

# Nasal Cavity-II

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# Lesson Plan

## ❖ Lateral Wall of Nasal Cavity:

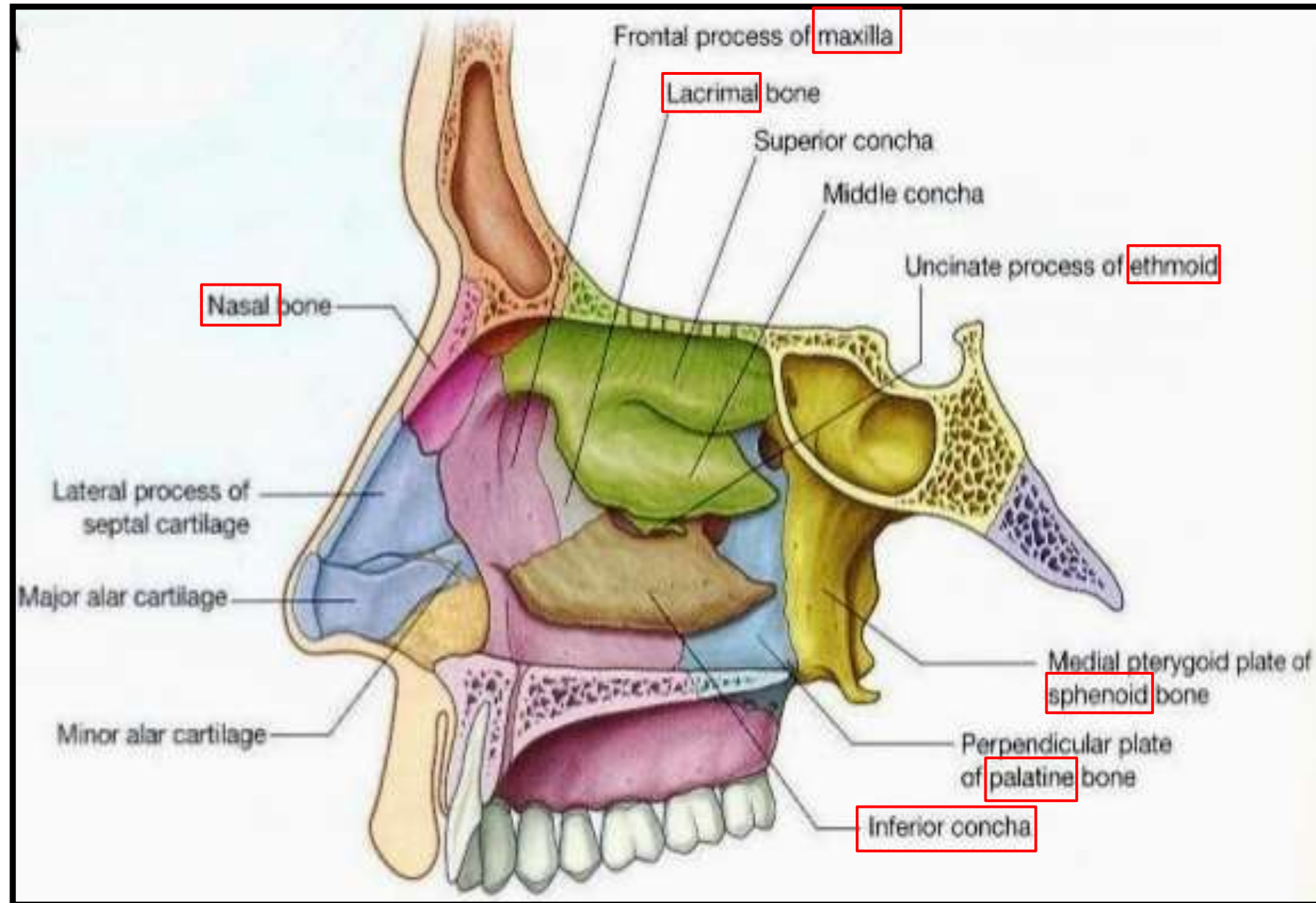
- Formation
- Features
- Openings
- Arterial Supply
- Venous Drainage
- Lymphatic Drainage
- Nerve Supply
- Applied Aspects

# **Lateral Wall of Nasal Cavity**

# Lateral Wall of Nasal Cavity- Formation

## Bones-

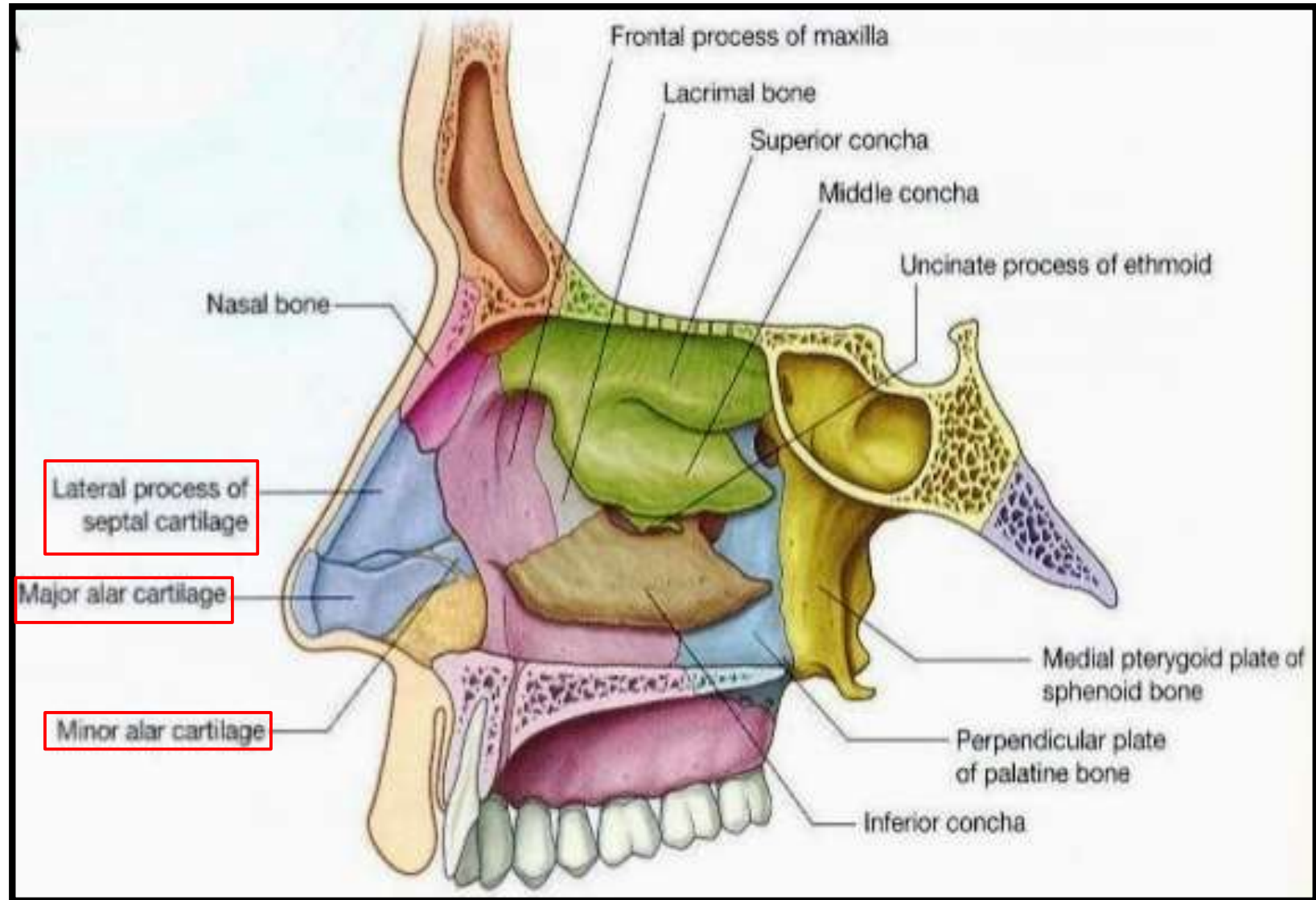
- Nasal
- Maxilla- Frontal process
- Lacrimal.
- Ethmoid-
  - Superior Concha
  - Middle Concha
  - Labyrinth.
- Inferior Nasal Concha.
- Palatine- Perpendicular plate.
- Sphenoid- Medial Pterygoid Plate.



# Lateral Wall of Nasal Cavity- Formation contd...

## Cartilages-

- Lateral Nasal Cartilage (Lateral process of Septal Cartilage).
- Major Alar Cartilage.
- Minor Alar Cartilages (3-4 in no.).





# Lateral Wall of Nasal Cavity- Features

❖ Lateral wall of nasal cavity is divided into 3 parts:

- Anterior part.
- Middle part.
- Posterior part.

## Anterior part-

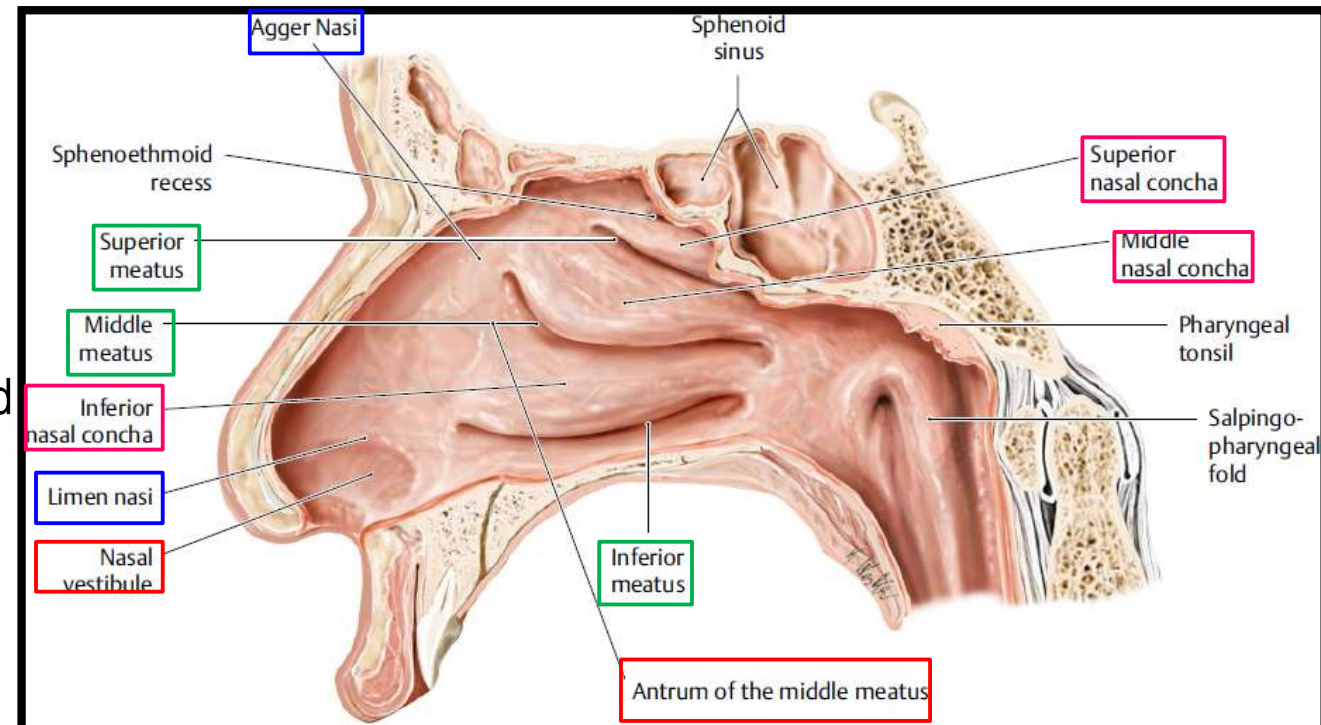
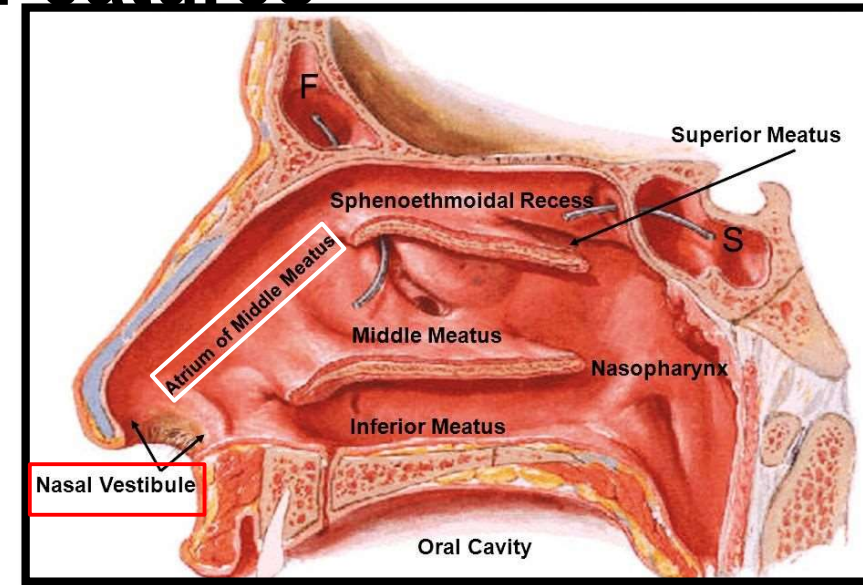
- Presents a small depressed area, the **Vestibule**.
- It is lined by skin containing short, stiff hair.

## Middle part-

- It is known as '**Atrium of Middle Meatus**'.
  - It is limited above by the **agger nasi**, which is a faint ridge of mucous membrane.
- ❖ **Limen Nasi**- Mucocutaneous junction between the vestibule and atrium of middle meatus.

## Posterior part-

- Presents **Conchae (Turbinates)** and **Meatuses**.



# Conchae

❖ These are curved bony projections lined by mucosa, directed downwards and medially.

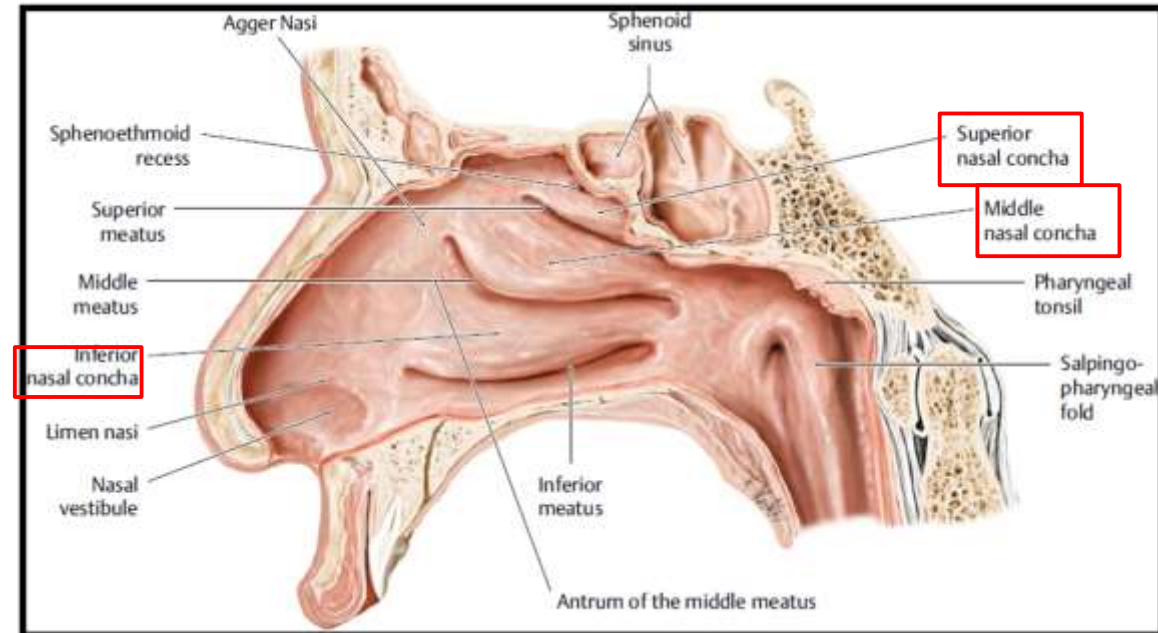
❖ 3 in number:

- Superior Nasal Concha.
- Middle Nasal Concha.
- Inferior Nasal Concha.

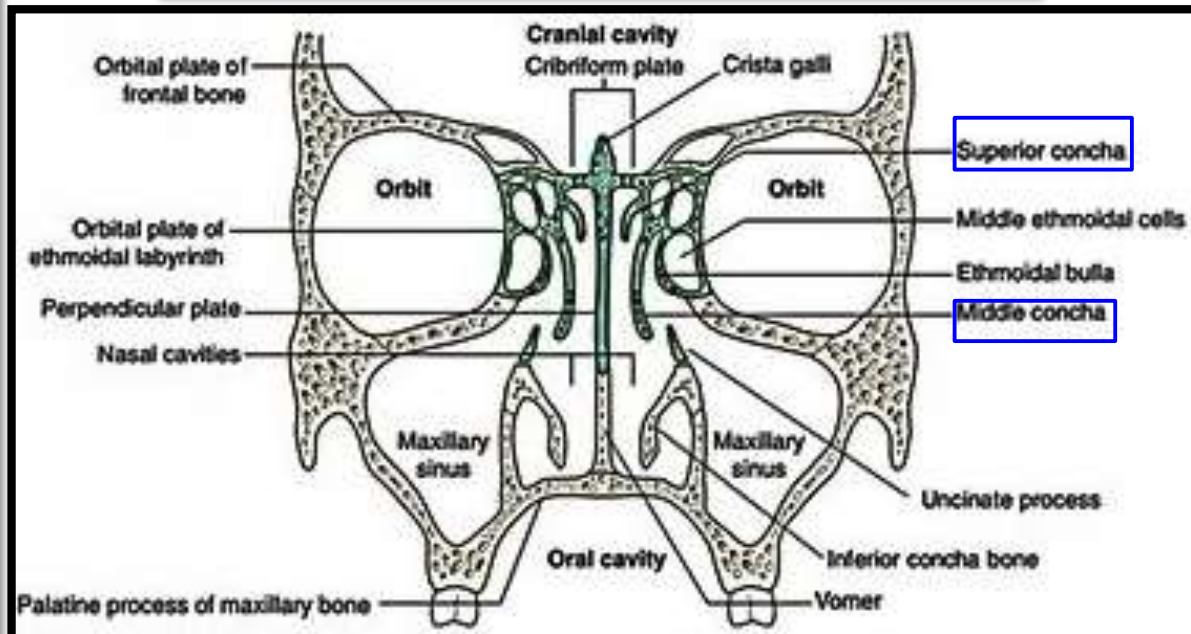
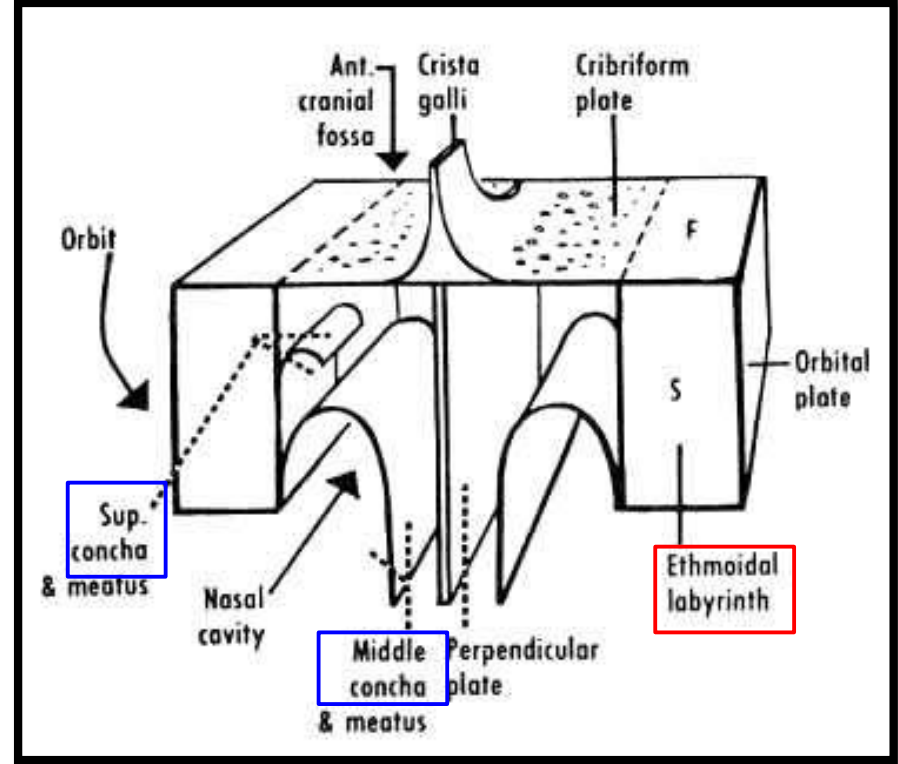
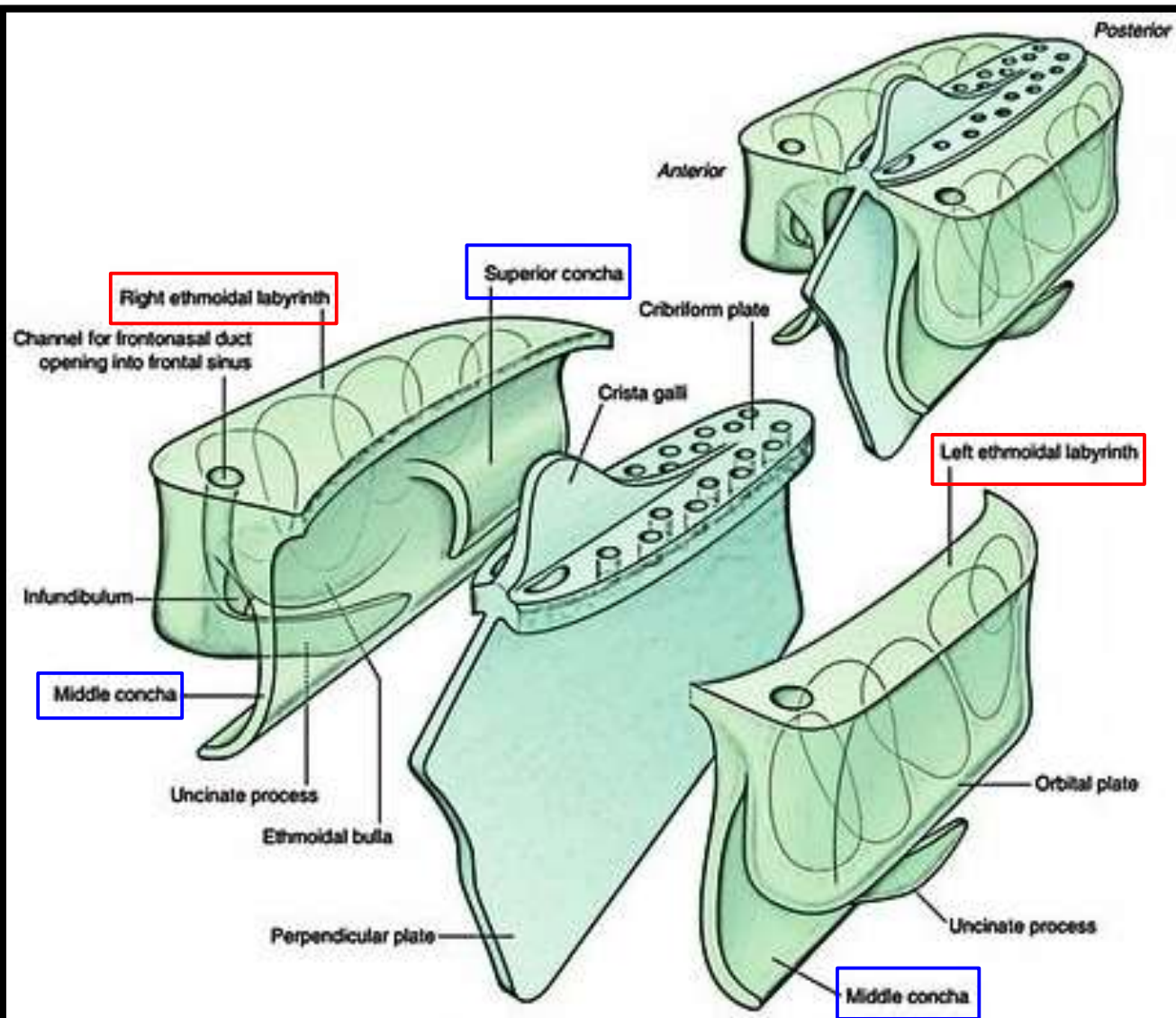
❖ Superior and middle nasal conchae are projections from medial surface of ethmoidal labyrinth.

❖ Inferior nasal concha is an independent bone.

❖ Superior concha is **smallest** and Inferior concha is largest in size.









# Lateral Wall of Nasal Cavity- Features contd...

## Meatuses-

❖ Below and lateral to each concha is a space known as meatus.

❖ 3 in number:

- Superior meatus.
- Middle meatus.
- Inferior meatus.

## Superior meatus-

❖ It lies underneath the superior concha.

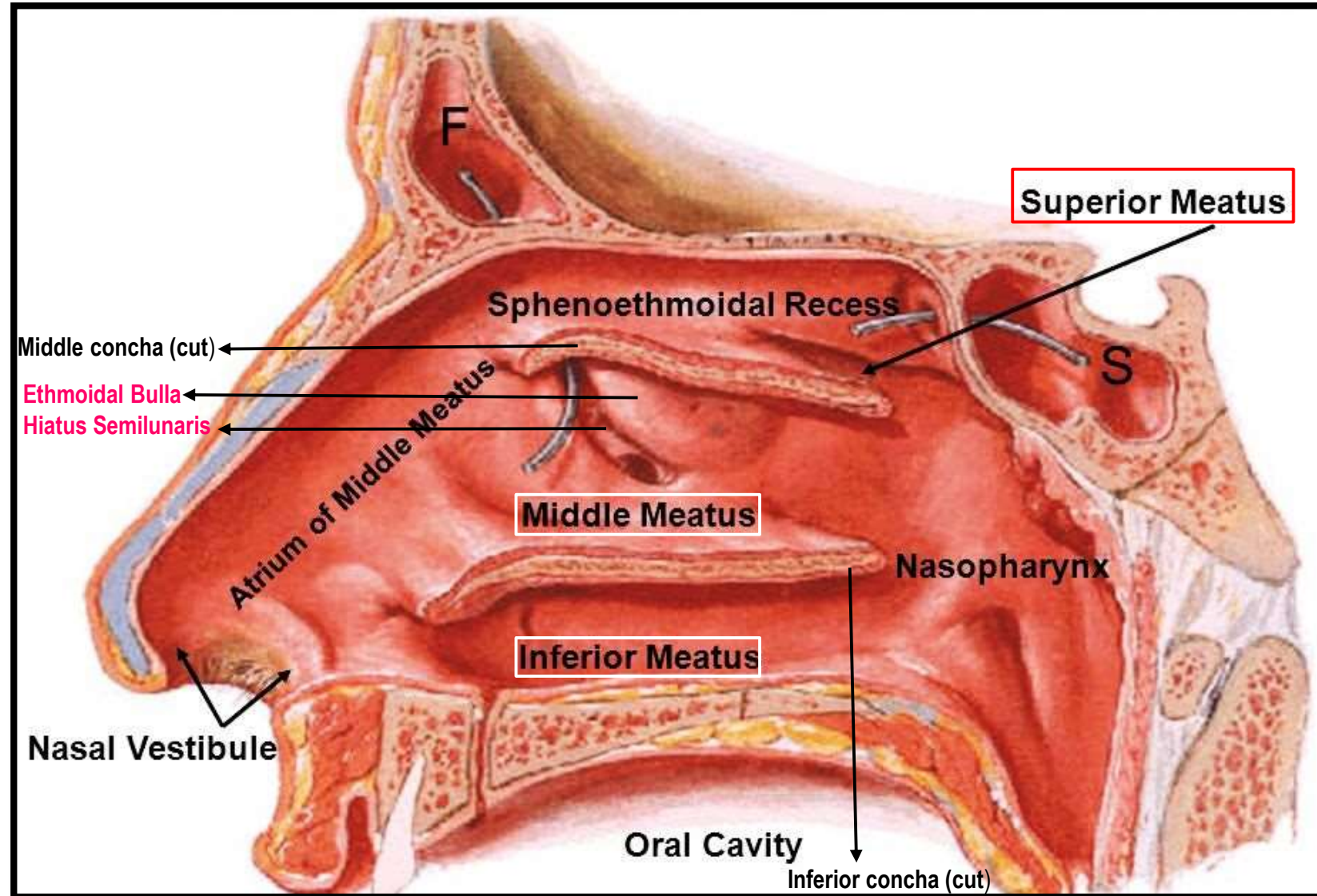
❖ It is smallest.

## Middle meatus-

❖ It lies underneath the middle concha.

❖ It presents the following features:

- Ethmoidal bulla (Bulla ethmoidalis).
- Hiatus semilunaris.
- Infundibulum.



# Lateral Wall of Nasal Cavity- Features contd...

## Ethmoidal bulla-

- A round elevation, produced by underlying middle ethmoidal air sinuses.

## Hiatus semilunaris-

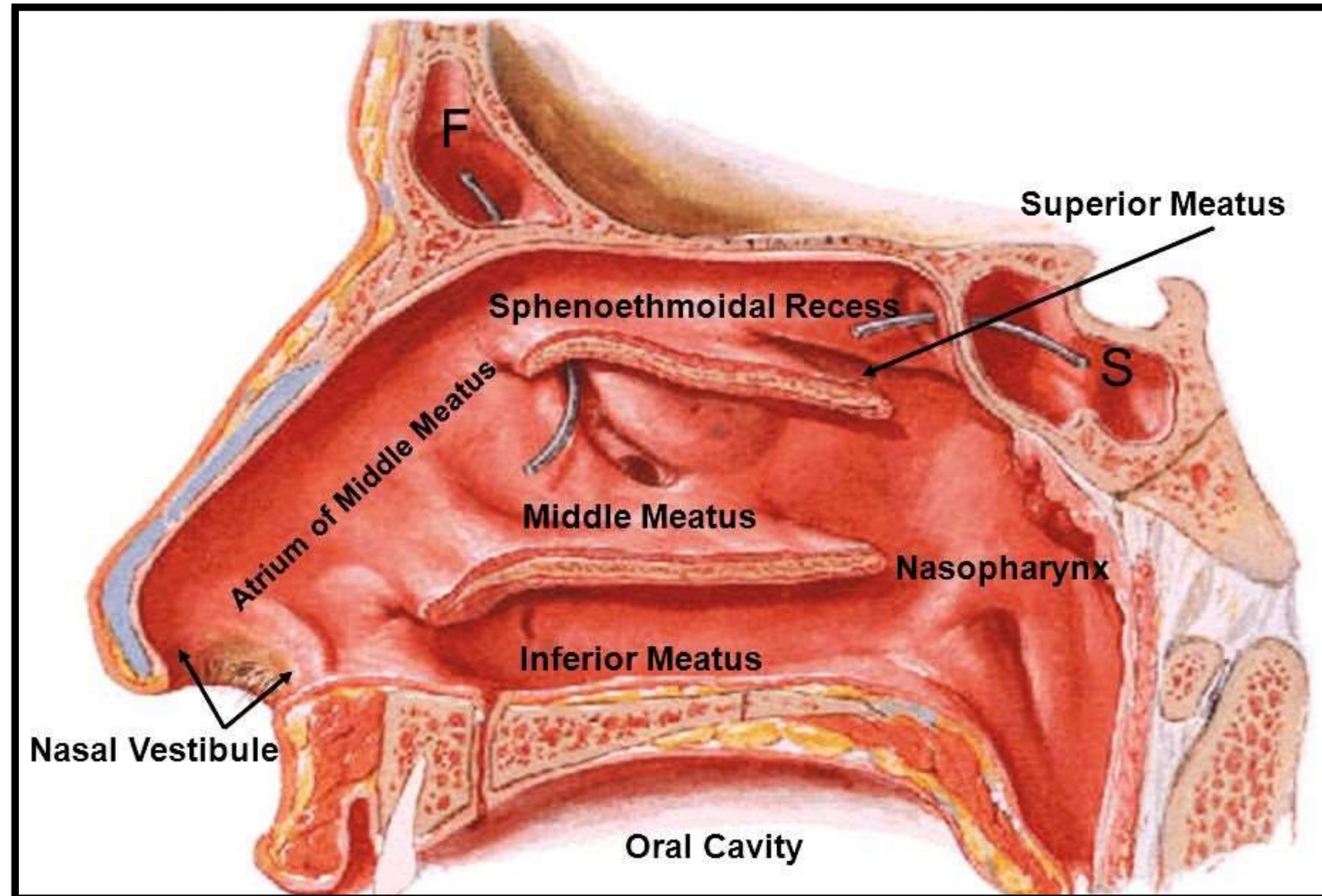
- It is a semicircular sulcus below the ethmoidal bulla.

## Infundibulum-

- It is a short passage at the anterior end of middle meatus.

## Inferior meatus-

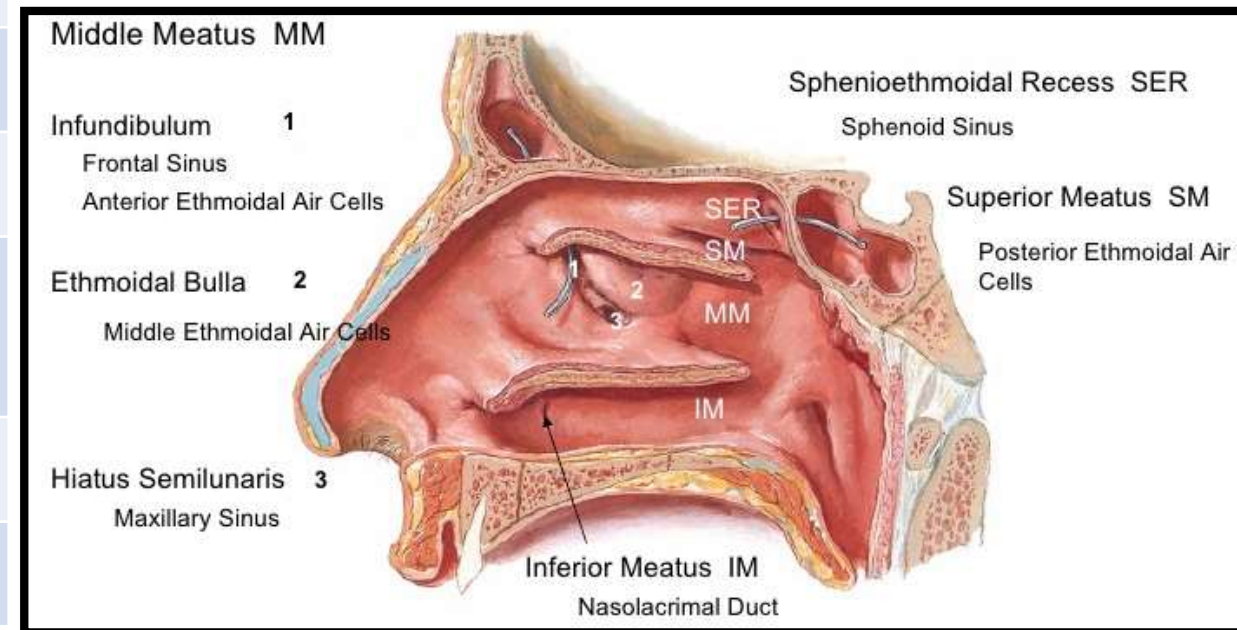
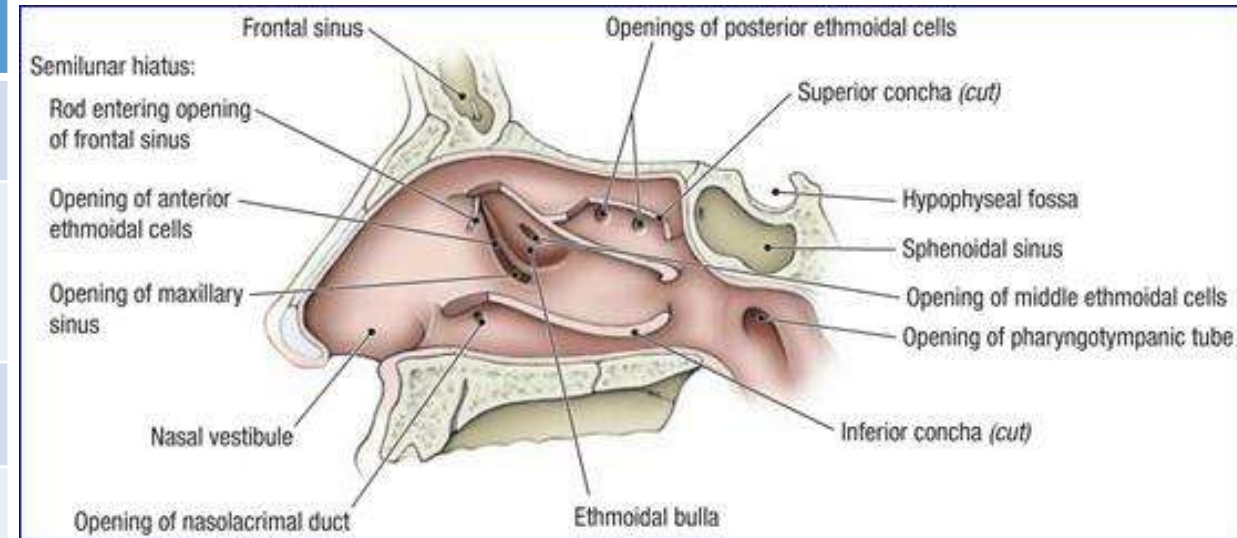
- It lies underneath the inferior concha.
- It is the largest meatus.





# Openings in Lateral Wall of Nasal Cavity

Site	Opening/Openings
<b>Spheno-ethmoidal recess</b>	Sphenoidal air sinus
<b>Superior Meatus</b>	Posterior ethmoidal air sinuses
<b>Middle Meatus</b>	
On <b>Ethmoidal Bulla</b>	Middle ethmoidal air sinuses
In <b>Hiatus semilunaris</b>	
Anterior part	Frontal air sinus
Middle part	Anterior ethmoidal air sinuses
Posterior part	Maxillary air sinus
<b>Inferior Meatus</b>	Nasolacrimal duct (NLD)



# Arterial Supply of Lateral Nasal Wall

## Anterosuperior Part-

- **Anterior Ethmoidal** artery (a branch of Ophthalmic artery).

## Anteroinferior Part-

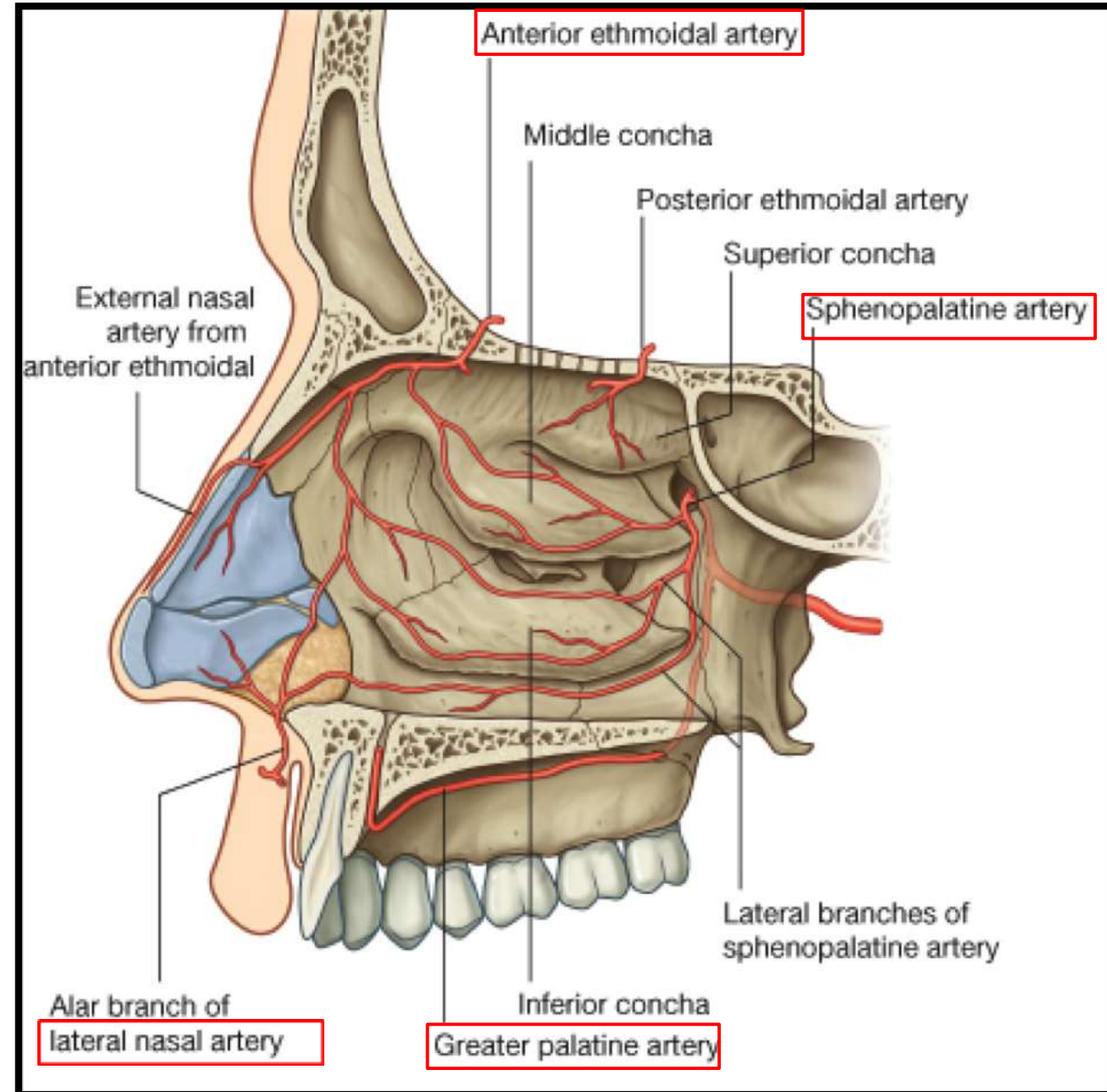
- **Lateral Nasal Artery** (a branch of Facial artery).
- **Greater Palatine Artery** ( a branch of Maxillary artery).

## Posterosuperior Part-

- **Sphenopalatine Artery** ( a branch of Maxillary artery).

## Posteroinferior Part-

- **Greater Palatine Artery** ( a branch of Maxillary artery).



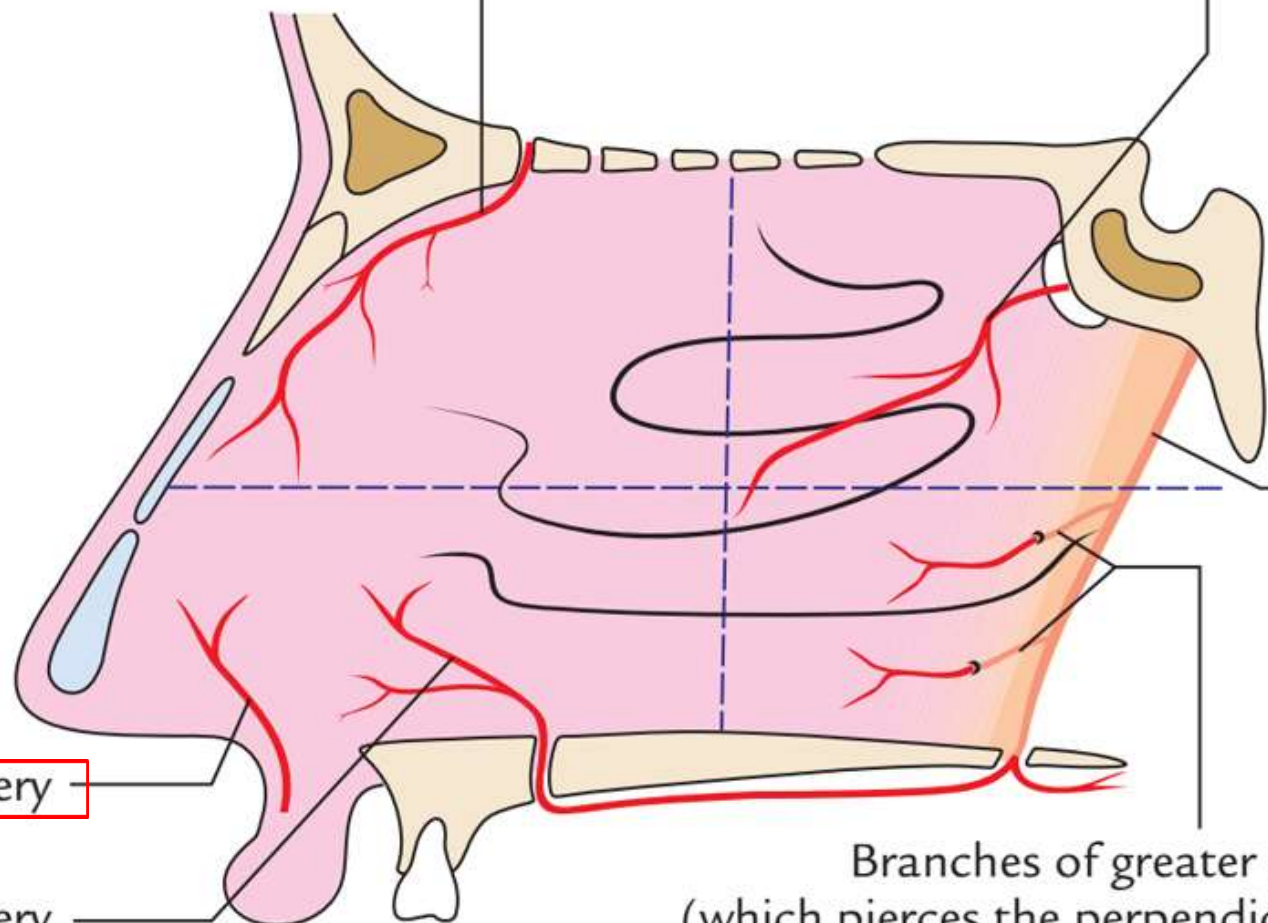


**Anterosuperior quadrant**

**Posterosuperior quadrant**

Anterior ethmoidal artery

Sphenopalatine artery



Greater palatine artery

Branches of facial artery

Branches of greater palatine artery  
(which pierces the perpendicular plate of palatine)

Branches of greater palatine artery

**Anteroinferior quadrant**

**Posteroinferior quadrant**

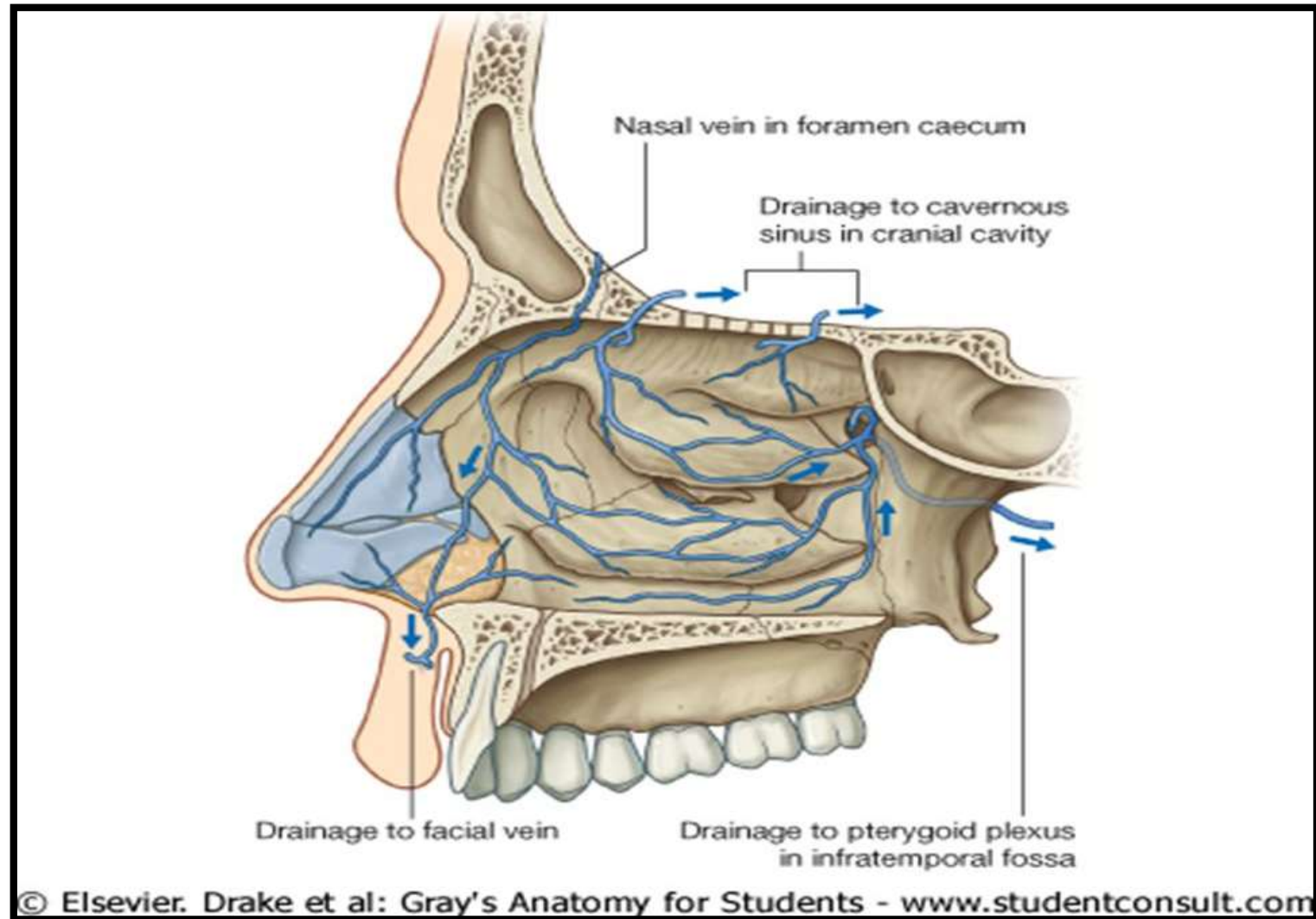
# Venous Drainage of Lateral Nasal Wall

❖ In lateral wall of nasal cavity, veins accompany the arteries.

❖ A venous plexus is formed beneath the mucosa.

❖ Veins drain into:

- Facial vein.
- Pterygoid venous plexus.
- Pharyngeal venous plexus.



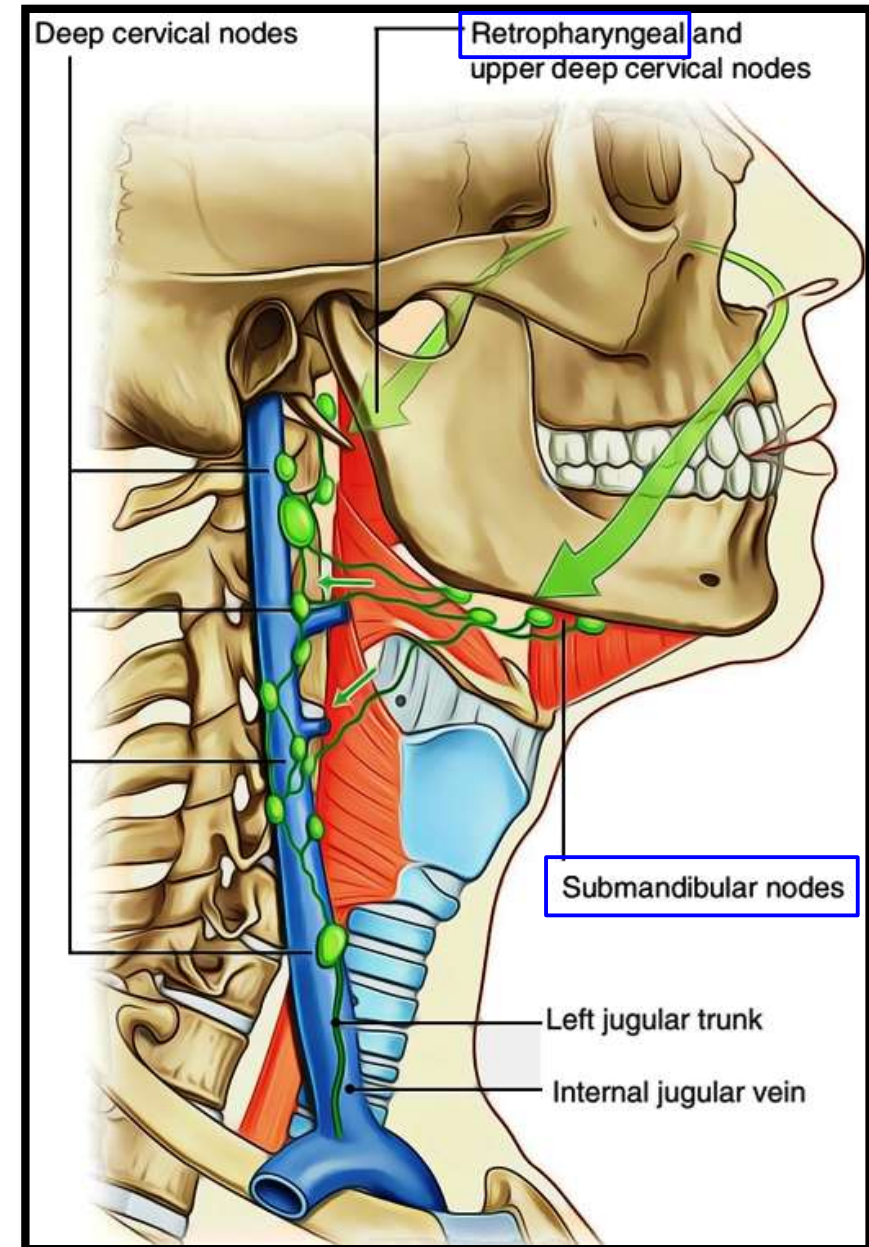
# Lymphatic Drainage of Lateral Nasal Wall

## Anterior 1/2-

- Drains into:
- **Submandibular** lymph nodes.

## Posterior 1/2-

- Drains into:
- **Retropharyngeal** lymph nodes.





# Nerve Supply of Lateral Wall of Nasal Cavity

## Anterosuperior Part-

- Anterior Ethmoidal Nerve (a branch of Nasociliary nerve).

## Anteroinferior Part-

- Anterior Superior Alveolar Nerve (a branch of Infraorbital nerve).

## Posterosuperior Part-

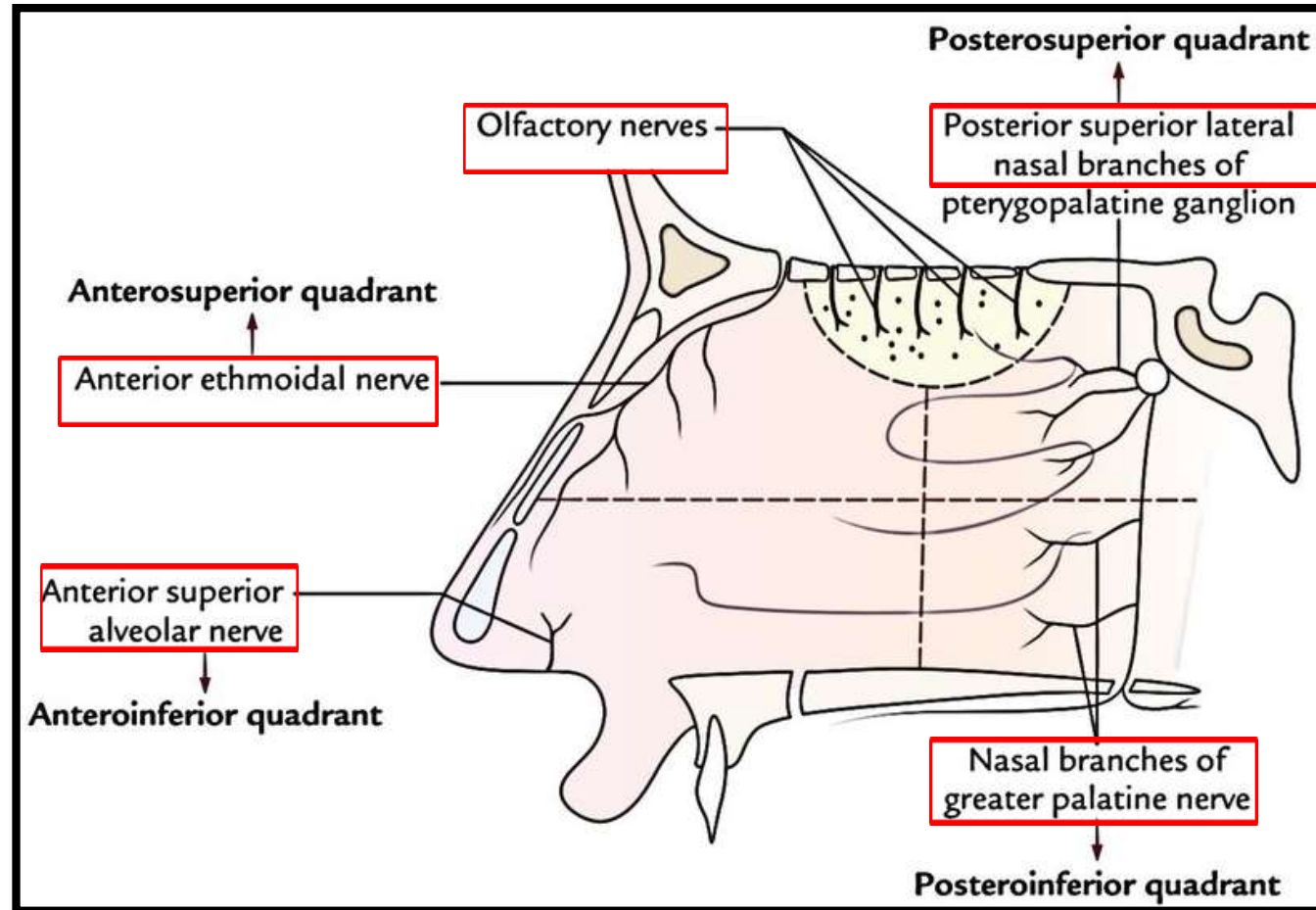
- Posterior superior lateral nasal nerves (branches of Pterygopalatine ganglion).

## Posteroinferior Part-

- Nasal branches of Greater Palatine Nerve (a branch of Pterygopalatine ganglion).

## Olfactory Part (upper 1/3<sup>rd</sup> up to the superior concha)-

- Olfactory Nerves.





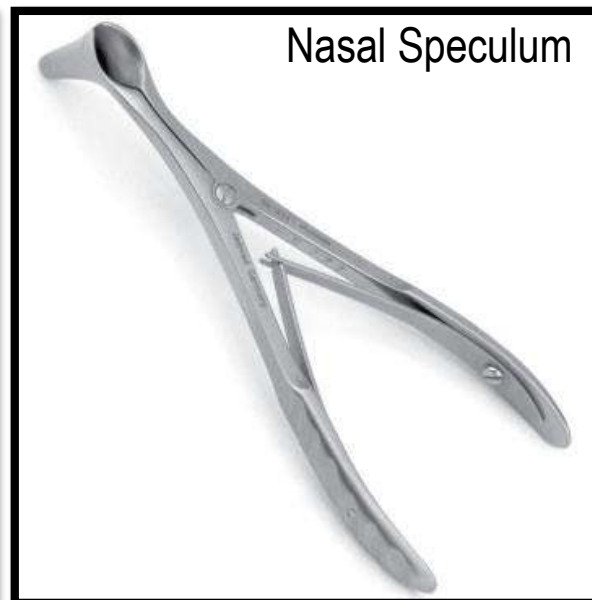
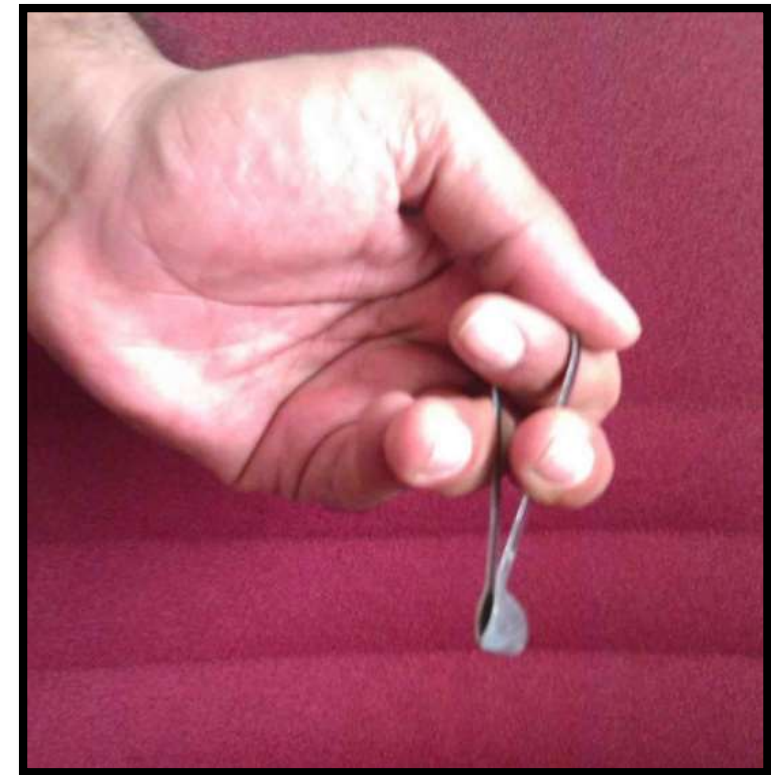
# Applied Aspects

## Rhinology [ Examination of Nasal Cavity]

- Anterior Rhinoscopy
- Posterior Rhinoscopy

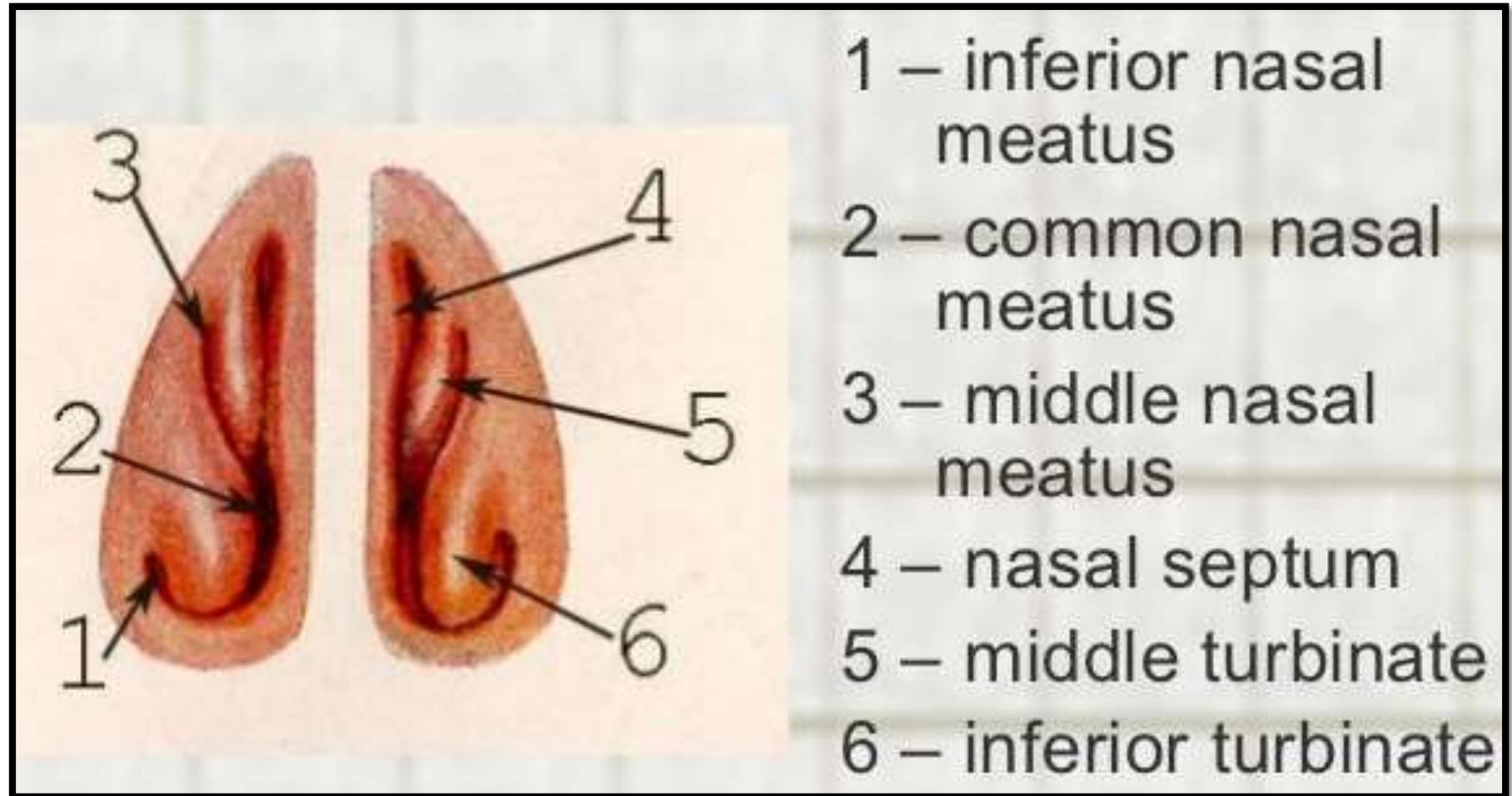
### Anterior Rhinoscopy-

- Examination of nasal cavity through the **nostril**.
- It is carried out by inserting a **nasal speculum** through a nostril.



# Structures seen on Anterior Rhinoscopy

- Following structures are seen on Anterior Rhinoscopy:
- Middle nasal concha (turbinate).
- Inferior nasal concha (turbinate).
- Superior meatus.
- Middle meatus.
- Inferior meatus.
- Nasal septum.
- Floor of nasal cavity.

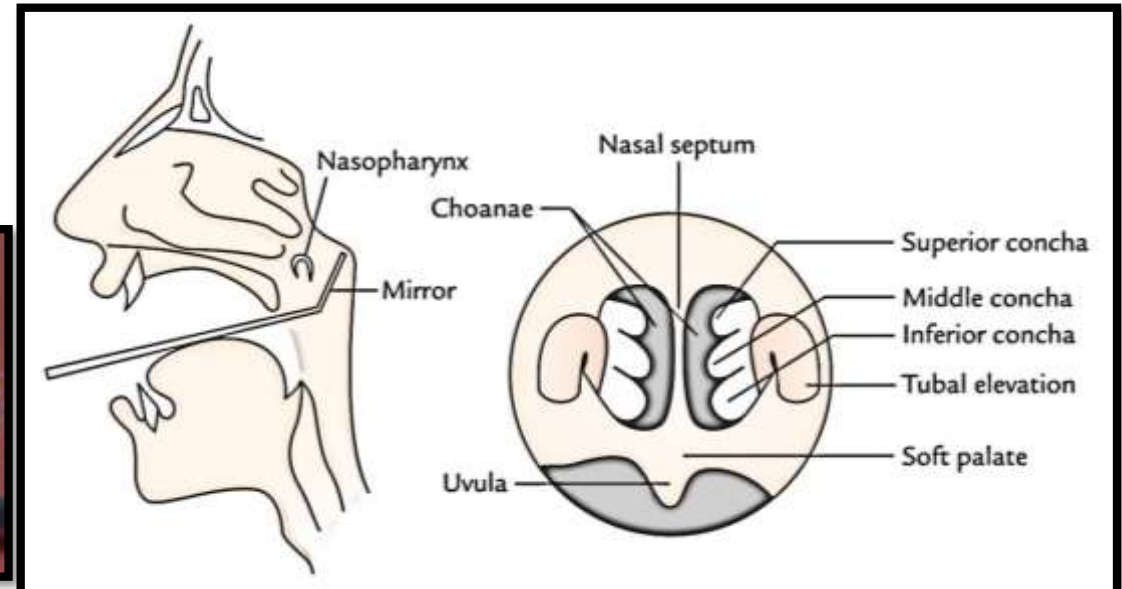
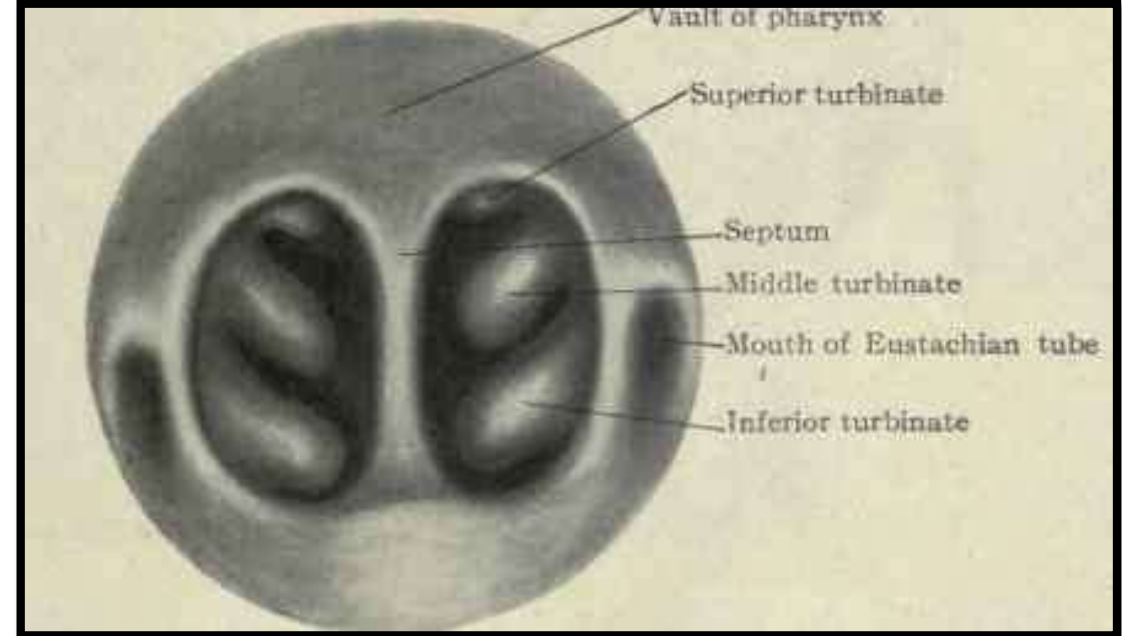


# Posterior Rhinoscopy

- Examination of nasal cavity through the pharynx.
- It is carried out by inserting a mirror into the pharynx.

## Structures seen on Posterior Rhinoscopy:

- Choanae.
- Conchae.
- Posterior border of nasal septum.



Posterior Rhinoscopic Mirror









Thank  
you

