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OFF LEASH

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Shake, Rattle & Roll: Understanding Idiopathic Epilepsy

Written by: Angella Mitchell, LVT (Neurology Department)

Seizures are the result of sudden and abnormal neurological activity, basically like an electrical storm in the brain. Idiopathic Epilepsy is a recurrence of seizures with no underlying cause. Ruling out other causes is important; seizures can be mistaken for a variety of other episodic disorders. The importance of a complete history including detailed descriptions of the events and even video are very helpful to classify the cause of your pets' seizures. Diagnostics to rule out other causes of seizures can include but are not limited to: Blood work, Urinalysis, Radiographs, MRI, Cerebrospinal fluid analysis, and electrodiagnostic testing.

Idiopathic Epilepsy usually occurs in dogs 1-5 years of age. Dogs less than a year of age can develop Idiopathic Epilepsy but common underlying causes that need to be ruled out are inflammatory diseases, toxins, congenital conditions or metabolic diseases. Dogs 5 years or older can still have Idiopathic Epilepsy but other more serious conditions such as a brain tumor should be ruled out first. Certain breeds can be predisposed to Idiopathic Epilepsy but any pet can be affected. Idiopathic Epilepsy rarely occurs in cats, there is typically an underlying cause for their seizures.

The different types of seizures include grand-mal, focal, psycho-motor, and petit-mal seizures. Grand mal seizures(generalized tonic-clonic movements) are the most common and are associated with your pet stiffening, falling on their side, paddling limbs, and sometimes will include jaw movements, drooling, urinating or defecating. Typically they occur at night and can last seconds to several minutes. Focal seizures are localized to one specific area of the brain which can cause twitching on one side of the face or even one limb. The pet can remain conscious during these episodes. Psycho-motor seizures typically involve bizarre behaviors including unprovoked aggression, tail chasing, barking at nothing and extreme irrational fear. Petit-mal or Absence seizures are observed as a brief loss of consciousness, and sometimes it appears they stare off into space. These are not to be confused with focal seizures and are rarely observed.

The 3 stages of seizures that can be observed are; Pre-ictal stage: pets can act anxious or clingy minutes or hours prior to seizures. Ictus: the actual seizure itself, usually lasting 1-3mins. Post-ictal stage: after the seizure activity stops, can include disorientation, pacing, aggression or blindness, lasting minutes to hours.

Treatment with anticonvulsant medications can be used for therapy. It is important to note that the medications are not expected to stop seizures completely but the goal is to reduce their severity and frequency without compromising the quality of life for your pet. Unfortunately there is no magic cure for this condition, but we will work closely with you and your pet to make the best out of a difficult and frustrating situation.

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"Misha" Wass 10 y/o Giant Schnauzer-epileptic patient

Anticonvulsants used commonly are Phenobarbital, Potassium bromide, Levetiracetam, Zonisamide, Gabapentin, Diazepam. There are several different factors that determine which medication is right for your pet; your veterinarian will help you make the best choice.

Phenobarbital: Metabolized by the liver. Reaches steady levels in the blood within 10-14 days. Side effects include sedation, ataxia, lethargy, excessive thirst, urination and an increase in appetite. Dosing every 12 hours.

Potassium Bromide (Kbr): Excreted by the kidneys, can affect liver function and can cause pancreatitis. Reaches steady levels in the blood within 1-3 months. Side effects include lethargy, ataxia, sedation, stomach upset, excessive thirst, urination and an increase in appetite. Dosing every 12-24 hours.

Levetiracetam (Keppra): Excreted by the kidneys. Limited effect on the body and has little to no side effects. Reaches steady levels in the blood within a few days. Dosing every 8 hours.

"…..medications are not expected to stop seizures completely but the goal is to reduce their severity and frequency…."

Zonisamide: Metabolized by the liver. Side effects: sedation, ataxia, allergic reactions. Reaches steady levels in the blood within 7-14 days. Dosing every 12 hours.

Gabapentin (Neurontin): Used for neuropathic pain and epilepsy-usually used in addition to another anticonvulsant. Limited side effects. Reaches steady blood levels within a few days. Dosing every 8 hours.

Diazepam (Valium): For short term seizure control, not for daily maintenance. Metabolized by the liver. Intravenously, oral or rectal.

It is recommended that your pet have routine veterinary visits every 6-12months or more frequently if necessary. Blood work for chemistries assessing organ function as well as individual drug levels should be monitored routinely.

"Misha" being silly at home

It is very helpful to keep a diary of your pet's seizure activity for the remainder of their life. You should record when your pet has seizures (date and time of day), how long they last, what the seizure looked like, and if there seems to be anything associated with the seizure such as activity or stress.

Situations in which it would be considered an emergency for your pet to be seen by a veterinarian include the following:

1. If a seizure lasts for more than 5 minutes
2. If Status Epilepticus occurs: this is defined as a state of continuous seizure activity even if there is a brief period where the seizure seems to stop but the pet does not regain consciousness between episodes.
3. If your pet has more than one seizure per hour for 3 consecutive hours, regardless of the seizure length
4. If your pet has more than 3 seizures per day, regardless of the seizures length.

These are guidelines that will better help you determine when emergency veterinary care is required however; if you have any concerns it is always best to contact a veterinarian.

Making end of life decisions for your beloved pet

Written by: Angela Parker, LVT (Internal Medicine and Neurology Departments)

As we move forward in time and upward and onward in the field of medicine, animals and people are living longer, and as such, can live with many different disabilities. Now being human and living in this world means we cannot possibly be prepared for everything. Being responsible for another life is a great responsibility. I'm a firm believer that in the back of our minds we should have our pets 'end of life' plan figured out. This is one of the toughest things we will ever have to do.

On a pretty regular basis I hear the question, "How will we know when it's time?" My answer to this question comes from over a decade of experience working in several different departments of veterinary medicine. Simply put, my answer is, "You will know when it is time, because only you can ultimately make this decision." You are the one that spends day in and day out with your pet; you look into their eyes every day. You have to be comfortable with the decision that you are making. Unfortunately we cannot make this decision for you, but we are here to help you make an informed decision and keep your loved one comfortable until the end. This is by far the hardest part of our job but also one of the most important aspects. We are here to listen when you talk about the good times and the bad, and to be a shoulder to cry on. We all truly love to hear the stories about how good your pet has been to you over time and the blessings they've brought to your lives. We love to see those happy tail wags when we bring them back out to you in the lobby.

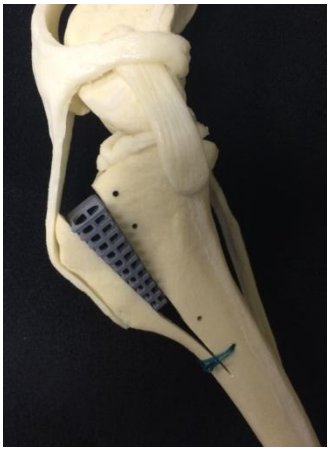
"…. we are here to help you make an informed decision and keep your loved one comfortable until the end."

We would like to see everyone care enough to make this decision for their friends. There are too many times in this life when we can't help our human companions as much as we would like and hate to see them suffering. We have the ability to make sure that our furry loyal companions never see a bad day, never have to suffer, and are always happy.

At the Maine Veterinary Referral Center we are here for you and your companions 24 hours a day, 7 days a week.

Advances in Knee Surgery: The TTA2

Written by: Ezra Steinberg, VMD, DACVS (Surgery Department)



TTA 2 Bone Model

"…over 90% of CrCL ruptures in dogs have a degenerative cause and will commonly occur in both knees."

The cranial cruciate ligament (CrCL), which is equivalent to the anterior cruciate ligament (ACL) in people, is an important stabilizer in the knee. Injury to this ligament is the most common cause of hind limb lameness in dogs. Unlike in humans who traumatically tear their ACLs, over 90% of CrCL ruptures in dogs have a degenerative cause and will commonly occur in both knees. Over the past 50 years, many procedures have been developed to stabilize knees of dogs that have suffered from a CrCL rupture.

Tibial plateau leveling osteotomy (TPLO), tibial tuberosity advancement (TTA/TTA2), and lateral fabellar suture (LFS) are three procedures that are practiced most commonly today. Here at Maine Veterinary Referral Center, Drs. Steinberg and Green are well trained in all three of these techniques and select the type of surgery based on the individual patient. In the past year, Dr. Steinberg has also been performing the TTA2 (tibial tuberosity advancement 2) which is an adaptation of the original TTA. Having lectured internationally and being published on TTA, he was included in the original TTA2 research by the inventors of the technique, Kyon ®.

Although there are still cases in which TTA, TPLO, or LFS are more ideal, the TTA2 was introduced to reduce the possibility of infection, decrease surgery time, and improve the rate of healing. The implant pictured consists of a single titanium cage which is inserted into a tibial osteotomy (cut made into the bone) in order to change the forces on the knee. We have seen excellent results so far and are excited to continue performing the procedure.

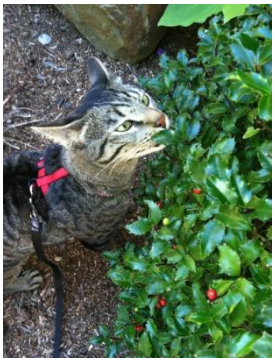
If you have any questions about the procedure or would like any more information on the topic of treatments for CrCL injury in dogs, please contact Maine Veterinary Referral Center.

WAGS N WHISKERS

"Jameson" Mayo 4 y/o Boston Terrier

"Michelangelo" Sullivan 7 m old red-earred slider

"Barrett" Domenico 4 m old French Bulldog



"Fabron" Chapais 3y/o Domestic Shorthair Cat

Easter threats to our pets

Written by: Jennifer Copp, DVM (Emergency Department)

Easter brings about many things; decorating eggs, baby bunnies, filling our baskets with chocolate and candies as well as decorating our homes with beautiful Lilies. Easter also happens to be a holiday when our ER service becomes quite busy….why you ask?

1) *Chocolate Toxicity*

Our pets like chocolate as much as we do, but it is not good for them and can even be deadly in large amounts! Of particular concern are the dark chocolates. Chocolate contains many metabolites (methylxanthines, caffeine, theobromine) which cause hyper-excitability, restlessness, tremors and sometimes seizures and death.

Small quantities of milk chocolate may not cause any clinical signs and/or they may cause some mild gastrointestinal signs including vomiting or diarrhea. Chocolate could also lead to signs of pancreatitis which causes abdominal pain, vomiting, diarrhea and inappetence.

If your pets ingest chocolate of any type or amount, please contact your veterinarian

2) *Lily ingestion*

Lilies are a high concern, especially in cats. Many people have no idea that Lilies are extremely toxic to cats and during this time of year they are everywhere! They are so pretty and come with no warning so many homes end up with Lilies in them and as most people know, cats always need to take at LEAST one nibble on a house plant just to see how it tastes.

Is one nibble really a big deal?! YES! Unfortunately, Lily toxicity causes a very sudden, acute onset of kidney failure in cats. Every part of certain lilies are toxic, including the pollen. If a cat licks the water from the lily or inhales/ingests pollen, this can be a serious problem. Any home that has a feline friend is better off not having Lilies in the environment. Dangerous lilies include: tiger, day, Asiatic hybrid, Easter, Japanese Show, rubrum, stargazer, red, Western, and wood lilies.

Are ALL lilies toxic? No, but the benign lilies can still cause gastrointestinal upset, irritation of the esophagus, mouth, tongue. Clinical signs you may see include drooling, pawing at their mouth, foaming at their mouth and vomiting.

"Safe" lilies to have in the home include: Peace, Peruvian, and Calla lilies.

**Lilies are not toxic in dogs or to humans

**If your cat is seen consuming any part of a lily, bring your cat (and the plant) immediately to a veterinarian for medical care. The sooner you bring in your cat, the better and more efficiently the lily poisoning can be treated. Decontamination (like inducing vomiting and giving binders like activated charcoal) are imperative in the early toxic stage, while aggressive intravenous fluid therapy, kidney function monitoring tests, and supportive care can greatly improve the prognosis. Intravenous fluids must be started within an 18 hour window for the best outcome.

3) *Easter Basket Grass*

While the dogs are busy trying to scarf up all the chocolate in the Easter basket, they may also ingest the thin, plastic grass used to decorate baskets. Cats also enjoy this material to play with and chew on. Why is this a problem? This material can get stuck around the base of their tongue or parts can get wadded up in the stomach as other parts continue down the intestines. This causes an obstruction known as a "linear foreign body". These types of obstructions are particularly dangerous and may require expensive abdominal surgery.

Just a note on RABBITS:

Rabbits are fun for a child to receive on Easter, but remember they are a commitment! It is important to read about the needs of rabbits including their socialization requirements, dietary needs and health care. Rabbits do need to be seen by a veterinarian as they can have health issues just like any other pet. We do see rabbits here at MVRC, so if you have a furry friend in need, we are here when you need us!

Keep your pets safe this Easter

"If your cat is seen consuming any part of a lily, bring your cat (and the plant) immediately to a veterinarian for medical care."

EMERGENCY CONTACTS:

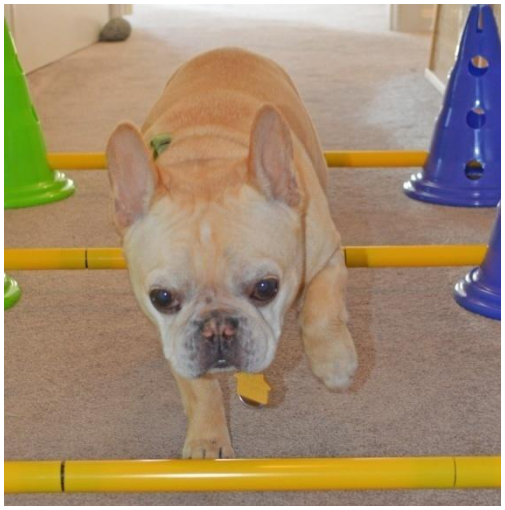
ASPCA ANIMAL POISON CONTROL (fee required)
1-888-426-4435

MAINE VETERINARY REFERRAL CENTER
1-207-885-1290

Proprioception: Do you really know where your body parts are?

Written by: Kathryn Marles, LVT VTS Neurology (Rehabilitation Department)

We sometimes take for granted in everyday life the highly complex neuro-sensory feedback loop known as proprioception. Proprioception allows our brain to understand where our limbs exist in space, and is a vital part of coordinated movements.



"Cooper" Cooper Rehab patient

Proprioception may be affected from injury either on the peripheral end (sensory receptors), central receiving end (the brain), or anywhere in between. Regardless of the nature or localization of the injury, we have seen pets develop both short-term and long-term compensation mechanisms for deficits in proprioception. This compensatory process is known as neuro-plasticity, and can be both initiated and advanced by a veterinarian, a physical therapist, and an owner through a process known as neuro-rehabilitation. This team approach helps our pets heal from neurologic injury, and also helps to maintain a good quality of life when neurologic injury of this type persists. Rehabilitation of the pet that is having proprioceptive deficits can be overwhelming at first, especially if the pet has just gone through surgery or another major diagnostic or interventional procedure. We know for a fact however that this type of rehabilitation is essential to prevent re-injury and therefore is a vital component of the recovery process from the beginning.

"….we have seen pets develop both short-term and long-term compensation mechanisms for deficits in proprioception…."

A combination of approaches may prove to be the most beneficial. Passive range of motion (PROM) or joint compressions may be best utilized when voluntary motor is limited, and helps to maintain joint nutrition and health. Techniques to encourage weight bearing and weight shifting may follow, and can assist in the awakening of the proprioceptive sensors in the joint of the limb. Finally, coordinated gross motor movement (such as walking on the ground and walking over objects), followed by fine motor movements (weaving between poles, turning, balancing on objects) is encouraged through a series of therapeutic exercises.

Other senses can be recruited towards the effort. Auditory cues (for example, giving a patient feedback by hearing the click of their nails when walking over an obstacle or using bells tied onto the legs) and other sensations, such as brushing, pressure touch, or electrical stimulation are tools that can be used. Any way that you can call attention to a limb with decreased proprioception is usually beneficial to recovery- be creative!

When recovery of proprioception is incomplete, assistance devices such as wraps, boots, harnesses, and orthotics can be used under the advisement of a veterinarian or trained rehabilitation professional.

The Rehabilitation Department at MVRC is dedicated to helping all pets with neurologic and mobility issues. We will work as a team with you to help regain and maintain function, comfort, and quality of life.

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1500 Technology Way
Enterprise Business Park
Scarborough, ME 04074

HOURS:
Open 24hrs a day 7, days a week

PHONE:
(207) 885-1290

FAX:
(207) 885-1293

E-MAIL:
mvrc@maineveterinaryreferralcenter.com

WEBSITE:
www.maineveterinaryreferralcenter.com

FACEBOOK:

RECIPE CORNER

Homemade Pill Pocket Recipe

1 T Milk
1 T Crunchy Peanut Butter
2 T Flour (any kind)

Mix together and form 12 pockets.

Store in fridge or freezer.

http://muttnut.blogspot.com/

Pill pockets are great for hiding your pets' medications. This recipe should be stored in your refrigerator for 1-2 weeks or in your freezer for longer. If you wish to make a larger batch just increase the recipe:

- ½ cup milk
- ½ cup peanut butter
- 1 cup flour

Get creative and switch up the ingredients to accommodate any allergies or sensitivities your pet has. You can use almond or coconut milk, almond butter or any nut/seed butter, and gluten free flours.

Enjoy!

Jack Jefferson Memorial Fund

In memory of his working dog jack, whose spinal cord was severed in an unfortunate accident while on the job, David Jefferson, DVM donated a sum of money for clients in need. The Jack Jefferson memorial fund has since been established in his honor.

The mission of the Jack Jefferson Memorial Fund is to financially assist clients seeking medical services through the Neurology Department at the Maine Veterinary Referral and Emergency Center. Financial assistance is provided to those whom would otherwise be unable to pursue recommendations of the attending doctor due to financial hardship.

This fund has been established on the premise that a client should not be faced with compromising the life of their pet by making a decision purely on a financial basis, when no other option is a possibility.

Due to the unexpected nature of some neurologic emergencies, the fund is intended to provide the opportunity to explore options otherwise not possible if personal funds are limited.

The fund is available to clients whom have exhausted all other options for financial assistance (i.e. Credit Cards, Family, Care Credit, etc.). As well as clients whom are believed to have extenuating circumstances upon which financial assistance is reasonable.

ABOUT OUR ORGANIZATION

In 1988, Dr. Alan Potthoff became the first board certified veterinary specialist in private practice in the state of Maine. Dr. Potthoff opened the Animal Neurological Clinic in Portland as a referral hospital dedicated to serving pets with neurological conditions. During the next 20 years, the facility expanded and included Maine's first dedicated pet CT scanner in 1997 and an MRI in 2004.

In December 2007 the Animal Neurological Clinic was re-named the Maine Veterinary Referral Center and moved to Scarborough to a newly constructed 15,000 sq foot facility. Both the CT and MRI machines were replaced and new departments were added providing neurology/neurosurgery, internal medicine, orthopedic/soft tissue surgery, rehabilitation and 24 hour emergency and intensive care.

Maine Veterinary Referral Center employs several veterinarians, six of which are board certified by Colleges of Internal Medicine, Critical Care and Surgery. We have over 20 full and part time licensed veterinary technicians, and many technician assistants and client specialists plus a management support team.

"Baxter" & "Lillie" Chapais/Cote

"Jaxen" & "Bosco" Smith/Stubbs