

### SPHENOID SINUS

- ♥ A LARGE CAVITY SITUATED IN THE BODY OF THE SPHENOID BONE
  - ♥ DIVIDED INTO RIGHT & LEFT HALVES by a complete bony septum usually bent to one side -> EACH HALF HAS BEEN REFERRED TO AS THE SPHENOID SINUS
  - ♥ **Formation of the sinus begins in the 5<sup>th</sup> month of intrauterine life as a recess of the nasal cavity but does not extend into the body of the sphenoid until the 7<sup>th</sup> year.**
  - ♥ Both sinuses have important relationships ABOVE, BELOW, IN FRONT & LATERALLY.
- ABOVE THE SPHENOID SINUS
- the pituitary body & the optic nerve are found -> the nerve @ times forming a ridge inside the sinus.
  - THIS CLOSE RELATIONSHIP CAUSES THE OPTIC NERVE TO BE INVOLVED SPHENOID -> rise to sudden loss of vision (RETROBULBAR NEURITIS)

#### BELOW

- bounded below by the nose

#### IN FRONT

- wall of the sinus separates it from the ethmoid air cells

#### LATERALLY

- cavernous sinuses containing the ICA & THE 6<sup>TH</sup> NERVE ARE LOCATED.

- ♥ MAYBE INVOLVED IN DISEASE OF THE SPHENOID SINUS, WHICH IS CONSIDERED A "DANGER SPOT" IN THE SKULL BECAUSE OF THESE IMPORTANT SURROUNDINGS:

- 1) ABDUCENS NERVE
- 2) TROCHLEAR NERVE
- 3) OCULOMOTOR NERVES
- 4) OPHTHALMIC NERVE
- 5) MAXILLARY DIVISION OF TRIGEMINAL NERVE

- ♥ Each half of the sinus has an orifice of its own that opens into the highest meatus -> THE SPHENOETHMOID RECESS

#### ♥ SURGERY

- The sphenoid sinuses maybe drained by an EXTERNAL ROUTE as described in operations involving the frontal sinuses or **through a nasal route**
- **NASAL ROUTE**
  - ✓ the posterior half of the middle turbinate is removed

- ✓ a small hook or curette is introduced upon the anterior superior wall of the nasal cavity
- ✓ point of this curette is carried downward & then forward & outward toward the eye of the involved side -> firmly pressed into the ethmoid labyrinth & then drawn forward & downward
- ✓ posterior wall of the labyrinth is entirely broken down
- ✓ sphenoid sinus is located, entered & its anterior wall removed.

### ETHMOID SINUSES (CELLS)

- ♥ are from 8-10 very thin walled intercommunicating cavities occupying the greater part of the ethmoid labyrinth and known as the **ETHMOID SINUSES**.

- ♥ BOUNDARIES OF THESE SINUSES ARE COMPLETED BY THE:

- 1) FRONTAL
- 2) PALATINE
- 3) SPHENOID BONES
- 4) SUPERIOR MAXILLA

- ♥ HAVE BEEN DIVIDED ARBITRARILY INTO 3 SETS:

- 1) ANTERIOR ETHMOID SINUSES
- 2) MIDDLE ETHMOID SINUSES
- 3) POSTERIOR SINUSES

#### ANTERIOR ETHMOID SINUSES

- open into the middle meatus on the floor of the hiatus semilunaris

#### MIDDLE ETHMOID SINUSES

- open into the middle meatus on the surface of the bulla ethmoidalis

#### POSTERIOR SINUSES

- into the superior meatus

- ♥ **Above the ethmoid sinuses** are the MENINGES & THE FRONTAL CONVOLUTIONS IN THE ANTERIOR CRANIAL FOSSA

- ♥ **IN FRONT** is the frontal sinus

- ♥ **BELOW** IS THE SPHENOID

- ♥ **BELOW** is the nose

- ♥ **LATERALLY**, THE ORBIT

- ♥ The ethmoid cells in each labyrinth may vary from 4 large cells to 17 small ones, the average number being 9.

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#### ❖ Soft Tissues:

- Skin plays a critical role in the appearance of the nose. Closely adherent to the underlying alar cartilages but loosely attached and mobile over the upper lateral cartilages and nasal bones.
- Of particular importance is the quality of skin of the nasal tip and lobule.
  - Normally, the tip of the skin contains many sebaceous glands which decrease in number over the lateral cartilages. Skin can either be thick or thin; or may be padded with considerable layer of subcutaneous fat. Increase sebaceous glands and SQ fat → skin unpliant.

#### ❖ Nasal Body Framework:

- Framework of pyramidal external structure of the nose is formed by the paired nasal bones which project from the nasal process of frontal bone superiorly and nasal (frontal) processes of maxilla laterally.

#### NOSE (Dr. Cruz)

- Paired nasal bones rarely symmetrical; quadrangular in shape; thicker above than below.
- Septum serves as the central support for the nasal bone at the midline. The vertical (perpendicular) plate of the ethmoid is the osseous support of the septum, ending at its junction with the septal cartilage at the terminal point of the inferior portion of nasal bone.
- The superior suture line of the nasal bone lies at its junction at the hard and thick bone of the globella. The depression of the profile here is known as **nasofrontal angle** or **nasion**.
- Combination of the joined nasal bones and frontal processes of maxilla → pyriform aperture in the anterior aspect of the skull.
- Posterolateral border of the frontal process of the maxilla with the corresponding groove along lacrimal bone → lacrimal groove containing lacrimal duct.

#### ❖

#### Cartilages of the Nose:

- (A) Septal cartilage (Quadrangular cartilage)