

Geriatric Onset Laryngeal Paralysis Polyneuropathy: **GOLPP**



WHAT IS GOLPP?

- **Geriatric Onset:**

elderly age of appearance of the condition.

- **Laryngeal Paralysis:**

degeneration of nerves which control the muscles that move the laryngeal cartilages, located in the throat. These cartilages control airflow into and out of the trachea (windpipe) during breathing. During swallowing, normal laryngeal function protects the airway by closing the opening to the trachea and preventing aspiration of food or water. In laryngeal paralysis, respiratory obstruction occurs because the cartilages remain in a central position causing airway resistance, instead of opening up the airway during inspiration.

- **Polyneuropathy:**

the nerves responsible for laryngeal movement arise from the vagus nerve, one of the body's major nerves. Clinical investigations have shown that other nerves are also affected, leading to clinical signs such poor swallowing function, slowly progressing hind-end weakness, and loss of muscle mass.

WHO IS MOST COMMONLY AFFECTED BY GOLPP?

- Geriatric dogs, anywhere from 8 to 13 years, average age of 11 years.
- Medium to large breed dogs, mostly Labrador Retrievers, but also Newfoundlands, Borzois, Golden Retrievers, Greyhounds, German Shepherd Dogs, Brittany Spaniels, and even mixed breed dogs.



WHAT ARE THE SIGNS OF GOLPP?

- Increased noisy breathing from throat (stridor), sometimes called “roaring”, most noticeable when panting.
- Distressed breathing, especially in hot weather, humidity, and when excited or stressed.
- Unable to exercise as much, may sit down or even collapse.
- Bark change / hoarse bark (in about half the cases).
- When severe, the gums may become pale or blue colored (not the normal pink color).
- Throat-clearing, or hacking, or coughing.
- Gagging with or without regurgitation (may or may not be associated with drinking/eating).
- Hind-end weakness and an unsteady gait.
- Loss of muscle mass.

HOW IS GOLPP DIAGNOSED?

- Upper Airway Exam: performed using a short-acting anesthetic which allows evaluation of laryngeal movement during breathing. Generally a respiratory stimulant is given to test function.
- Chest & Neck X-rays or whole-body CT: to maximally evaluate the internal structures of the chest including the heart, lungs, trachea, and esophagus (foodpipe). CT gives more detailed information than X-rays, and also evaluates the abdomen to screen for other issues, including cancer.
- Esophagram (optional): evaluates esophageal function during swallowing using real-time X-ray (fluoroscopy). Swallowing is observed with liquid, canned food, and kibble. Any signs of reflux from the stomach or hiatal hernia are also noted.
- Neurological exam: examines gait, muscle tone, awareness of leg position and many different reflexes.
- CBC (complete blood count) and serum chemistry: this baseline blood work assesses the status of many organs, the blood cells, and hydration.

HOW IS GOLPP TREATED?

- **Arytenoid laryngoplasty surgery (“tie-back”):**

An incision is made on the side of the dog’s neck to approach the larynx. One of the laryngeal cartilages (arytenoid) is disarticulated, and permanently fixed in a moderately open position. This increases the laryngeal opening and decreases airway resistance. Dogs experience immediate and marked improvement in breathing after this surgery.



- **Swallowing function:**

Depending on the degree of esophageal dysfunction and risk of aspiration pneumonia, medications (cisapride, metoclopramide, omeprazole) to aid with swallowing and reflux issues may be prescribed. Feeding habits may also be changed to decrease risk of aspiration pneumonia.

WHAT ARE THE COMPLICATIONS AFTER THE “TIE-BACK” SURGERY?



- Aspiration pneumonia = 8-10% risk. This is probably due to both the “tie back” increasing the risk of aspiration and to poor swallowing (esophageal) function.
- Risk of aspiration increases with severity of swallowing dysfunction.
- Aspiration pneumonia usually responds well to medical management.
- Failure of “tie back” surgery is extremely rare.

WHAT TO EXPECT AFTER SURGERY?

- Respiratory noise will decrease, but some noise may still be present when exercising.
- Exercise tolerance will improve significantly.
- Quality of life improves significantly.
- Feeding: throat-clearing is not unusual following eating or drinking, and sometimes during the night. This may improve with changing the position of food/water bowls and medications. It is important that the dog does not drink huge amounts of water at once!
- Aspiration pneumonia: inappetence, lethargy and fever (103+) are the earliest signs. This can usually be treated successfully.
- A regular physical rehabilitation program should be undertaken to maintain agility for as long as possible. As the neuropathy progresses, a harness can be fitted to help with stairs, cars, etc.

WHAT TO EXPECT LONG-TERM?

- GOLPP is a progressive degeneration of nerves. Over time, typically 2 – 4 years, hind-end weakness and generalized muscle wasting will occur, eventually affecting their ability to walk.
- This type of neurologic degeneration is not painful, and affected dogs are still bright, alert and happy.
- Most owners elect to euthanize when their dog can no longer ambulate at all.

(Stanley, 2024).



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