

Nasal Cavity-I

Presented by:-
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Lesson Plan

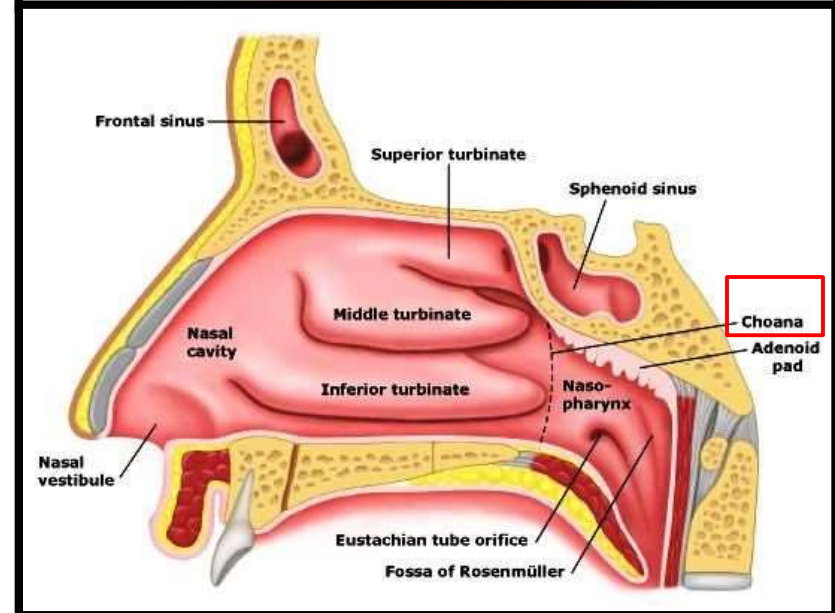
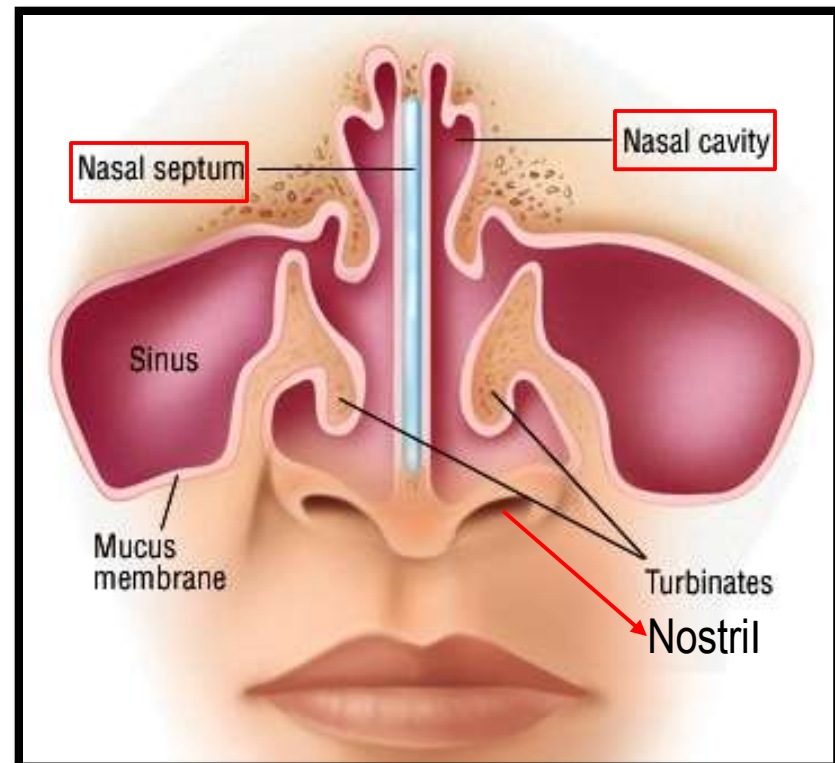
- ❖ Introduction
- ❖ Parts of Nasal Cavity:
 - Vestibule
 - Nasal Cavity Proper

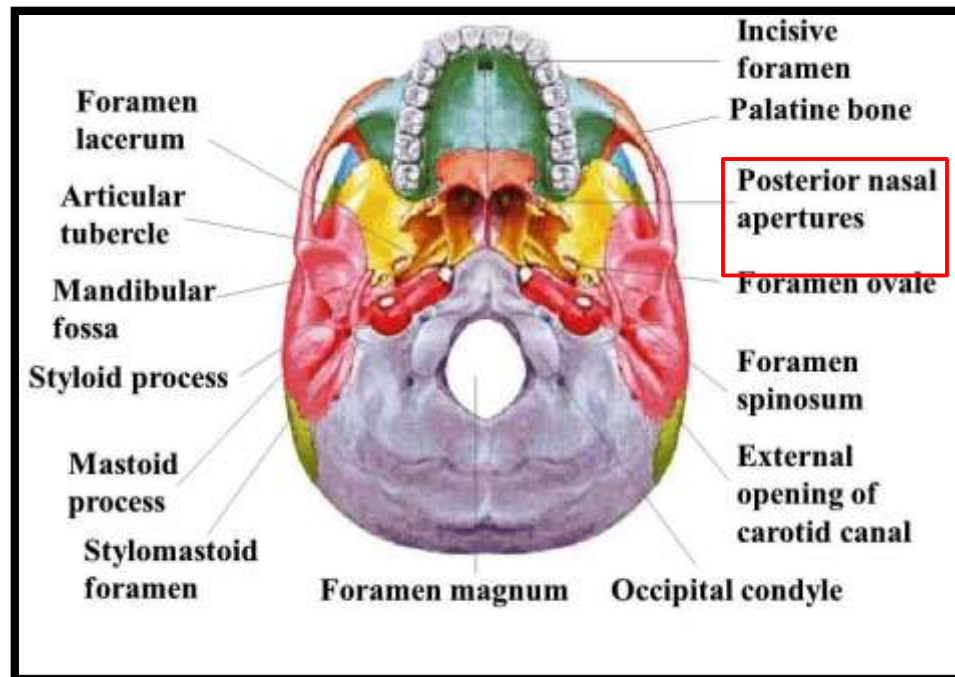
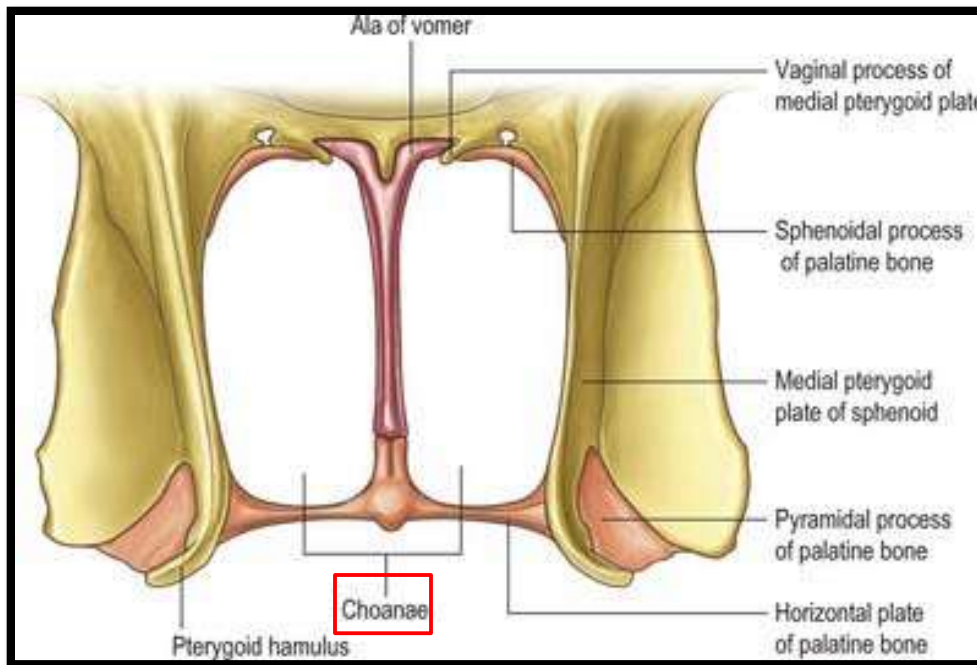
- ❖ Roof of Nasal Cavity
- ❖ Floor of Nasal Cavity

- ❖ Nasal Septum:
 - Introduction
 - Parts
 - Arterial Supply
 - Venous Drainage
 - Nerve Supply
 - Lymphatic Drainage
 - Applied Aspects

Introduction

- Internal nose is divided into right and left nasal cavities by a nasal septum.
- Each nasal cavity communicates with the exterior through **nostril (naris)**.
- Each nasal cavity communicates with the nasopharynx through **posterior nasal aperture (choana)**.





Parts of Nasal Cavity

❖ 2 parts:

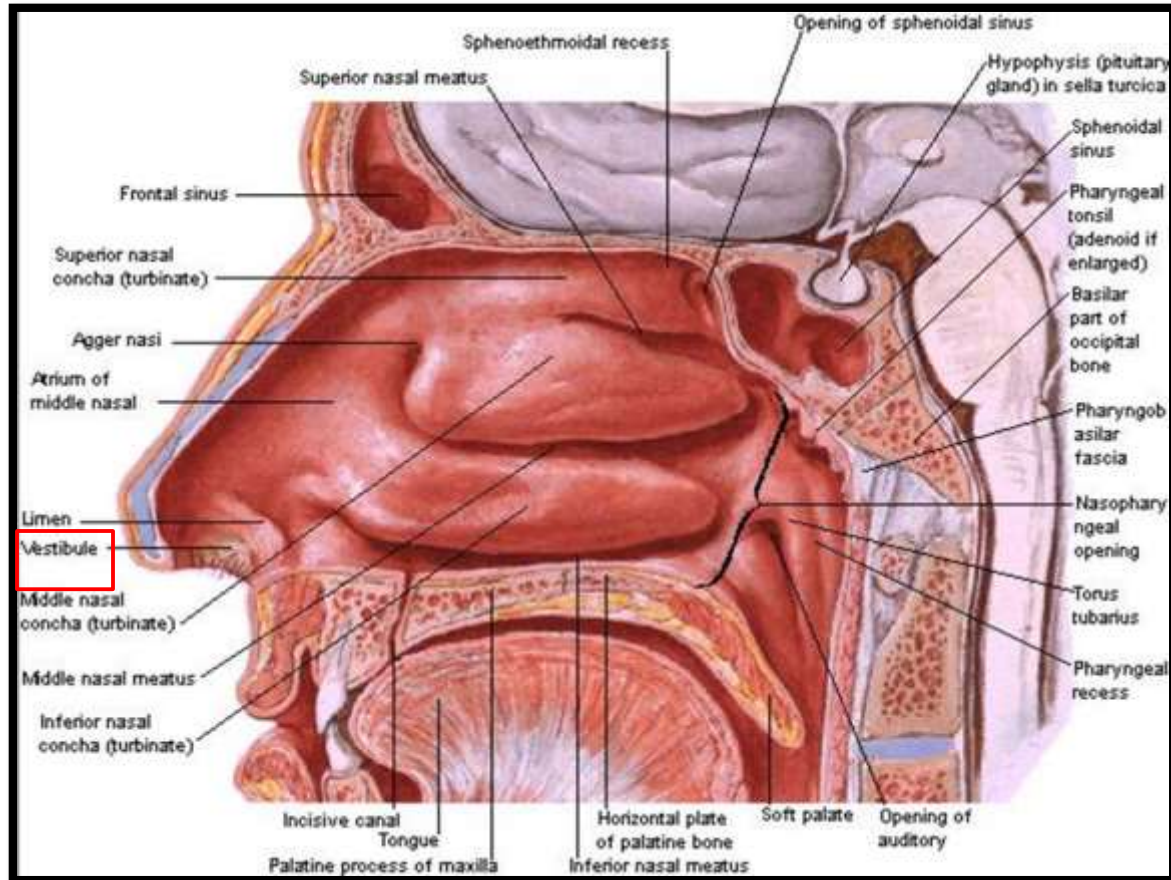
- Vestibule
- Nasal cavity proper

Vestibule-

- A small anteroinferior part.
- Lined by skin.

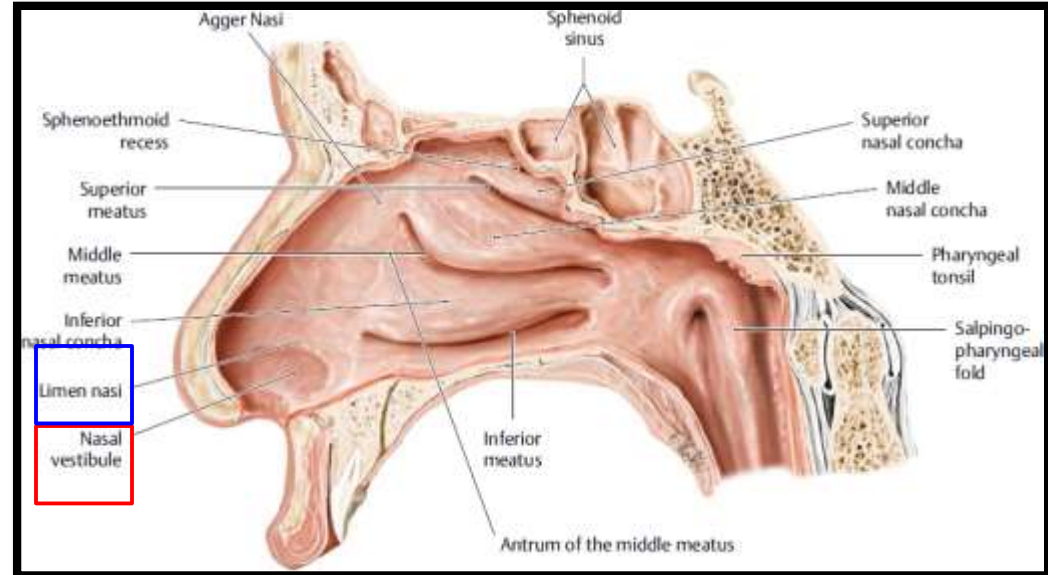
Nasal Cavity Proper-

- Large posterosuperior part.
- Lined by mucosa.



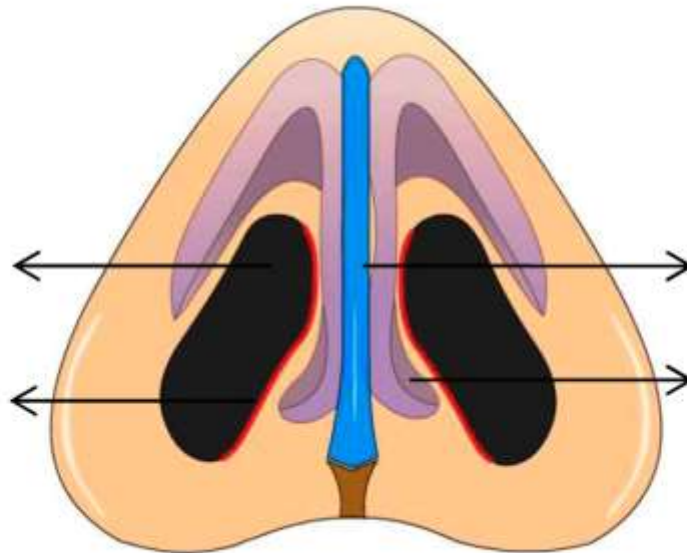
Vestibule

- Its upper limit on lateral wall of nasal cavity is marked by **Limen nasi**.
- Its medial wall is formed by **columella**.



Nostril

Columella



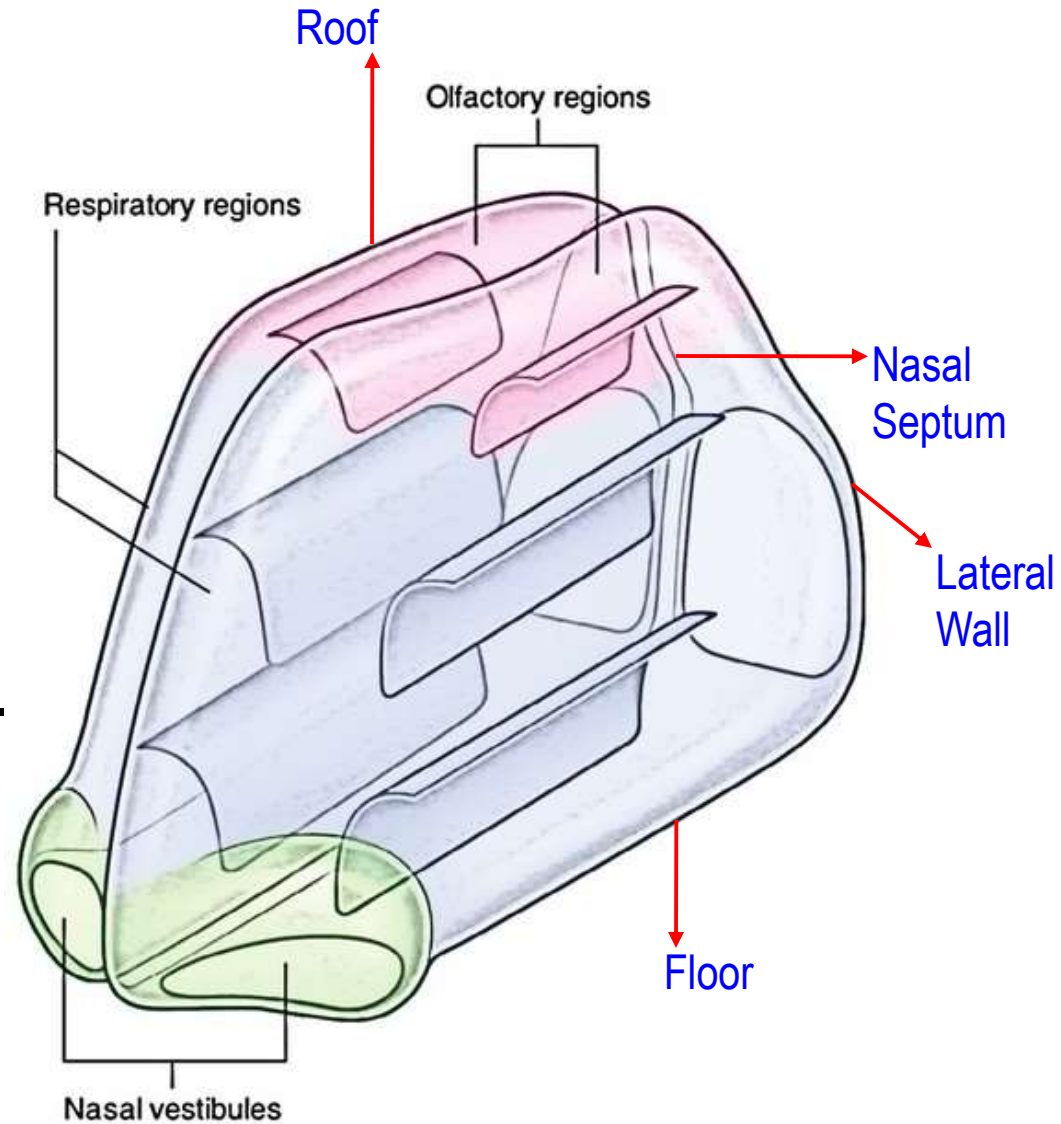
Caudal portion of the septum

Footplates

Nasal Cavity Proper

Boundaries-

- Roof.
- Floor.
- Medial wall (Nasal Septum).
- Lateral wall.



Roof of Nasal Cavity

❖ Divided into 3 parts:

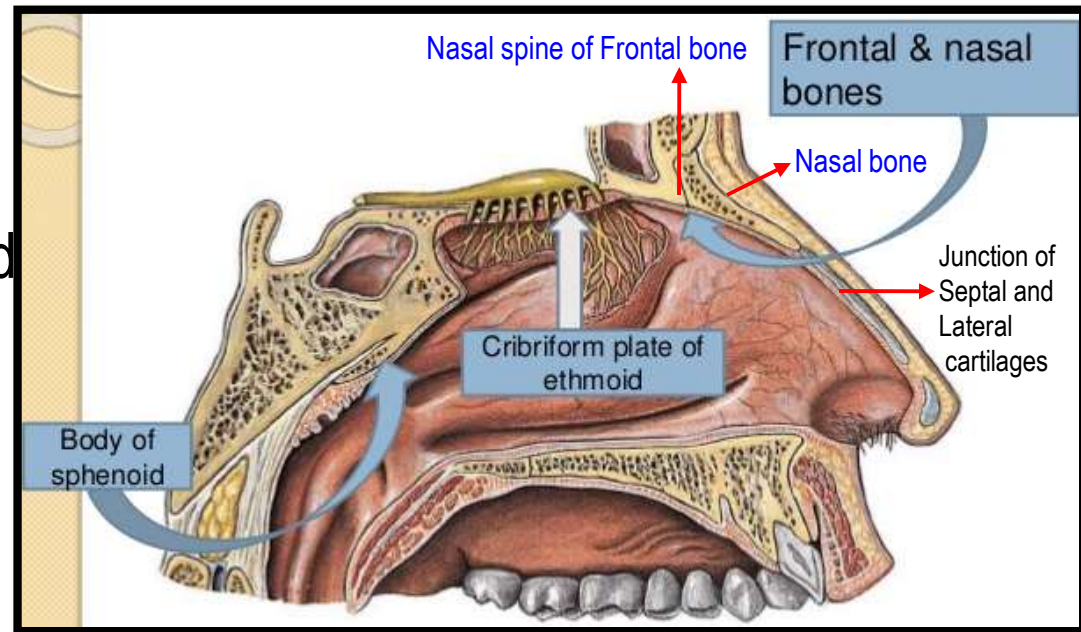
- Anterior 1/3rd .
- Middle 1/3rd .
- Posterior 1/3rd .

Anterior 1/3rd –

- Slopes downwards and forward

Formed by:

- Nasal spine of Frontal bone.
- Nasal bone.
- Junction of Septal and Lateral cartilages



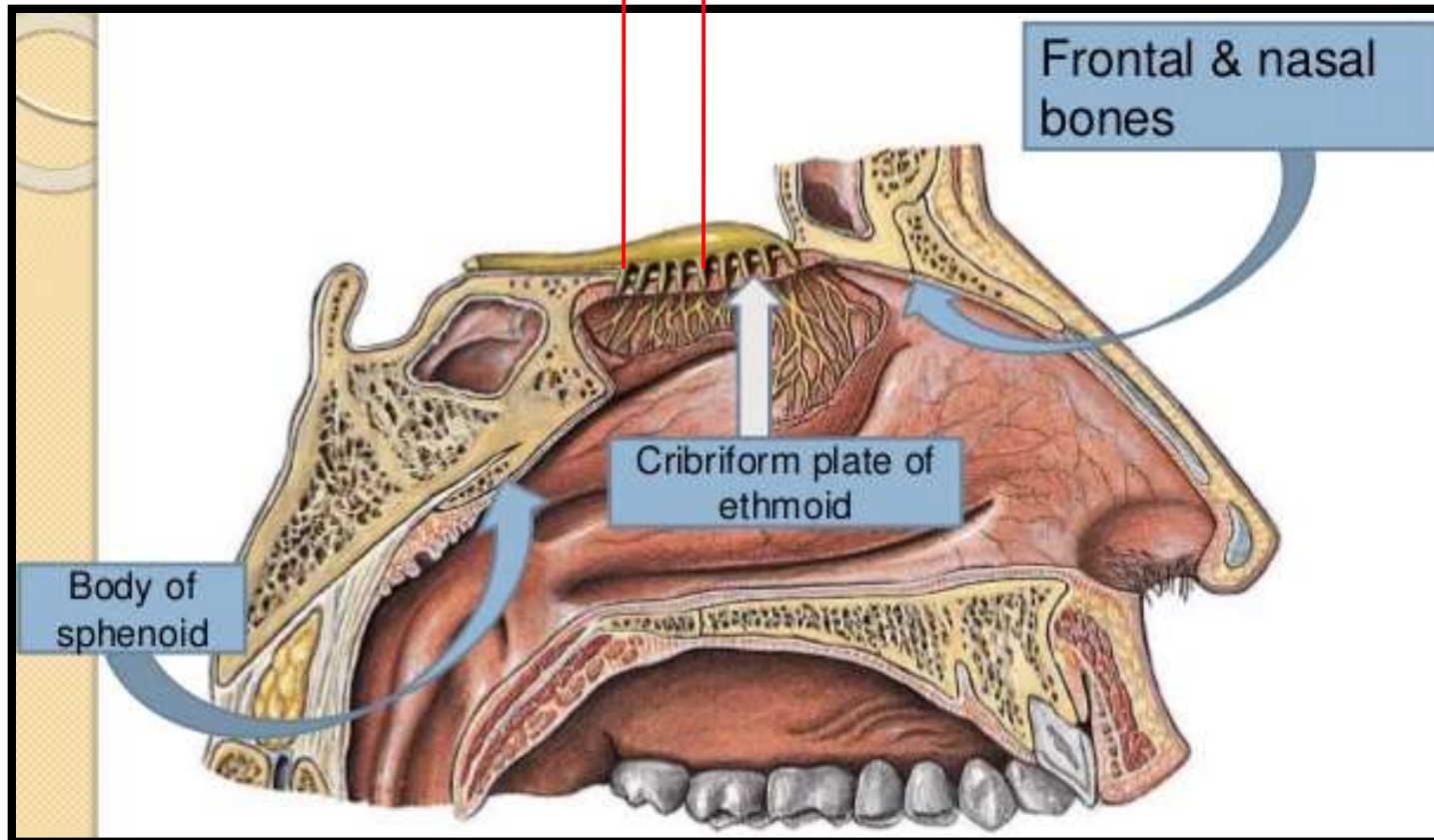
Roof of Nasal Cavity contd...

Middle 1/3rd –

- Horizontal.

Formed by:

- Cribriform plate of Ethmoid bone.
- Through the cribriform plate, **olfactory nerves** enter the cranial cavity.



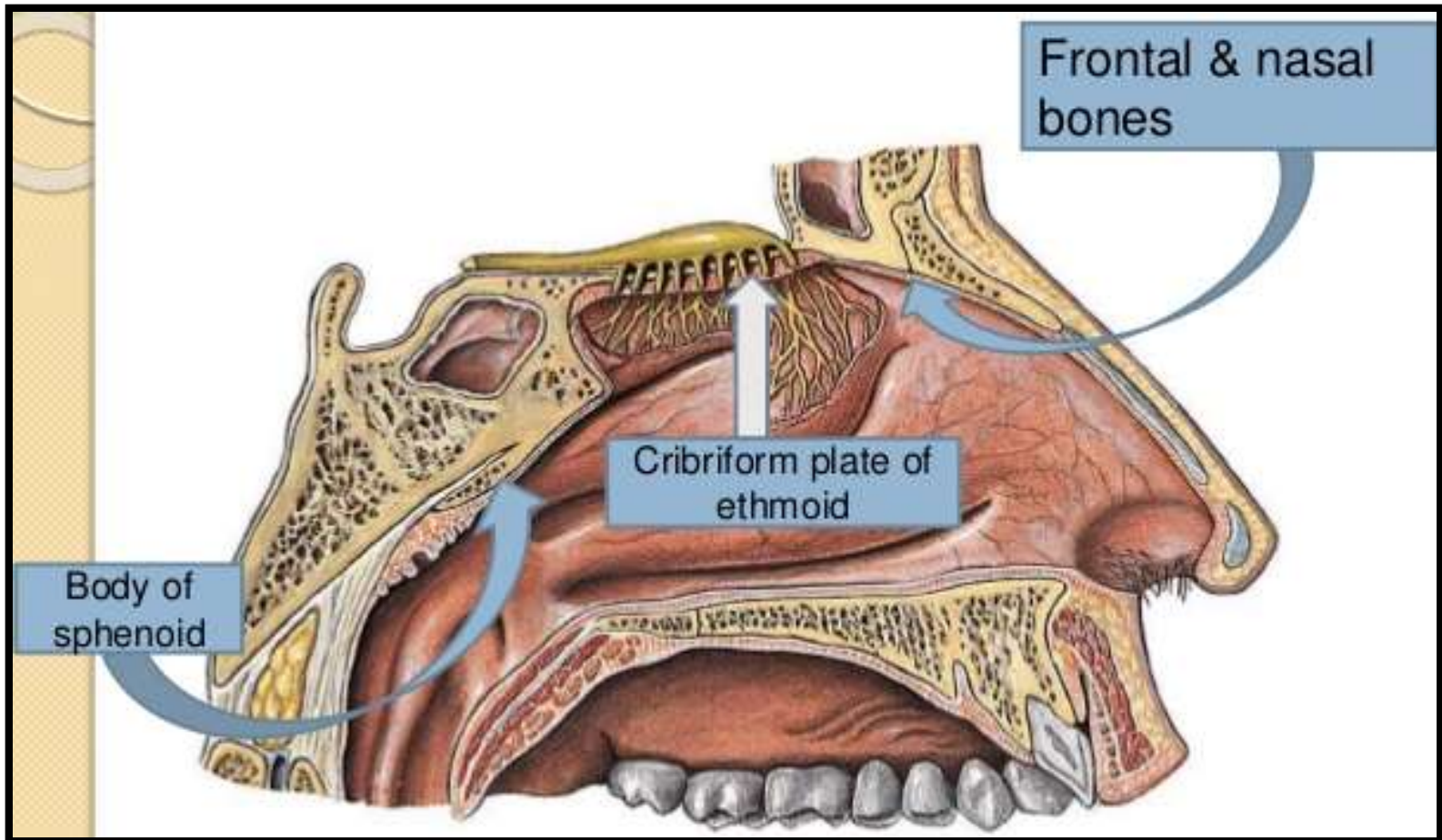
Roof of Nasal Cavity contd...

Posterior 1/3rd –

- Slopes downwards and backwards.

Formed by:

- Anterior surface of body of Sphenoid bone.



Floor of Nasal Cavity

- Almost horizontal.

Formed by:

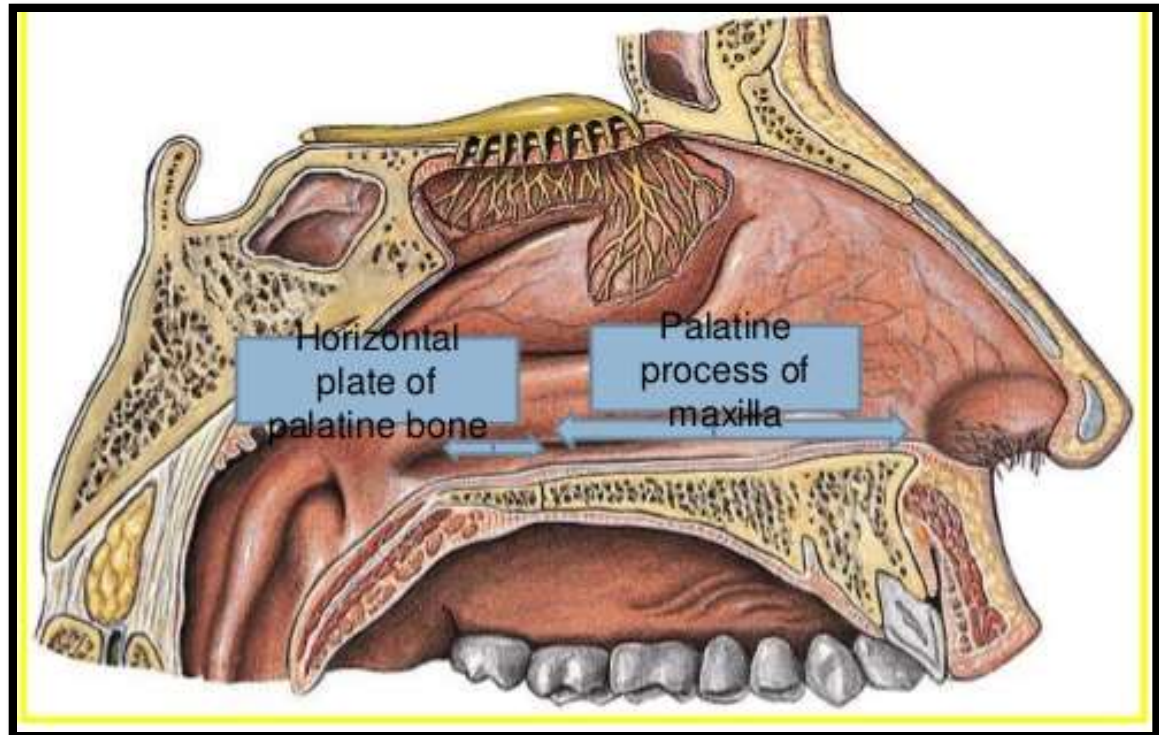
- Upper surface of hard palate.

Anterior 3/4th –

- By palatine process of Maxilla.

Posterior 1/4th –

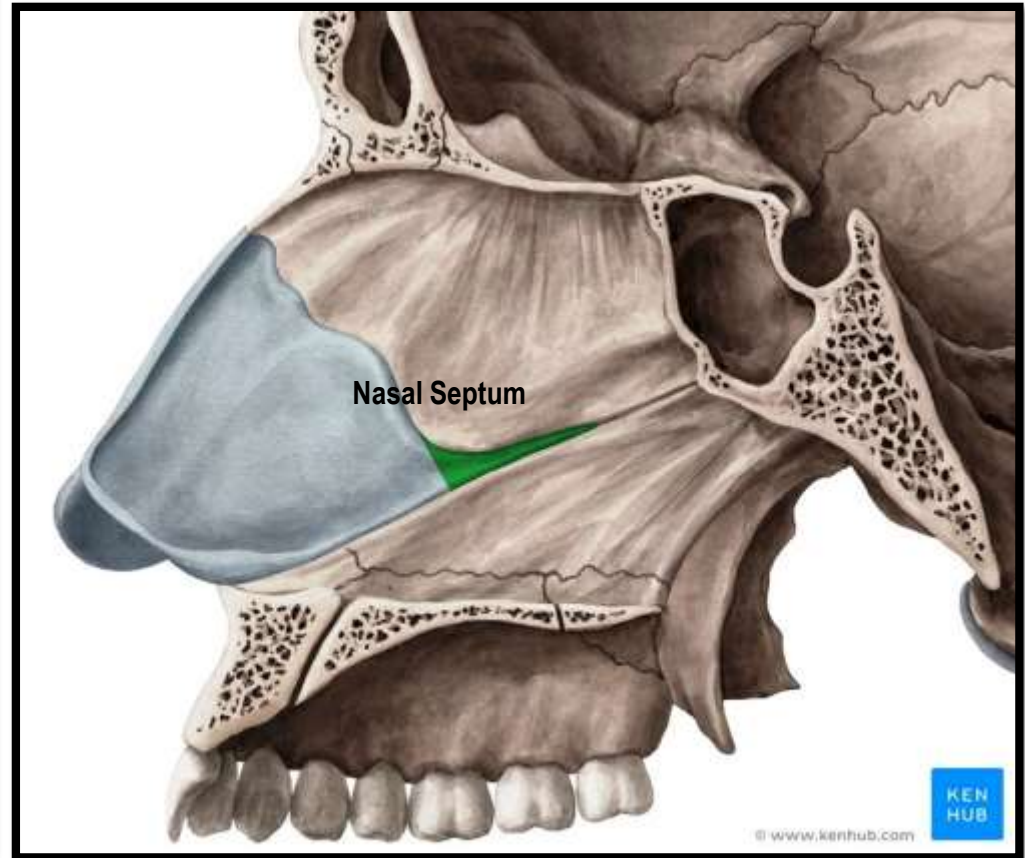
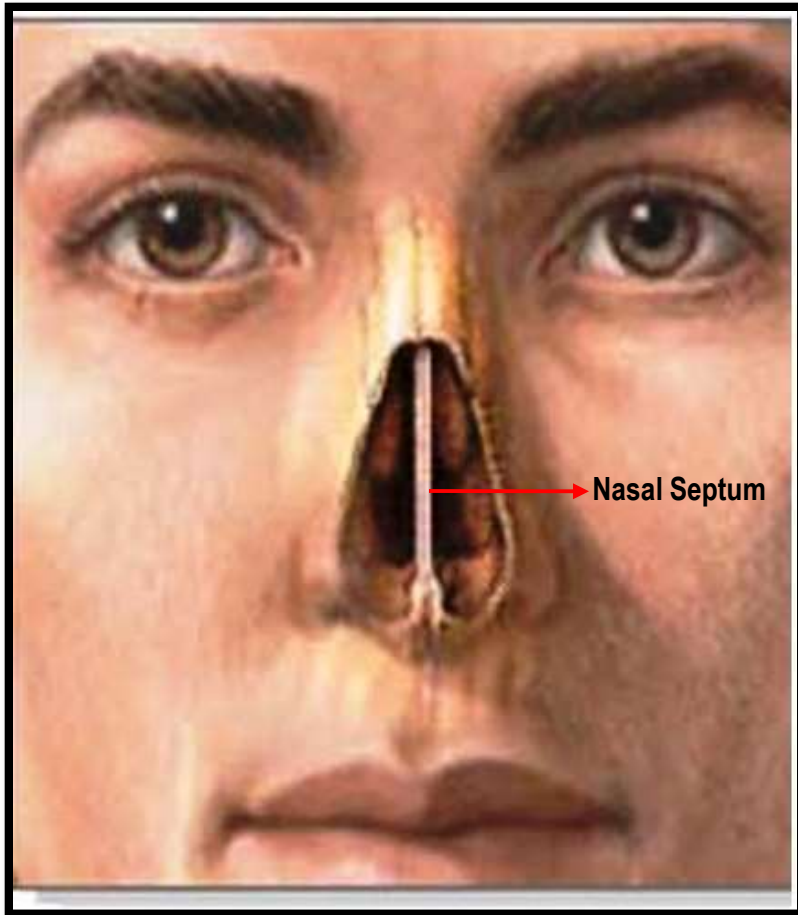
- Horizontal plate of Palatine bone.



Nasal Septum

Introduction

- A median **osseocartilaginous** partition between two nasal cavities.
- Forms the medial wall of nasal cavity.



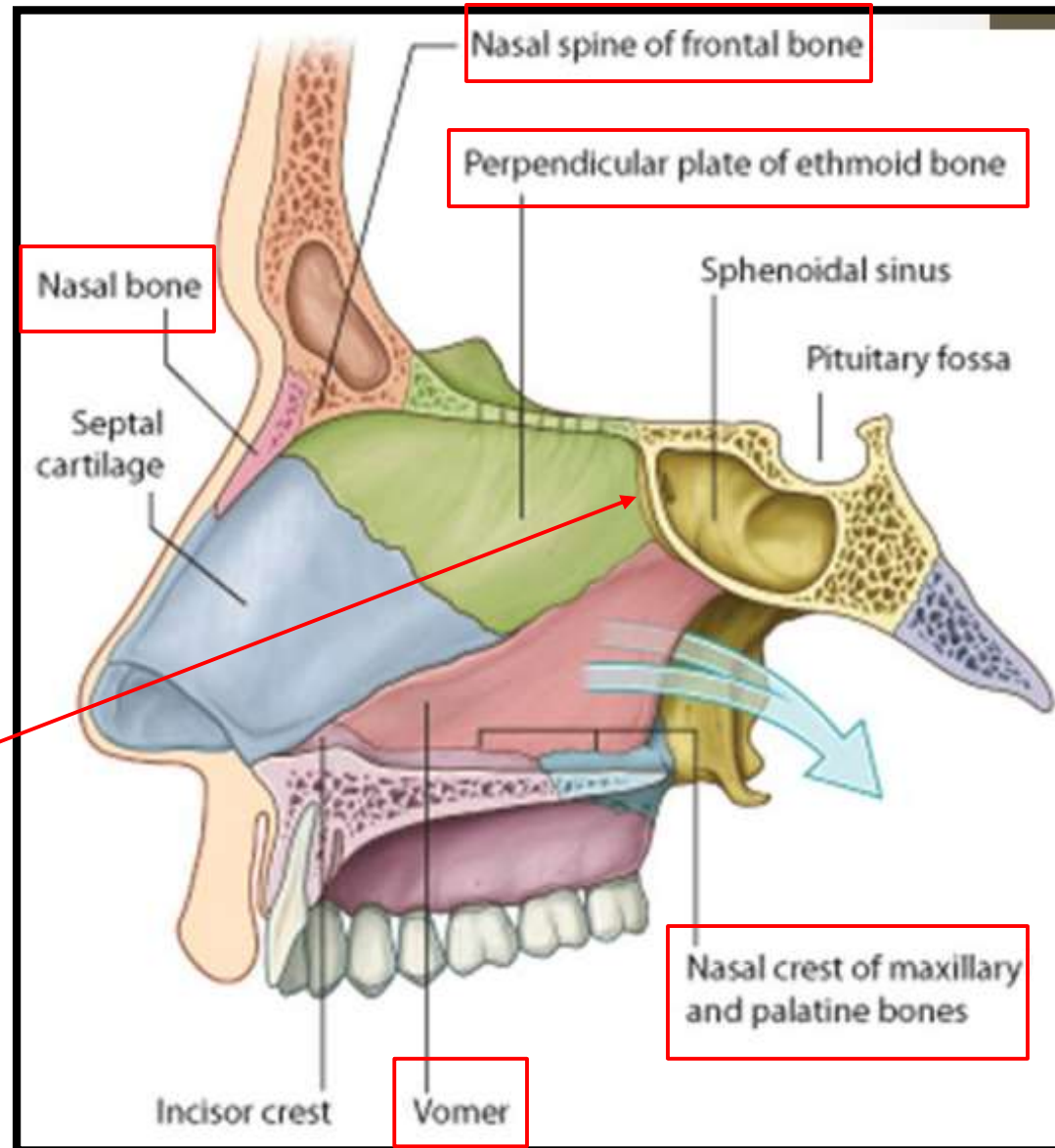
Parts of Nasal Septum

❖ 3 parts:

- Bony part.
- Cartilaginous part.
- Membranous part.

Framework of Bony Part-

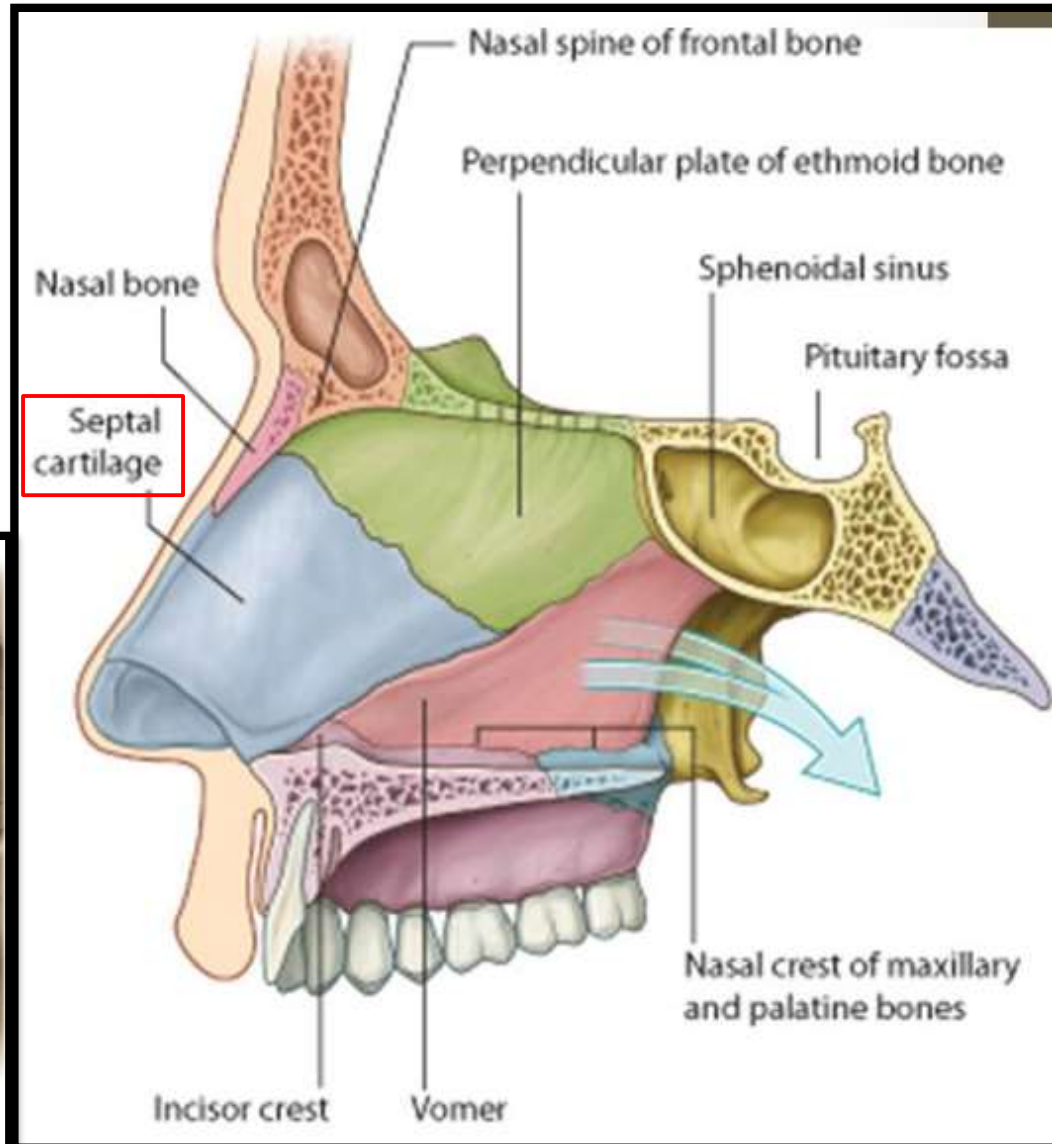
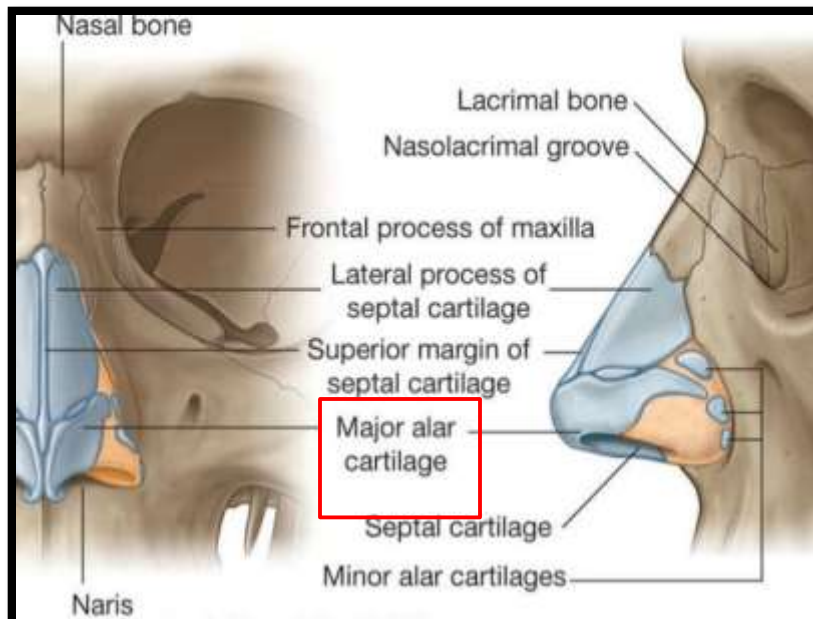
- I. Ethmoid- perpendicular plate
- II. Vomer
- III. Frontal - nasal spine
- IV. Nasal- crest
- V. Sphenoid- crest
- VI. Maxilla- palatine process
- VII. Palatine- horizontal plate



Cartilaginous Part

Framework of Cartilaginous Part-

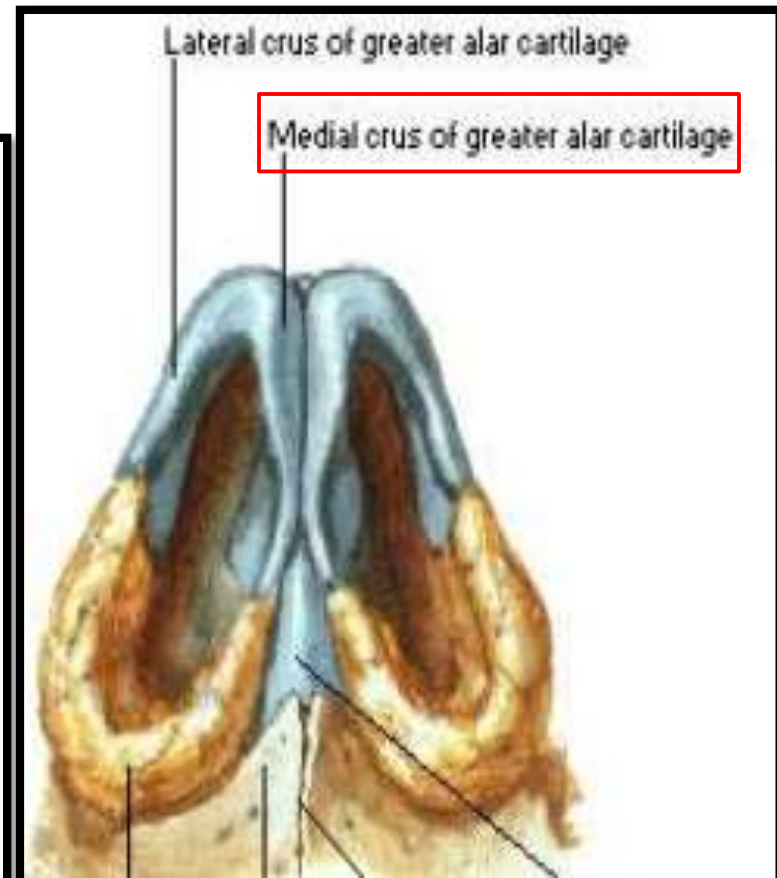
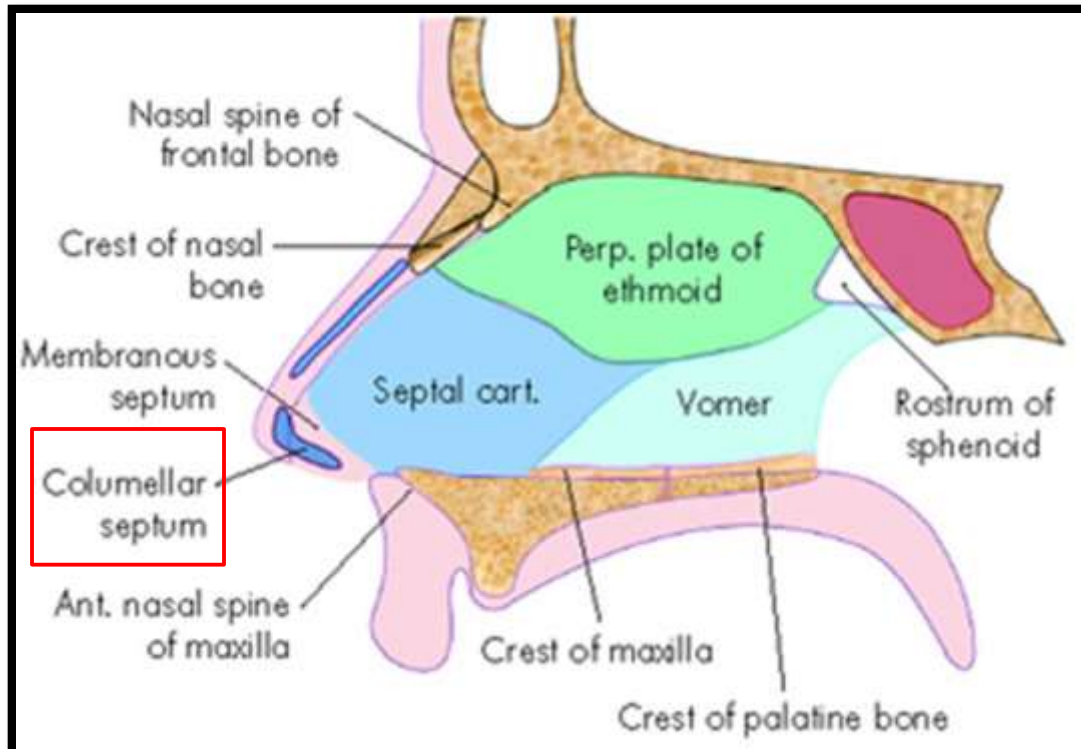
- Septal cartilage
- Medial crura (septal processes) of 2 major alar cartilages.

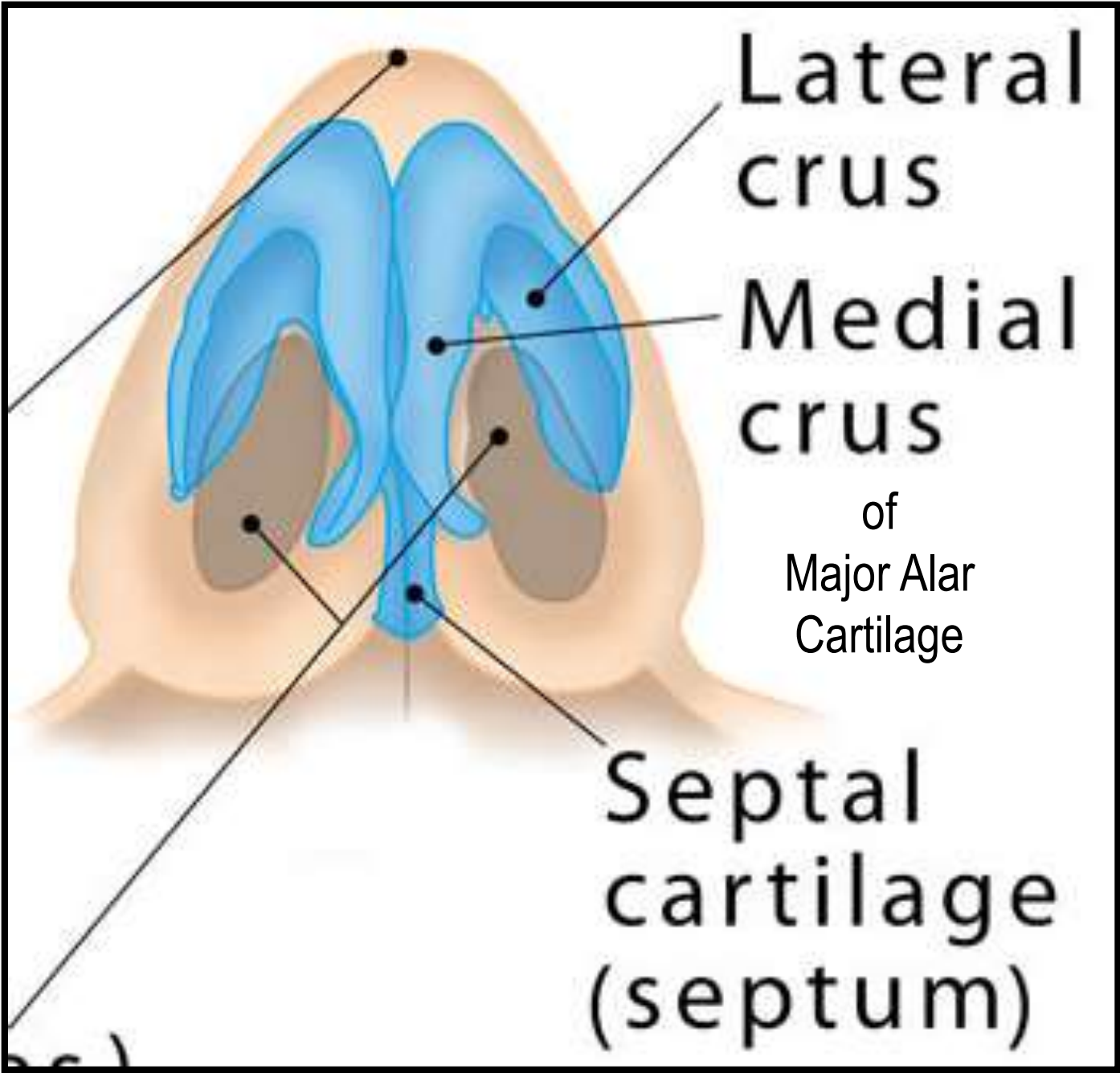


Cartilaginous Part contd...

Columellar Septum-

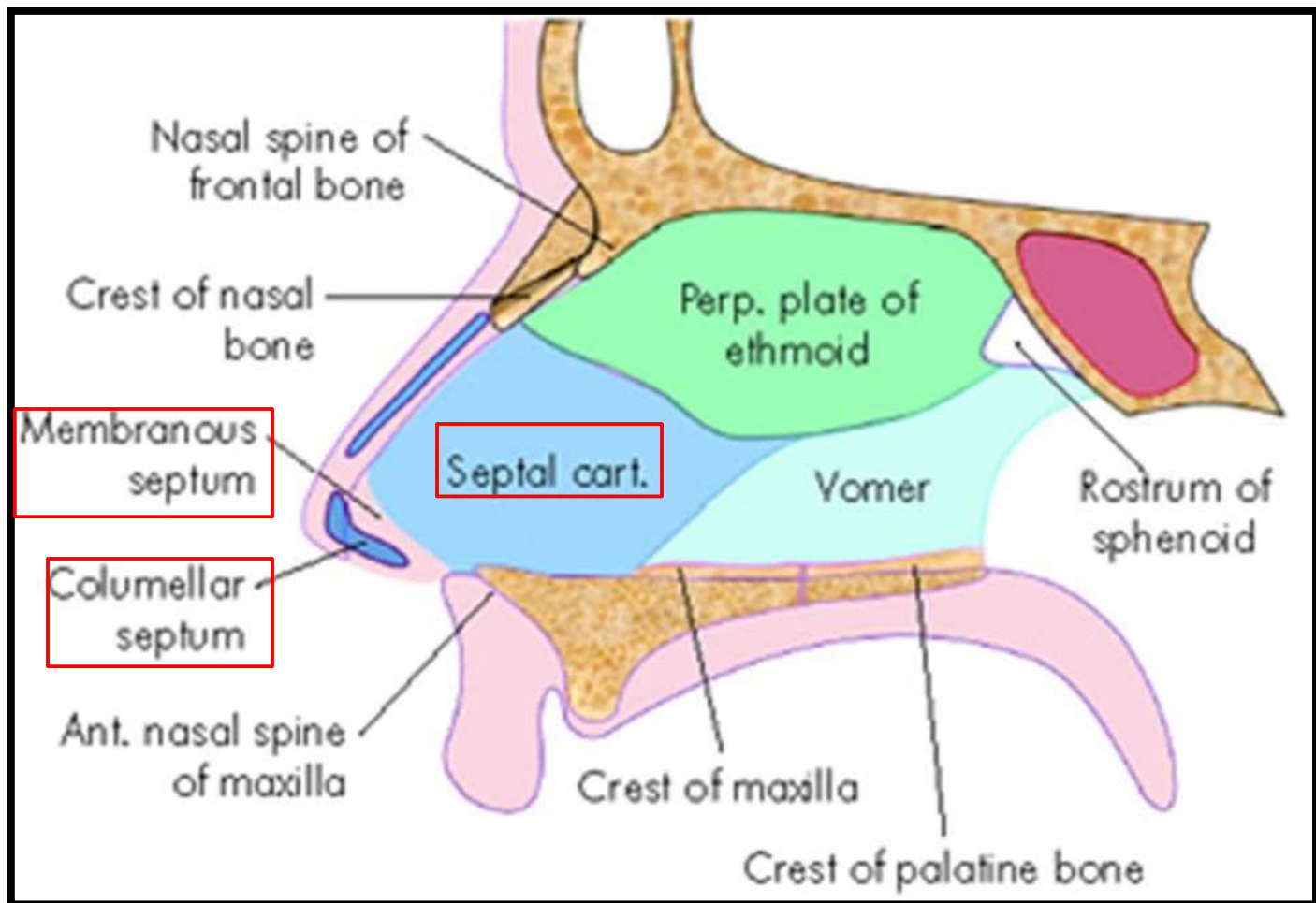
- Medial crura of 2 major alar cartilages are united together in the midline by a fibrous tissue to form columellar septum ([columella](#)).





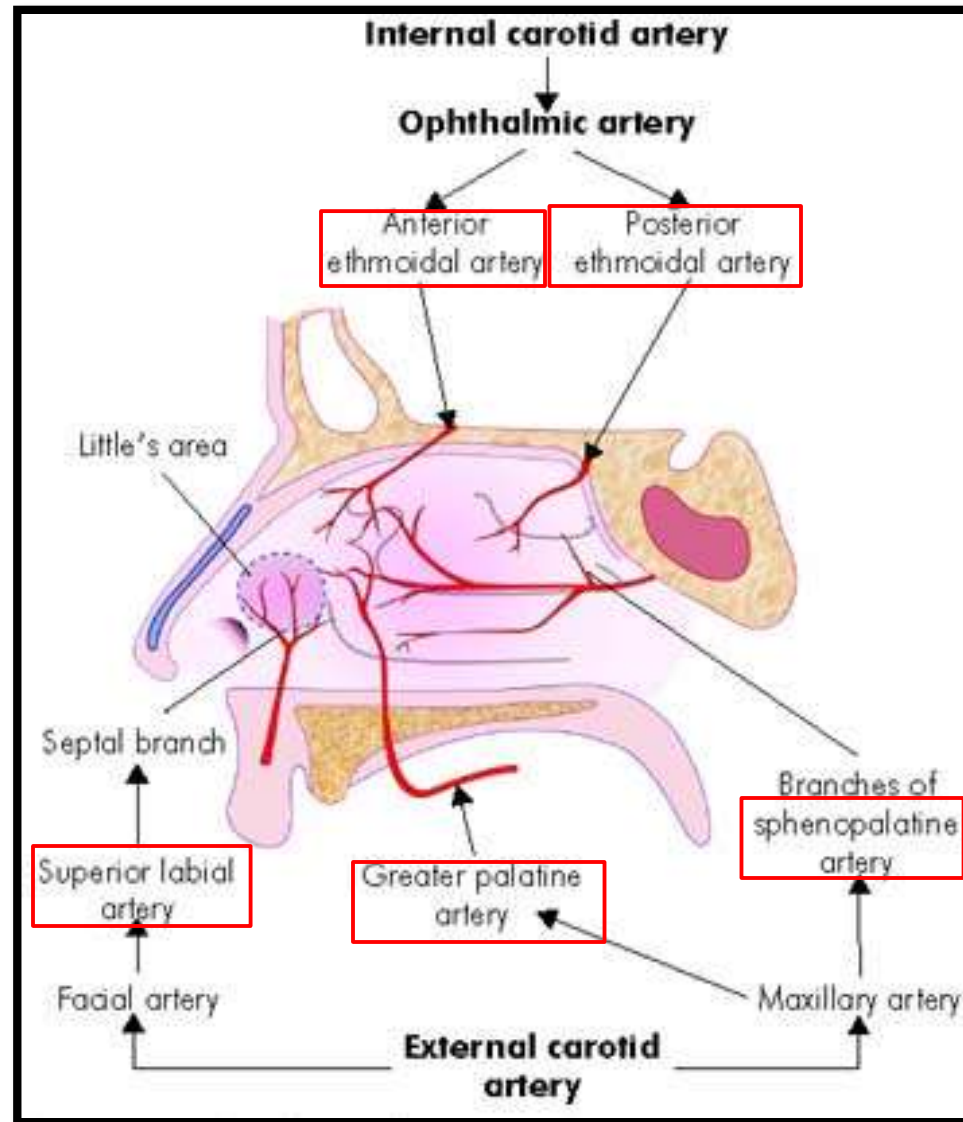
Membranous Part

- Between the columella and caudal border of septal cartilage, a small portion of septum is made up of double layer of skin and is referred as **membranous septum**.
- Both columellar and membranous parts of the septum are freely movable from side to side.



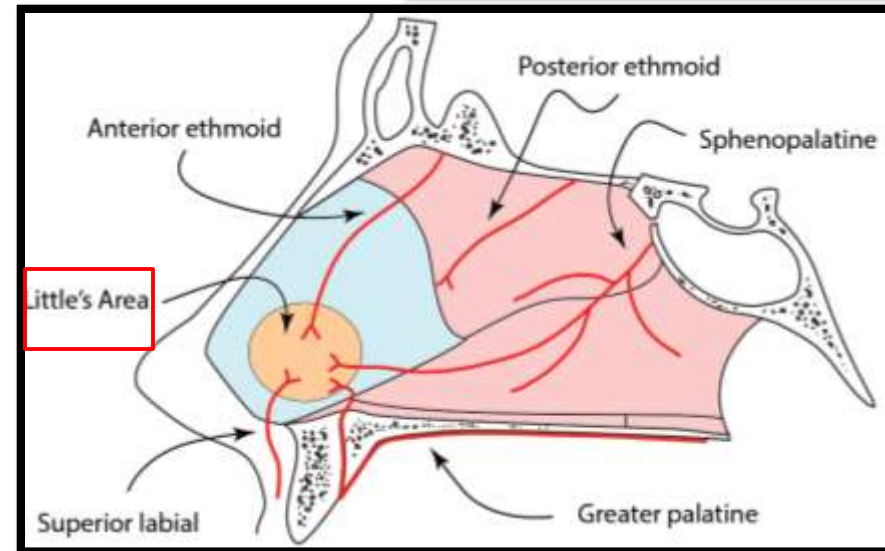
Arterial Supply of Nasal Septum

- Septal b/o **Anterior Ethmoidal artery**
- Septal b/o **Posterior Ethmoidal artery**
- Septal b/o **Sphenopalatine artery**
- Septal b/o **Greater Palatine artery**
- Septal b/o **Superior labial artery**



Little's Area

- ❖ An area in anteroinferior part of nasal septum just above the vestibule.
- ❖ It is highly vascular.
- ❖ In this area, an arterial plexus is formed by the following arteries:
 - Septal b/o Anterior Ethmoidal artery
 - Septal b/o Sphenopalatine artery
 - Septal b/o Greater Palatine artery
 - Septal b/o Superior labial artery.
- ❖ This plexus is known as **Kiesselbach's plexus**.
- ❖ In Little's area, submucous venous plexus is also more marked.



Applied aspect-

- Little's area is the **commonest site of epistaxis** (bleeding through the nasal cavity) in children and young adults usually due to **finger nail trauma** during **pricking of nose**.

Sep.br.
of sup. lab.

Ant. ethmoid a.

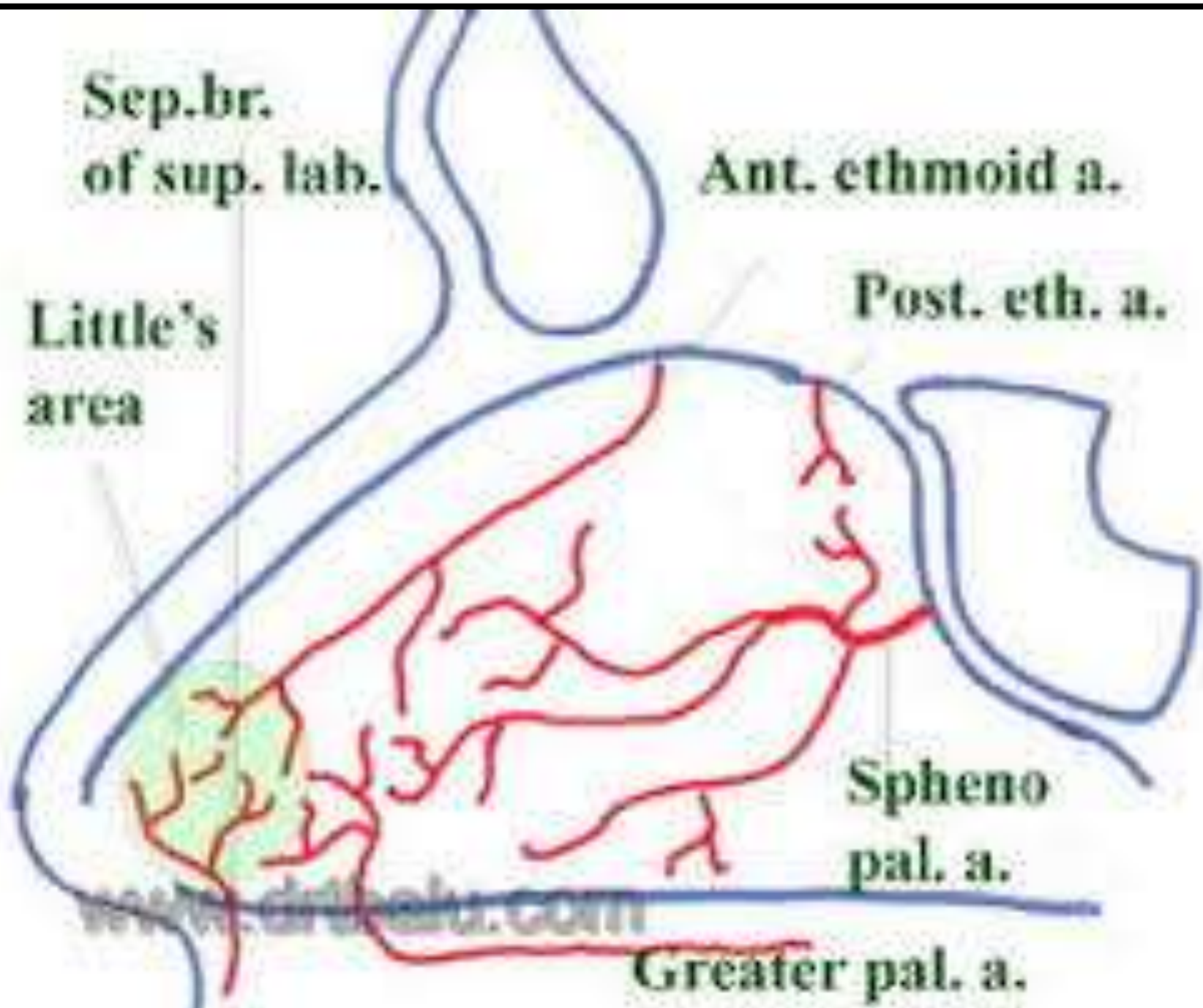
Post. eth. a.

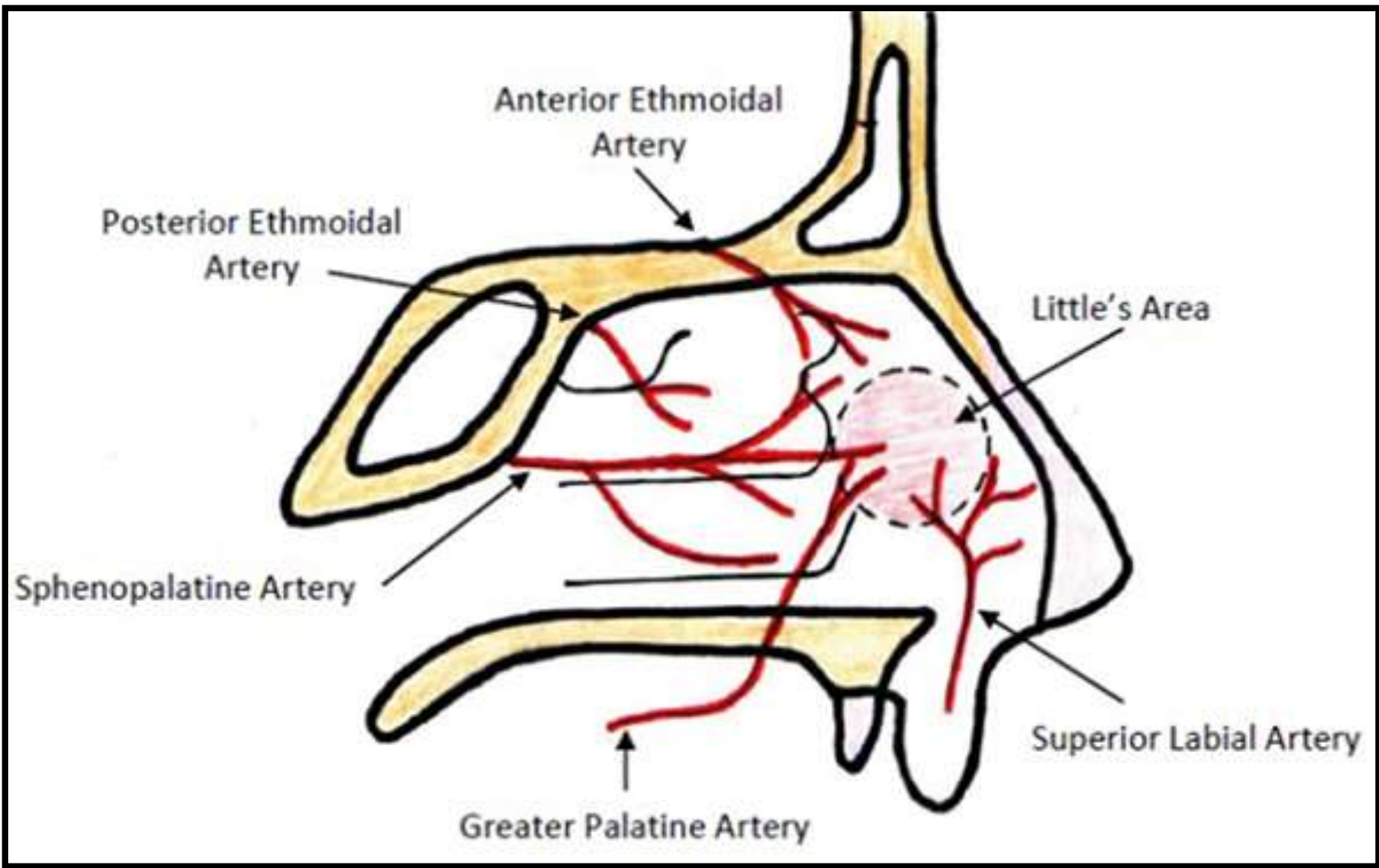
Little's
area

Spheno
pal. a.

Greater pal. a.

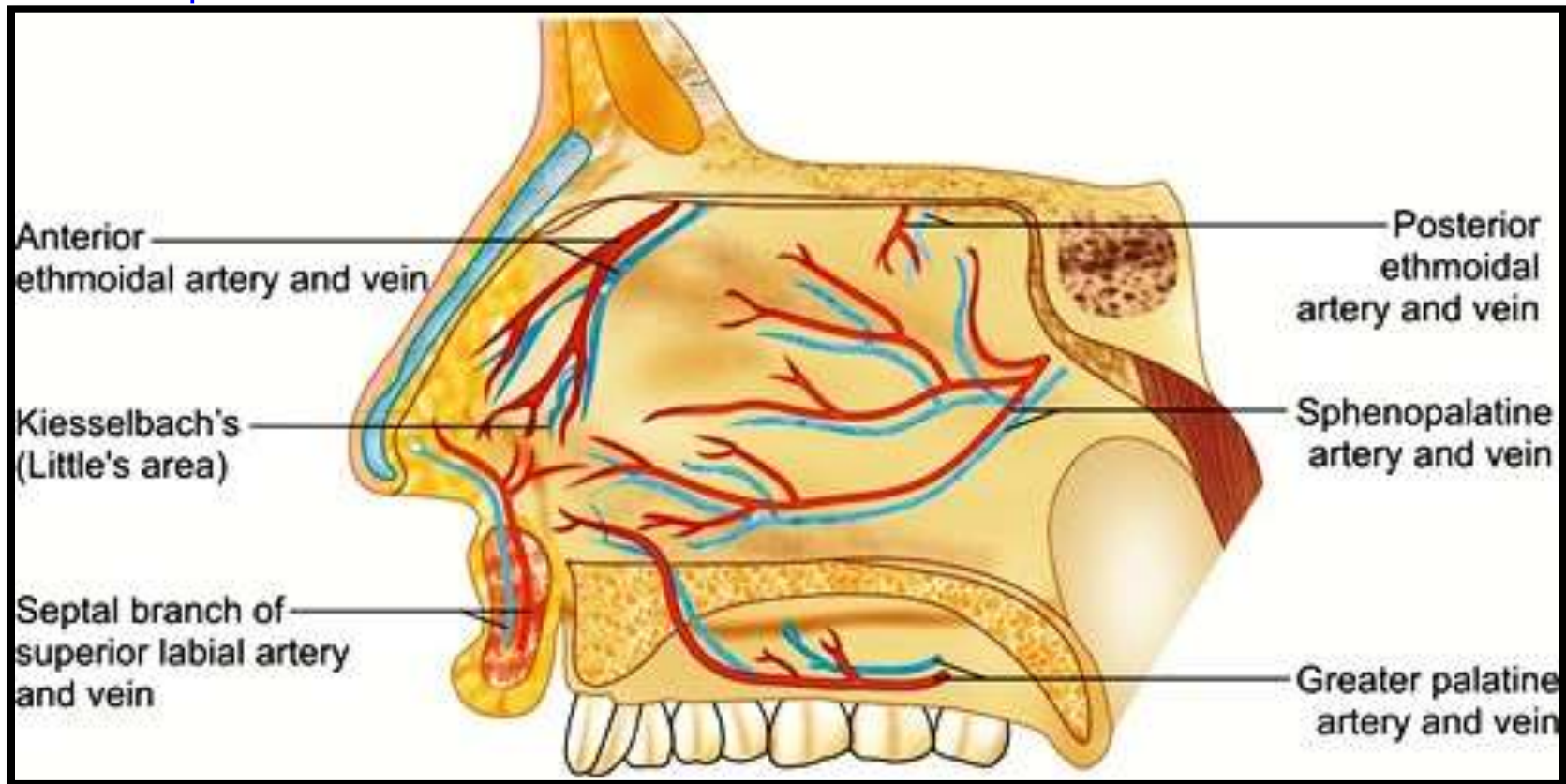
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Venous Drainage of Nasal Septum

- ❖ In nasal septum, veins accompany the arteries.
- ❖ A venous plexus is formed beneath the mucosa.
- ❖ Veins drain into:
 - Facial vein.
 - Pterygoid venous plexus.
 - Pharyngeal venous plexus.



Nerve Supply of Nasal Septum

Anterosuperior Part-

- Internal nasal nerve (a branch of Anterior Ethmoidal Nerve).

Anteroinferior Part-

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

Posterosuperior Part-

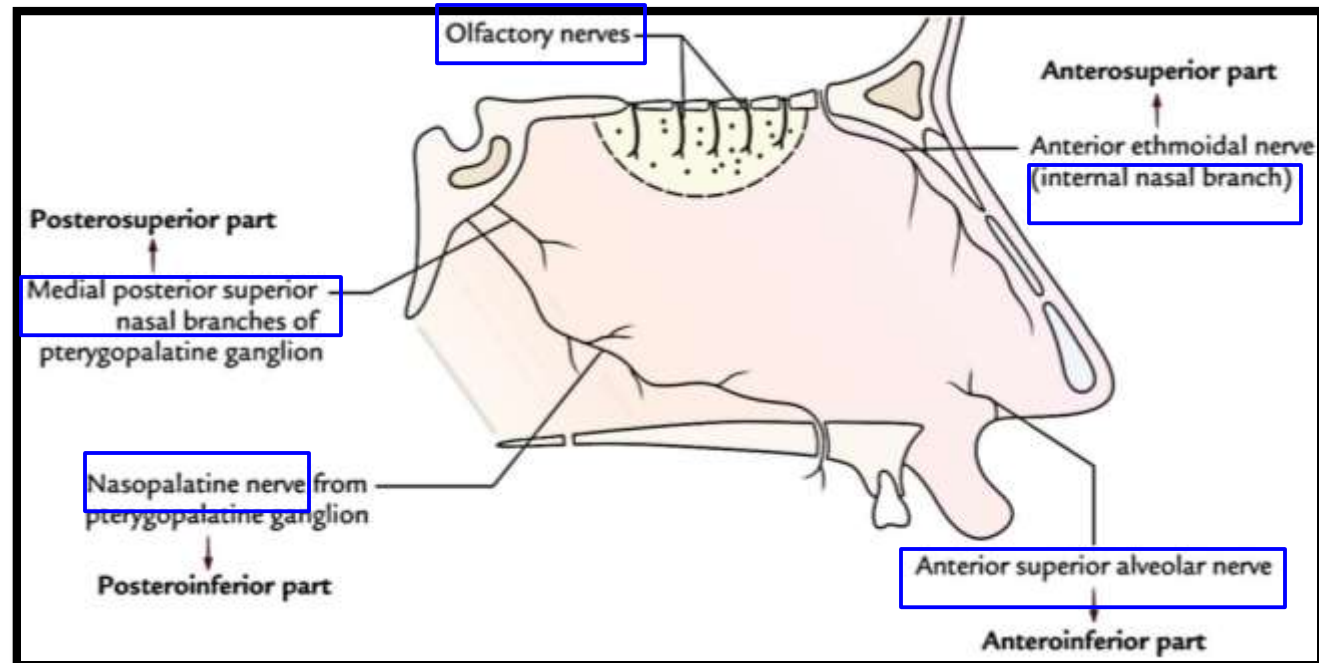
- Medial posterior superior nasal nerves (branches of Pterygopalatine ganglion).

Posteroinferior Part-

- Nasopalatine nerve (a branch of Pterygopalatine ganglion).

Olfactory Part (upper 1/3rd of nasal septum just below cribriform plate)-

- Olfactory Nerves.



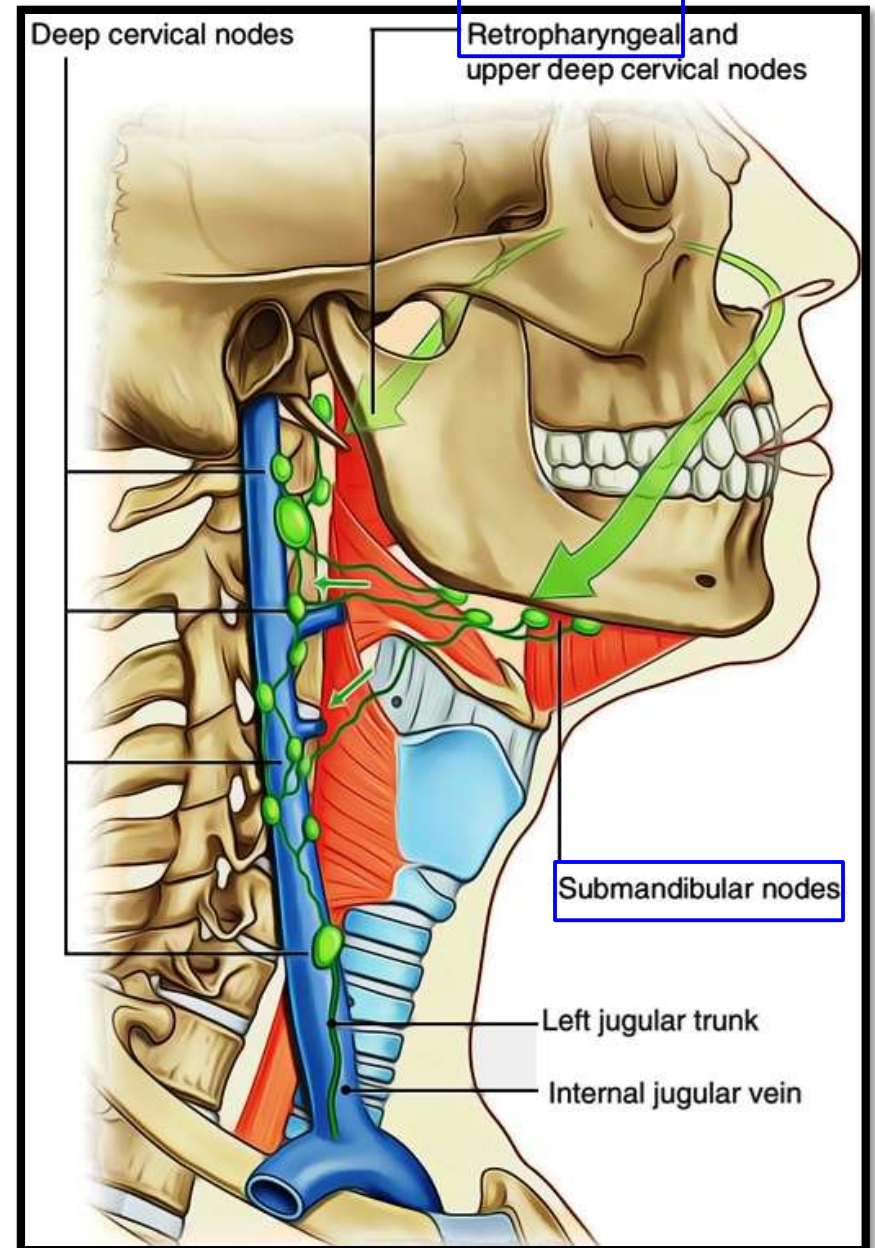
Lymphatic Drainage of Nasal Septum

Anterior 1/2-

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

Posterior 1/2-

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



Applied Aspects

- Nasal Septum is seldom exactly in median plane.
- Usually it bulges to right or left side, **more frequently to the right.**

DNS [Deviated Nasal Septum]-

- An important cause of nasal obstruction.

Sex Predilection-

- Male>Female.

Etiology-

- Trauma.
- Developmental error.

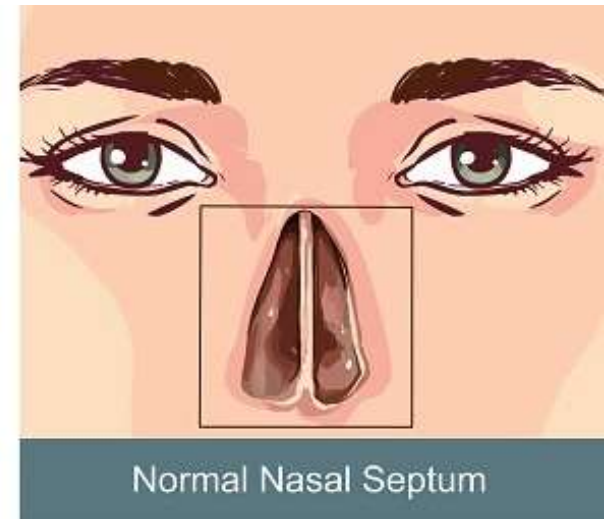
Clinical Features-

- Mechanical nasal obstruction.
- Sinusitis.
- Headache etc.

Treatment-

Surgical correction-

- SMR (Submucosal resection).
- Septoplasty.



Applied Aspects contd...

Supratip depression of External Nose-

- Septal cartilage provides support to dorsum of anterior 2/3rd of nose.
- **Excessive removal** of septal cartilage during submucosal resection can lead to Supratip depression of External Nose.
- **Destruction** of septal cartilage due to disease may result into this deformity.





*Thank
You!*



Your Queries Please!!!