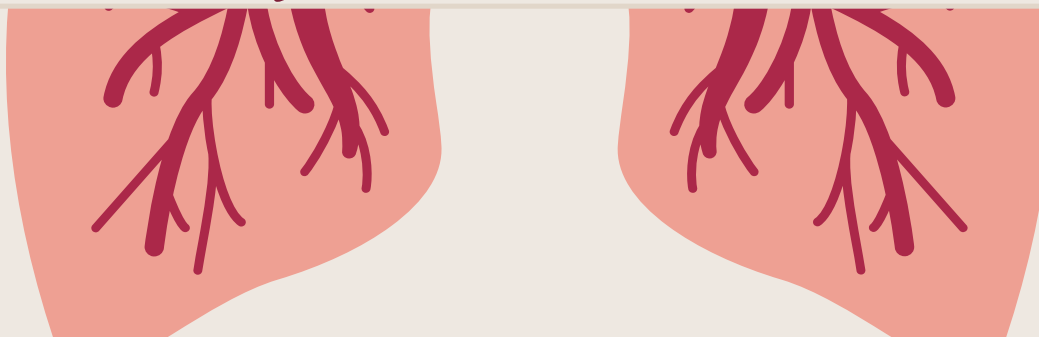




Respiratory System

Anatomy – Most Important Notes

By: Shahd Alahmad



Let's talk about sinuses!

Paranasal Sinus	Drainage Pathway (most imp.)	Meatus (less imp.)
Frontal Sinus	Drains via the frontonasal duct (infundibulum) past 2021	Middle Meatus
Maxillary Sinus	Drains into semilunar hiatus	Middle Meatus
Ethmoidal Sinuses	<ul style="list-style-type: none"> - Anterior Ethmoidal Cells: Drain into the Anterior part of semilunar hiatus - Middle Ethmoidal Cells: Drain into the ethmoidal bulla - Posterior Ethmoidal Cells: Drain into the superior meatus 	<ul style="list-style-type: none"> - Anterior: Middle Meatus - Middle: Middle Meatus - Posterior: Superior Meatus
Sphenoidal Sinus	Drains via the sphenoidal recess	Above Superior Meatus

→ Pay attention to this point → All of the following nerves supply the **lateral** wall of the nasal cavity **EXCEPT**:

Posterior ethmoidal nerve

→ The **nasopalatine** nerve = **long sphenopalatine** nerve

مهم انه الـ2 مترادفات لنفس الاسم، لانه ممكن بالامتحان يستخدم اسم دون الآخر

اللّهُمَّ صَلِّ عَلَيَّ مُحَمَّدٍ وَعَلَى آلِ
مُحَمَّدٍ ، كَمَا صَلَّيْتَ عَلَيَّ إِبْرَاهِيمَ
وَعَلَى آلِ إِبْرَاهِيمَ ، إِنَّكَ حَمِيدٌ
مَجِيدٌ .. اللّهُمَّ بَارِكْ عَلَيَّ مُحَمَّدٍ
وَعَلَى آلِ مُحَمَّدٍ كَمَا بَارَكْتَ عَلَيَّ
إِبْرَاهِيمَ وَعَلَى آلِ إِبْرَاهِيمَ ، إِنَّكَ
حَمِيدٌ مَجِيدٌ .. 

Lecture 2

pterygopalatine fossa

*This fossa has 6 communications

Connection	Foramen/Fissure	Area Connected	Contents (external sources were used for this column so it's better referring to slides if u're interested, but anyways imp. Points are in red)
To the Orbit	Inferior Orbital Fissure	Orbit	Infraorbital nerve and vessels, zygomatic nerve , orbital branches of the pterygopalatine ganglion
To the Nasal Cavity	Sphenopalatine Foramen	Nasal cavity	Sphenopalatine artery <u>(short → supply lateral wall of nose, long → medial wall "septum") مكرر</u> and vein, nasopalatine nerve.
To the Middle Cranial Fossa	Foramen Rotundum	Middle cranial fossa	Maxillary nerve (V ₂)
To the Oral Cavity	Greater and Lesser Palatine Canals	Hard and soft palate	Greater and lesser palatine nerves and vessels
To the Pharynx	Palatovaginal (Pharyngeal) Canal	Nasopharynx	<u>Pharyngeal nerve and pharyngeal branch of the maxillary artery</u>
To the Infratemporal Fossa	Pterygomaxillary Fissure كثير بيجي عليها اسئلة خاصة اتجاه nerve and Artery	Infratemporal fossa	Maxillary artery (enters it, so it's opposite to direction of maxillary nerve)), posterior superior alveolar nerve

Pterygopalatine ganglion: دائمًا عليها اسئلة، اهم المعلومات بالأحمر

Category	Details
Location	Pterygopalatine fossa
Type	Parasympathetic ganglion
Inputs:	
- Parasympathetic	- <u>Preganglionic</u> fibers from the <u>facial</u> nerve (CN VII) via the <u>greater petrosal</u> nerve
- Sympathetic	- <u>Postganglionic</u> fibers came from the superior cervical ganglion
	- Travel via the deep (plz remember it's NOT lesser) petrosal nerve and pass through the ganglion without synapsing
- Sensory	- Fibers from the maxillary nerve (V ₂)...
	- Pass through the ganglion without synapsing
Outputs (Branches)	
- Orbital Branches	Pass through the inferior orbital fissure to supply the orbital periosteum, lacrimal gland, and small orbital structures
- Nasal Branches	Pass through the sphenopalatine foramen
- Palatine Branches	Pass through the greater and lesser palatine canals:
	- Greater palatine nerve: Hard palate
	- Lesser palatine nerve: Soft palate
- Pharyngeal Branch	Pass through the palatovaginal canal to supply the nasopharynx mucosa
- Zygomatic Branch	Joins the lacrimal nerve (V₁) to provide <u>parasympathetic fibers to the lacrimal gland</u> مهم

Maxillary Artery Parts

بصراحة أهم واحد هو الجزء الثالث منه " غالباً عليه اسئلة " ، الباقي شوفوهم مشان لو جابهم بالخيارات تقدرنا تستنتوهم

Part	Branches	Target Areas <small>(external sources were used, so u can refer to slides but both are almost same)</small>
1st Part (Mandibular)	- Deep Auricular Artery	External acoustic meatus, tympanic membrane
	- Anterior Tympanic Artery	Tympanic membrane
	- Middle Meningeal Artery <small>اجا مرة بالخيارات (السؤال كان عن الجزء الثالث ويده الاستثناء فكان هو الجواب)</small>	Dura mater and calvaria
	- Accessory Meningeal Artery	Dura mater (if present)
	- Inferior Alveolar Artery	Mandibular teeth, chin, mylohyoid muscle
2nd Part (Pterygoid) <small>اله كلهم لعضلات المضغ ، وغالباً الدكتور بحظهم بالخيارات</small>	- Masseteric Artery	Masseter muscle
	- Pterygoid Branches	Pterygoid muscles
	- Deep Temporal Arteries	Temporalis muscle
	- Buccal Artery	Buccinator muscle, cheek mucosa
⚠ 3rd Part (Pterygopalatine)	- Posterior Superior Alveolar Artery	Maxillary molars, <u>maxillary sinus</u>
	- Infraorbital Artery	Inferior orbit, face, lower eyelid
	- Palatine Artery	Hard and soft palate
	- Sphenopalatine Artery	Nasal cavity
	- Pharyngeal Artery	Nasopharynx
	- Artery of the Pterygoid Canal	Pterygoid canal structures

Let's view this Past Q from last year 21:

→ Injury in the middle cranial fossa affect the pterygoid canal which of the following nerves will be affected:

- A) Deep and lesser petrosal
- B) Greater and lesser petrosal
- C) Deep and greater petrosal
- D) Postganglionic sympathetic and Postganglionic parasympathetic
- E) Preganglionic sympathetic and Preganglionic parasympathetic

Answer: C

Another imp. Note:

→ Maxillary Artery (enters the pterygopalatine fossa)

→ Maxillary Nerve (exits the pterygopalatine fossa)

Dr's Speech: "The maxillary artery's pathway is the opposite of the maxillary nerve, that originates in the middle cranial fossa, penetrates the foramen rotundum, arriving to the pterygopalatine fossa, passing through the pterygomaxillary fissure to reach the infra-temporal fossa, so the maxillary artery and nerve meet each other in the pterygomaxillary fissure."

اللَّهُمَّ يَسِّرْ لَنَا مَا نَخَافُ عُسْرَهُ، وَسَهِّلْ لَنَا مَا نَخَافُ حَزْنَهُ، وَفَرِّجْ عَنَّا مَا نَخَافُ ضَيْقَهُ،
وَنَفِّسْ عَنَّا مَا نَخَافُ غَمَّهُ، وَفَرِّجْ عَنَّا مَا نَخَافُ كَرْبَهُ

تذكير ان هذا الملف ما هو إلا جهد بشري قد يصيب ويخطئ، ويمكن يبجي منه بالامتحان وممكن لا ..
لكن حاولت قدر الإمكان يكون شامل للنقاط يلي برکز الدكتور عليها سواء بالمحاضرات أو الباست.
اللهم وفقنا من حيث لا نحتسب ..