- Name:- Ibironke Boluwatife Omooghelle
- Matric number:- 17/ mhs05/011
  Gross anatomy of head and neck

- Discuss the anatomy of the tongue
  The tongue is a muscular organ in the mouth of most vertebrates that manipulates food for mastication and is used in the act of swallowing. It has importance in the digestive system and is the primary organ of taste in the gustatory system

- Intrinsic Muscles
- The intrinsic muscles only attach to other structures in the tongue. There are four paired intrinsic muscles of the tongue and they are named by the direction in which they travel: the superior longitudinal, inferior longitudinal, transverse and vertical muscles of the tongue. These muscles affect the shape and size of the tongue – for example, in tongue rolling – and have a role in facilitating speech, eating and swallowing.

- Motor innervation for the intrinsic muscles of the tongue is via the hypoglossal nerve (CNXII).

- Extrinsic Muscles
- The extrinsic muscles are as follows:

- Genioglossus

- Attachments: Arises from the mandibular symphsis. Inserts into the body of the hyoid bone and the entire length of the tongue.
- Function: Inferior fibres protrude the tongue, middle fibres depress the tongue, and superior fibres draw the tip back and down
- Innervation: Motor innervation via the hypoglossal nerve (CNXII).

- Hyoglossus

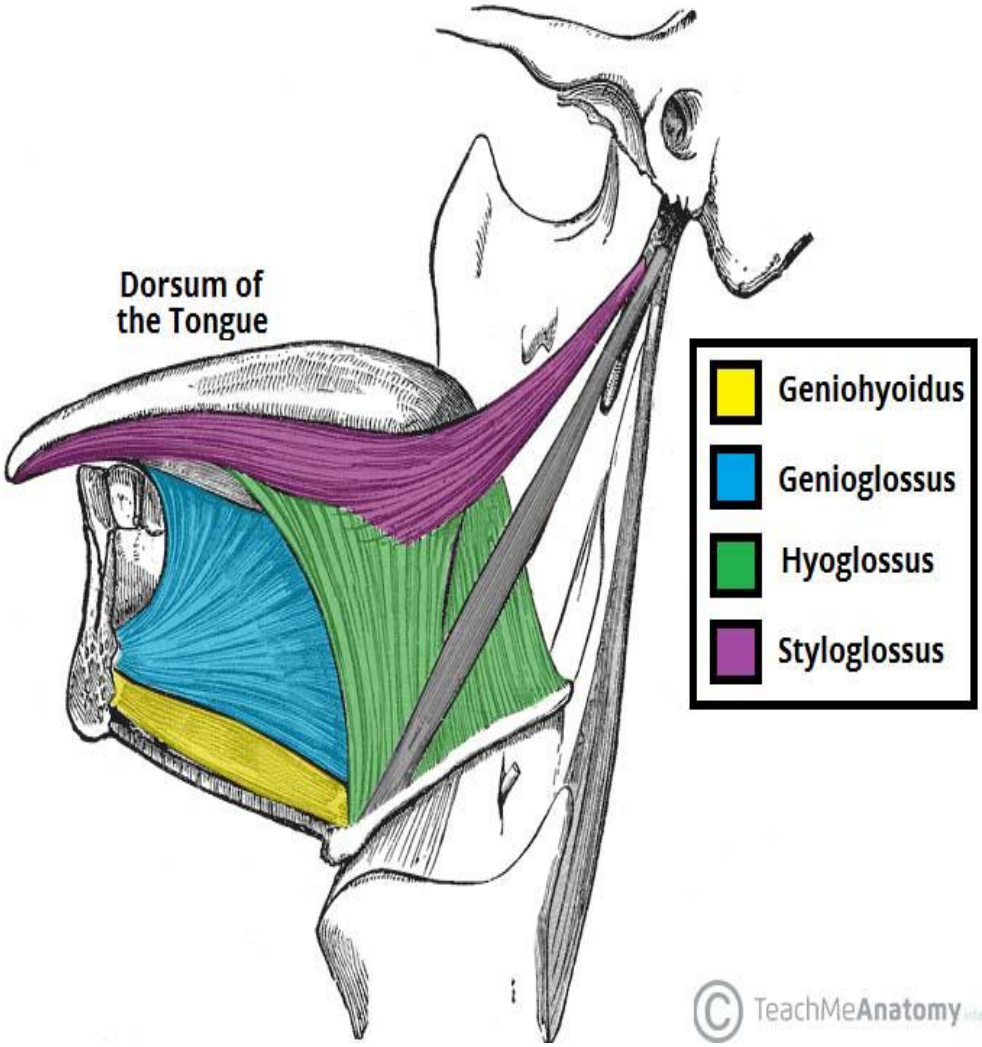
- Attachments: Arises from the hyoid bone and inserts into the side of the tongue
- Function: Depresses and retracts the tongue
- Innervation: Motor innervation via the hypoglossal nerve (CNXII).
- Styloglossus

- Attachments: Originates at the styloid process of the temporal bone and inserts into the side of the tongue
- Function: Retracts and elevates the tongue

- Innervation: Motor innervation via the hypoglossal nerve (CNXII).
- Palatoglossus

- Attachments: Arises from the palatine aponeurosis and inserts broadly across the tongue
- Function: Elevates the posterior aspect of the tongue
- Innervation: Motor innervation via the vagus nerve (CNX).

- All of the intrinsic and extrinsic muscles are innervated by the hypoglossal nerve (CN XII), except x, which has vagal innervation (CN X).



- Innervation
- In the anterior 2/3, general sensation is supplied by the trigeminal nerve (CNV). Specifically the lingual nerve, a branch of the mandibular nerve (CN V3).

- On the other hand, taste in the anterior 2/3 is supplied from the facial nerve (CNVII). In the petrous part of the temporal bone, the facial nerve gives off three branches, one of which is chorda tympani. This travels through the middle ear, and continues on to the tongue.

- The posterior 1/3 of the tongue is slightly easier. Both touch and taste are supplied by the glossopharyngeal nerve (CNIX).

- Vasculature
- The lingual artery (branch of the external carotid) does most of the supply, but there is a branch from the facial artery, called the tonsillar artery, which can provide some collateral circulation. Drainage is by the lingual vein.

- Lymphatic Drainage
- The lymphatic drainage of the tongue is as follows:

- Anterior two thirds – initially into the submental and submandibular nodes, which empty into the deep cervical lymph nodes
- Posterior third – directly into the deep cervical lymph nodes

- Clinical Anatomy
- Thrush (candidiasis): Candida albicans (a yeast) grows over the surface of the mouth and tongue. Thrush can occur in almost anyone, but it occurs more often in people taking steroids or with suppressed immune systems, the very young, and the elderly.

- Oral cancer: A growth or ulcer appears on the tongue and grows steadily. Oral cancer is more common in people who smoke and/or drink alcohol heavily.

- Macroglossia (big tongue): This can be broken down into various categories based on the cause. These include congenital, inflammatory, traumatic, cancerous, and metabolic causes. Thyroid disease, lymphangiomas, and congenital abnormalities are among some of the causes of an enlarged tongue.

- Canker sores (aphthous ulcers): Small, painful ulcers appear periodically on the tongue or mouth. A relatively common condition, the cause of canker sores is unknown; they are unrelated to the cold sores caused by herpes viruses. Canker sores are not contagious.

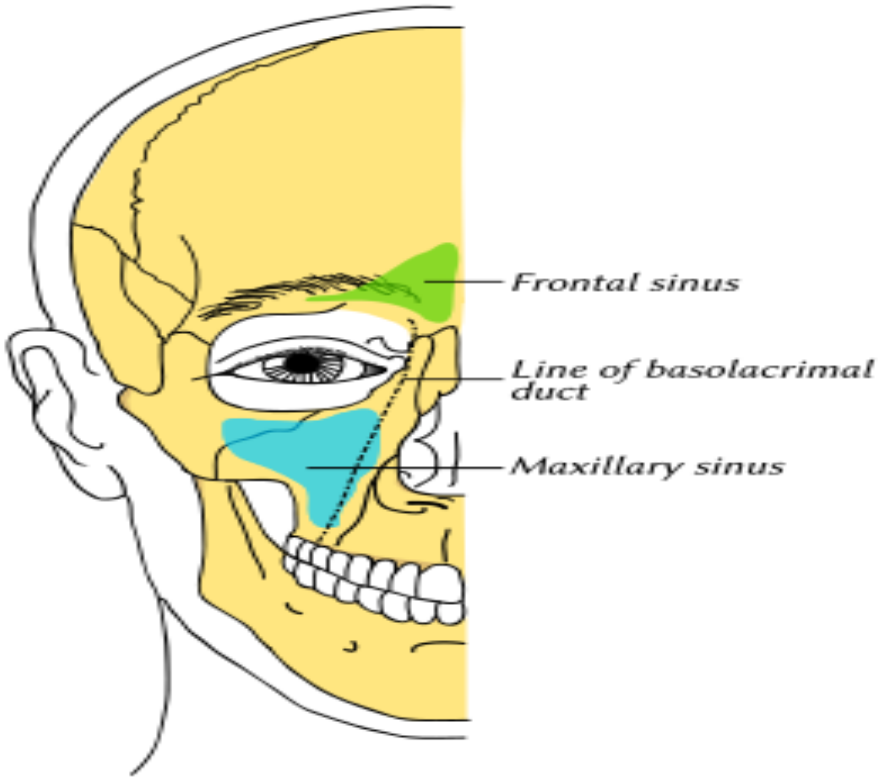
- Oral leukoplakia: White patches appear on the tongue that can’t be scraped off. Leukoplakia may be benign, or it can progress to oral cancer.

- Tongue surgery: Surgery may be required to remove oral cancer or leukoplakia.

- 2.Write on air sinuses
  Paranasal sinuses are a group of four paired air-filled spaces that surround the nasal cavity.The maxillary sinuses are located under the eyes; the frontal sinuses are above the eyes; the ethmoidal sinuses are between the eyes and the sphenoidal sinuses are behind the eyes. The sinuses are named for the facial bones in which they are located.

  Humans possess four paired paranasal sinuses, divided into subgroups that are named according to the bones within which the sinuses lie:

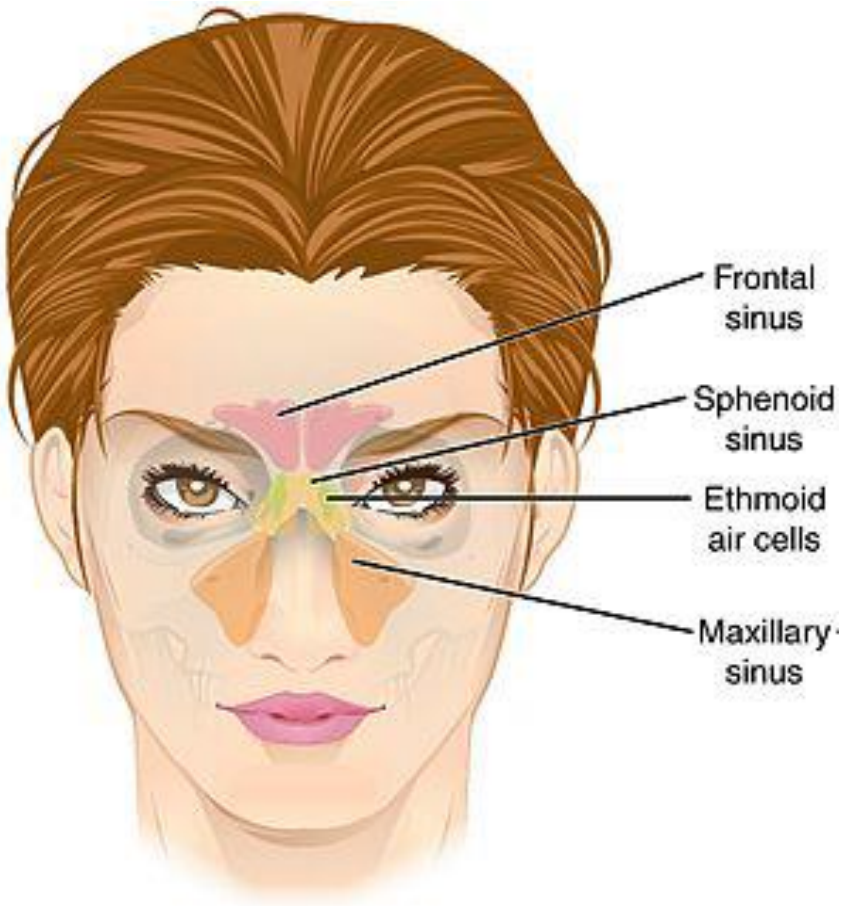
  The maxillary sinuses, the largest of the paranasal sinuses, are under the eyes, in the maxillary bones (open in the back of the semilunar hiatus of the nose). They are innervated by the trigeminal nerve (CN Vb).



The frontal sinuses, superior to the eyes, in the frontal bone, which forms the hard part of the forehead. They are also innervated by the trigeminal nerve (CN Va). The mucous membrane in this sinus is innervated by the supraorbital nerve, which carries the postganglionic parasympathetic nerve fibers for mucous secretion from the ophthalmic nerve and supplied by the supraorbital artery and anterior ethmoidal artery.

The ethmoidal sinuses, which are formed from several discrete air cells within the ethmoid bone between the nose and the eyes. They are innervated by the ethmoidal nerves, which branch from the nasociliary nerve of the trigeminal nerve (CN Va).

The sphenoidal sinuses, in the sphenoid bone. They are innervated by the trigeminal nerve (CN Va & Vb).
The paranasal air sinuses are lined with respiratory epithelium (ciliated pseudostratified columnar epithelium).



Sinus function

The sinuses are part of your nose and respiratory system. They connect to your nasal passages in a complex network of air flow and drainage passages.

As you breathe in air through your nose and mouth, it moves through the sinus passages. The sinuses also produce mucus that coats and lubricates your nasal passages and the sinuses themselves.

Both air and mucus flow through your sinuses and drain into your nose, through tiny openings called ostia (or singular, ostium).

Little hairs called cilia help the mucus move through the sinus cavities. The mucus from the sinuses drains into your nasal passages and then down the back of your throat to be swallowed.

The draining mucus helps keep your nose moist and it filters out dust and bacteria.

The sinuses also:

give your voice resonance as the air vibrates
help protect your face in case of trauma
insulate against rapid temperature changes in the nose
provide an immunological defense.

Clinical Anatomy
The paranasal sinuses are joined to the nasal cavity via small orifices called ostia. These become blocked easily by allergic inflammation, or by swelling in the nasal lining that occurs with a cold. If this happens, normal drainage of mucus within the sinuses is disrupted, and sinusitis may occur.

Cancer
Malignancies of the paranasal sinuses comprise approximately 0.2% of all malignancies. About 80% of these malignancies arise in the maxillary sinus. Men are much more often affected than women. They most often occur in the age group between 40 and 70 years. Carcinomas are more frequent than sarcomas. Metastases are rare. Tumours of the sphenoid and frontal sinuses are extremely rare.