

## THE LUNGS AND REPIRATORY PASSAGE

The **respiratory system** includes the:

- nostrils (nasal cavity)
- Pharynx
- larynx
- trachea
- bronchi
- lungs and smaller airways (bronchi and bronchioles)

The respiratory system is responsible for taking in oxygen and eliminating waste gases like carbon dioxide. Because dogs and cats do not sweat through the skin, the respiratory system also plays an important role in regulation of temperature.

The nasal cavity is the first passage of air into the body and is that part found within the head. It leads into the pharynx and makes connections with the oral cavity.

The pharynx is a musculo-membranous sac with parts

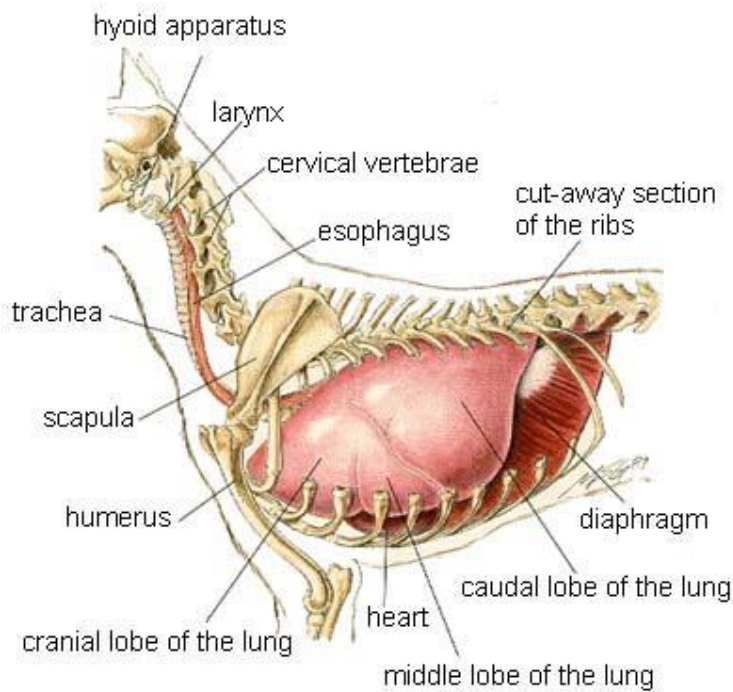
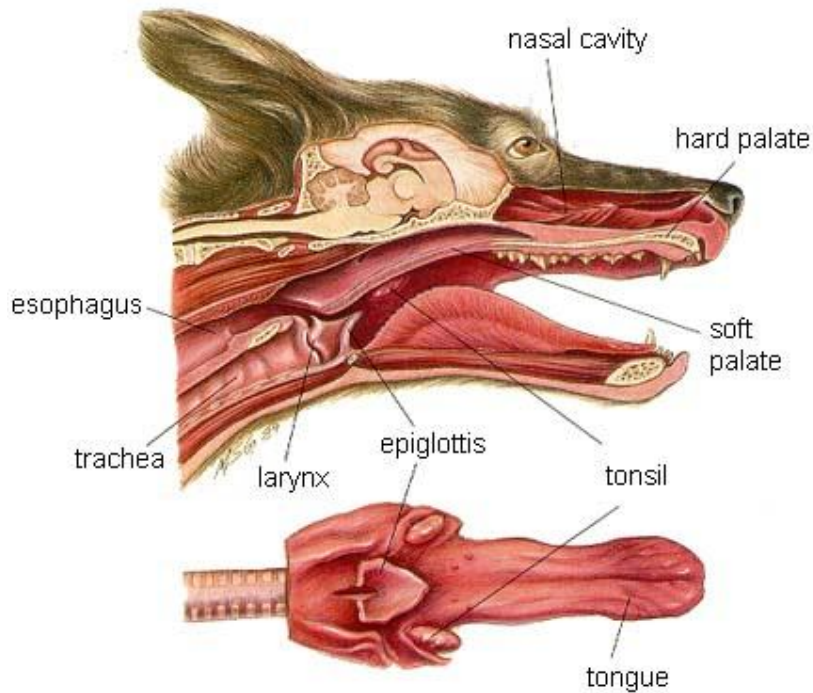
1. Oropharynx
2. Nasopharynx
3. Common pharynx
4. Laryngopharynx

The larynx is a musculocartilagenous tissue situated between the trachea and the pharynx. It contains what is described as the voice box. It consists of 3 parts i.e. the vestibule, glottis and infraglottic cavity. The larynx is made up of 4 main cartilages which include

1. Cricoid cartilage
2. Arytenoid cartilage
3. Thyroid cartilage
4. Epiglottic cartilage

The trachea is also a musculo-cartilagenous tube which connects the larynx to the lungs. The skeleton is made of cartilagenous rings extending from the cervical region to the thoracic regions.

The bifurcation of the trachea is usually at the 5<sup>th</sup> rib and it is supplied by the common carotid, common brachicephalic and bronchial arteries.

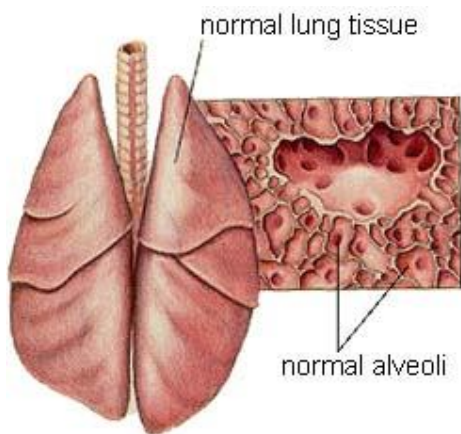


The lungs are paired located on either half of the thoracic cavity . they are usually soft, highly elastic and spongy. Described as having an apex, base, 2 surfaces and 3 borders. The right lung is usually larger than the left because of the anatomy of the heart and great structures. They are divided into lobes which are the well defined portions of the lungs. The left lung has 3 lobes

1. Cranial or apical
2. Cardiac or middle lobe
3. Diaphragmatic or caudal lobe

The right lung also has these lobes in addition to an intermediate or mediastinal lobe. In ruminants, the right apical lobe is further divided into cranial and caudal lobes such that the right lung of the ruminant has

1. Cranial cranial lobe
2. Caudal cranial lobe
3. Cardiac lobe
4. Diaphragmatic lobe
5. Intermediate lobe



The pictures in this section are reprinted with permission by the copyright owner, [Hill's](#) Pet Nutrition, from the Atlas of Veterinary Clinical Anatomy