

2405 Lecture Summaries

Lecture 1: Macroscopic Structure of the Upper DT

General Introduction

- The digestive tract (apart from the oral cavity and pharynx) is a *common tube* with a lumen and walls that shows variation as it progresses. It consists of the *oral cavity, salivary glands, oropharynx, laryngopharynx, esophagus, stomach, small and large intestines, biliary part of the liver and exocrine part of the pancreas*.
- Muscle *proximal* to the oral cavity is skeletal, and *distal* it is smooth. Glands along the length add secretions at strategic points, and *autonomic parasympathetic innervation* stimulates peristalsis. The enteric NS also innervates the GIT in the submucosa and muscularis externa in the vessel wall.
- Various structures such as *reflexes* (gag, vomiting), *valves* (ileoocaecal) and *sphincters* (pyloric, anal canal), help to regulate the amount of substance flow in one direction. *Lymphatics* are also present in the GIT (pharynx, small intestine, appendix). Some areas are free of *normal flora* (stomach) while others have many (oral cavity).

Oral Cavity

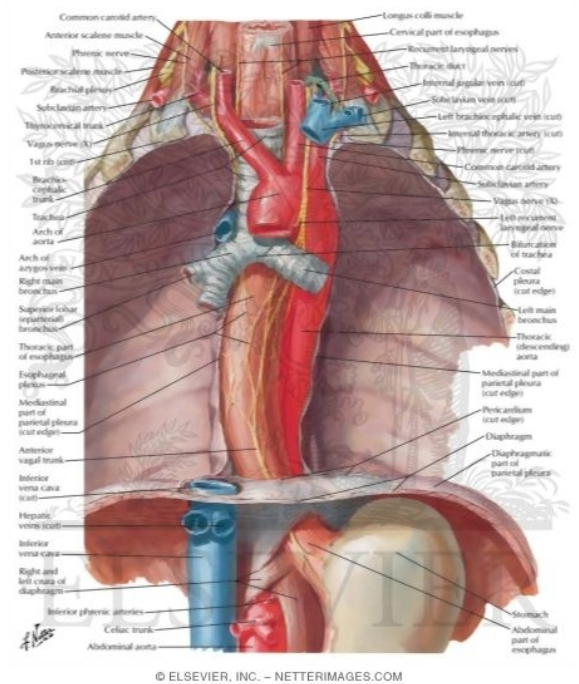
- Composed of the *vestibule and oral cavity proper*. The soft palate and the palatoglossal fold define the posterior limit. The maxilla (above) and mandible (below) provide the bony walls and the temporomandibular joint allows for movement of the jaw via the 4 muscles of mastication (chewing).
- *Cheeks* contain the buccinator, which assists in speech, clearing the vestibule and closing the mouth. The *tongue* has its first 2/3 in the oral cavity. It has sensory innervation and taste buds, and is important in speech, taste and sensing physical nature of contents. *Teeth* are important for breaking down food and mastication.
- *Salivary glands* have 3 major components: *the Parotid Gland (located in the side of the face), the Sublingual Gland (located above the muscles along the sublingual fold on the cavity floor) and the Submandibular Glands (located beneath and around the muscles on the posterior cavity floor)*. These are used for preparation for swallowing.

Pharynx

- *The Oropharynx*: separated from the Nasopharynx by the soft palate and from the Laryngopharynx by the line at the Epiglottis. It contains the posterior third of the tongue and the lingual and palatine tonsils.
- *The Laryngopharynx*: Behind the larynx and is separated from the esophagus by the Cricoid Cartilage CV6. Lumen is closed when food is absent.

Oesophagus

- Commences at CV6. It is 25cm long and 2.5cm wide. It runs down the midline and ends slightly left to the midline. Proximally, it contains skeletal muscle and transitions into *smooth muscle* as it progresses down. It allows food to be conveyed from the pharynx to the stomach. It receives autonomic innervation via the sympathetic trunk and Vagus nerve. Parasympathetic innervation from the Vagus nerve stimulates *peristalsis*.
- To the right of the Oesophagus, the lung, plura and arch of the Azygous Vein are present. To its left sits the lung, plura and Aortic Arch. Posteriorly proximally (top) sits the vertebrate and distally, the Aorta. Proximally Anteriorly (behind) sits the Trachea and Great Vessels. Distally sits the Heart/Pericardium.



Stomach

- Located in the *upper abdominal cavity to the left*. Has an irregular, saccular shape with a *Fundus, Cardia, Body and Pyloric region*. Contains *greater/lesser curvature*. The pyloric region contains a canal and thick muscle in the *Pyloric sphincter*. The Pyloric region moderates the movement of contents into the *Duodenum*. Along the curvatures are the greater and lesser *Omentum*, the former, which connects to the *Transverse Colon*.
- It receives *autonomic innervation* from the Vagus Nerve and the Sympathetic trunk via the thoracic splanchnic nerves. It has arterial supply (gastric, gastroepiploic) from the *coeliac trunk*. It has venous drainage via the *portal vein to liver* and lymphatic drainage from the *pre aortic nodes*.
 - o *Superiorly*: sits the diaphragm
 - o *Anteriorly*: the Liver and Abdominal Wall
 - o *Posteriorly*: the lesser sac, coe iliac structures, pancreas, transverse colon, left kidney and spleen
- It holds and mixes food with digestive *enzymes and acids*. It commences *digestion and inhibits microbial growth*. It controls the release of contents into the duodenum.