Animals with pharyngeal diseases present with a variety of clinical signs related to respiratory or gastrointestinal function. Respiratory signs include stridor, stertorous or sonorous respiration, dyspnea, reverse sneeze, nasal discharge and cough. Signs related to the gastrointestinal tract include anorexia, gagging, dysphagia, regurgitation and vomiting. Pain may also be exhibited.

The caudal aspects of the oral and nasal cavities together comprise the pharynx. The pharynx is a short muscular tube loosely divided into three compartments; the nasopharynx, oropharynx, and the laryngopharynx.

The nasopharynx is the terminal portion of the nasal cavity and the respiratory portion of the pharynx which connects the nasal cavity dorsally with the larynx ventrally. It extends from the choanae rostrally to the intrapharyngeal opening caudally and is bounded by the dorsal aspect of the soft palate and the mucosa covering the hyopharyngeus and ceratohyoides muscles laterally. The pharyngeal tonsil and the openings of the auditory (Eustachian) tubes are located in the nasopharynx. Diseases of the nasopharynx usually result in stertorous respiration, nasal discharge, and/or reverse sneeze.

The oropharynx is the caudal portion of the oral cavity bounded dorsally by the ventral aspect of the soft palate, ventrally by the root of the tongue, and laterally by the tonsillar fossae. The tonsillar fossae contain the palatine tonsils, two long narrow lymph nodes located in the lateral walls of the oropharynx. There is also diffuse lymphoid tissue in the base of the tongue;
lingual tonsils. The muscular wall of the pharynx together with the root of the tongue serve in
deglutition by pushing a food bolus from the oral cavity into the laryngopharynx. Diseases in this
area are expected to cause gagging and dysphagia.

The laryngopharynx is a short muscular passage dorsal to the larynx which extends from
the terminal portion of the nasopharynx to the proximal esophagus. The chief function of the
laryngopharynx is in deglutition. During swallowing, a food bolus is conveyed to the
laryngopharynx by the plunger-like action of the base of the tongue. Laryngopharyngeal diseases
cause gagging, dysphagia, coughing, dyspnea, and abnormal respiratory noises.

There are six pairs of muscles; three constrictors, two shorteners, and one dilator, which
control the size and shape of the nasal and laryngeal portions of the pharynx and coordinate
swallowing. Nervous control of these muscles is via the glossopharyngeal and vagus nerves.

Clinical history is confusing at times because coughing, vomiting, regurgitation, or nasal
discharge may also be present. In acute pharyngeal disease, pain is often the predominant
finding, usually manifested by anorexia, drooling, weak swallowing efforts independent of food or
water intake, and head carriage typified by extension of the neck. In chronic disease, gagging
and/or regurgitation or vomiting become the predominant clinical signs.

Dysphagia may be present as one of, or the only sign of pharyngeal disease. It may be
associated with pharyngeal pain, anatomic abnormalities, inflammatory or neoplastic infiltration, or
neurologic, neuromuscular, or muscular abnormalities of the pharyngeal muscles. Neurogenic
dysphagia could be caused by disease affecting the glossopharyngeal or vagal nuclei or
peripheral cranial nerves. Diseases causing neurogenic dysphagia often affect other
pontomedullary cranial nerves (CN’s V, VII, VIII, XI, XII) and the dysphagia is usually not the most
obvious finding on physical and neurologic examinations. Neuromuscular dysphagia is most often
caused by myasthenia gravis, where megaesophagus is often an obvious finding. Myogenic
dysphagia may be present as a rare sign of polymyopathies. It is a more prominent sign
associated with muscular dystrophies of Bouviers or Devon Rex cats.

Evaluation of the pharynx is best done by carefully watching the way the animal swallows
while eating or drinking and by visually evaluating the pharynx while the patient is under a light
plane of anesthesia. The oro- and laryngopharynx can be most thoroughly evaluated using a
laryngoscope while evaluation of the nasopharynx requires retraction of the soft palate with
visualization achieved by use of a dental mirror, flexible endoscope or telescope with a 120° lens.
Radiographs of the pharynx can be taken by collimating the x-ray beam to a region bounded by
the orbits rostrally and the second cervical vertebra caudally. Pharyngeal radiographs may be useful in evaluation of obstructing masses or radiopaque foreign bodies. Thoracic radiographs should be taken in animals showing signs of dysphagia as aspiration pneumonia is common in these patients and megaesophagus may be evident. Computed tomography is the most useful diagnostic imaging modality for evaluating diseases of the nasopharynx while contrast video-fluorography is helpful in evaluating the animal with dysphagia.

Surgical Conditions:

**Cleft soft palate** - Defects in the soft palate are either congenital or acquired and may be associated with concurrent defects in the hard palate. Acquired defects are the result of trauma, neoplasia, previous surgery, chemical or electrical burns. Clinical signs include sneezing, nasal regurgitation of food and water and nasal discharge. Visual exam is the method of diagnosis. Repair soft palate defects early in adolescence or immediately after injury using appositional techniques or with advancement or rotational flaps when there is a tissue deficit. Some defects will require multiple attempts to achieve successful repair.

**Pharyngeal masses** - Abscesses, mucoceles, cysts, polyps and neoplasia of the pharynx cause similar clinical signs. History and diagnostics are important to differentiated these conditions. Masses are best visualized by nasopharyngeal endoscopy using a flexible endoscope and margins defined by CT or MRI and must be differentiated from other causes of swelling and/or inflammation.

**Pharyngeal injuries** result from foreign bodies such as sewing needles, fishhooks, sticks, bones or grass awns. These foreign materials usually migrate through the pharyngeal mucosa into the retropharyngeal tissues resulting in abscess formation. Animals with pharyngeal abscesses are often painful, febrile and anorexic with dysphagia and/or respiratory compromise. Animals with suspected pharyngeal foreign bodies or abscesses should be anesthetized to allow thorough visual examination, palpation and imaging. Abscess drainage and exploration to remove suspected or identified foreign bodies is required. Foreign bodies that migrate may follow fascial planes of the neck into the mediastinum and result in pyothorax.

**Pharyngeal mucocele** - Leakage of saliva from a salivary gland or duct accumulating in the caudolateral pharynx is termed a pharyngeal mucocele. The mucocele can concurrently extend into the lateral cervical or sublingual areas. The sublingual gland is most often involved. Signs are characterized by dysphagia and/or dyspnea. Diagnosis is based on visual appearance, fluid
analysis and imaging. Differential diagnoses should include abscesses, tumors and branchial cysts. Cysts are distinguishable from mucoceles on histopathology by being epithelial lined.

Excision of the mandibular and sublingual glands and drainage of the mucocele by marsupialization generally resolve the problem.

**Nasopharyngeal polyps** are benign masses occurring in kittens and young adult cats. They are often attached in the tympanic cavity or to the base of the eustachion (auditory) tube and can extend into the nasopharynx, external ear canal, middle ear and/or nasal cavity. Sometimes they are bilateral. Signs of polyps occupying the nasopharynx include stertor, dyspnea, dysphagia and serous to mucopurulent nasal discharge. Signs of otitis are frequent (head shaking & scratching, head tilt, nystagmus, Horner’s syndrome). Diagnostics should include skull imaging, otoscopic exam, visual exam, palapation of the nasopharynx and biopsy. Treatment is complete removal of the polyp which generally requires ventral bulla osteotomy to prevent recurrence. Inflammatory polyps are composed of inflammatory tissue, fibrous connective tissue and epithelium.

**Oropharyngeal neoplasia** is the fourth most common type of cancer in the dog. Squamous cell carcinoma, fibrosarcoma, and malignant melanomas are most common in dogs while lymphosarcoma, squamous cell carcinoma and fibrosarcoma are most common in cats. In general, pharyngeal tumors tend to carry a poorer prognosis than other oral tumors. This appears to be especially true for squamous cell carcinomas. Tumors occurring in the nasopharynx may arise as primary pharyngeal tumors or may extend into that area from the nasal cavity.

Mass lesions involving the palatine tonsils should be handled aggressively by tonsillectomy or biopsy. Squamous cell carcinoma and lymphosarcoma are the most common tumors of the tonsils. Long-term remission may be possible when chemotherapy is used to treat lymphosarcoma involving the tonsils. Tonsillar squamous cell carcinomas is more aggressive than either gingival or lingual squamous cell carcinoma growing more rapidly and metastasizing more quickly to local lymph nodes and later to spleen, liver, lungs, and bone. It occurs most commonly in male dogs nine to eleven years of age. They often present for cervical swelling prior to the development of dysphagia, anorexia and pain. Prognosis for dogs with squamous cell carcinoma is very poor despite aggressive combination therapy with surgery, chemotherapy and radiation therapy.

**Brachycephalic syndrome** - Characteristics of this syndrome (stenotic nares, elongated soft palate, everted laryngeal saccules) include stertorous breathing, dyspnea, gagging and retching.
The soft palate separates the oropharynx from the nasopharynx. When elongated it obstructs and larynx and irritates the pharynx resulting in clinical signs. Diagnosis is based on typical clinical signs in a brachycephalic breed, visual inspection and imaging. Treatment by resection of the redundant tissue diminishes clinical signs.

**Cricopharyngeal achalasia** is one type of pharyngeal dysphagia. It is characterized by interrupted passage of a food bolus from the oropharynx through the cranial esophageal sphincter because the sphincter fails to open correctly. Repeated swallowing attempts, regurgitation and aspiration are seen when intake of solid food begins. Definitive diagnosis requires fluoroscopic or cinefluoroscopic evaluation. Partial myectomy of the cricopharyngeal and thyropharyngeal muscles relieves clinical signs if no other dysphagia is present.