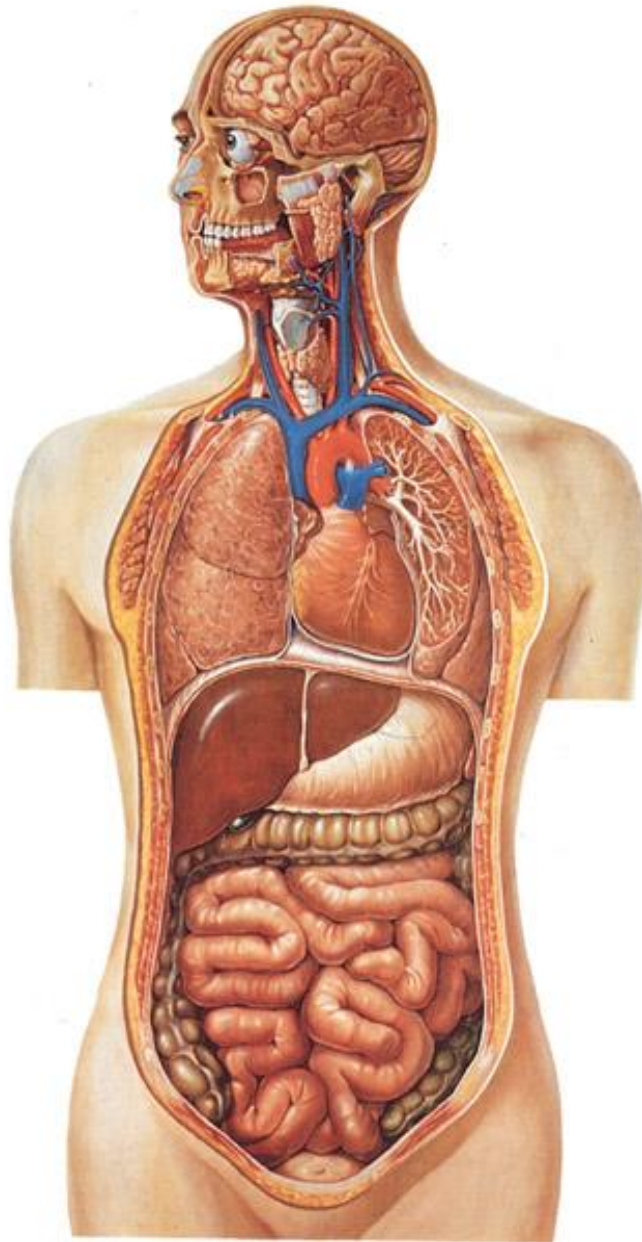

ANATOMY *Group D*
exam notes by Catarina Bastos (2011)



3. The basis cranii interna

- Anterior cranial fossa:

- cribriform plate - olfactory nerve (C.N. I)
- crista galli
- foramen caecum - emissary veins to nasal cavity
- anterior clinoid process

- Middle cranial fossa:

- prechiasmatic groove
- sella turcica with hypophysial fossa
- carotid sulcus → carotid canal
- foramen lacerum
- foramen ovale → V_3 , lesser petrosal nerve
- foramen rotundo → V_2
- superior orbital fissure → oculomotor (CN III), trochlear (CN IV), ophthalmic division of V_1 , abducent (VI), ophthalmic veins
- optic canal → optic nerve (II), ophthalmic artery
- foramen spinosum → middle meningeal artery
- hiatus for greater petrosal nerve → greater petrosal nerve
- hiatus for lesser petrosal nerve → lesser petrosal nerve
- groove for superior petrosal sinus
- arcuate eminence

- Posterior cranial fossa:

- clivus
- posterior clinoid processes
- groove for inferior petrosal sinus
- jugular foramen → glossopharyngeal (IX), vagus (X), accessory (XI), jugular vein
- internal acoustic foramen → facial (VII), vestibulocochlear nerve (VIII), labyrinthine artery
- groove for the sigmoid sinus
- groove for the transverse sinus
- internal occipital protuberance → internal occipital crest
- Hypoglossal canal → hypoglossal (XII), meningeal branch of ascending pharyngeal artery
- condylen canal → emissary vein
- foramen magnum → brainstem, vertebral arteries

4. The basis cranii externa

Anterior part

- palatine process of maxilla, horizontal plate of palatine bone, alveolar processes, zygomatic bone
- choanae → vomer (medially) + medial plate of pterygoid process (laterally)
- greater and lesser palatine foramina
- posterior nasal spine
- incisive fossa

Posterior part

- Pterygoid process → medial (with hamulus) and lateral plate, fossa pterygoid, scaphoid fossa
- greater wings of sphenoid with infratemporal crest
- cochlear canaliculus (in jugular fossa)
- canaliculus for tympanic nerve (in fossula petrosa)
- styloid process
- stylomastoid foramen
- mastoid process
- external acoustic meatus (tympanic + squamous parts)
- mandibular fossa + articular tubercle
- pharyngeal tubercle
- occipital condyles
- external occipital crest + external occipital protuberance

5. Reg. infratemporalis

Ossous boundaries: CRANIAL - facies infratemporalis alae majoris ossis sphenoidalis

FRONTAL - facies infratemporalis maxillae

MEDIAL - lamina lateralis processus pterygoidei

LATERAL - ramus mandibulae

DORSAL AND CAUDAL side are not formed by bone skeleton

FIRST LAYER

- Lateral pterygoid
- Medial pterygoid
- Maxillary artery between two heads of LATERAL PTERYGOID → buccal a., superior posterior alveolar a., branches to masticatory muscles
- Pterygoid plexus

- Buccal nerve (V₃)
 - Lingual nerve
 - Inferior alveolar nerve
 - Masseter nerve
- } (V₃) below lateral pterygoid

SECOND LAYER (Removal of pterygoid lateral)

• Maxillary artery is lateral to sphenomandibular ligament and to the large branches of the mandibular nerve → anterior tympanic a., deep auricular artery, middle meningeal a.

- Auriculotemporal nerve $\xrightarrow{\text{anastomoses}}$ communicating branches from VII
- Spf. temporal a.
- Inferior alveolar nerve → mylohyoid nerve
- Inferior alveolar a. → mylohyoid a.
- Motor branches to masticatory muscles

6. fossa pterygopalatina

Osseous boundaries: MEDIAL: lamina perpendicularis ossis palatini
 ANTERIOR: facies infratemporalis corporis maxillae
 DORSAL: facies anterior of processus pterygoideus
 BASE: facies inferior of corpus sphenoidalis and facies maxillaris of alve majoris of osis sphenoidalis
 APEX: canalis palatinus major
 LATERAL: fluent with infra temporal fossa

→ a. maxillaris (pars pterygopalatina) from infra temporal fossa, and its branches

→ m. maxillaris (from foramen rotundum, base)

→ ganglion pterygopalatinum → n. petrosus major and n. petrosus profundus (from canalis pterygoideus, dorsal)

→ n. infraorbitalis, n. zygomaticus, v. ophthalmica inf., a. infraorbital (through fissura orbitalis inferior, anterior)

→ n. palatinus major and a. palatina descendens (through canalis palatinus major, apex)

→ rr. nasales posteriores, a. sphenopalatina (through foramen sphenopalatinum, medial)



7. Orbit

- Axis (center of orbit and apex) diverge frontally and connect above sella tursica

Osseous boundaries

- MEDIAL: processus frontalis maxillae, os lacrimale, lamina orbitalis ossis

ethmoidalis, processus orbitalis ossis palatini, ala minor ossis sphenoidalis

LATERAL: os zygomaticum, facies orbitalis alae majoris ossis sphenoidalis

CRANIAL: pars orbitalis ossis frontalis and ala minor ossis sphenoidalis

CAUDAL: facies orbitalis corporis maxillae and os zygomaticum

FIRST LAYER

- anterior ethmoidal artery and nerve (inferior to superior oblique m.)
- posterior ethmoidal artery and nerve (superior to superior oblique m.)
- superior oblique m. → superior rectus m.
- trochlear nerve
- frontal nerve (above levator palpebrae superioris m.) → supratrochlear nerve (and artery), supra-orbital nerve (and artery)
- superior orbital vein → lacrimal vein runs with lacrimal artery
- lacrimal gland

SECOND LAYER (reflexion of levator palpebrae superioris and the superior rectus muscle)

- Nasociliary nerve → (infraorbital nerve)
 - ↳ long ciliary nerves
- ophthalmic artery
- optic nerve (with ciliary ganglion superior to it)
- oculomotor nerve and its branches
- abducens nerve
- short posterior ciliary arteries (from lacrimal artery)
- rectus medialis and lateralis
- eyeball
- rectus inferior m.
- inferior oblique m.
- fat tissue

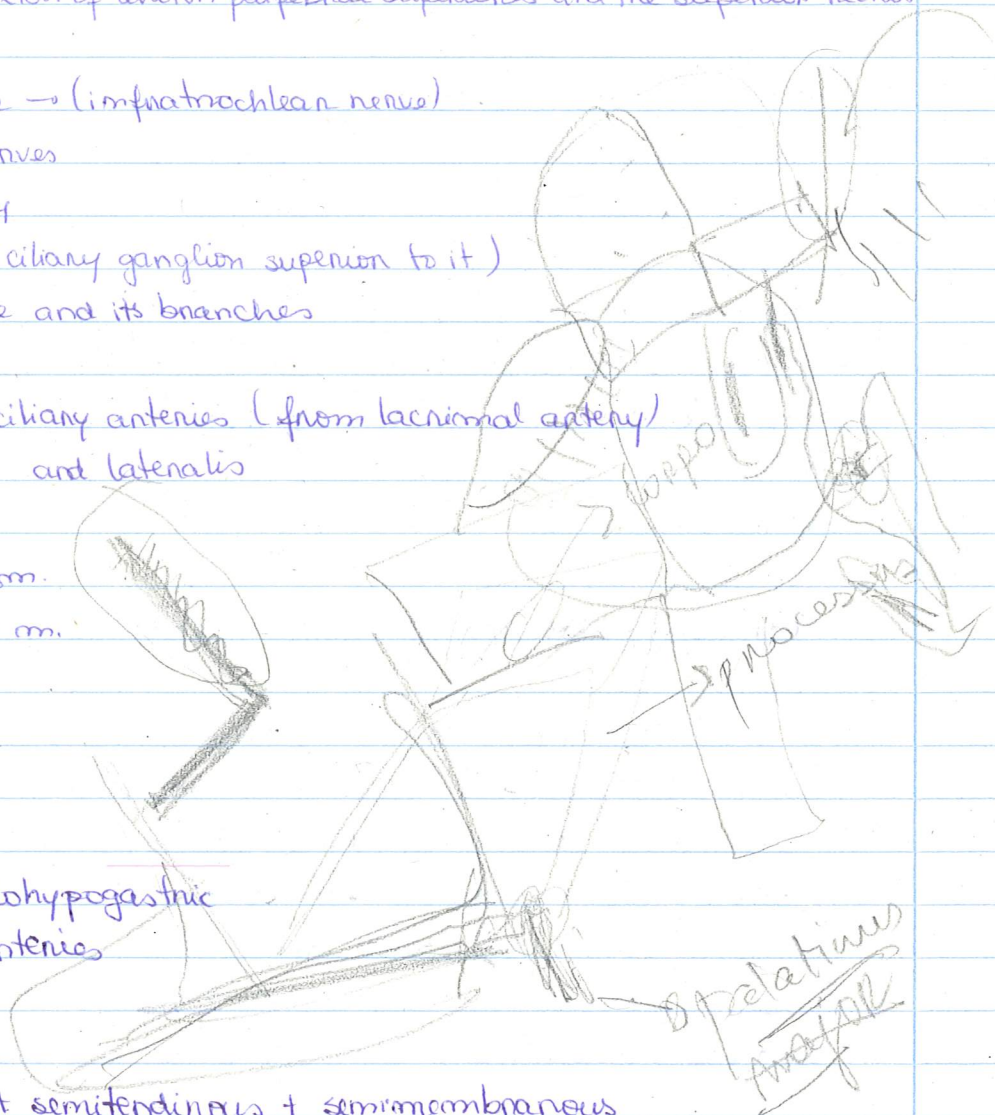
Gluteal region

Subcutaneous:

- gluteal fascia
- cluneal nerves + iliohypogastric
- sup / inf gluteal arteries

Subfascial layer:

- gluteus maximus
- long head of biceps + semitendinosus + semimembranosus
- posterior cutaneous nerve of the thigh + sciatic nerve + first perforating artery + vein



Deep layer:

- Structures of supra and infrapiriform foramen
- gluteus medius, gluteus minimus + dorsal group of coxal muscles

Retromandibular region

Between ramus of mandible and posterior belly of digastric

- Deep portion of parotid gland
- Facial nerve and all its branches
- Maxillary artery
- Superficial temporal artery (→ transverse faciei)
- Retromandibular vein
- Posterior auricular artery
- Auriculotemporal nerve

Medial retromalleolar region

- Between medial malleolus and calcaneal tendon
- Superficial layer of flexor retinaculum
- great saphenous vein + saphenous nerve
- fascia of leg
- Deep layer of flexor retinaculum, tendon of flexor digitorum longus
- Tendon of tibial posterior, posterior tibial vein, posterior tibial artery, tibial nerve, tendon of flexor hallucis longus
- Bones

Dorsum of foot

- Skin
- Dorsal veins arch → dorsal metatarsal veins → great saphenous vein
- Peroneal superficial nerve (cutaneous innervation of dorsum of foot) + Peroneal profundo (space between 1st and 2nd toes)
- Superficial lamina of dorsal fascia of foot
- Dorsal pedis artery (→ lateral tarsal a. + arcuate a.); peroneal profundo m. **NOTE:** both structure go between extensor hallucis longus and extensor digitorum longus
- Extensor digitorum brevis + extensor hallucis brevis
- Dorsal aponeurosis
- Bones
- Deep layer of dorsal fascia of foot
- Interssals dorsales

Planta pedis

- Skin
- Cutaneous arteries (rate calcaneum), veins and nerves
- Superficial layer of plantar fascia + plantar aponeurosis

BIG TOE SPACE	^{septum mediale} MIDDLE SPACE	^{septum laterale} LITTLE TOE SPACE
- Abductor hallucis	- Flexor digitorum brevis	- Abductor digiti minimi

Lateral plantar artery, medial plantar artery, plantar arch, medial plantar nerve and lateral plantar nerve (→ tibial nerve).

→ Flexor hallucis brevis	→ Flexor digitorum longus → Quadratus plantae + lumbricals → Adductor hallucis brevis	→ Flexor digiti minimi brevis + opponens digiti minimi
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- Deep layer of plantar fascia
- Dorsal intertarsals

Anterior region of leg

- Skin
- Great saphenous vein and saphenous nerve
- Fascia of the leg
- Tibial anterior; extensor digitorum longus; superficial peroneal nerve; peronealis longus, peronealis brevis
- Anterior tibial artery, anterior tibial vein, deep peroneal nerve
- Extensor hallucis longus

- Posterior tibial artery and tibial nerve; fibular artery
- (Plantar)
- Soleus + popliteus + tibialis posterior + flexor digitorum longus + flexor hallucis longus
- Gastrocnemius
- Small saphenous vein + sural nerve
- Skin

Rhomboides minor

- O: Spinous process of C6-C7
- I: Medial border of scapula opposite to fossa supraspinata
- I: Dorsal scapulae
- F: Pulls scapula medially and cranially

Serratus posterior superior

- O: Spinous processes of C6-Th4
- I: 2nd-5th ribs (4 teeth)
- I: Intercostal nerves
- function: pull ribs cranially (aux INSP muscle)

Serratus posterior inferior

- O: Spinous processes of T11-L2
- I: 4 caudal ribs
- I: intercostal nerves
- F: Pull ribs downwards (aux EXP muscle)

