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## GOLPP

### WHAT IS GOLPP

Geriatric Onset Laryngeal Paralysis Polyneuropathy (GOLPP) is a degenerative neurologic disease of unknown cause that typically affects the larynx (a portion of the trachea involved in breathing and producing sound) and the hind limbs of older dogs. The disease isolates peripheral motor nerves, meaning nerves that are responsible for muscle contraction and muscle movement. Interestingly, these types of neuropathies tend to affect peripheral nerves that have the longest tracts. Such nerves include the tract that innervates the larynx (recurrent laryngeal nerve) and the tract that innervates the majority of the hind limb (sciatic nerve). Thus, common signs of GOLPP that pet parents notice are a progression of difficulty breathing, hoarse/raspy breathing or barking, exercise intolerance and eventual hind limb weakness. The esophagus can also become affected, which can cause difficulty swallowing.

### WHAT TO DO IF YOUR PET SHOWS SIGNS OF GOLPP

Schedule an appointment with your veterinarian. The first step will be to diagnose laryngeal paralysis and determine if there are any other possible causes for the changes in breathing (hypothyroidism, hypoadrenocorticism, myasthenia gravis, tumor or trauma to specific nerves in the cervical and thoracic region to name a few). Your veterinarian may decide to perform a laryngoscopy under light anesthesia to confirm the diagnosis of laryngeal paralysis. A laryngoscopy will allow your veterinarian to visually inspect the larynx for appropriate function during inspiration and expiration, and can show inflammation or swelling present within the larynx. Thoracic radiographs may also be necessary to determine other underlying issues within that region.

### SURGICAL TREATMENT OPTIONS

Unilateral arytenoid lateralization surgery, aka tie-back surgery, is the most common surgical treatment for laryngeal paralysis. The larynx is composed mainly of muscle and cartilage. When the muscles of the larynx are weakened by GOLPP, they are unable to fully abduct the cartilage within the larynx during inspiration, causing obstruction of the airway. The tie-back surgery literally ties back the cartilage within the larynx to allow air to pass freely. This surgery has been known to improve the quality of life of a pup with laryngeal paralysis but there can be complications, so it is important to discuss the pros and cons with your veterinarian.

### CONSERVATIVE TREATMENT OPTIONS

Conservative management is an option if your pup is not a candidate for surgery. The goal of conservative management is to improve your pup's quality of life through environmental changes, reduction of heavy exercise, weight loss if necessary, supplementation and pet parent education.

- Environmental changes: Symptoms of laryngeal paralysis tend to be exacerbated by heat. Avoid walking your pet during the hottest time of day. Instead, choose to walk your pup in the early morning, evening or night time. If you must be out with your pet on a hot day, think about bringing cooling treats with you, such as ice cubes, frozen baby food or popsicles. It will also be important to keep your home on the cooler side through the use

of air conditioning or extra fans. You can even look into cooling gel mats that your pet can sleep on if they gravitate towards cooler surfaces at home. Since GOLPP can also affect the esophagus and your pet's ability to swallow, changing your pet's feeding area may be beneficial. For example, having your pet eat and drink out of a raised food dish or having your pet eat and drink on a slight incline will enlist gravity to assist in moving the food down the esophagus.

- Reduction of daily exercise: Laryngeal paralysis causes airway obstruction and limited oxygen into the body. This will be exacerbated by over exertion and over fatigue. Therefore, it is important to limit your pet's activities to short bouts of exercise. However, these shorter bouts of exercise can be done more frequently throughout the day. For example, if you normally walk your pet once daily for 60 minutes, you may want to try walking your pet three times a day for 20 minutes instead, as long as you are not forcing your pet to walk in the heat. If your pet pulls on the leash during walks, use a harness instead of a neck lead. Low stress activities can also be done at home to promote mental stimulation, such as interactive pet puzzles and sniffing games.
- Weight loss is also an important component if your pup is overweight. The less weight your pup has to lug around, the less exertion your pup must expend to perform basic activities of daily living.
- Supplementation: There are supplements that may be beneficial during the early stages of GOLPP. These include supplements to support laryngeal cartilage (MSM, Glucosamine, green-lipped muscles, etc) and supplements that have an anti-inflammatory effect to reduce swelling of the larynx (Turmeric, etc). You can also speak with your veterinarian about pharmaceuticals they might recommend to reduce laryngeal inflammation.
- Pet parent education: Knowledge is power. The more you understand the disease and your pup's limitations, the better equipped you will be to provide your pup with the best quality of life. Online support groups, such as through Facebook, are a great resource for pet parents who are managing pets with laryngeal paralysis and/or GOLPP. These are safe spaces where you can connect with other pet parents in similar situations to find encouragement and learn "tricks of the trade." Your veterinarian and rehabilitation therapist will also be there for you to answer questions and provide support.

## **REHABILITATION THERAPY**

Recent studies show that rehabilitation therapy has improved the quality of life in patients with GOLPP. The main goal of rehabilitation therapy is to maintain your pup's quality of life and slow the progression of hind limb dysfunction. Some therapeutic exercises that your pet may be doing in the rehabilitation clinic to promote motor function and proprioception include stepping over cavaletti poles, hind limb weight shifting, sit to stands, incline walking and walking over uneven surfaces.

The underwater treadmill can also be beneficial in maintaining hind limb motor function. However, extra caution must be taken for the GOLPP patient. For example, if your pet has not had laryngeal paralysis surgery, sessions in the underwater treadmill will be slow and many rest breaks will be given to reduce the risk of over exertion. Your pup's breathing and tongue color will also be monitored at all times to determine if your pet is getting sufficient airflow. If your pup has had surgery, the water level will be low on the body to prevent aspiration of water that could result in aspiration pneumonia.

LASER therapy and acupuncture may also benefit the GOLPP patient. LASER therapy and acupuncture along certain areas of the neck and low back will stimulate the laryngeal nerves and the sciatic nerve. Further, acupuncture points along other specific regions of the body can

have an overall calming and balancing effect on the dog, which will promote homeostasis and relaxation.

While GOLPP is a degenerative condition, there are many options that can help your pet's quality of life and slow the progression of the disease. Do not hesitate to speak with your veterinarian and rehabilitation therapist about your concerns so we can start the process of helping you and your pup!

References:

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