

HANDWRITTEN NOTES

DAMS



EAR, NOSE & THROAT

CRISP, CONCISE, CONCEPTUAL

Integrated Edition





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Phone : 011-4009 4009, 9899664533

<http://www.damsdelhi.com>

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HOW TO MAKE BEST USE OF NOTES?

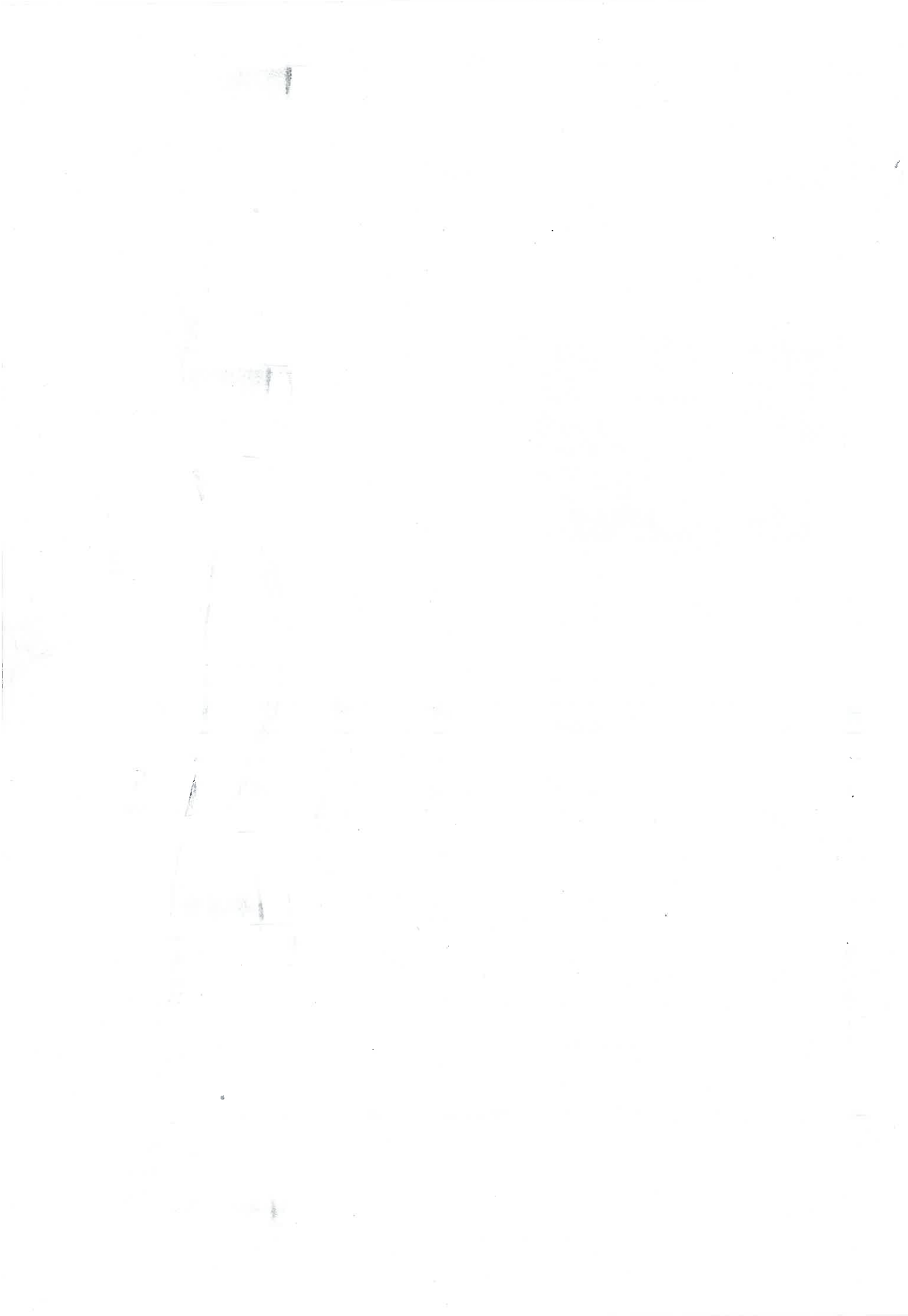
A Message by Mentor Duo Specially for you,



- Read the notes thoroughly, they are absolutely **concise, crisp & conceptual** and hence it is best advised not to add a lot of extra information to them as that will dilute the quality.
- Images have been provided alongside to aid in better understanding and also help you solve image-based questions, these images have been specially picked by the faculty so have a high probability of being asked in exams.
- Notes are handwritten in a way to help make them easier to retain, a lot of tables, graphs and algorithms have been used to simplify the learning.
- While reading notes try and use the **CFAQ technique** —
 - A. Use the C to denote concept part in the notes and ensure you are clear with this part in the first go if not then it's advisable to listen to this part of the video from your course.
 - B. Use the F To denotes facts in your notes, it is okay if you can't remember them in first go but will need repeat reading. But these facts are important for exams as they could be integrated to clinical questions.
 - C. Use A to denote applied parts, this is how concepts and facts are asked indirectly in exams. This will also help you develop MCQ solving skill.
 - D. Use Q to denote areas where faculty has said it's a direct question or a PYQ or a potential question.
- This technique will help you summarize your notes In way that your second reading will become easy and faster.
- Active space has been provided with these notes to make your own annotations alongside and this will help you maintain one single notebook for one subject.
- Try and solve MCQs with every topic from DQB. Your goal should be to start with at least 30 MCQs every day and then increase to at least 50 MCQs every day. Also, when you do a topic wrong write it alongside the notes that this topic needs to be read again but mark only the specific area that you have done wrong not the whole topic.
- After the topic is covered then in the active space try and summarize the topic in the form of mind map. This will help in active recall and make your revision easier.

Best Wishes & Happy Learning!!!!



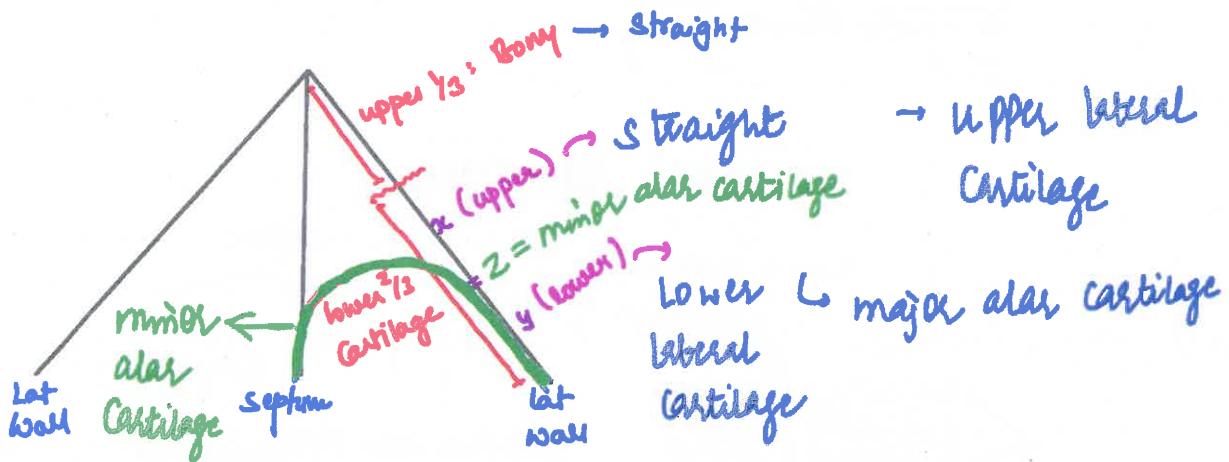
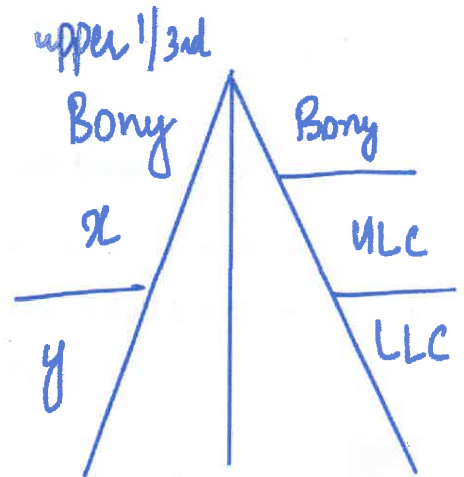
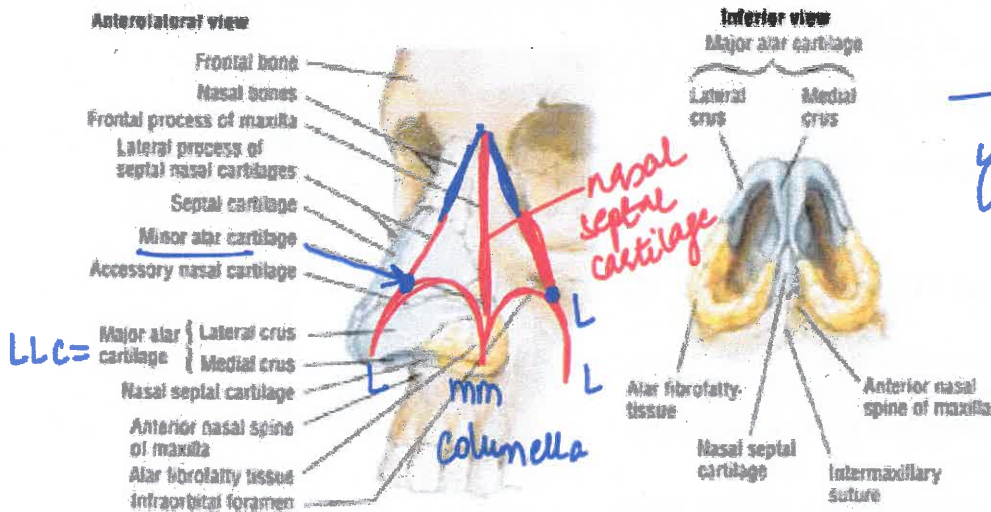


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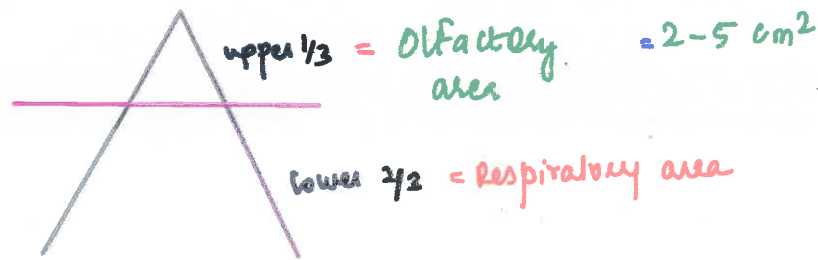
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RHINOLOGY

ANATOMY OF NOSE



nose: Formed by 4 pair of cartilages.



→ pH of nasal cavity = 7

→ Humidification = ① L

→ Nasal cycle = 2.5-4 hrs (2-7 hrs)

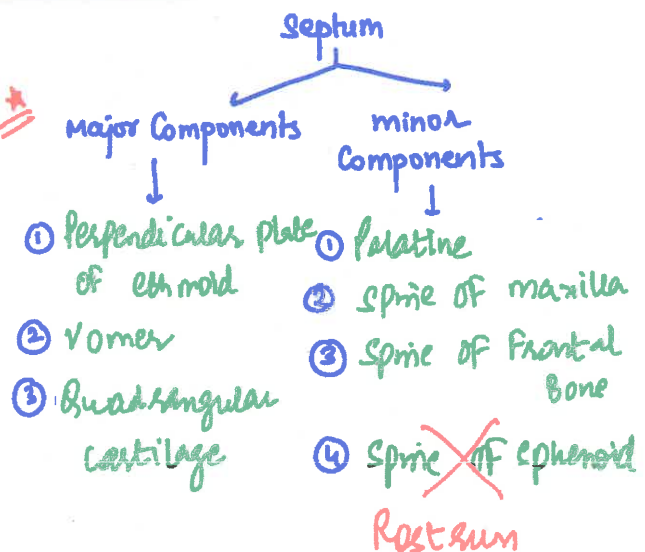
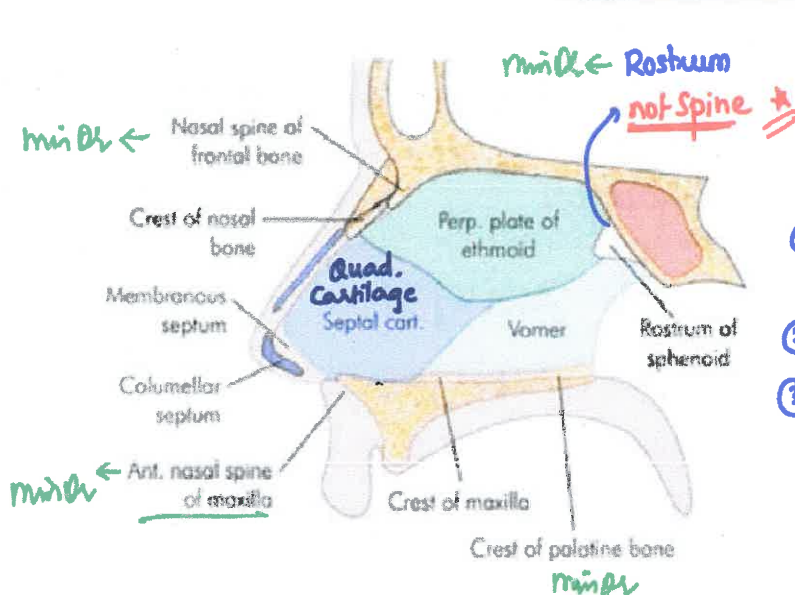
↳ alternate Congestion - decongestion of the nostrils.

Blood Supply of the External Nose

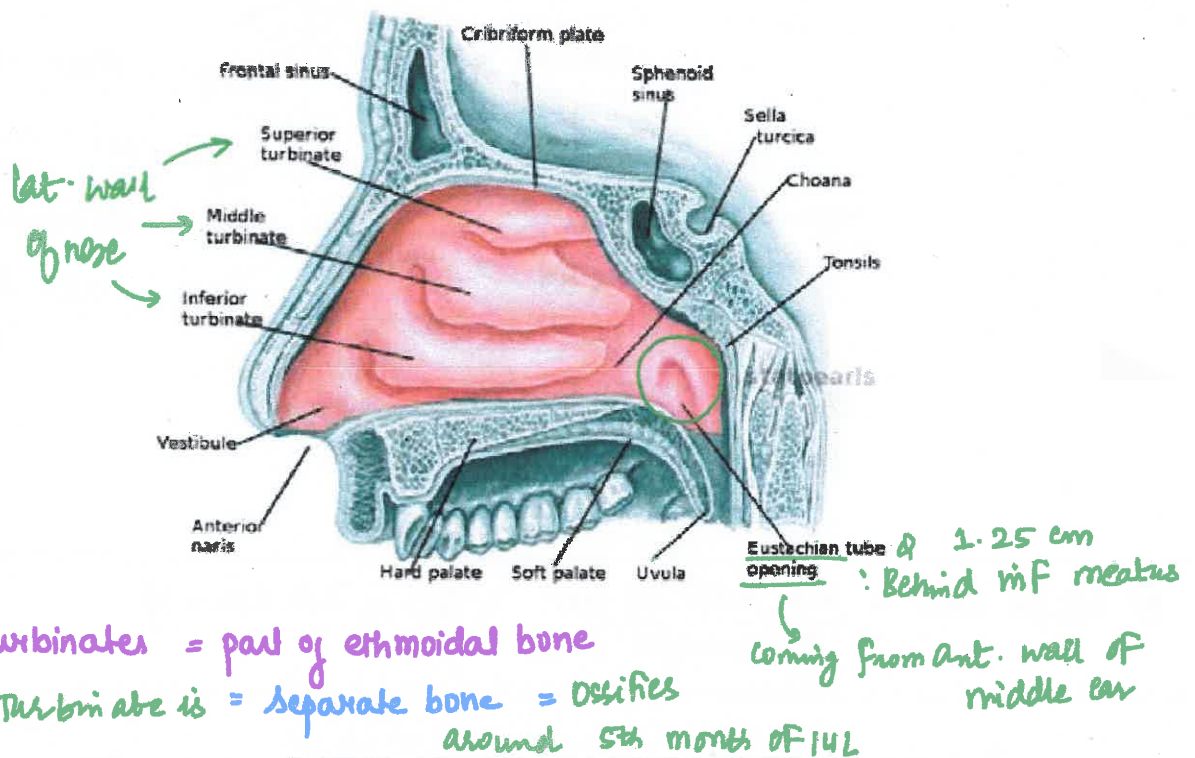
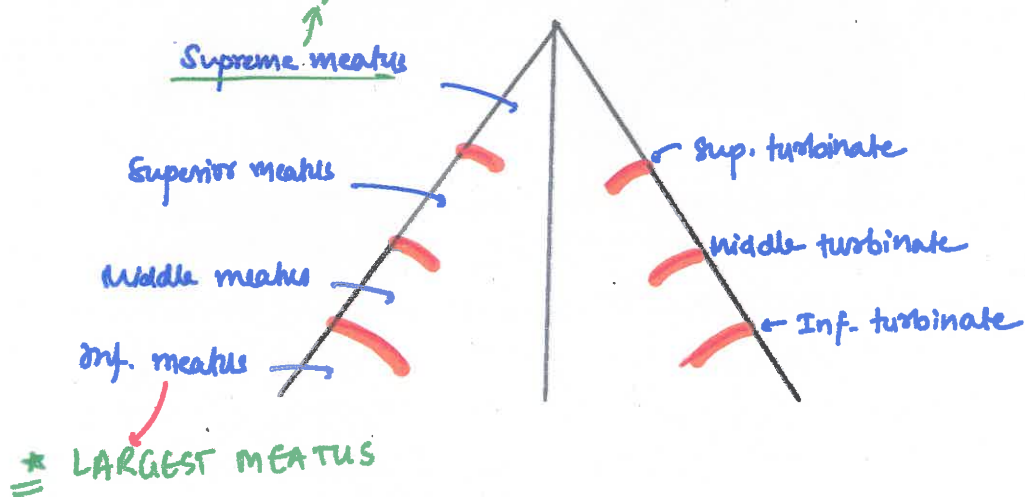
- The skin of the external nose is supplied by branches of the ophthalmic and the maxillary arteries.
- The skin of the ala and the lower part of the septum are supplied by branches from the facial artery.



NASAL SEPTUM



klas: Spheno-Ethmoidal Recess



→ All turbinates = part of ethmoidal bone

Inf. Turbinate is = separate bone = ossifies around 5th month of 14L

PARA NASAL SINUS

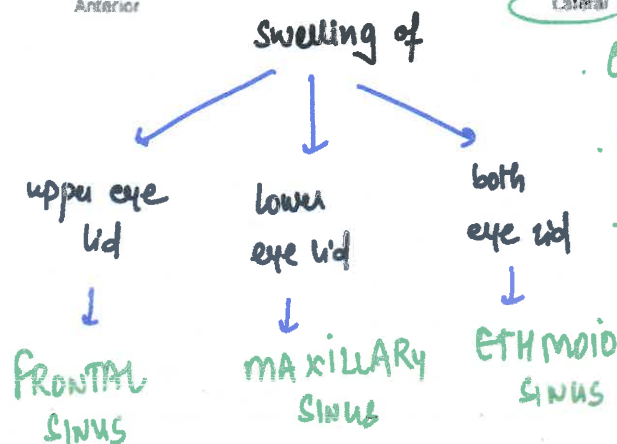
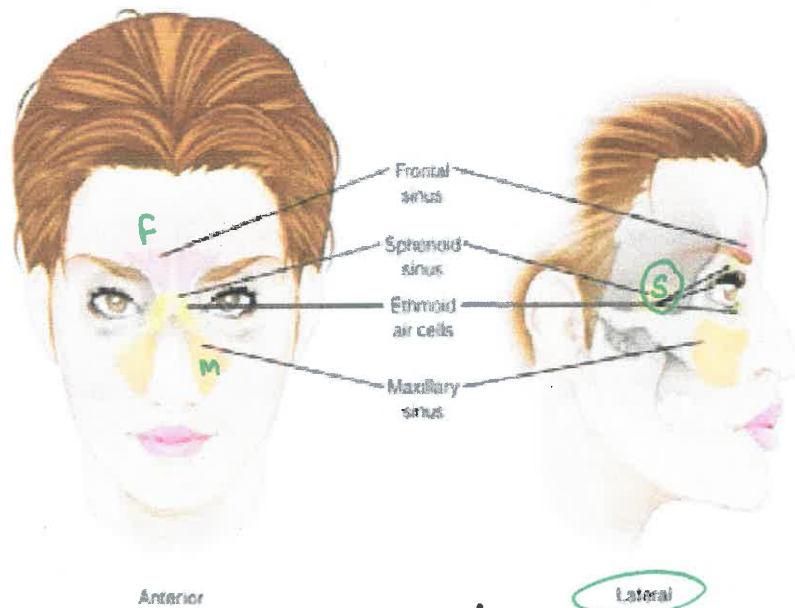
⊛ Nose is midline structure

↓

Any cavities having air, surrounding it are c/o Para nasal sinus

[PNS = Air cell = Facial Bone:]
makes lighter

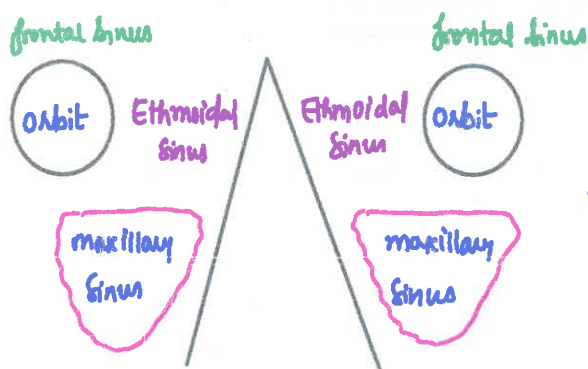
→ Sphenoid = most Postero-superior sinus



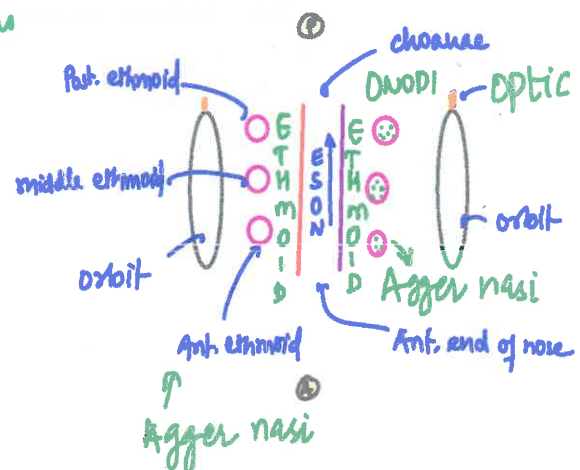
ONODI = most Post.
 Agger nasi = most Ant.
 Bulla ethmoidalis: LARGEST
 Nerve cells: FLOOR of ETHMOID

③ **AGGER NASI** = Ant. most air cell = Part of Ant. Ethmoid
of Ethmoidal sinus

★ Supero-inferior view.



★ Antero-posterior view



→ PNS :

1) Maxillary → largest PNS

2) Frontal

3) Ant. ethmoidal

4) Middle ethmoidal

5) Post. ethmoidal

6) sphenoid

Capacity = 15ml

Ethmoid sinus = maximum functioning PNS

↓ has

max. air cells

↓

no. of air cells = 15

↳ 5 in ant. ethmoidal

5 in middle ethmoidal

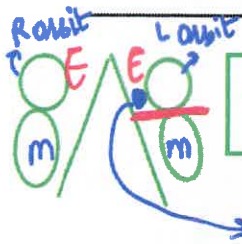
5 in post. ethmoidal

→ also 4 sphenoidal air cells

→ ONODI CELL = most posterior = part of posterior ethmoid

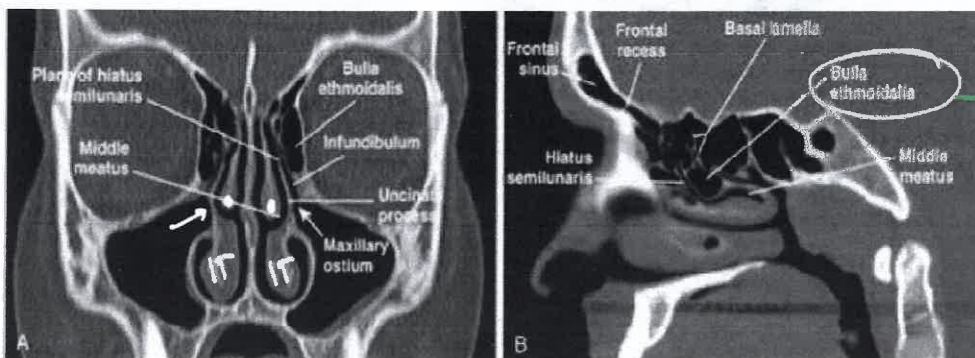
↳ very close to optic nerve

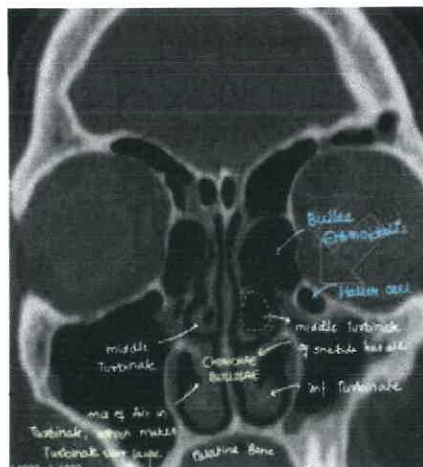
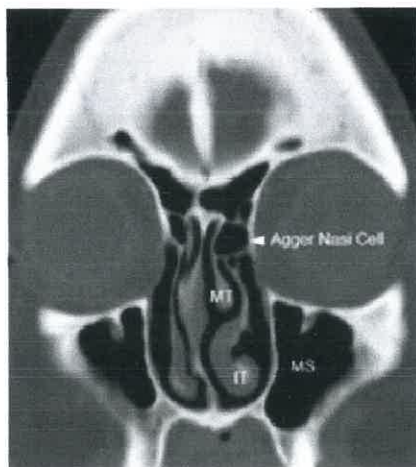
→ BULLAE ETHMOIDALIS = largest air cell = part of Ant. ETHMOID



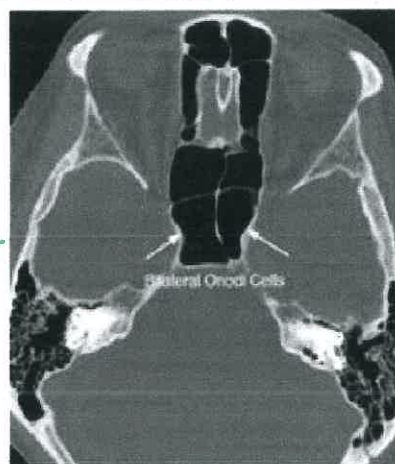
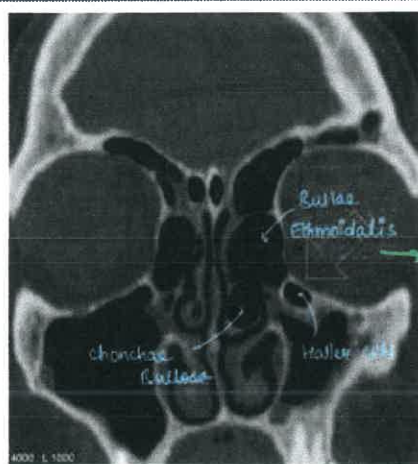
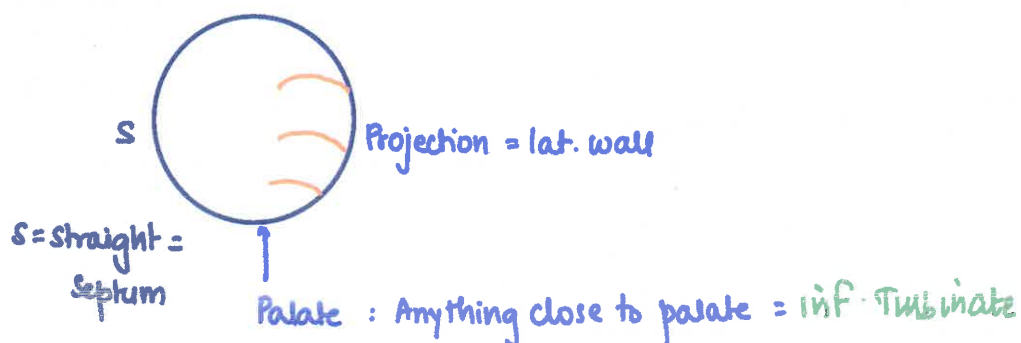
Floor (Ant. Ethmoid) + Floor (orbit) = Roof of maxillary sinus

WALLER





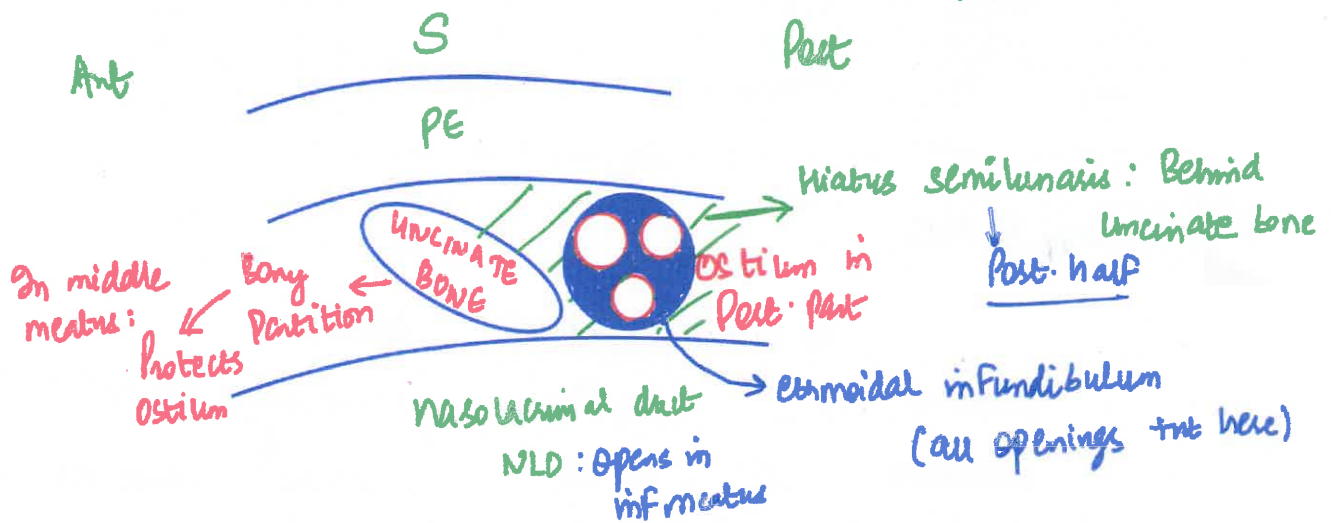
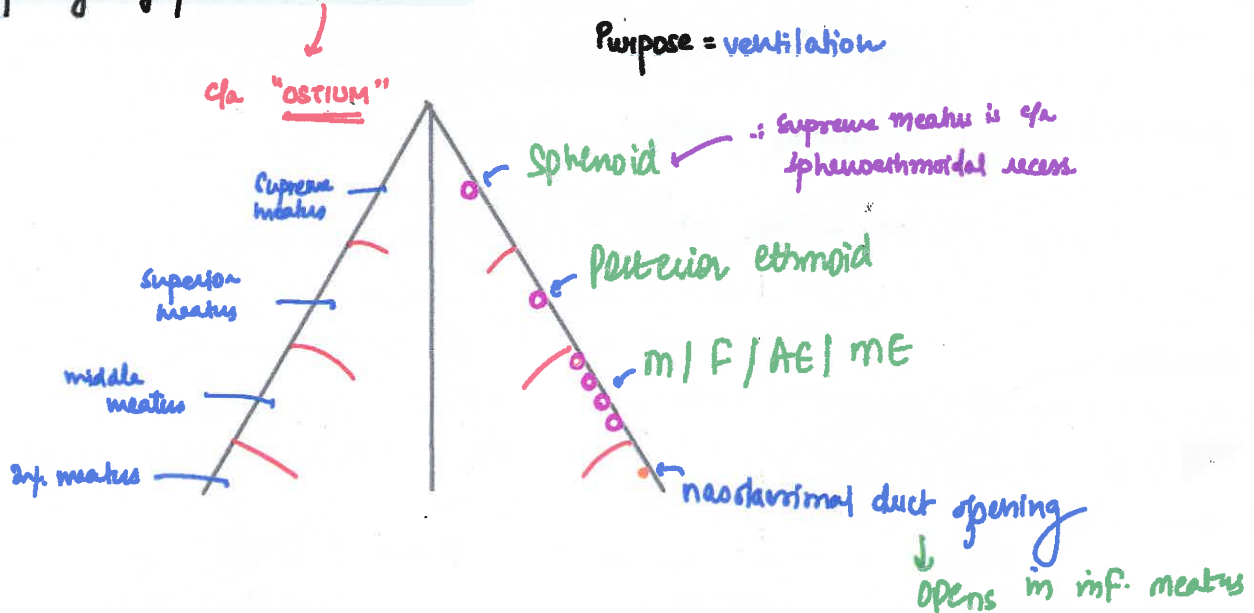
→ Concha bullosa = presence of air in middle turbinate = ~~MC~~ Congenital Anomaly
 ↳ seen in 70% of population (MC) Variant



LARGEST air cell

Concha Bullosa → +ve of air in middle Turbinate

* openings of para-nasal sinuses :-



→ In FESS: we break uncinate bone to go behind.

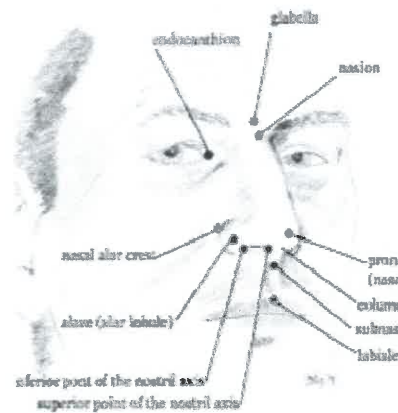
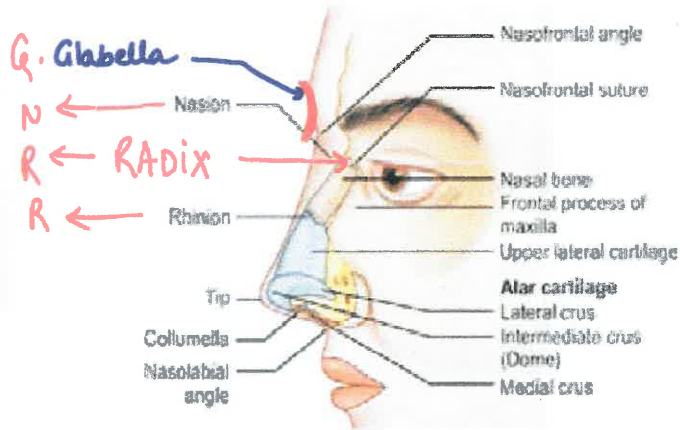
→ area where max. ostia open: osteo meatal complex

→ Most prominent part of frontal bone = **GLABELLA**

→ upper edge of nose = Root of the nose = **RADIX**

↳ Glabella & Radix → Nasofrontal junction = **Nasion** = 135°

→ Bony cartilage junctⁿ = **RHINION**



© Embryology of PNS

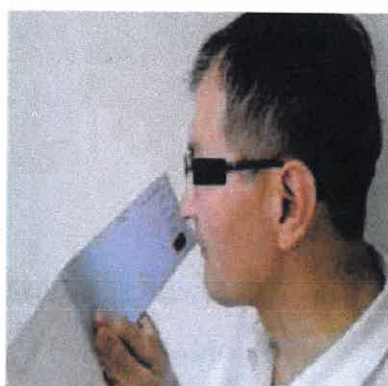
	At Birth	X-Ray	Adult Size
Maxillary	✓	4m	MAXILLARY, Ethmoid, Frontal ↓ → achieve adult size at Puberty
Ethmoidal	✓	1yr	
frontal	4 yr	6yr	
Sphenoid	2 yr	4yr	25 yr → last sinus to achieve adult size
	develop @ 4 yrs		
	develop @ 2 yrs		

Age of development = CT appearance >>>> x-ray appearance.
 1-2 yrs earlier

on x-ray sinus appear when it contains significant air.

Smell identification Tests:

- **UPSIT** = university of pennsylvania smell Identification test



"Scratch & Sniff" books, each contains 10 odorants.

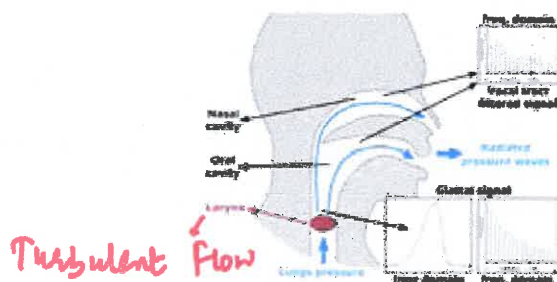
SIT → UPSIT
Smell identification test → CCSIT: cross culture smell identification test

Kallmann's syndrome
Parkinson's
and Alzheimer's
Have Anosmia

Ammonia: IRRITANT
↳ Perception via 5th N.

- **CC-SIT** Cross-Cultural Smell Identification test

↳ variant of UPSIT
Comprises of 12 items.

NOSE & VOICE

obstruction in nose = $\downarrow$ in nasal Component / Hyponasality = Rhinolalia Clausa

Palate insufficiency = $\uparrow\uparrow$ nasal Component = Rhinolalia Aperta



Adduction



Turbulence



Voice



oral cavity
Component



✓ Palate insufficiency/
incomplete palate



Oral Component (↓)

Nasal Component (↑)



✓a RHINOLALIA APERTA

Nasal
Component



if nasal Component (↓)

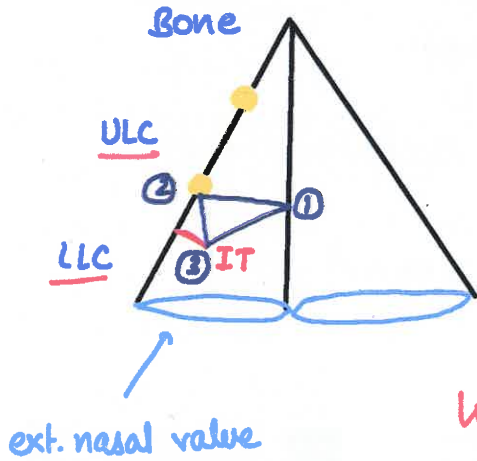


is 4a RHINOLALIA CLAUSA

{ concha bullosa
DNS
Malignancy
Edema
Infection }

• Internal nasal valve

= limen nasi : narrowest part of nostril



Boundaries {
 ① Septum
 ② Junction → Upper lab. C
 ③ inf. Turbinate → Lower lab. C

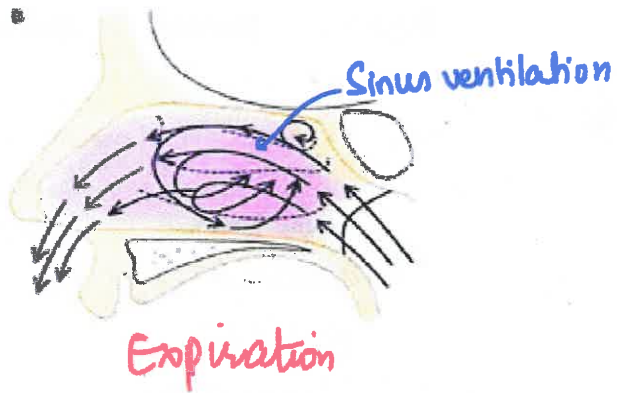
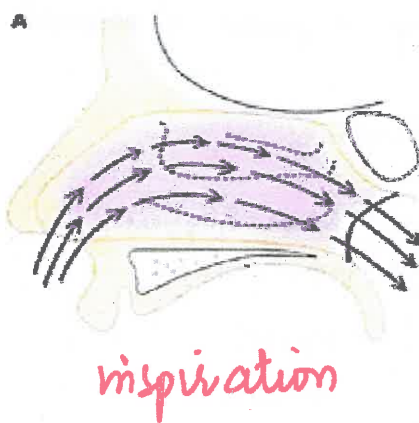
limen nasi (valve) → ↑ turbulency of nasal flow during expiration.

Airflow is linear during inspiration (Q)

Airflow is turbulent during Expiration limen nasi convert it into linear.

Turbulence ✓

∴ Sinus ventilation occurs during expiration.
 (due to turbulent flow)



✓ Golden Rule of ENT (V > B > F)

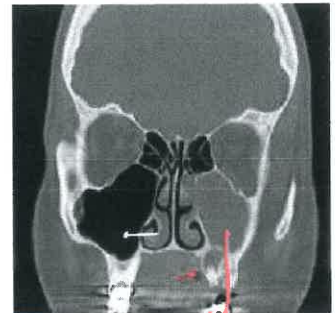
in col = A-niger

→ 1st investigation = X Ray

→ Radiological investigation = HRCT

→ $IOU = R \times OC = \text{Endoscopy}$

→ DIAGNOSTIC: for inv
ENDOSCOPY → for Rx: FESS



maxillary sinusitis

ADULT : maxillary > frontal > ethmoid > sphenoid

Pituitary: Ethmoid > maxillary > frontal > sphenoid

$$\Delta s_{12} = 2 \text{ major} + 1 \text{ minor}$$

Major Symptoms	Minor Symptoms
ANOSMIA BLOCKAGE CONGESTION (*) DISCHARGE: HALLMARK FACIAL PAIN FEVER	HALLITOSIS FEVER PAIN Except Facial Pain: (major)

Fever: major in Acute sinusitis
Symptom (<1 month)

Fever: minor in: chronic sinusitis (>3 months)

RHINITIS = watery Discharge→ **Hypertrophic Rhinitis** :-

- m/c : inferior Turbinate
- Hallmark : Mulberry like mucosa
- Rxoc : KTP Laser (Potassium, Titanium, Phosphate)

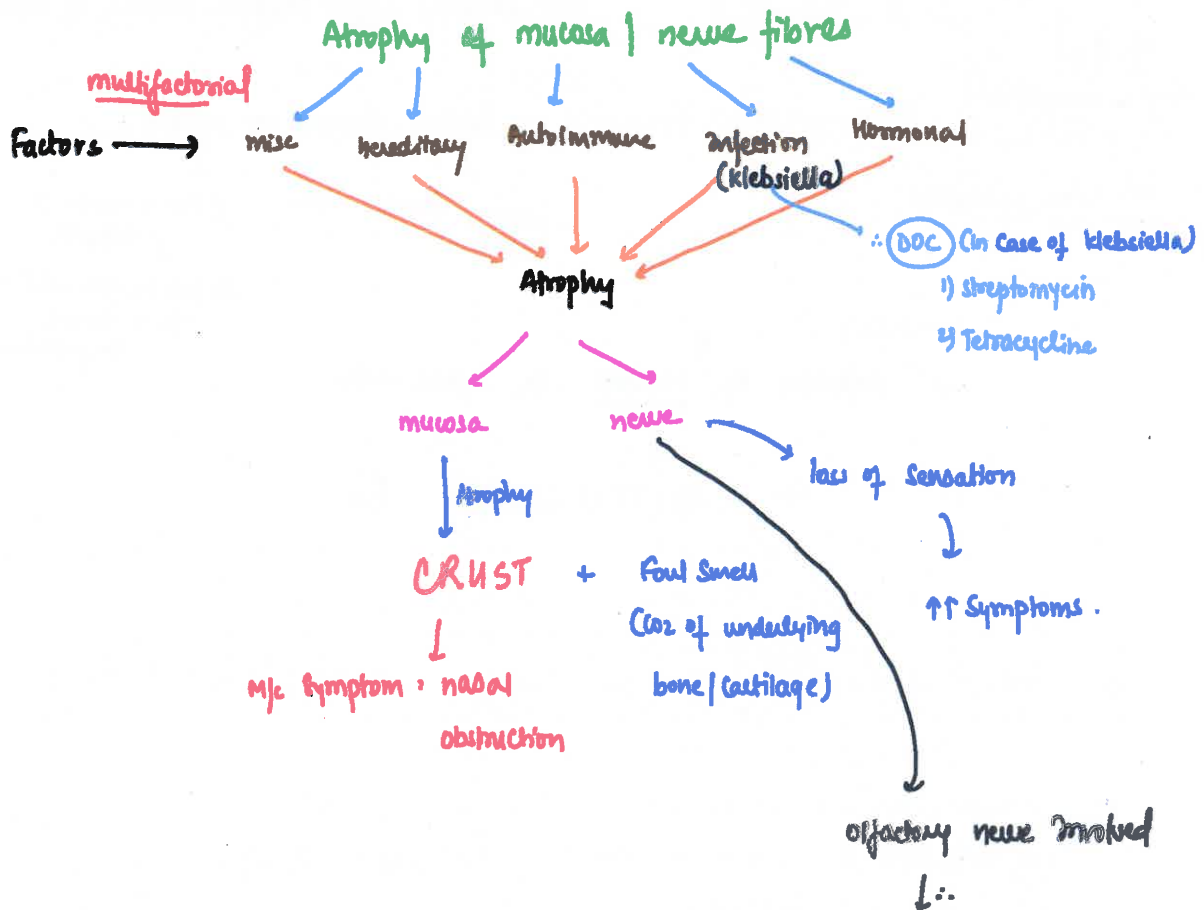
ENT → CO₂ laser → Can't use on nose
(cuz in ENT)



as it has high risk of **FIBROSIS**

→ **Atrophic Rhinitis** :- Roomy nasal cavity

Misnomer, as there is no water discharge.



MERCIFUL ANOSMIA

(As pt. can't smell his own foul smell)

Rx: Solution for cleaning:



↓
Alkaline solution

↓
Pt. not responding

↓
(Si)

- 1) YOUNG'S : For 6 months $\xrightarrow{\text{we do}}$ Complete closure of nostril
- Pt. feel very uncomfortable
↓
∴ not done nowadays.
- 2) MODIFIED YOUNG'S : Partial closure of nostril.

↓
3mm opening left

(for 9 months)
↓ (approx)

It can be extended more
q/c to disease progression

• nowadays:

✓ injection of TEFLON on lateral wall

↓
ya LAUTENSIAGER Sx

Q **ATROPHIC RHINITIS** = merciful Anemia = Roomy nasal cavity

Q unilateral foul smelling nasal discharge = **FOREIGN BODY**