

REGIONAL ANATOMY OF THE HEAD

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Borders against neck

Superficial:

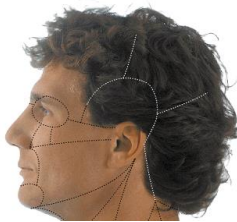
- protub. occipit. ext.
- linea nuchae sup.
- porus acusticus ext.
- mandible

Deep:

- basis cranii ext.

Cranial region

Border: glabella - protub. occip. ext.



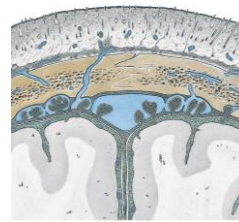
Superficial regions:

- regio frontalis
- regio parietalis
- regio occipitalis
- regio temporalis

Deep regions:

- basis cranii int.
- basis cranii ext.

Scalp and calvaria



Layers:

1. skin (+ hairs)
2. Subcutaneous tissue
3. galea aponeurotica
4. Loose subgaleal tissue
5. periosteum
5. bone (lamina ext., diploe, lamina int.)
6. dura mater encephali

Regiones frontoparietoccipitales

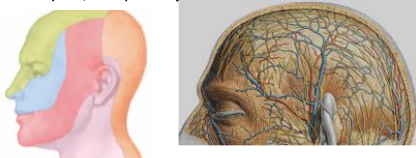
a., v. et n. supraorbitalis a supratrochlearis

a., v., n., zygomaticotemporalis

a. et v. temporalis superficialis, n. auriculotemporalis, n. auricularis magnus

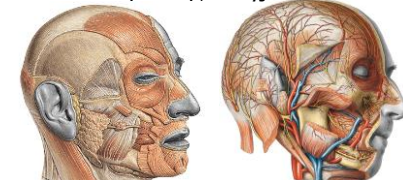
a. et v. auricularis post.

a. et v. occipitalis, n. occipitalis major et minor



Regio temporalis

Borders: linea temporalis sup., arcus zygomaticus



skin

n. auricularis magnus

m. temporoparietalis (n.VII.)

a., v. temporalis spf. (v. retromandibularis)

n. auriculotemporalis

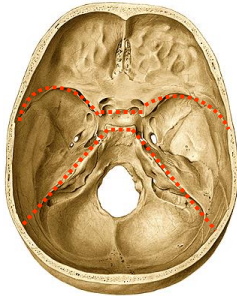
fascia temporalis

m. temporalis

a., v., n. temporalis prof.

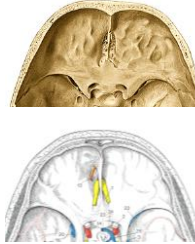
BASIS CRANII INTERNA

- Fossa cranii anterior
- Fossa cranii media
- Fossa cranii posterior



BASIS CRANII INTERNA – Fossa cranii anterior

- os frontale:**
partes orbitales - sinus frontalis
- pars nasalis
- crista frontalis - falx cerebri + sinus durae matris
- os ethmoidale:**
lamina cribrosa - nn. olfactorii,
a. meninges ant.
n. ethmoidalis ant.
(rr. nasales)
- crista galli
- os sphenoidale:**
alae minores - canalis opticus
(n. opticus, a. ophthalmica)
- sulcus praechiasmaticus - chiasma opticum



BASIS CRANII INTERNA – Fossa cranii media

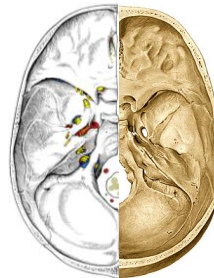


- os sphenoidale:**
facies cerebralis alae majores
sella turcica
- os temporale**
facies ant. pyramidis
squama ossis temporalis

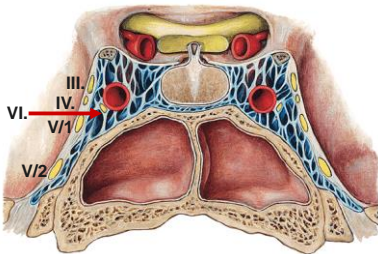


Fossa cranii media - structures

- fossa hypophysialis:**
hypophysis
- sulcus caroticus:**
sinus cavernosus
- sulcus sinus petrosi superioris**
sinus petrosus superior
- Impressio trigemini**
ganglion trigeminale

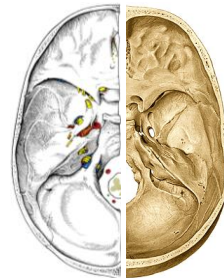


Sinus cavernosus - structures



Fossa cranii media - openings

- fissura orbitalis superior
n. III., IV., VI.
- n. ophthalmicus (+branches)
- vena ophthalmica sup.
- apertura int. canalis carotici**
a. carotis int.
- hiatus canalis n. petrosi majoris
n. petrosus major
- hiatus canalis n. petrosi minoris
n. petrosus minor



Fossa cranii media - openings

foramen rotundum
n. maxillaris

foramen ovale
n. mandibularis, veins

foramen spinosum
a. meningea media, r. meningeus n. mandibularis

BASIS CRANII INTERNA – Fossa cranii posterior

os sphenoidale
clivus (symphondrosis sphenoccipitalis)

os temporale
facies post. pyramidis

os occipitale

Fossa cranii posterior

Structures related to dura mater enceph.
protuberantia occipitalis interna
eminentia cruciformis

Structures related to dural sinuses
sulcus sinus sagittalis superioris
sulcus sinus transversi
sulcus sinus sigmoidei
sulcus sinus petrosi superioris
sulcus sinus petrosi inferioris

Fossa cranii posterior – openings

porus acusticus internus
canalis n. facialis (VII), n. VIII.

apertura externa aqueductus vestibuli
ductus endolymphaticus

apertura externa canaliculi cochlae
Perilymph drainage

Fossa cranii posterior – openings

foramen jugulare
nn. IX., X., XI., vena jugularis interna

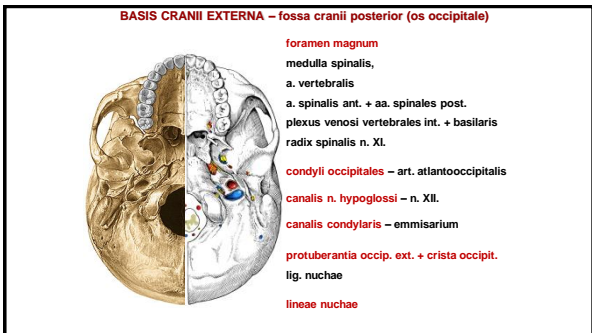
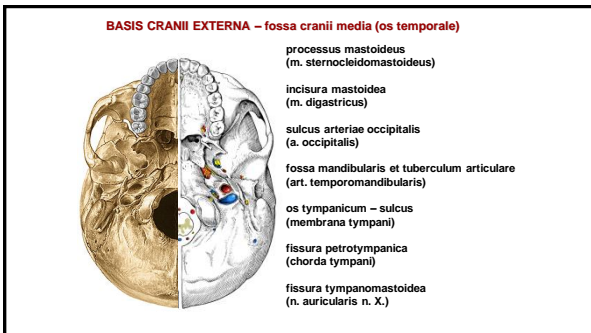
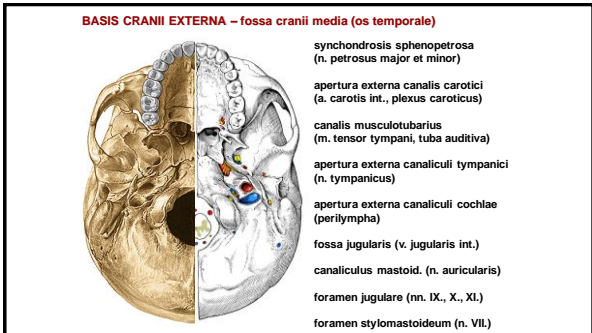
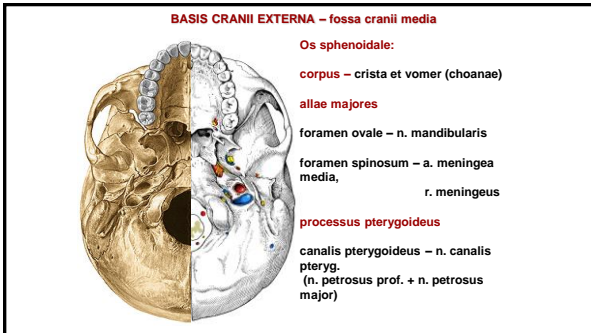
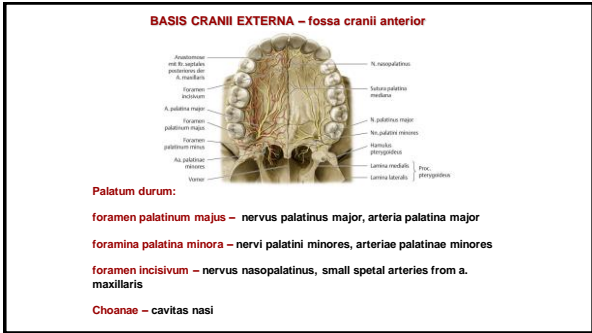
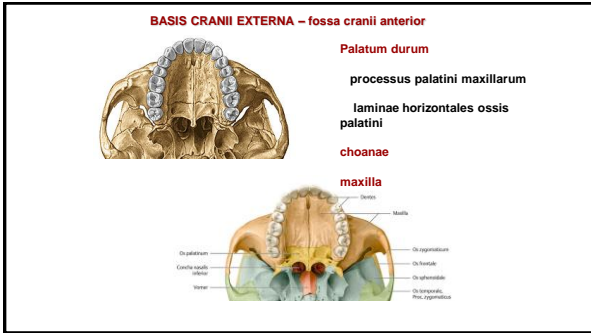
canalis hypoglossi
n. XII

canalis condylaris
emissarium

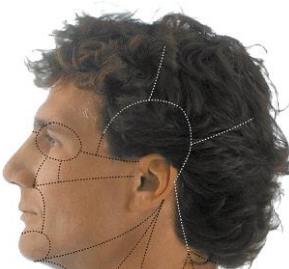
foramen magnum
spinal cord, a. vertebralis, n. XI., veins

BASIS CRANII EXTERNA

Fossa cranii anterior
Fossa cranii media
Fossa cranii posterior



FACIAL REGION



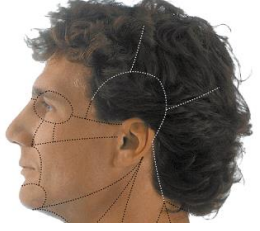
Superficial regions

- regio orbitalis
- regio nasalis
- regio labialis
- regio mentalis
- regio infraorbitalis
- regio zygomatica
- regio buccalis
- regio parotideomasset.

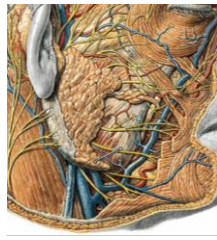
Regio parotideomasserica

Borders:

- Superior - arcus zygomaticus
- Ventral - m. masseter
- Caudal - mandible
- Posterior - line through tragus

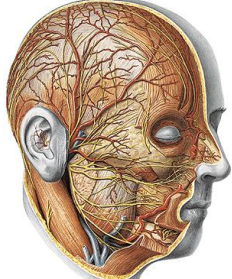



Regio parotideomasserica - content



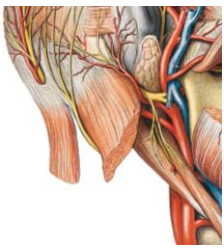
- glandula parotis**
- fascia parotideomasserica
- ductus parotideus
- plexus parotideus n. VII.**
- pars spf. et prof. gl. parotis
- a. temporalis spf.**
- a. transversa faciei
- v. temporalis spf., v. retromandibularis**
- n. auriculotemporalis

NERVUS VII. - plexus parotideus

- rr. temporales
- rr. zygomatici
- rr. buccales
- r. marginalis mandibulae
- r. coli (ansa cervicalis spf.)

Retromandibular region



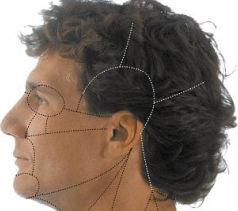
- n. VII.
- r. stylohyoideus (m. stylohyoideus)
- r. digastricus (venter post. m. digastrici)
- n. auricularis post.
- a. auricularis post.** (a. carotis ext.)

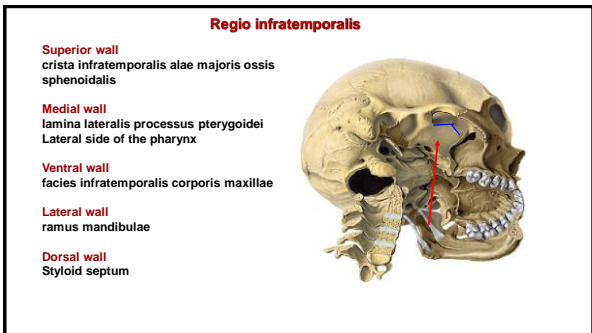
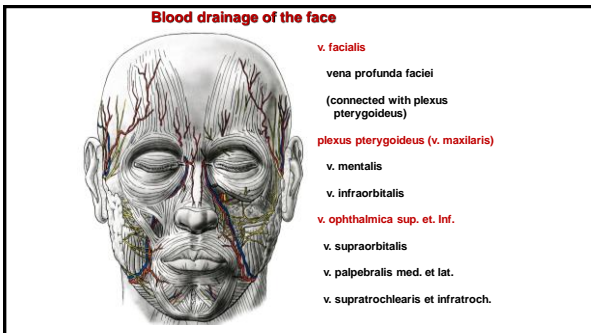
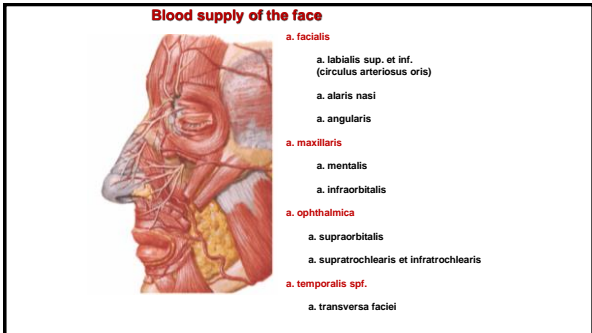
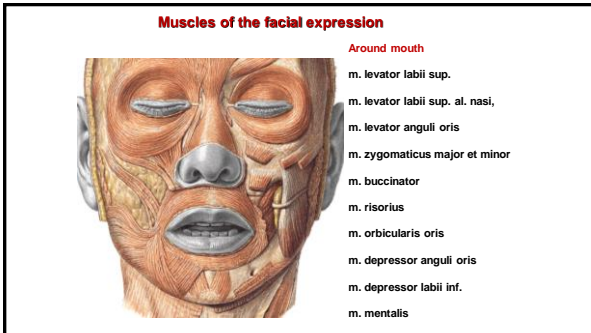
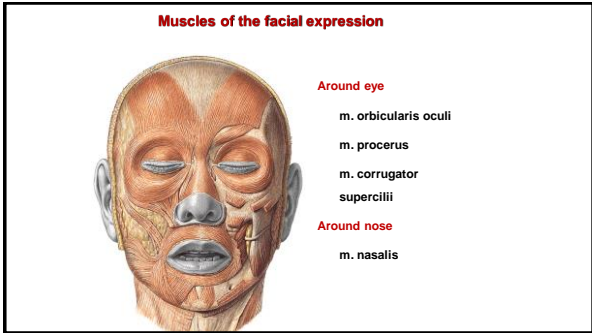
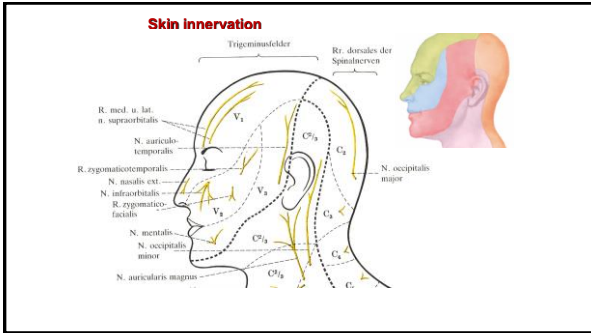
Other facial regions

Regiones: orbitalis, nasalis, infraorbitalis, buccalis, zygomatica mentalis

Layers:

- Skin and subcutaneous tissue**
- innervation - n. V.
- mm. of facial expression**
- innervation - n. VII.
- Blood supply**
- a. et v. facialis (branches of a. maxillaris et ophthalmica)
- Mucosa and submucosa**
- gll. labiales, buccales, nasales





Regio infratemporalis



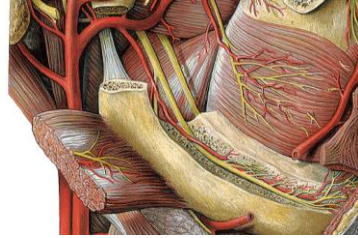
musculus pterygoideus med. et lat.

n. mandibularis
Branches for masticatory muscles, m. tensor tympani a veli palatini,
n. buccalis, n. auriculotemporalis, n. lingualis, n. alveolaris inf.

a. maxillaris (pars mandibularis et pterygoidea)

plexus pterygoideus

Regio infratemporalis



Canalis mandibulae:

a. et n. alveolaris inf. (nervus mylohyoideus), n. buccalis, n. lingualis

Spatium praestiloideum et retrostiloideum

Styloid septum

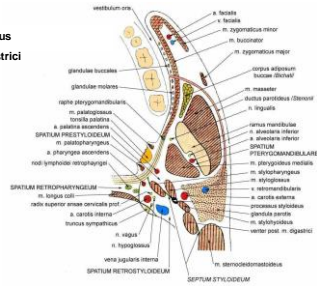
m. sternocleidomastoideus
venter posterior m. digastrici
m. stylohyoideus
m. stylopharyngeus
m. styloglossus

Spatium praestiloideum

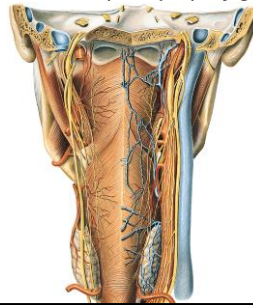
a. carotis ext.
v. retromandibularis

Spatium retrostiloideum

a. carotis int.
v. jugularis int.
nn. IX., X., XI., XII.
tr. sympathicus



Spatium parapharyngeum



a. carotis int.

a. pharyngea asc.

v. jugularis int.

plexus venosus pharyngeus

n. IX. (m. stylopharyngeus)

n. X. (vagina carotica - dors.)

n. XI. (m. sternocleidomast.)

n. XII. (arcus n. hypoglossi)

tr. sympathicus

(praevertebralis fascia)

Fossa pterygopalatina



Superior wall

facies maxillaris alae majoris ossis sphenoidalis

foramen rotundum (fossa cranii media)

fissura orbitalis inferior (orbita)

Medial wall

lamina perpendicularis ossis palatini

foramen sphenopalatinum (cavum nasi osseum)

Ventral wall

tuber maxillae (foramina alveolaria)

Dorsal wall

processus pterygoideus ossis sphenoidalis

canalis pterygoideus (basis cranii externa)

Inferiorly

canalis palatinus major (cavum oris)

Fossa pterygopalatina - content



a. maxillaris (pars pterygopal.)

a. infraorbitalis

a. alveolaris sup. post.

a. palatina descendens

a. canalis pterygoidei

a. sphenopalatina

n. maxillaris

n. infraorbitalis

n. zygomaticus

nn. pterygopalatini

ggl. pterygopalatinum

nn. palatina (major et minores)

n. canalis pterygoidei (n. petrosus maj., prof.)

nn. nasales post., rr. orbitales

Regio orbitalis + orbit

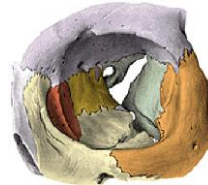


Eyid morphology

skin
Subcutaneous tissue
m. orbicularis oculi
septum orbitale + tarsus sup. et inf.
(gl. tarsales - Meibomi)
m. tarsalis sup. et inf., m. levator palpebrae sup.
tunica conjunctiva palpebrarum



Orbit – bony part



Aditus orbitae

margo supraorbitalis, infraorb.

Superior wall

pars orbitalis ossis frontalis
ala minor ossis sphenoidalis

Medial wall

processus frontalis maxillae
os lacrimale
lamina orbitalis ossis ethmoidalis
ala minor ossis sphenoidalis

Lateral wall

facies orbitalis ossis zygomatici
facies orbitalis alae majoris ossis sphenoid.
fissura orbitalis superior et inferior

Inferior wall

facies orbitalis corporis maxillae
facies orbitalis ossis zygomatici
processus orbitalis ossis palatini

Orbit – content

periorbit

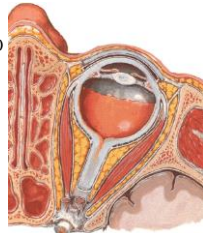
fissura orbitalis sup. et inf. (m. orbitalis)
vagina bulbi

Extraocular muscles and their fascia

mm. recti (sup., inf. med., lat.)
mm. obliqui (sup., inf.)
m. levator palpebrae sup.

spatium episclerale

Loose connective tissue
corpus adiposum orbitae
bulbus oculi



Retrobulbar space – upper part

borders:

periorbita
m. levator palpebrae sup.

n. lacrimalis

r. comm. cum n. zygomatico

n. frontalis

n. supraorbitalis (med., lat.)
n. supratrochlearis

n. trochlearis

m. obliquus bulbi sup.



Retrobulbar space – middle part

borders: m. levator palpebrae sup. + plane through n. opticus

n. abducens

m. rectus lat.

ramus sup. n. oculomotorii

m. levator palpebrae sup
m. rectus sup. et med.

ramus inferior n. oculomotorii

ggl. ciliare

nn. ciliares breves

n. nasociliaris

n. ethmoidalis ant., post., n. infratrochlearis

a. ophthalmica

a. ethmoidalis ant., post., a. infratrochlearis

v. ophthalmica sup.



Retrobulbar space – inferior part

borders: plane through n. opticus + floor of the orbit

ramus inf. n. oculomotorii

m. rectus inf.

m. obliquus bulbi inf.

a. + n. infraorbitalis

canalis infraorbitalis

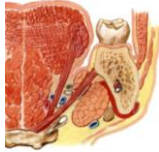
a. + n. zygomaticus

foramen zygomaticoorbitale

v. ophthalmica inf.



Regio sublingualis



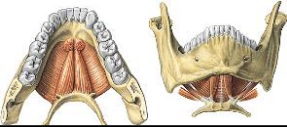
borders:

kran.: mucosa of the floor of oral cavity
(plica sublingualis, caruncula sublingualis)

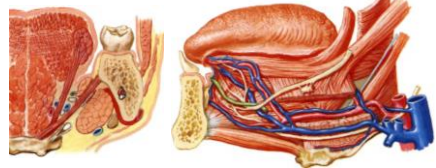
kaud.: diaphragma oris
(m. mylohyoideus, m. geniohyoideus,
m. digastricus, m. stylohyoideus)

lat.: mandible

med.: tongue



Regio sublingualis



gl. submandibularis + ductus submandibularis (crossing with n. lingualis)

gl. sublingualis + ductus sublinguales major et minores

a., n. lingualis

n. hypoglossus

v. comitans n. hypoglossi

References

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