



## Flop & Flip! What every dog owner should know about vestibular disease

The Flop and Flip is an easy vestibular treatment technique that can be performed at home. It was discovered by one of the Canine Fitness Centre's regular clients several years ago, and of course they didn't know why it worked, only that it did work! They first learned it with their previous senior dog who suffered recurrent vestibular episodes in her old age. It continued to work for them with their most recent geriatric dog as well. The affected dog is allowed to lay down on whatever side they want to lay down on. Then the owner rolls them over onto their back, and all the way to the other side. This little maneuver was able to provide near instant relief of a midnight episode suffered by one of their dogs. We think every dog owner should be familiar with the Flop and Flip!

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# Geriatric Vestibular Treatment using a Modified Epley Maneuver

## About Vestibular Disease

The cause of Canine Vestibular Syndrome is not widely known and traditional veterinary medicine focuses primarily on the relief of symptoms, such as nausea, while waiting for the episode to otherwise pass in its own time. However, it appears to be a similar mechanism as the cause of sudden onset paroxysmal positional vertigo seen in humans. The cause of this condition is related to the position of small otoliths (calcium stones) located in the inner ear/vestibular system. These stones naturally move when our heads and bodies move to maintain our sense of position in the world. They help us balance. When the natural movement of these stones is interfered with, be it through inflammation, infection, or the breaking off of small pieces of otoliths that migrate into the semicircular canal, where they interfere with cochlear cupula, the sense of spatial orientation is disrupted and the vestibular systems sends the wrong signals to the brain resulting in the startling symptoms we observe in our pets.

## Presentation

Acute vestibular episodes happen fast, with no preliminary signs that hint at the on-coming episode. The most common symptoms observed by owners are an unwillingness of the dog to stand, and dizziness evidenced by nausea seen through vomiting or inappetence. A unidirectional head tilt and the presence of involuntary eye movement (nystagmus) on the horizontal plane is also common. Loss of the ability to walk unassisted or continually turning in only one direction may occur as well.

## Diagnoses

Vestibular is primarily diagnosed based on the observation of signs, specifically the presence of nystagmus in accompaniment of the symptoms of dizziness and nausea. Nystagmus direction, direction of head tilt, and the preference of the dog to lay on one side over another, can be used to pinpoint which side the problem is located on and therefore how to most effectively apply treatments. In the case of a unilaterally affected dog the head tilt will often be towards the side of the lesion, the horizontal nystagmus will show most rapid movement away from the side of the lesion, and the dog will prefer to lay on or circle towards the side of the lesion. Nystagmus can also be an indicator of a deeper problem with the central nervous system, specifically, if there is a vertical nystagmus.

## Treatment

Veterinary treatment of vestibular syndrome traditionally involves treatment of the symptoms of nausea to make the dog more comfortable while waiting for the underlying cause of the episode to resolve on it's own. However, treatments exist and are commonly applied to the same condition seen in human medicine and have now been repeatedly and successfully applied to treatment of vestibular syndrome in dogs providing more targeted and immediate relief.

Specifically an adaptation of the Epley Maneuver, which in human treatment, is most effective in treating vestibular due to otoliths in the posterior canal. While canine patients may not be as cooperative with the maneuvers as human patients the symptoms of vestibular do work in the practitioner's favour to reduce their resistance and the maneuvers can be completed quite effectively.

The head tilt seen in canine patients can be addressed with manual therapy focusing on the cervical spine, to relieve symptoms and increase function directly associated with the effects of the head tilt specifically at C1/C2.

## Prognosis

In most dogs seen clinically, significant improvements can be seen immediately after treatments & resolution often occurs within days. Dogs regain their balance, ability to walk, the nystagmus is relieved, and the nausea passes and the appetite returns. Most dogs seen in clinic return to normal activity. However, in many cases, a persistent head tilt, often slight, remains after a severe case of vestibular especially if treatment was not administered immediately.

No data has been formally collected on the recurrence rate of the condition in dogs, but it recurs in humans at a rate of 15%-37%, however treatment within 24 hours of condition onset has been shown to reduce recurrence in people.

## Case Study: Treatment of Canine Vestibular

Boris, 14 year old, medium sized, altered husky mix was a fit and moderately active senior dog prior to onset of symptoms.

### Mode of Injury:

Onset of the condition occurred suddenly. His owners reported that Boris woke up in the morning with a severe head tilt and symptoms of nausea that included vomiting and inappetence. He was unable to stand or maintain balance on his own.

### Initial Care and Veterinary Diagnostics:

Boris was immediately taken to his veterinarian where he was prescribed anti-nausea medication and prednisone. Boris was diagnosed with an acute vestibular episode.

### Rehabilitation Therapist Findings:

In addition to the symptoms reported by the owner, horizontal nystagmus (involuntary eye movement) was observed in clinic by the therapist with slow-phase to left, rapid movement to the right, and upbeating. It was also notable that Boris' head tilt was the most severe head tilt observed in clinic to date.

### **Did you know?**

Over 35% of US adults aged 40 years and older (69 million Americans) have had a vestibular dysfunction at some point in their lives.

### Objective for treatment:

Boris' owner wanted to end discomfort and nausea, and restore Boris' mobility as quickly as possible.

### Treatments and Initial Outcome:

At his initial visit Boris was treated with one Semont maneuver and three repetitions of the Epley maneuver, effectively reducing the

nystagmus by the end of his first session. Boris had needed to be carried into the clinic on arrival, however, immediately following this first session he was able to walk with assistance out of the clinic.

He returned to the clinic two days later, following an episode of vomiting the day previous, with the head tilt still present and nystagmus present, but reduced from his first visit. His mobility had also continued to improve and he could stand and walk independently. During this second treatment another repetition of the Epley maneuver was performed and the nystagmus completely resolved during this visit. Mobilizations were done at the C1-C2 joint in the neck to help relieve the strain on the muscles and joints caused by the head tilt.

Boris was seen again a week later. The head tilt was reduced, but still marked, however the nystagmus was completely resolved. No more Epley treatments were required, and treatments focused on manual therapy on the neck and increasing balance exercises.

### Owner education and home program:

Initially home exercises were designed primarily to counter the effects on the musculoskeletal system of the extreme head tilt that Boris was experiencing. Once the nausea was alleviated with medication and the Semont and Epley maneuvers Boris could be convinced to turn his head to reach for treats, countering the head tilt with deliberate movement in the opposite direction.

Ten days into his recovery more challenging balancing exercises were added into his home program. He was asked to stand on three legs, first on a solid surface, and as that became too simple, then on a soft unstable surface.

### Outcome:

Within three weeks of onset Boris was able to return to all normal activities including balance oriented tricks such as "roll over" and "sit pretty". A slight head tilt is still present and home stretches are ongoing. Boris has not had a relapse since his treatment a year ago.

## Nystagmus

14 year old border collie seen at CFC shows nystagmus lingering after her first treatment for acute vestibular. The uncontrolled movement to the right suggests that the lesion is located on the left.





## YOU'RE INVITED

We welcome visits from veterinarians, veterinary technicians, and other animal care professionals! Contact us by email and we'll be happy to arrange a time to have you come see what we're all about.

### A message from a visitor...

"I attended the Canine Fitness Centre in September 2016 for a 40 hour internship in order to complete the requirements for certification (canine rehabilitation therapist) through the Canine Rehabilitation Institute. I chose this practice because I wanted to learn from leaders in the field. All of the therapists are human physiotherapists with years of experience and additional training in canine rehabilitation. Treatments are based on research and they are dedicated to changing the way that your canine companions are rehabilitated after injury or surgery. They are tirelessly changing the quality of life of your senior companions. Aside from providing several services such as exercise programs, laser, PEMF, shock wave, and underwater treadmill, the most valuable tool they have is their skilled hands. They can detect abnormalities in soft tissues and joints and perform manual therapies that the average veterinarian without additional training cannot do. Veterinarians and dog owners are very lucky to have this practice available for referral and consultation. I would highly encourage veterinarians in the surrounding areas to visit the practice and see first hand the skills they have to maximize the physical potential of your patients and work collaboratively with this phenomenal team of professionals."

Sincerely,

Dr. Robin Rainford, DVM (Coastland Veterinary Hospital, Campbell River, BC)

## Brace Yourself!

On January 21 and 22 the Canine Fitness Centre was privileged to be the venue for the Animal Rehab Division's hosting of the "Brace Yourself" course taught by occupational therapist Ilaria Borghese of Thera-paw. Our therapists and others from across North America gathered to learn how to properly and effectively use braces, assistive devices, and splints available on the market, and also how to fabricate their own custom splints, braces, and soft orthoses!

