases, conditions, and disorders. The most common include:

- Brain and spinal tumors
- Congenital brain disease
- Degenerative myelopathy
- Encephalitis/meningitis
- Epilepsy
- Head trauma
- Intervertebral disc disease
- Lumbosacral disease
- Neuromuscular diseases
- Seizure disorders
- Spinal cord injury
- Stroke
- Vestibular disease
- Wobbler's disease

Symptoms of Neurological Disorders in Dogs and Cats

Symptoms of neurological conditions vary, but there are warning signs you can look for. If you notice any of these affecting your patients, we welcome your call or referral to provide appropriate care:

- Abnormal eye movements
- Balance issues
- Circling, head tilt, and head pressing (standing against a wall or corner and pushing against it with their head)
- Confusion
- Disorientation
- Mobility issues, especially in the hind legs
- Neck and/or back pain
- Partial or full paralysis
- Problems urinating
- Seizures
- Tremors or muscle twitching

Causes of Neurological Disorders in Pets

Some causes of neurological disorders are evident, such as trauma. Others, however, may be latent, resulting from:

- Autoimmune disorders
- Congenital conditions
- Degenerative diseases
- Idiopathic (unidentifiable conditions)
- Infection
- Inherited susceptibility
- Neoplastic conditions
- Underlying systemic disease
- Vascular diseases

In most cases, determining the cause of a neurological disorder can aid the development of an effective treatment plan. We collaborate closely with each referring veterinarian to ensure that we have a complete picture of a patient's medical history.

Comprehensive Diagnostic Capabilities

A timely, accurate diagnosis is essential for effective treatment. That's why BEVS has invested in leading-edge diagnostic equipment and offers a full range of testing capabilities onsite, including:

- Computed Tomography (CT) – Multi-slice, with a gantry large enough to accommodate a giant breed canine's chest
- Infectious disease testing
- Magnetic Resonance Imaging (MRI) – With a 1.5-tesla magnet
- Neuromuscular diagnostics
- Spinal fluid analysis (Spinal tap)

Neurosurgery

Some neurological conditions require surgery. At BEVS, this treatment is performed by Dr. Cowan and her neurology nurses.

Case Study: Fenberry is still standing – Life after a diagnosis of acute non-compressive nucleus pulposus extrusion

Patient: Fenberry Matthews

Referred By: The Animal Hospital of Hinesburg

Presentation: Fenberry presented for acute collapse at the dog park followed by cyanotic gums and complete inability to stand or move any of her limbs. On presentation to BEVS' emergency service, she was tetraplegic with increased extensor tone of the thoracic limbs and nonpainful on spinal palpation. Sensation remained intact. Her mentation and cranial nerve exam were normal. Her general exam was largely unremarkable with the exception of frothy, white nasal discharge, bilaterally. Vital signs were normal. Fenberry's lesion neurolocalized to a cervical myelopathy.

Diagnostics: Radiographs of the thorax and abdomen were largely unremarkable. Radiographs of her cervical spine revealed intervertebral disk narrowing at C2/3. Bloodwork (CBC/chemistry) revealed an elevated ALT (893) and glucose (156), as well as a stress leukogram. AFAST/TFAST were negative for pleural, pericardial, and abdominal effusion. SpO2 was normal (97% on room air). ECG revealed normal sinus rhythm. Blood pressure was normal (100mmHg).

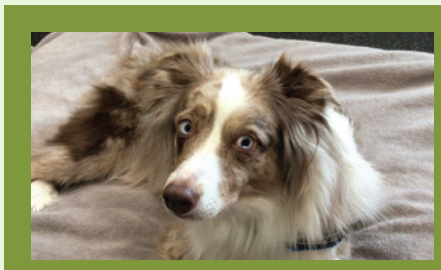
Following transfer to the Neurology Service, an MRI was performed, which revealed a focal area of T2w hyperintensity within the spinal cord parenchyma at the level of C2/3, involving almost 90% of the transverse diameter at its greatest extent. Minimal to no epidural compression was noted at the corresponding area, although the C2/3 intervertebral disk was hypointense, consistent with degenerative disk disease. (Figure 1 and Figure 2)

Diagnosis/Findings: Acute noncompressive nucleus pulposus extrusion (ANNPE), C2/3.

Treatment: An injection of solu-medrol was given following MRI. Fenberry was fitted for a Help 'em Up harness and sent home later that evening for continued care, consisting primarily of strict activity restriction for four weeks and supportive care. Medications sent home included a short course of anti-inflammatory prednisone, omeprazole, and gabapentin if needed, although Fenberry appeared very comfortable. Owners were instructed on monitoring for urinations and shown how to express her bladder manually, if needed. They were also provided passive range of motion exercises to do at home in addition to general recumbent care. Intensive physical therapy began approximately four weeks following diagnosis and has continued 1–2 times weekly.

Outcome: Fenberry was seen for a recheck exam approximately two weeks after initial diagnosis and had greatly improved. She had regained motor function in all four limbs, with her pelvic limbs being stronger than the thoracic limbs. With subsequent rechecks and physical therapy sessions, her strength and mobility have continued to improve. She remains comfortable and doing well.

Takeaway: Dogs who present with severe neurologic deficits such as those like Fenberry's have the potential for very good outcomes if provided enough time and supportive care. Clients should be adequately prepared for several weeks to sometimes several months of rehab and supportive care, but our ultimate hope is always that they can improve, even those who have lost complete use of their limbs.



Fenberry

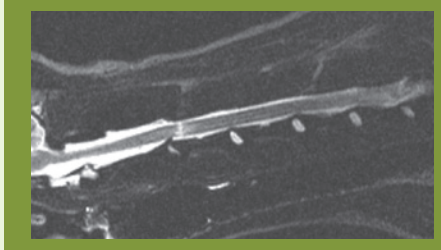


Figure 1

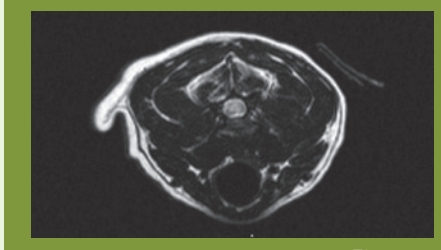


Figure 2

Fenberry today

Meet Our Neurologist

Allison Cowan, DVM, DACVIM (Neurology)

DVM: Cornell University College of Veterinary Medicine

Internship: General Rotation & Neurology/Neurosurgery, Metropolitan Veterinary Hospital

Residency: Neurology/Neurosurgery, Metropolitan Veterinary Hospital

Board Certified: American College of Veterinary Internal Medicine

Dr. Allison Cowan grew up in southwestern Vermont. She graduated from Dickinson College with a bachelor's degree in economics. After graduation, she worked in New York City for a year before studying veterinary medicine. Dr. Cowan enjoys all aspects of neurology but finds the treatment of inflammatory brain disease especially rewarding.

She shares her home with two cats (Flynn and Duncan) and a mixed-breed dog named Linus. In her free time, she enjoys hiking, kayaking, yoga, fantasy football, spending time with friends, and cheering on the New England Patriots.

COVID Update

The SARS-CoV-2 virus (the virus that causes COVID-19) has created difficulties for all of us, both personally and professionally. Our top priority is to keep your clients, their families, our team, and their families safe until this public health concern is stabilized.

Therefore, we continue to offer curbside care-only for clients.

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1417 Marshall Avenue • Williston, VT 05495

Referring Patients and Clients to BEVS

We appreciate the opportunity to partner with you in the care of your patients. As a referral practice, our aim is to complement your practice by providing advanced diagnostics, specialty services, and 24/7 emergency care when you and your clients need us, all while staying close to home. To help expedite the referral process, please visit our website at **bevsvt.com** to access our “Patient Referral Portal.” For your convenience, you can either complete and submit the form online or fax it to us at 802.863.2348. If you have any questions, or would like to discuss our neurology services or any of our specialties, please call us at 802.863.BEVS (2387). We’re here to help in whatever way we can.