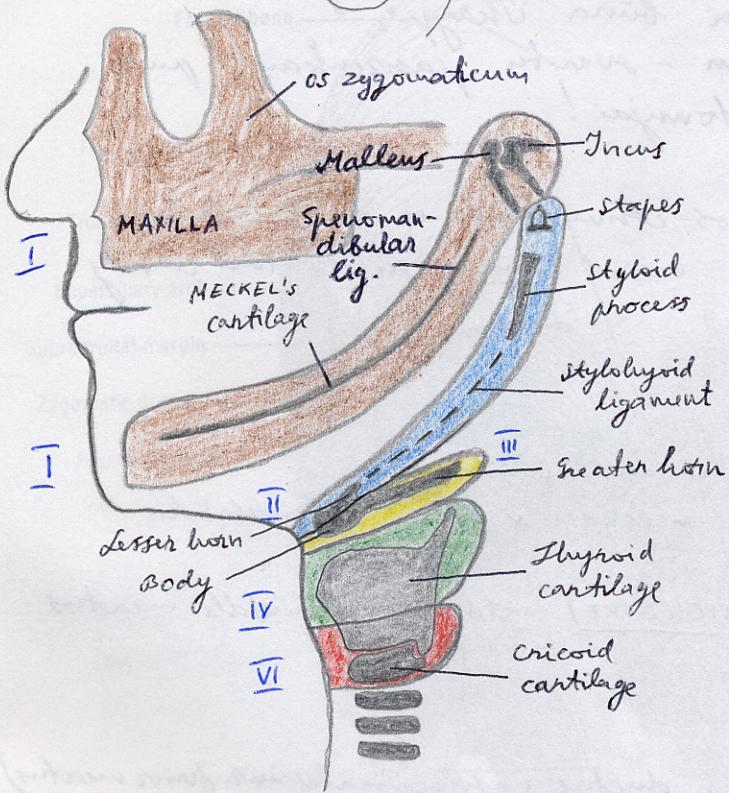
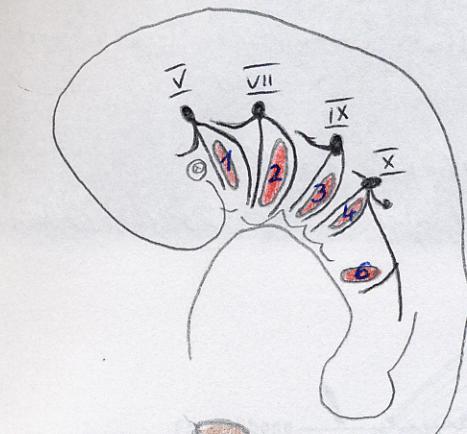


Facial cranium in anterior neck
vystosi iš primitive BRANCHIAL
(S. PHARYNGEAL) ARCH SYSTEM.

Žemėsniuose steburiniuose iš jų
išsiyasto 6 žiaurus (gill) lankai.

Aukštesniuose steburiniuose jų
lankai susilieja, tačiau išlieka
BRANCHIOMERIC segmentation požymiai.



Branchial arches:

- vystosi iš pharyngeal wall
- jios vieną vuo liko atskiria BRANCHIAL CLEFTS (žiaurus plūšai)
- kielvienas turi savo -
 - bone / cartilage, muscles, blood vessels, nerves

Pas žiaurus 5th arch never develops! CN X aptarnauja 4 iš 6 lankus, todėl nėra aiškios 6-^o lanko pretromatic falcos

I - III lankai liko iš neural crest
IV, VI - iš somatic mesodermar

Facial cranium in anterior neck structures innervation:

A SPECIAL SENSORY NERVES - CN I, II, VIII

B SOMATIC MOTOR NERVES (to muscles with somatic segmentation):

- 1) extraocular muscles (likę iš cephalic somites) - CN III, IV, VI
- 2) tongue muscles (" " " ") - CN XII

C BRANCHIOMERIC NERVES (to muscles with branchiomeric segmentation)
pasidalina į dvi dalis:

- 1) PRETROMATIC Branches (sensory only) - susiję su audžčiai esančio lanko post-trumatic branch (todel kielvienas lankas turi dvigubą inervaciją)
- 2) POST-TROMATIC branches (sensory + motor)

Pagal inervaciją galima atskirti lankus!

Table 35-1. Branchial Arch Derivatives

Branchial Arch	Bone	Muscle	Innervation
First arch	1) Mandible 2) Sphenomandibular lig. 3) Malleus ^{5) Maxilla} 4) Incus ^{6) Os zygomaticum}	1) Masticatory mm.* 2) Tensor tympani m. 3) Tensor palatini m. 4) Mylohyoid m. 5) Digastric ant. belly m.	Trigeminal n. (CN V) Pre: Maxillary n. (S) Post: Mandibular n. (Sensory + Motor)
Second arch	1) Hyoid lesser horn 2) Stylohyoid lig. 3) Styloid process 4) Stapes	1) Mm. of facial expressiont 2) Stylohyoid m. 3) Digastric post. belly m. 4) Stapedius m.	Facial n. (CN VII) Pre: Chorda tympani n. (S) Post: Facial n. proper (S + M)
Third arch	Hyoid body and greater horn	Stylopharyngeus m.	Glossopharyngeal n. (CN IX) Pre: Tympanic br. (S) Post: Glossopharyngeal n. (S + M)
Fourth arch	Laryngeal cartilages	1) Pharyngeal mm.‡ 2) Cricothyroid m.	Vagus n. (CN X) Pre: Pharyngeal br. (S) Post: Superior laryngeal br. (S + M)
Sixth arch	Laryngeal cartilages	Laryngeal mm.§	Vagus n. (CN X) Pre: ? Post: Recurrent laryngeal br. (S + M)

* Masseter, medial pterygoid, lateral pterygoid, temporalis.

† Occipitofrontalis, corrugator supercilii, procerus, orbicularis oculi, compressor naris, nasalis, levator labii superioris, levator anguli oris, zygomaticus minor, zygomaticus major, risorius, depressor anguli oris, depressor labii inferioris, orbicularis oris, mentalis, platysma, buccinator, anterior auricular, superior auricular, posterior auricular.

‡ Superior constrictor, middle constrictor, inferior constrictor, levator palatini, palatoglossus, palatopharyngeus, salpingopharyngeus.

§ Posterior cricoarytenoid, lateral cricoarytenoid, transverse arytenoid, thyroarytenoid (vocalis).

Facial cranium - 16 bones (some are shared with neurocranium)

ETHMOID BONE

Recessus sphenoethmoidalis - vnt superior concha : atisveria sphenoid sinuses

Lateral plates (lamina papyracea) - medial orbital wall:
jei lūžimas - prieinant nosi → orbital emphysema (nes susisiekia
nasal cavity su orbita)

Vomer (or nasal septum) paprastai buna iškryps!
Taip pat in sphenoidal septum - svarbu pasireinkant puse
trans-sphenoidalinei hipofizektomijai!

Fosamina ethmoidalia - darpi os ethmoidale i os frontale
(incisura ethmoidalis) - jungia nasal cavity su orbital cavity

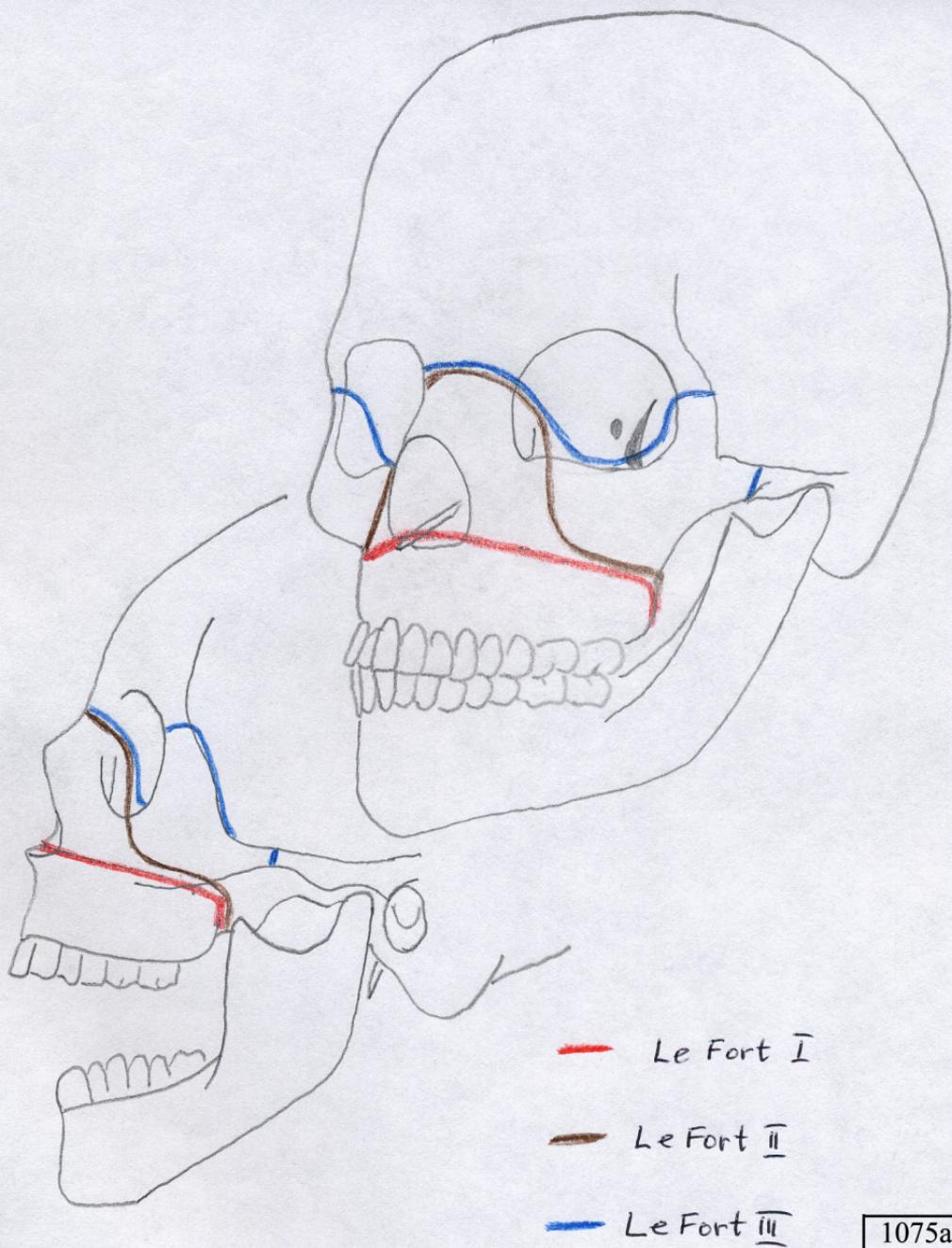
MAXILLA * INFRAORBITAL CANAL → FORAMEN a.v.n. infraorbitalis

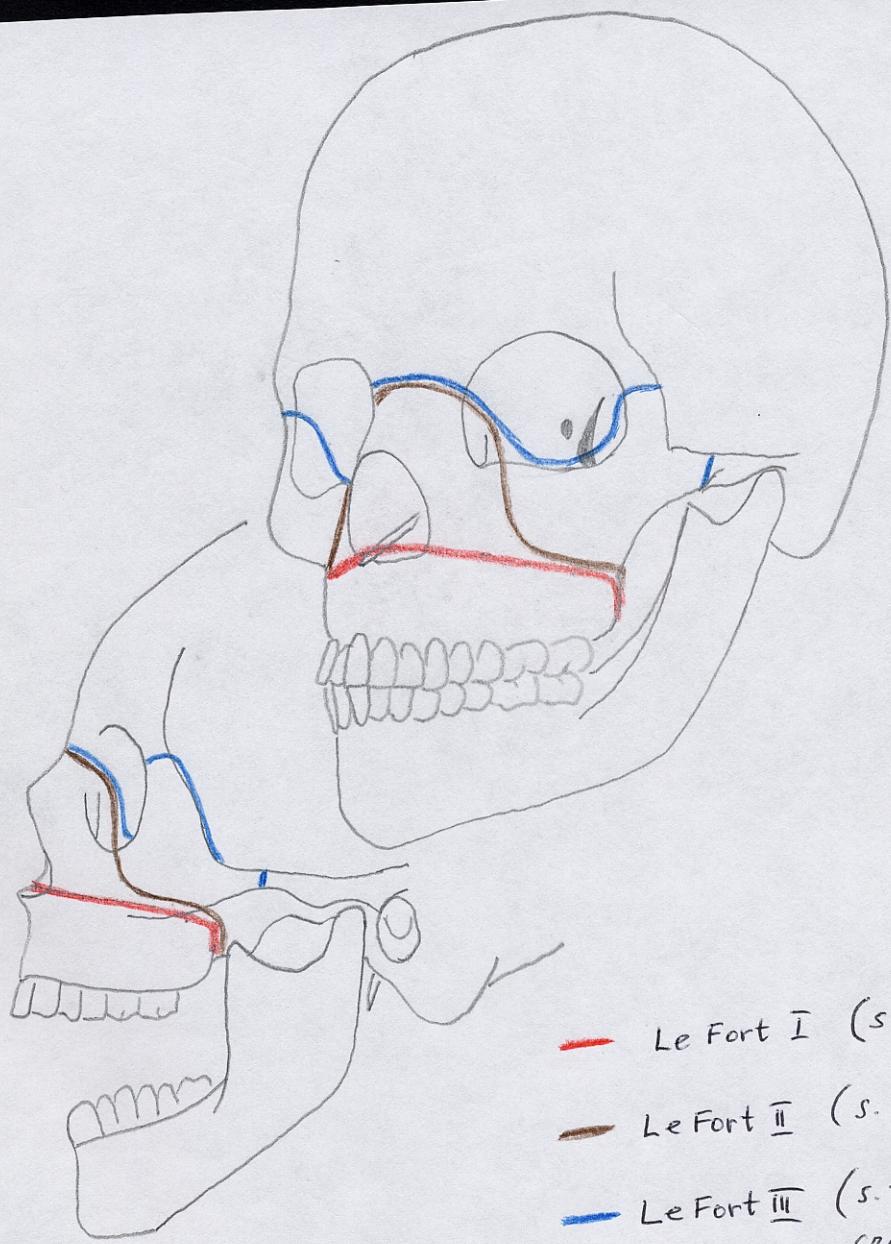
- pitamides fornos
- viduje SINUS MAXILLARIS (of HIGHMORE) - atisveria i middle meatus
- turi 4 atangas:
 - 1) zygomatic process
 - 2) frontal process (jeina i ductus nasolacrimalis → inferior meatus)
 - 3) alveolar process - vystosi lygstant dantims; pilus iñtritus, sunykssta
 - 4) palatine process - 4/5 of hard palate

incisive canal : nn. nasopalatini
a. palatina major ūchos

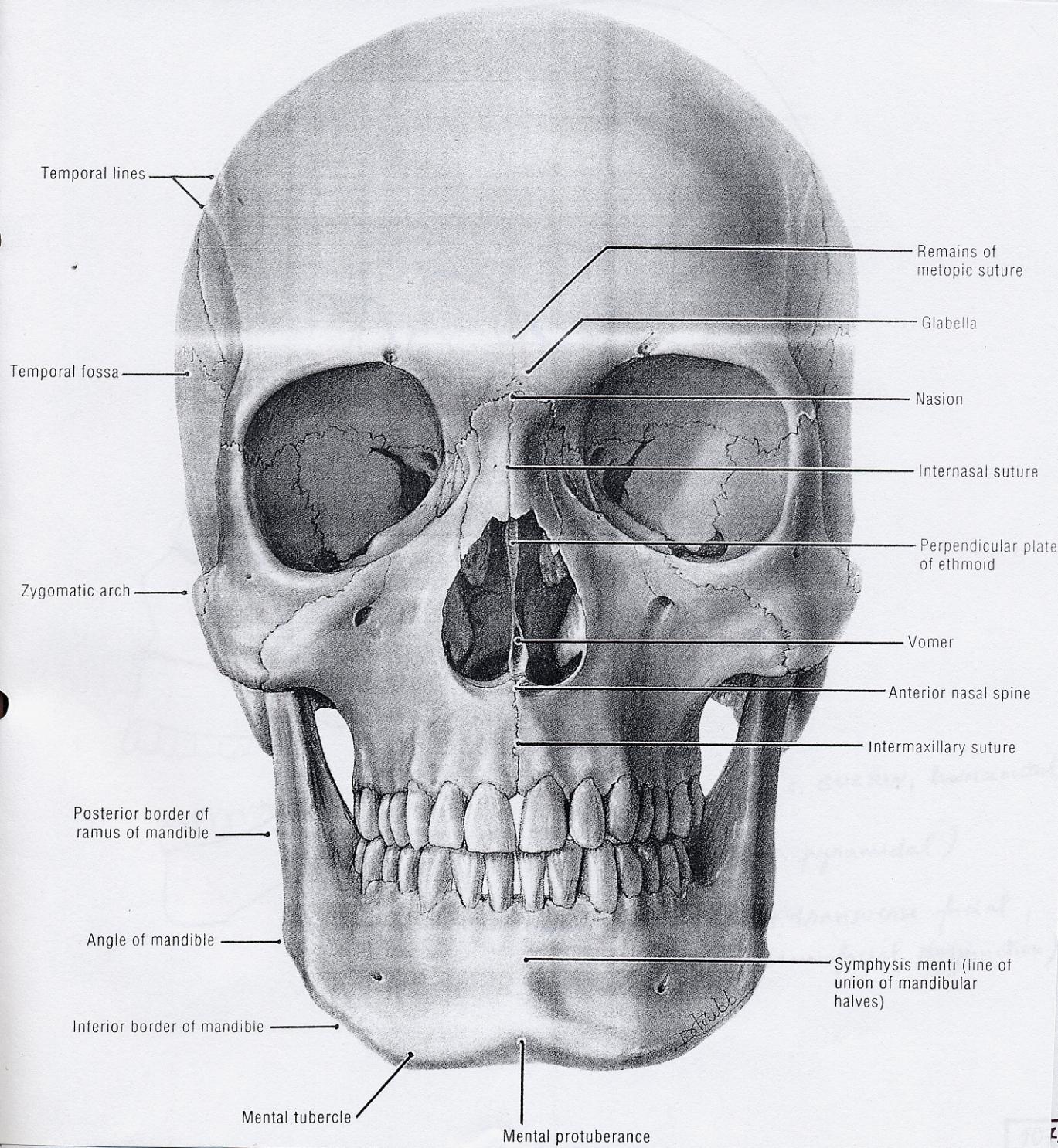
- maxillary tuberosity (infratemporal surface) - foramina alveolaria
- lūžimai: a) orbital floor → orbital emphysema
smulkiam žr. TrH27p. b) anterior wall → vnt. priei. dantų denervacija
c) Le Fort

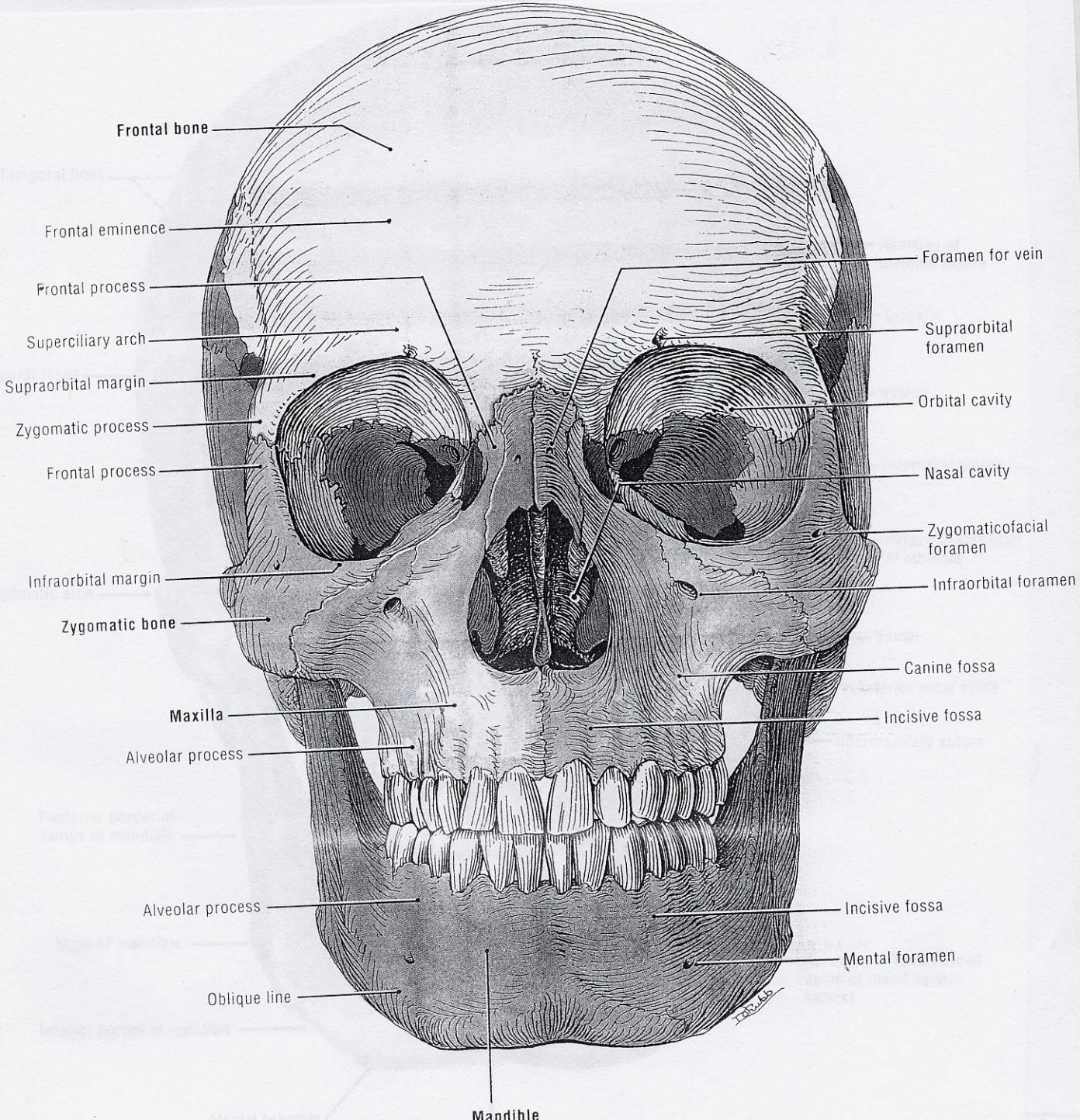
Kartais esti atskiras INCISIVE BONE (PREMAXILLA)

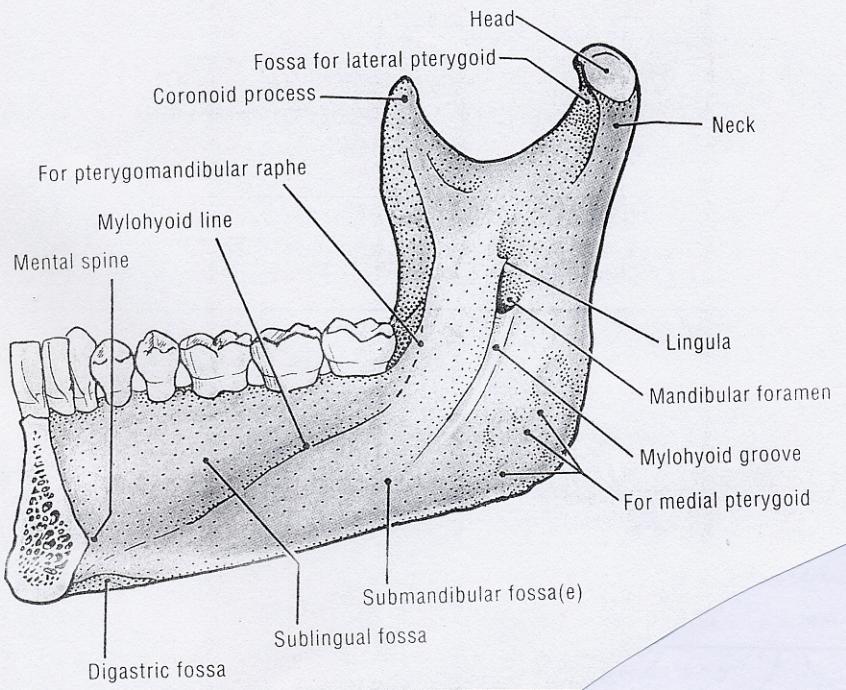
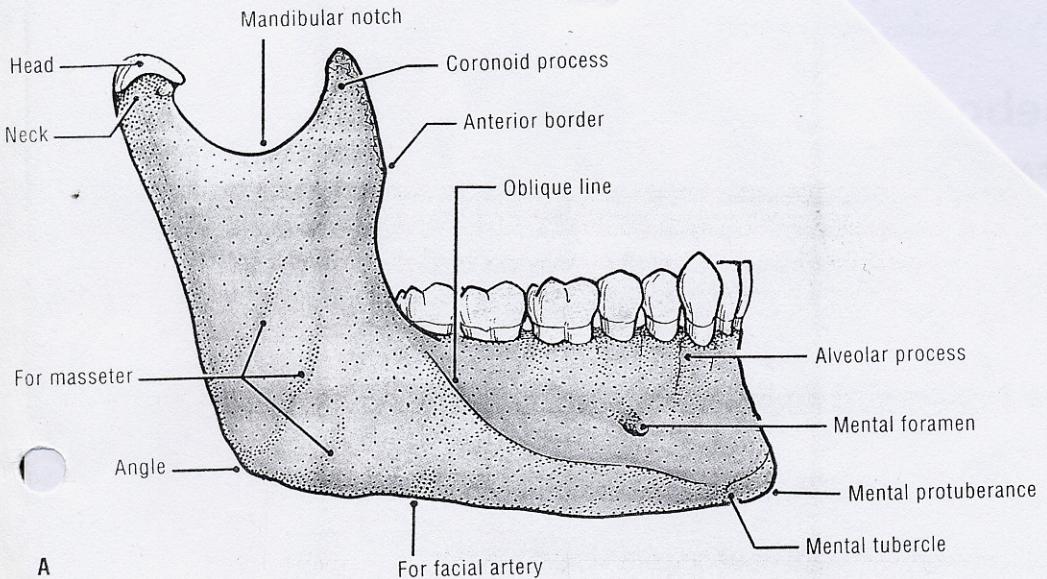




- Le Fort I (s. GUERIN, horizontal)
- Le Fort II (s. pyramidal)
- Le Fort III (s. transverse facial,
craniofacial disjunction)







MUSCULOSKELETAL SYSTEM

FACIAL CRANUM - os zygomaticum, teeth

ZYGOMATIC BONE

ZYGMATICO-ORBITAL foramen
(orbital surface)

ZYGMATICO-TEMPORAL foramen n. zygomaticotemporalis
(temporal surface)

ZYGMATICO-FACIAL foramen n. zygomaticofacialis
(lateral surface)

Fossa temporalis - viaž zygomatic arch

Fossa infratemporalis - żerwan zygomatic arch:

śone (lateral process) - ramius zygomaticus, ramius mandible
medialis - lateral pterygoid plate

foramen ovale
foramen spinosum
fossa pterygopalatina (dugie)

przykłyże - processus zygomaticus et facies infratemporalis maxillae

wizkiże - infratemporal surface of greater wing

uzpalkłyże - tympanic plate, styloid and mastoid processes

Contents of fossa: 1) parotid gland 2) carotid sheath (tang parotid in pharynx)
3) muscles of mastication 4) a. maxillaris 5) pterygoid venous plexus 6) n. mandibularis

