

Cone Beam Computed Tomography Anatomy



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Lecture Objectives:



Identify normal anatomy in CBCT:

- AXIAL SLICES
- CORONAL SLICES
- SAGITTAL SLICES



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Presenter Disclosure

- **Faculty Member:** Dr. Meredith Brownlee
- **Relationships with commercial interests:**
 - None to report

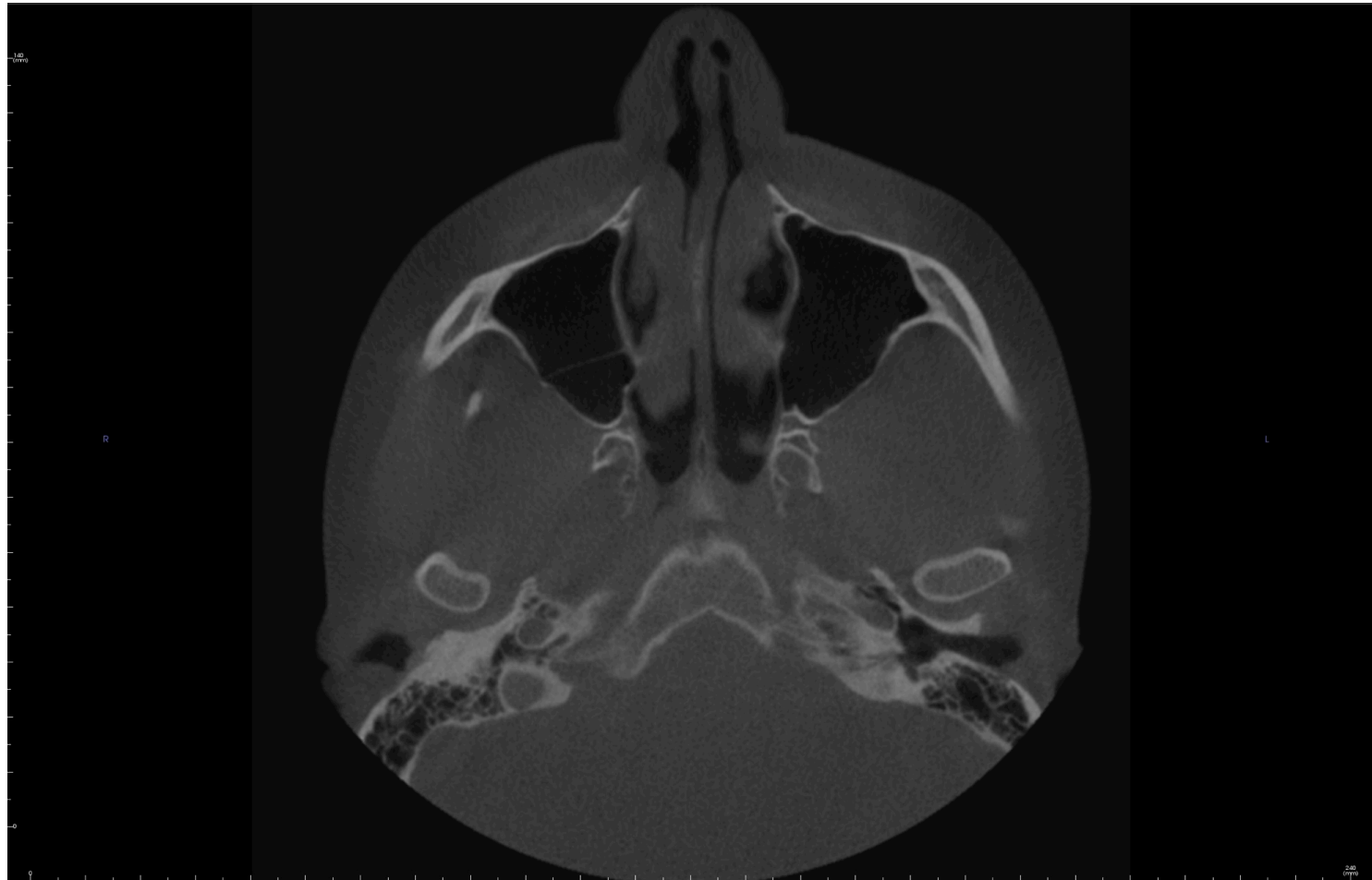


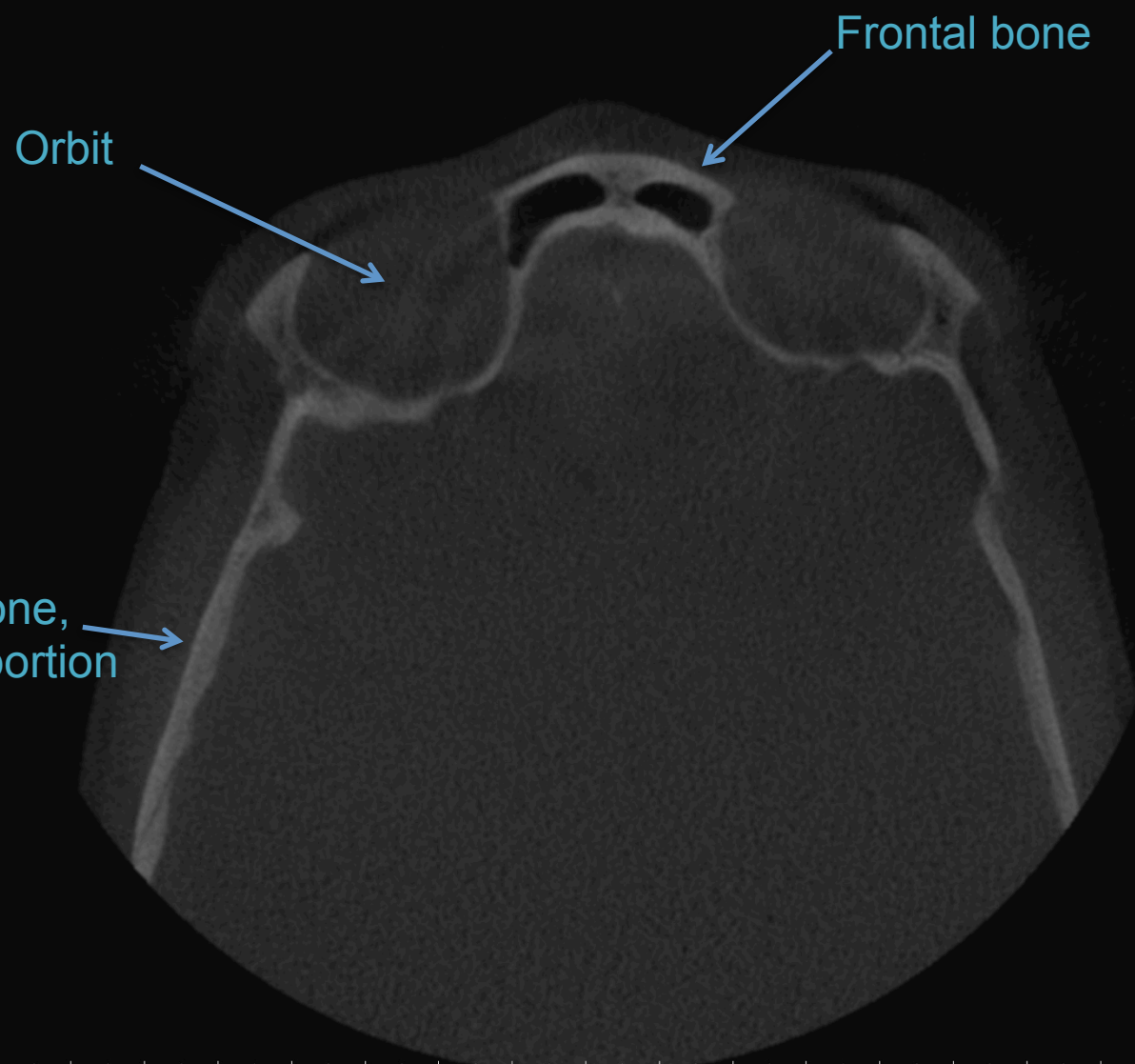
Anatomy Resources:

- www.headneckbrainspine.com
- www.eskeleton.org
- www.anatomyzone.com
- www.netterimages.com
- Many more, just google anatomy...



Axial Slice Anatomical Features





R

L

Temporal bone,
squamous portion

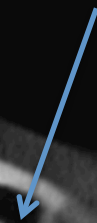
Frontal bone

Orbit



1.20
(mm)

Left frontal sinus



R

L



2.50
(mm)



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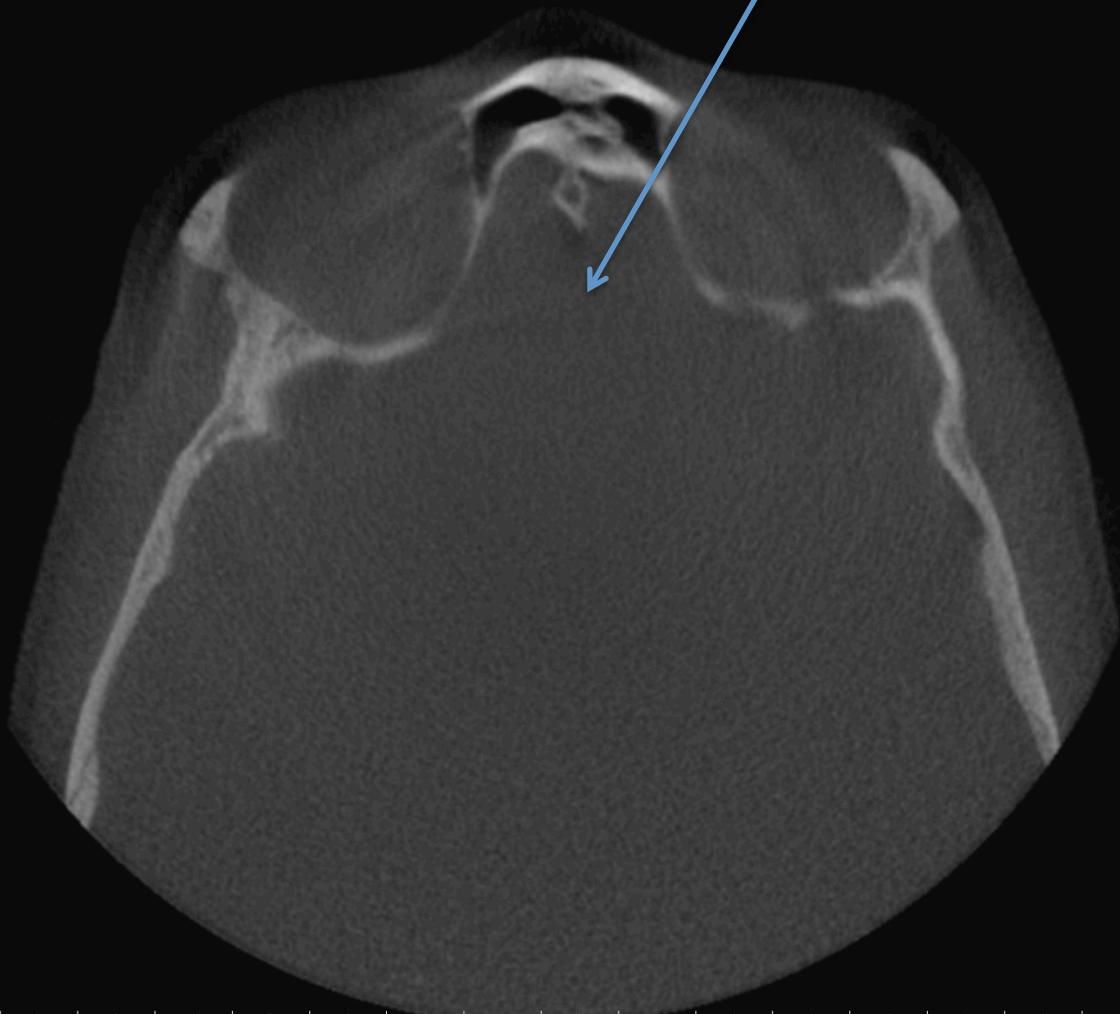
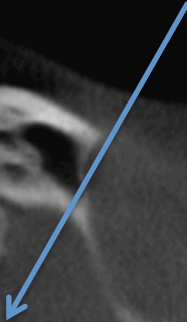
Greater wing of sphenoid



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Anterior cranial fossa



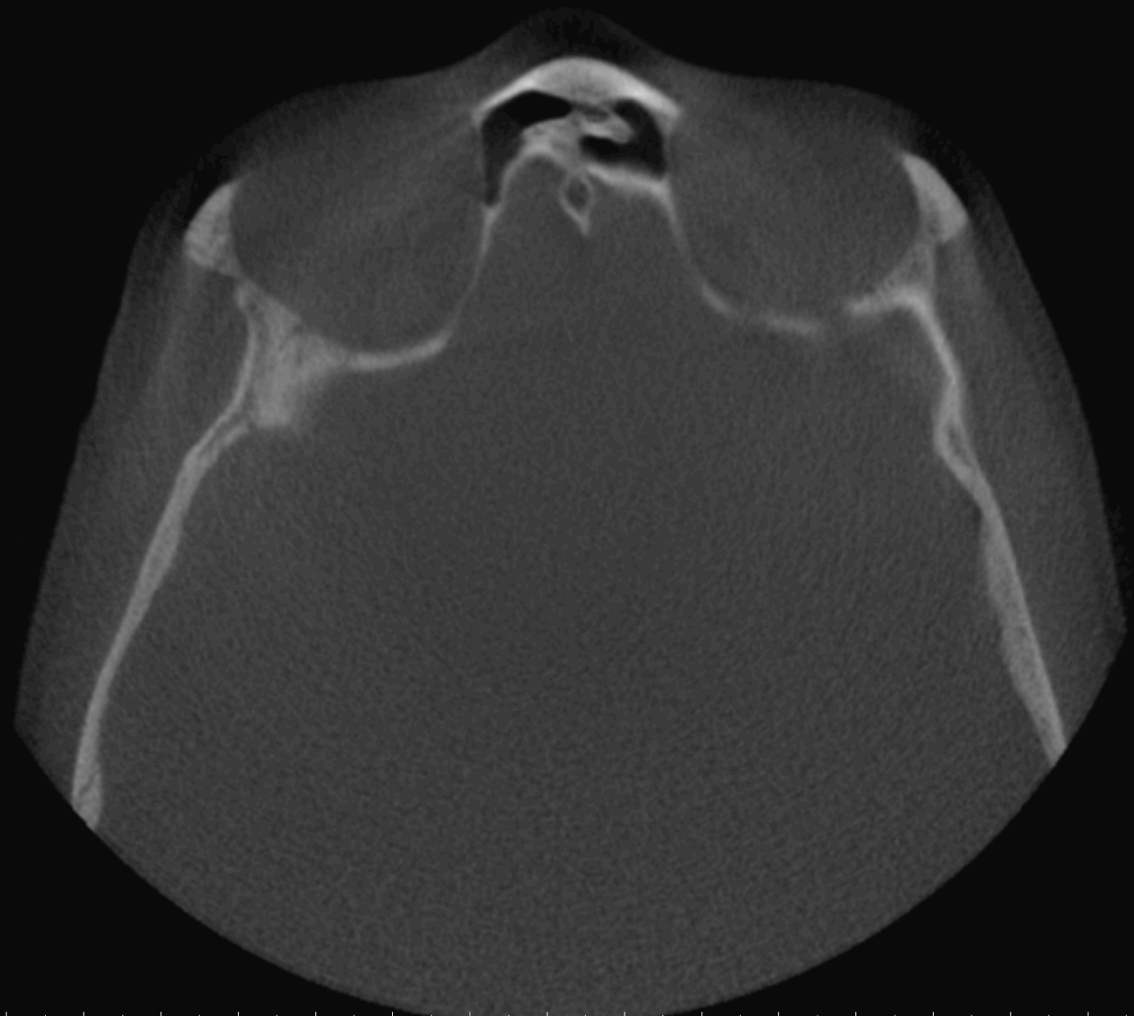
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1.20
cm

R

L



2.50
mm



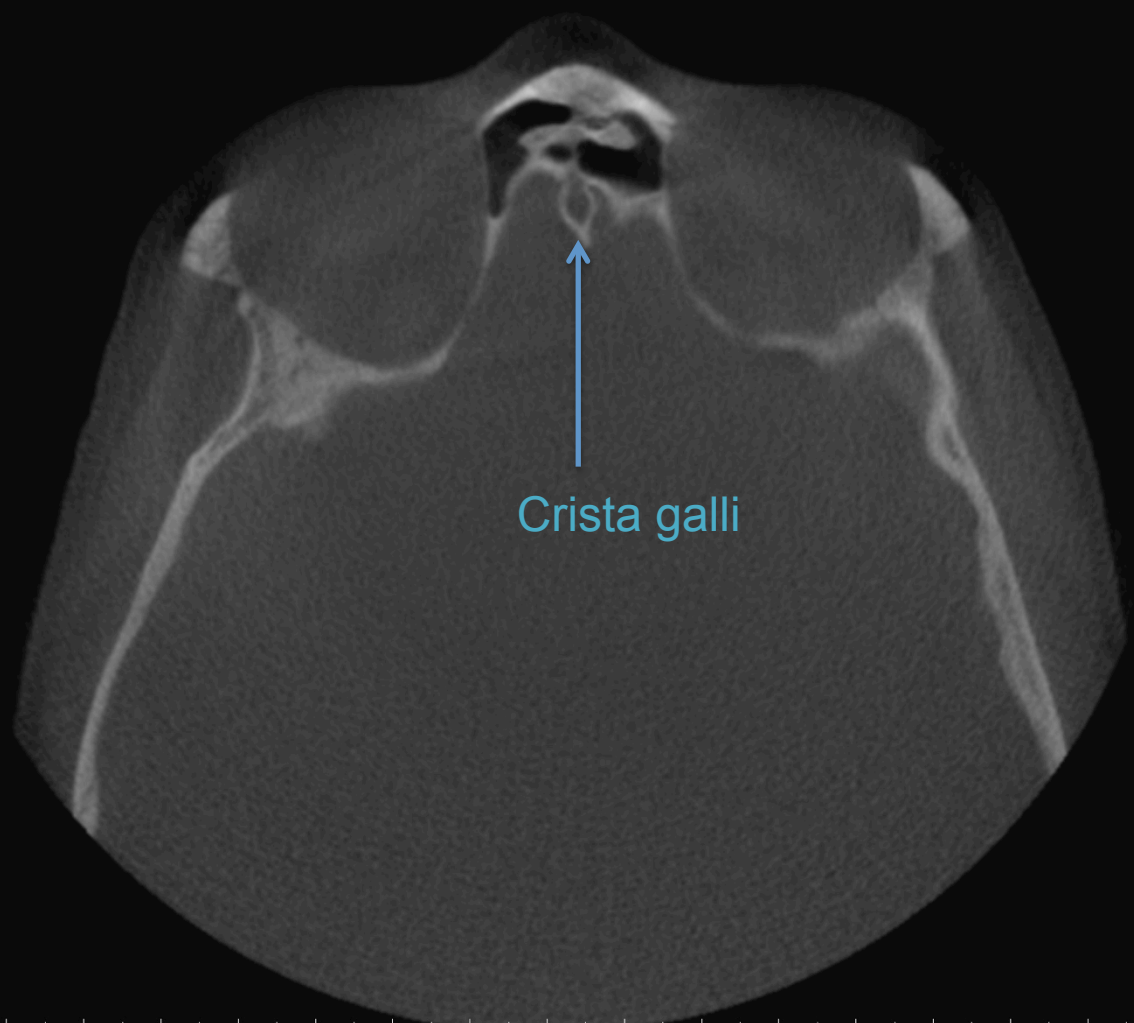
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1.20
(mm)

R

L



Crista galli

2.50
(mm)



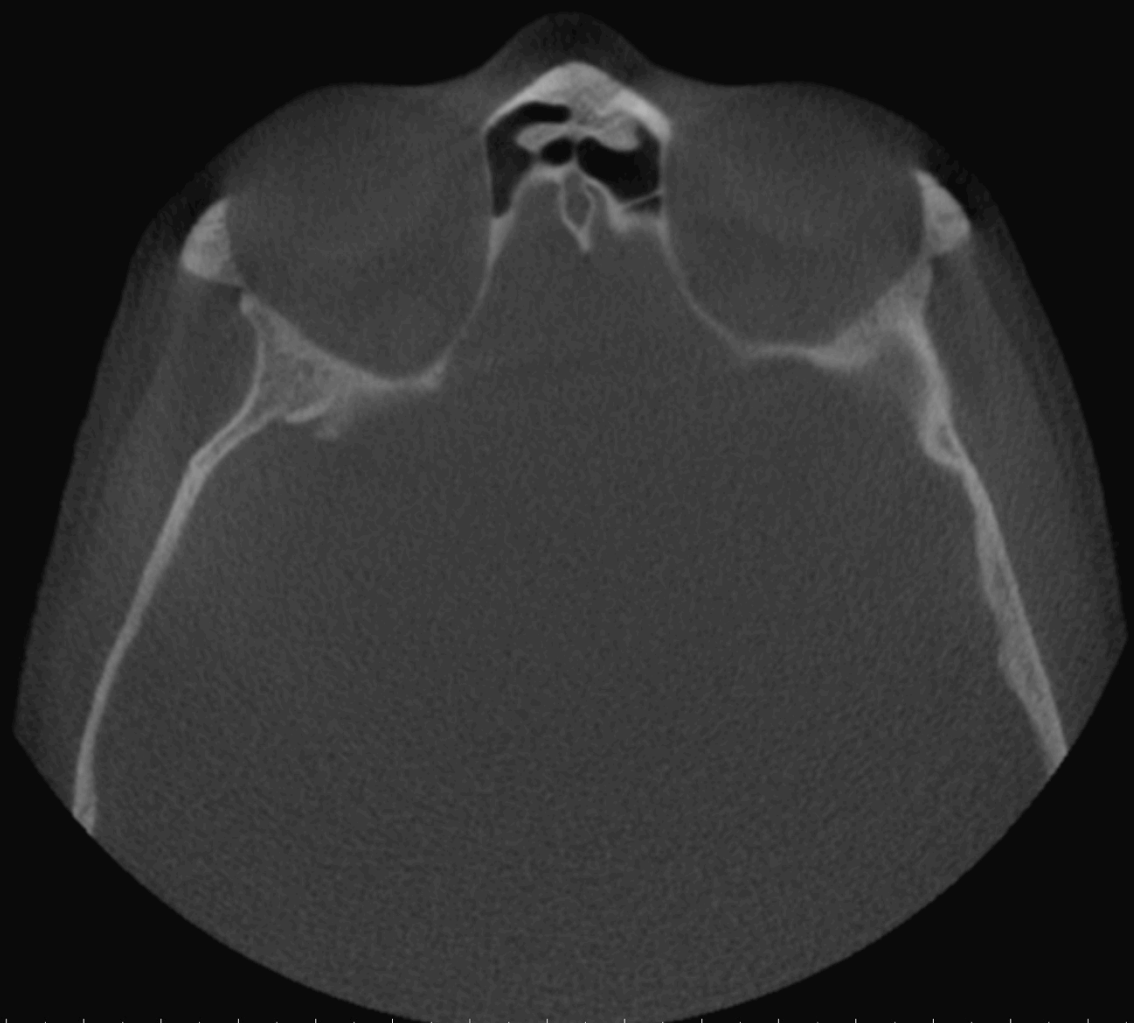
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1.20
cm

R

L



2.50
mm



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1.20
cm

R

L



2.50
mm



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1.20
cm

R

L



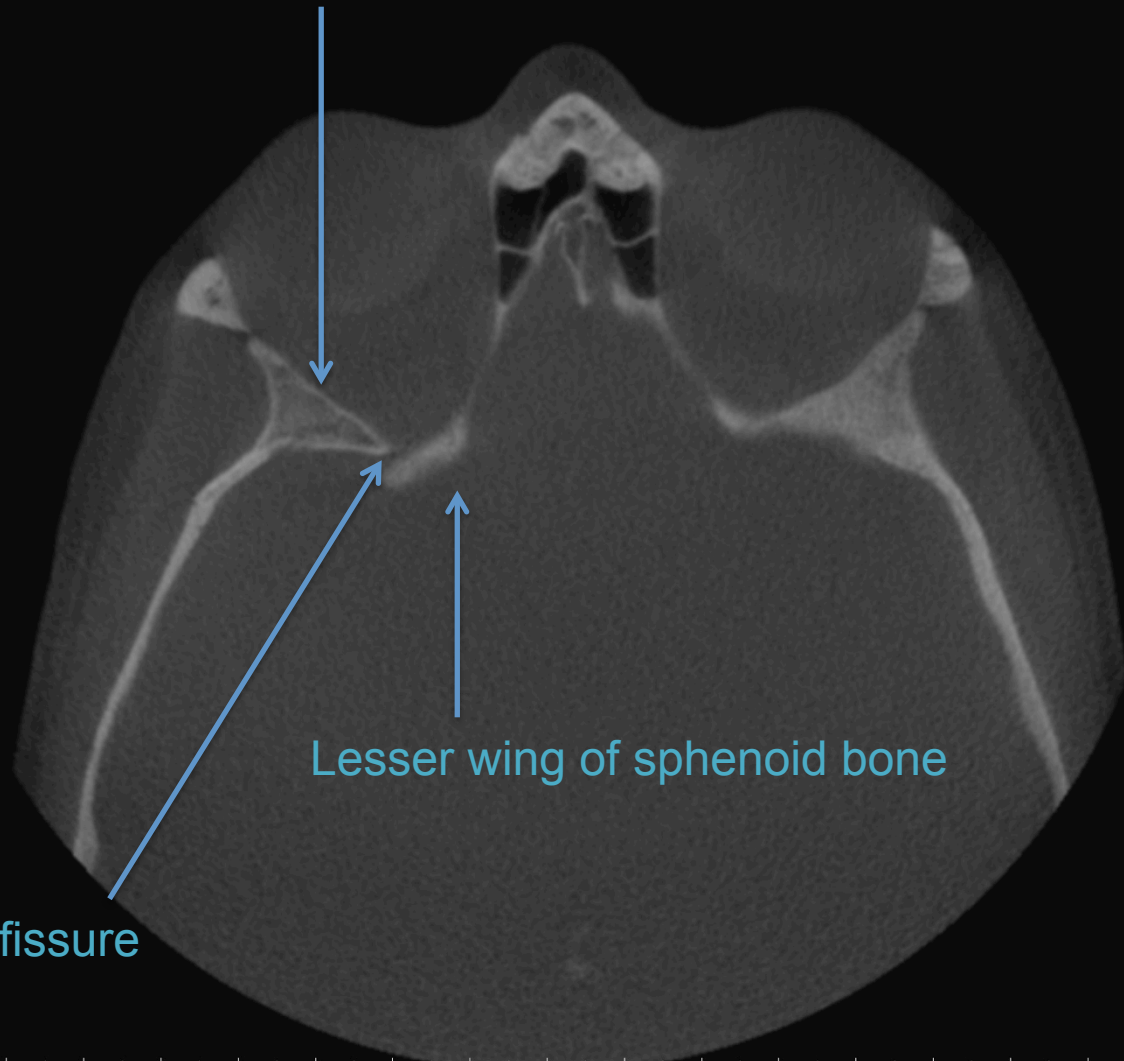
2.50
mm



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Greater wing of sphenoid bone



Lesser wing of sphenoid bone

Superior orbital fissure



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1.20
(mm)

Frontal bone

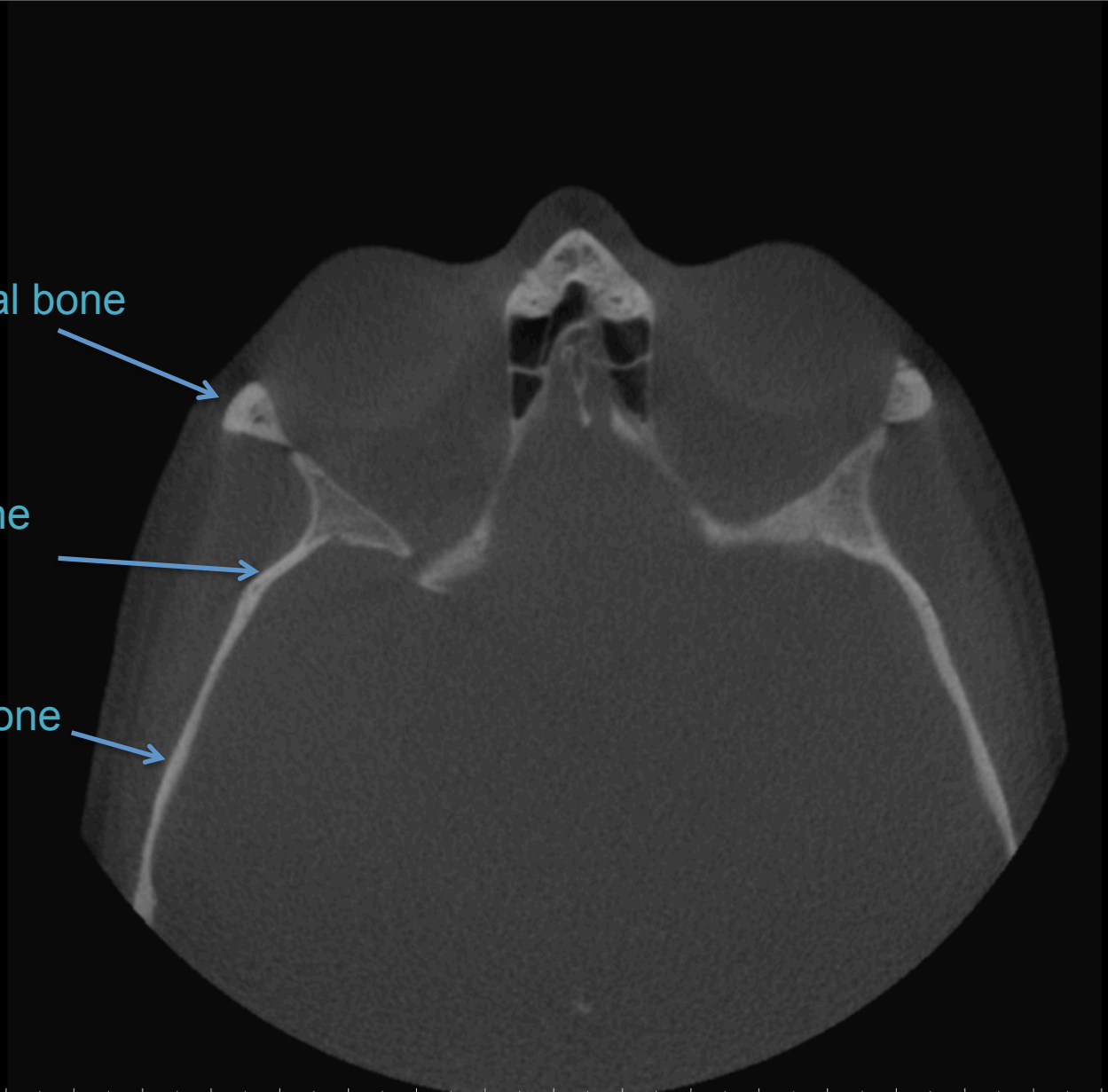


Parietal bone

R



Temporal bone



2.50
(mm)



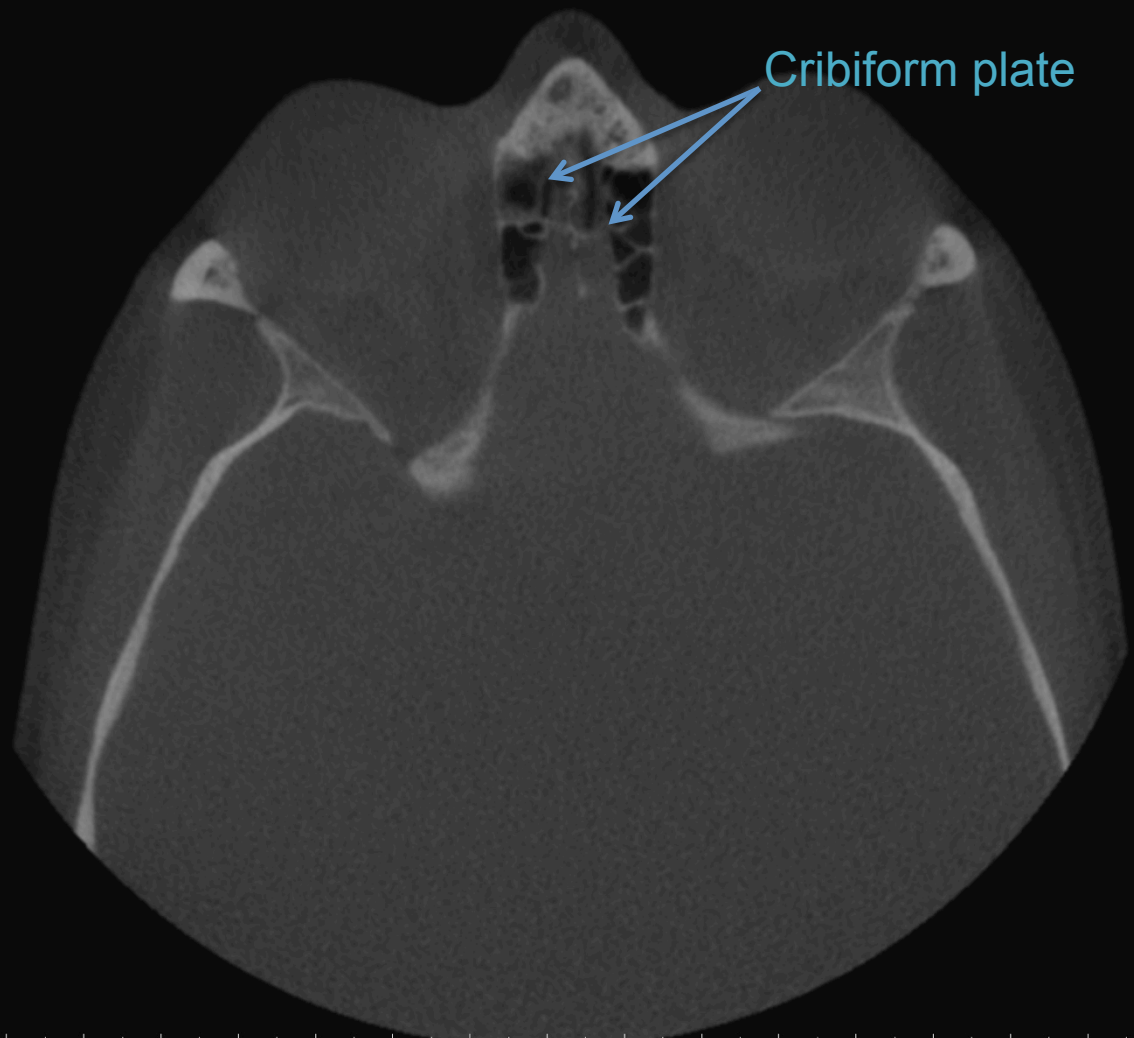
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1.20
(mm)

R

L



2.50
(mm)



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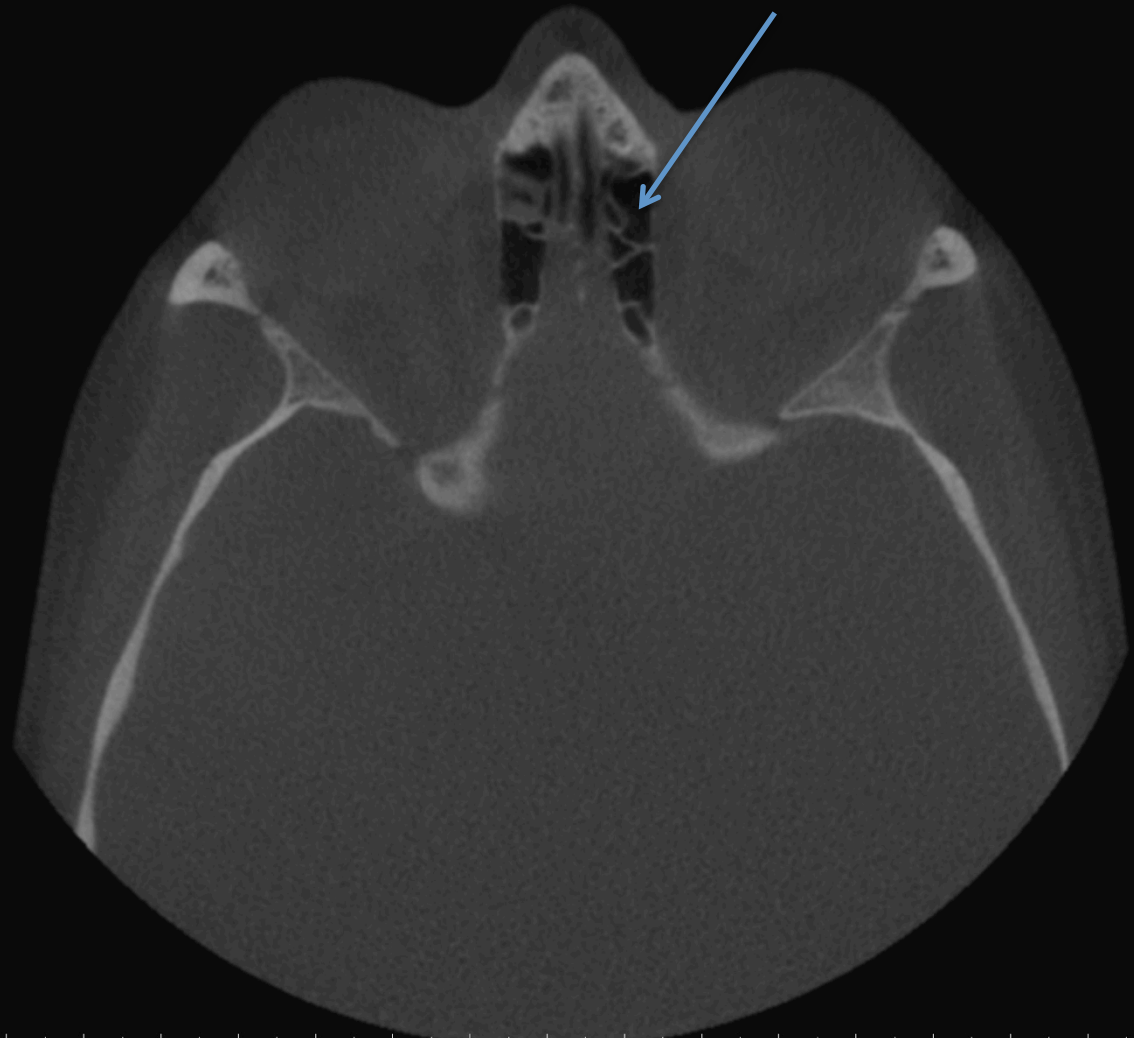
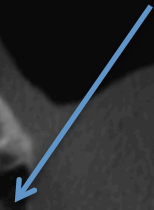
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1.20
(mm)

R

L

Ethmoidal air cells



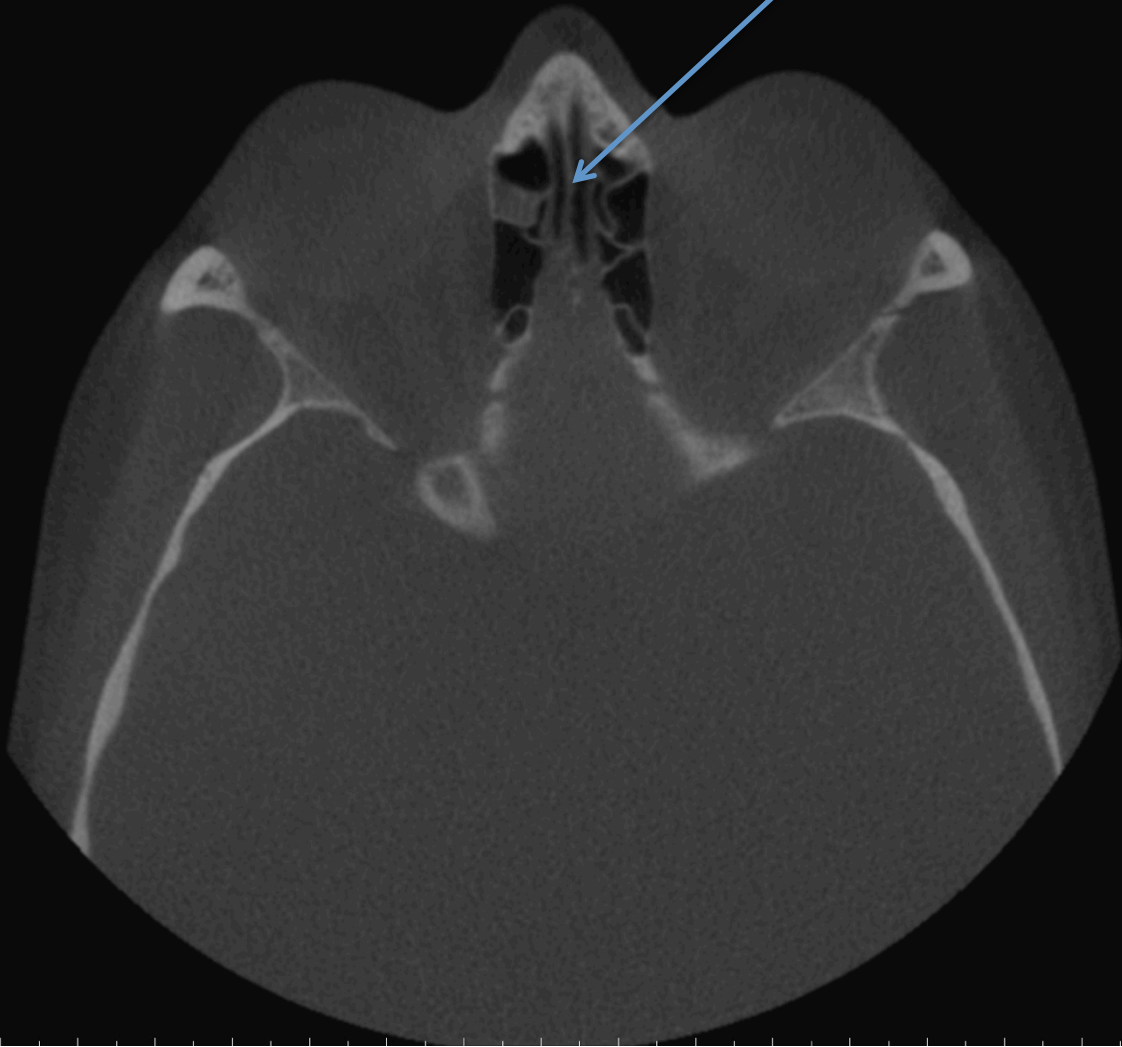
2.50
(mm)



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Nasal septum



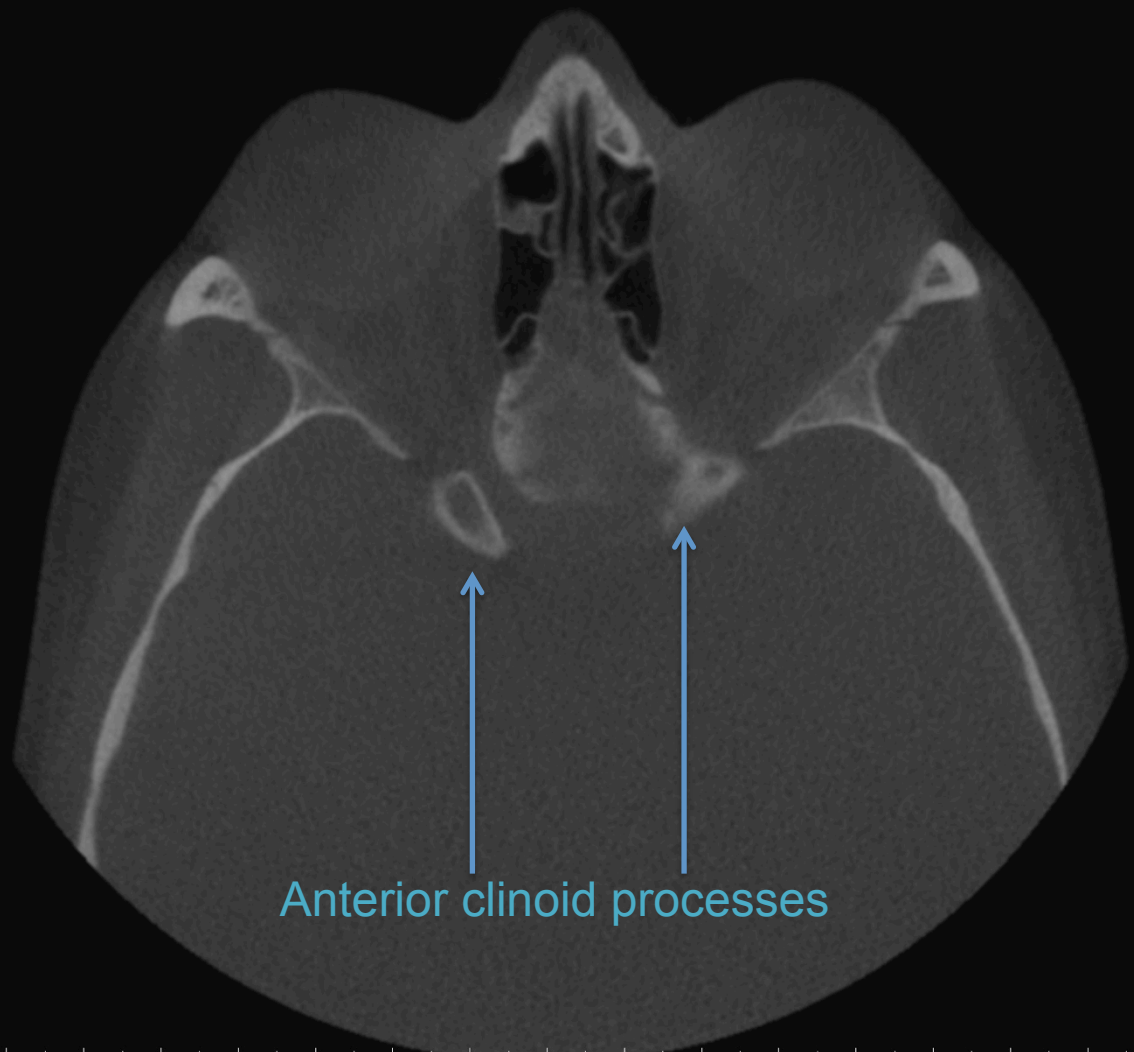
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1.20
(mm)

R

L



Anterior clinoid processes

2.50
(mm)



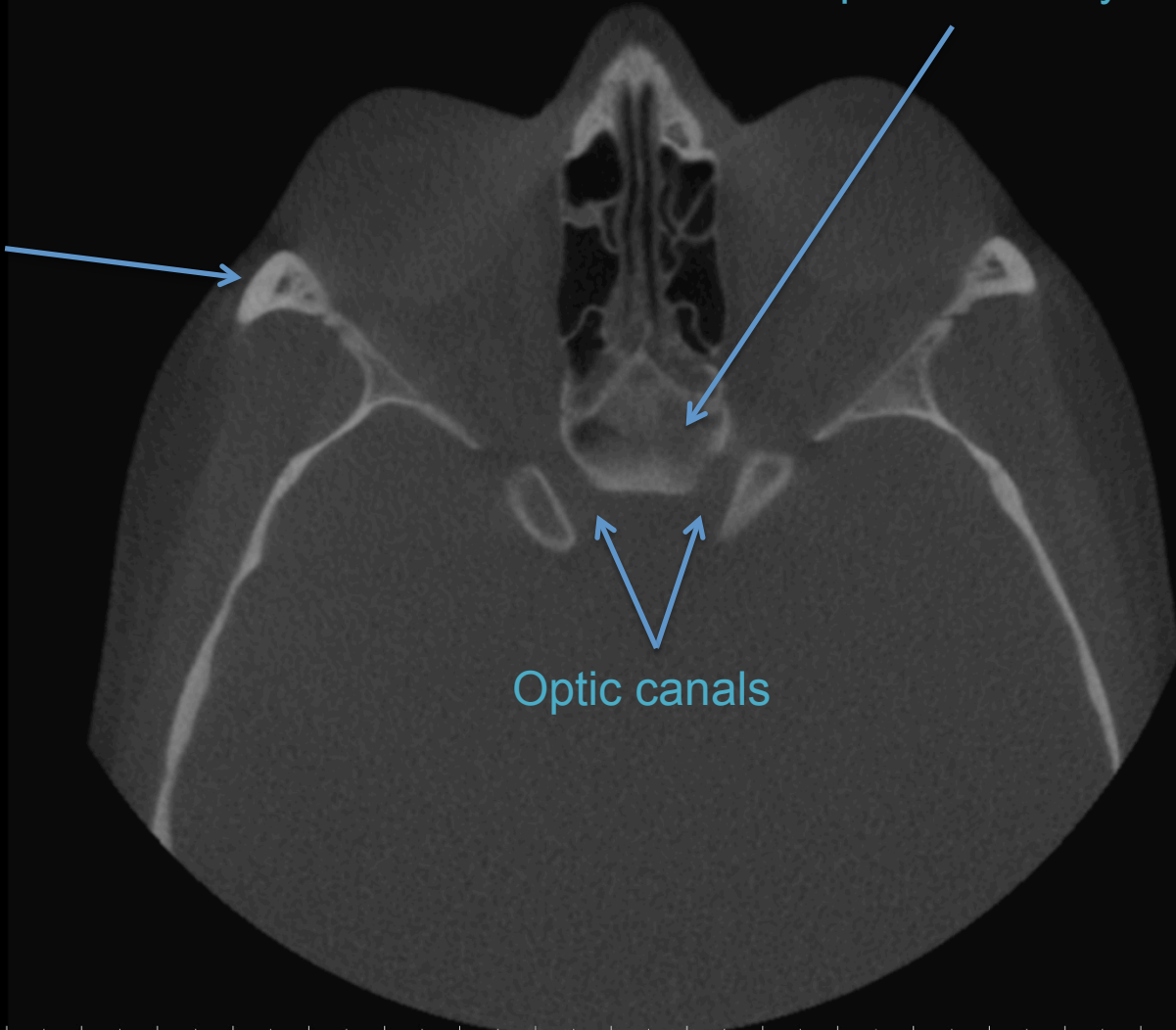
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Zygoma

Sphenoid body

Optic canals



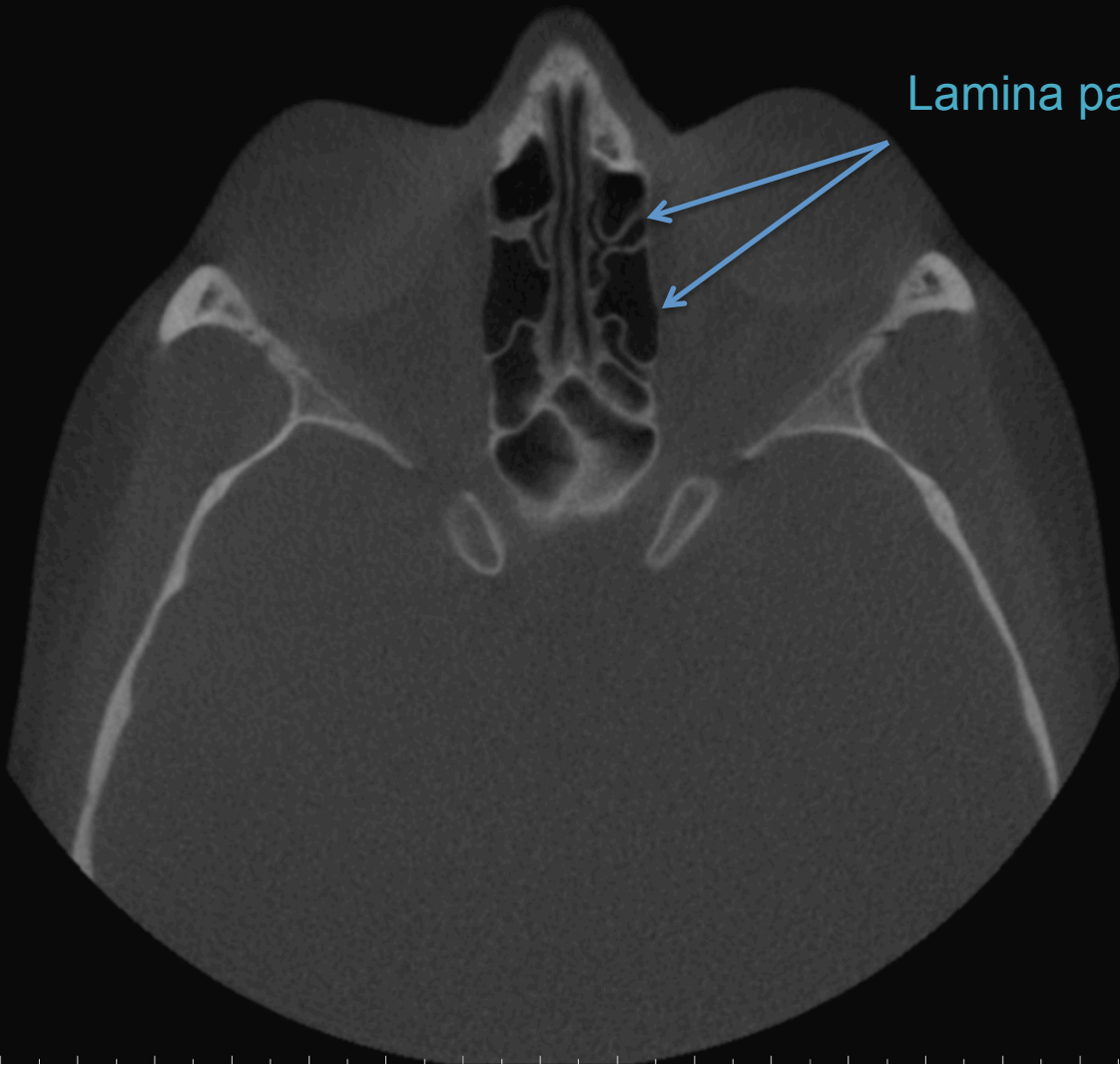
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1.20
(mm)

R

L



2.50
(mm)



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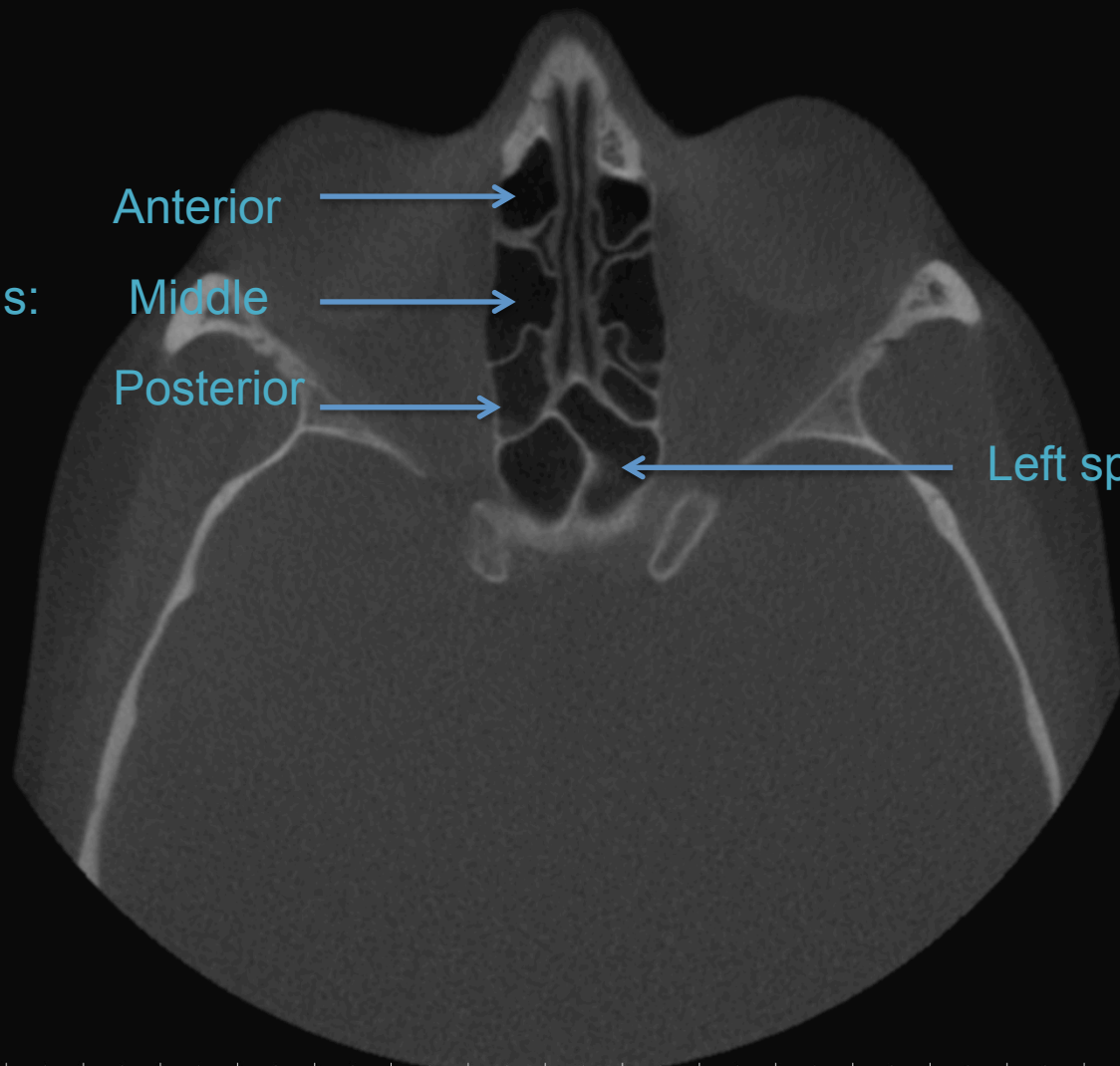
Ethmoid air cells:

Anterior →

Middle →

Posterior →

← Left sphenoid sinus



1.20
cm

R

L



2.50
mm



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1.20
(mm)

R

L

Pituitary fossa →

2.50
(mm)



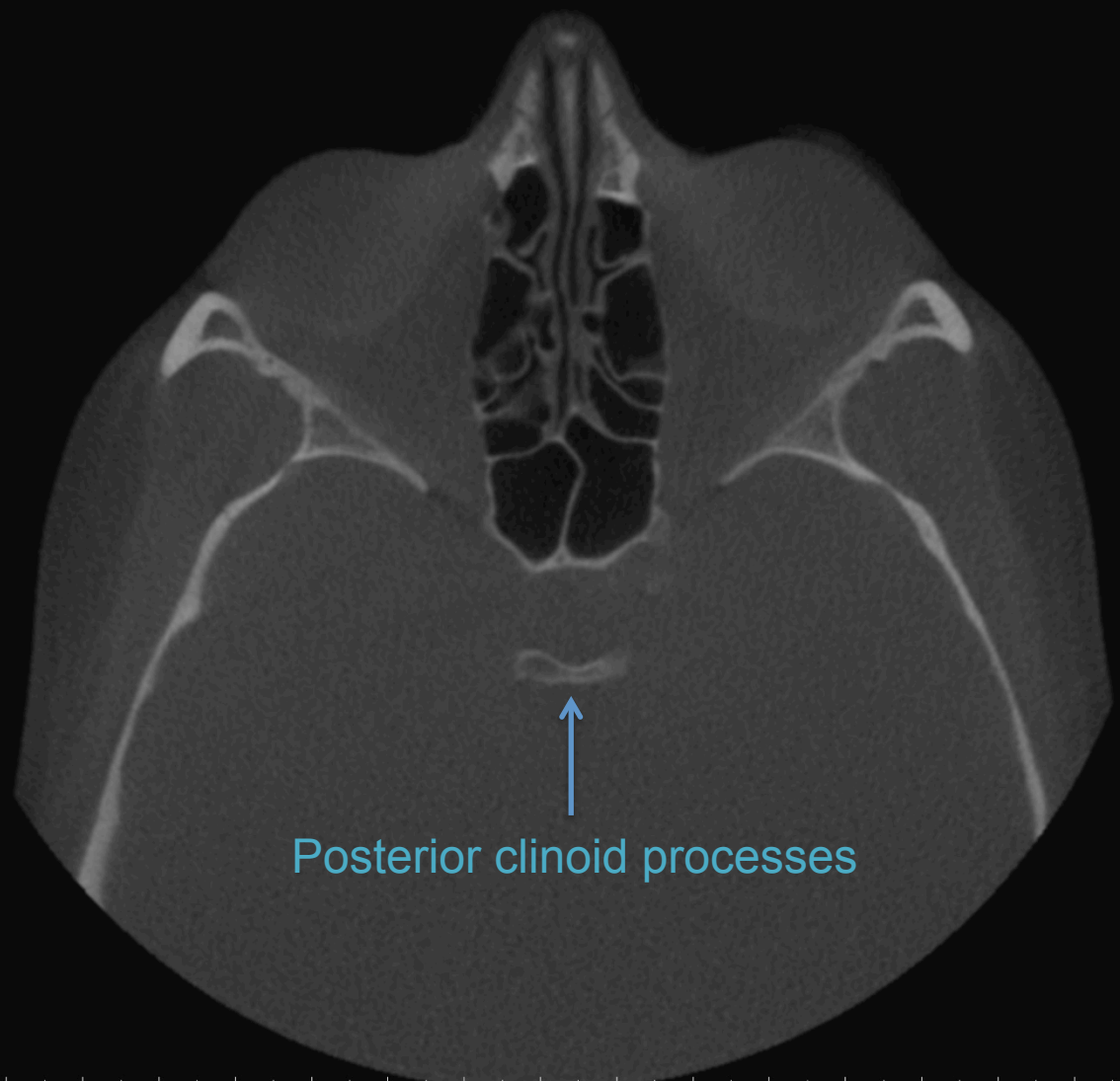
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1.20
(mm)

R

L



Posterior clinoid processes

2.50
(mm)



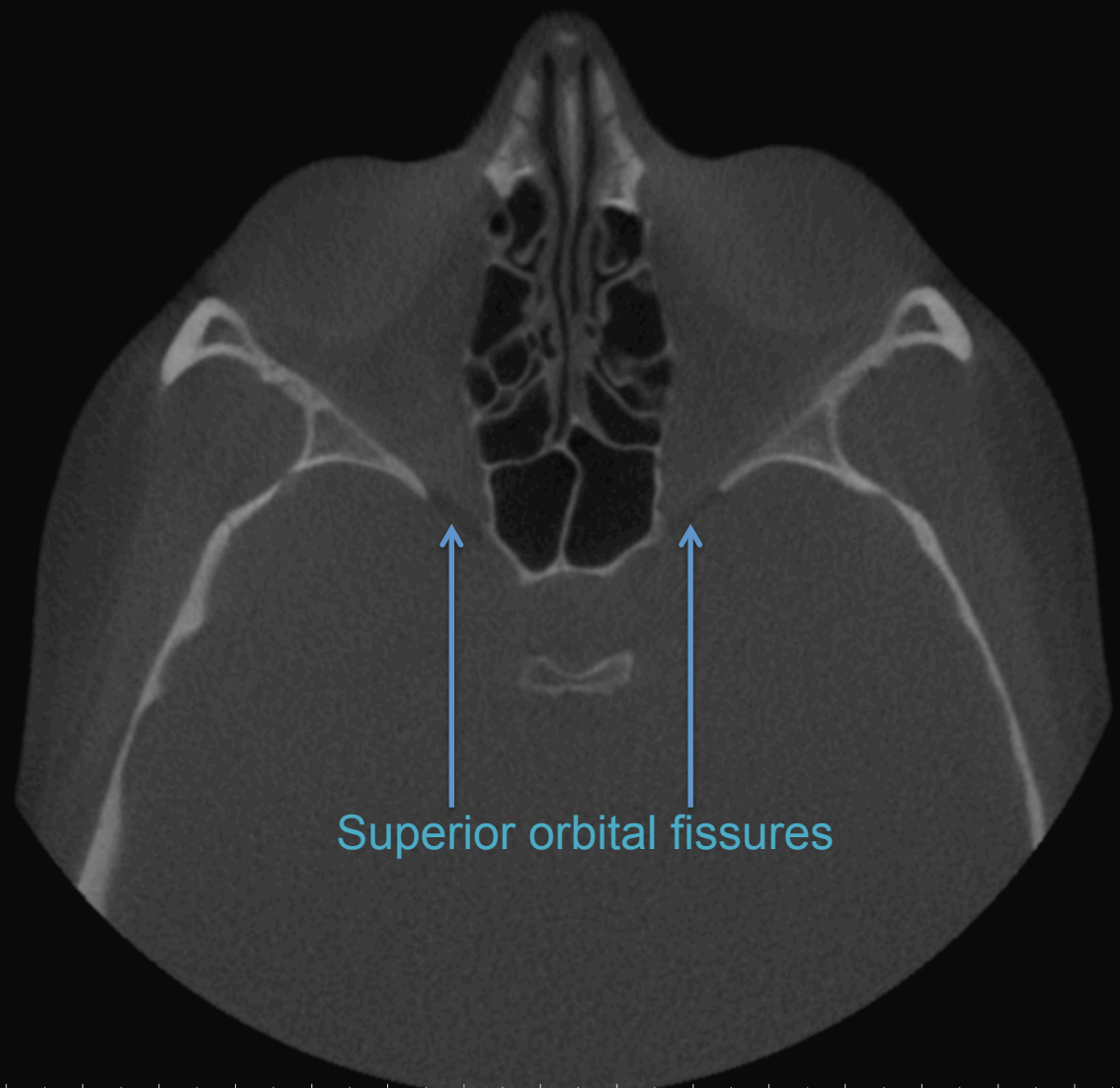
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1.20
cm

R

L



Superior orbital fissures

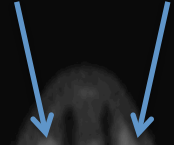
2.50
mm



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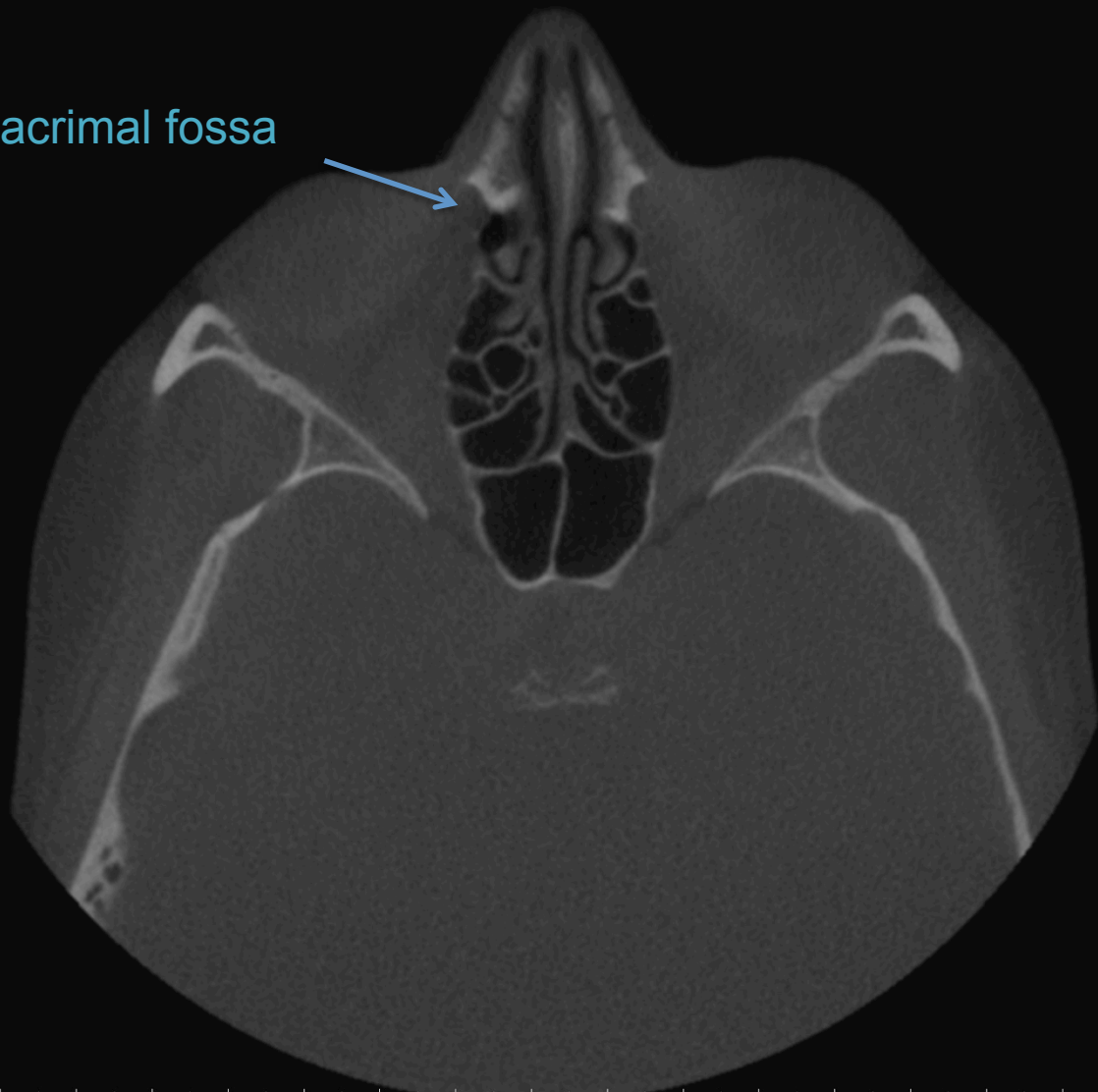
Nasal bones



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Right nasolacrimal fossa



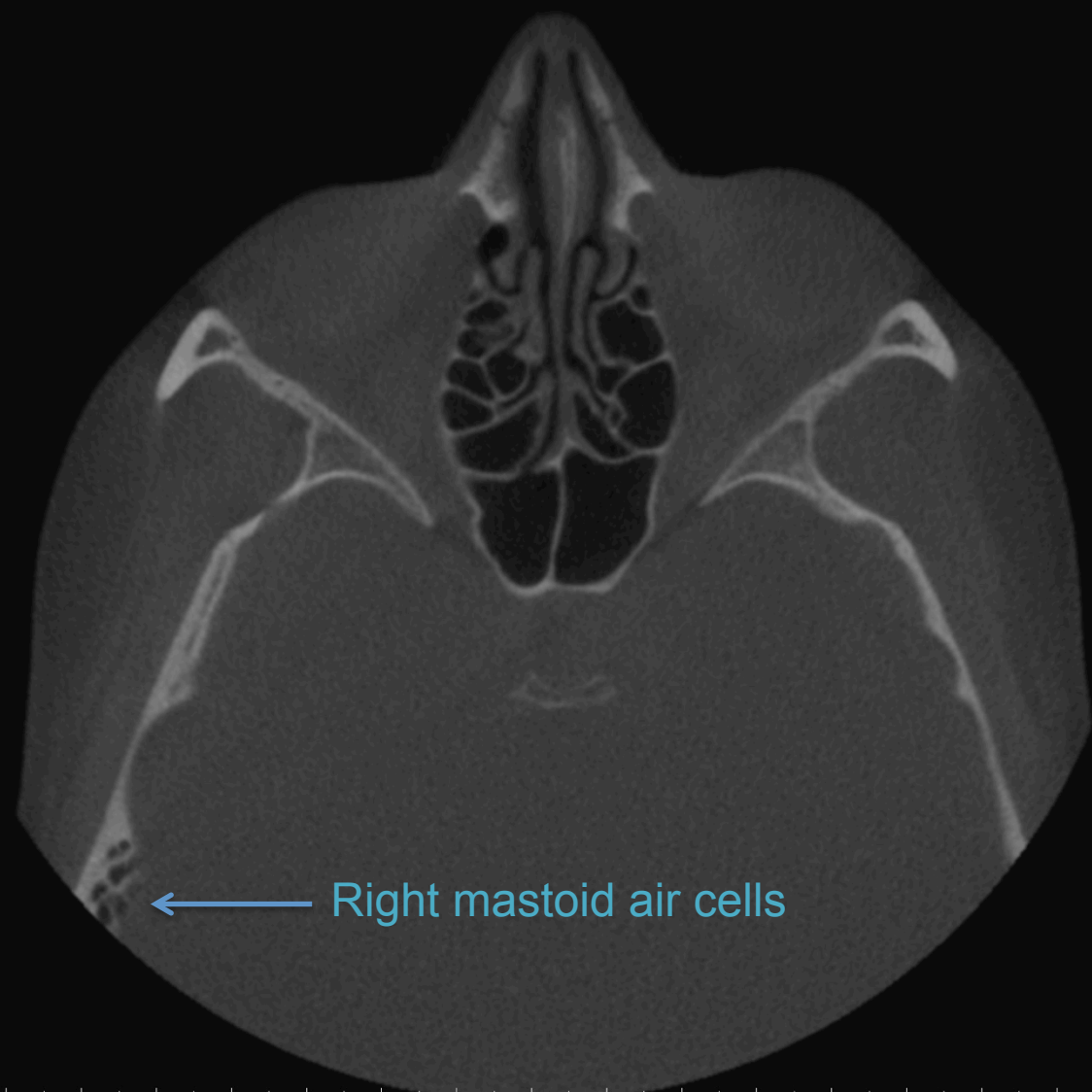
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1.20
(mm)

R

L



← Right mastoid air cells

2.50
(mm)

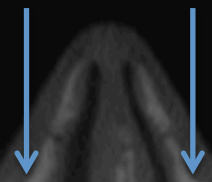


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1.50 (mm)

Lacrimal bones



Middle cranial fossa

R

L

2.50 (mm)



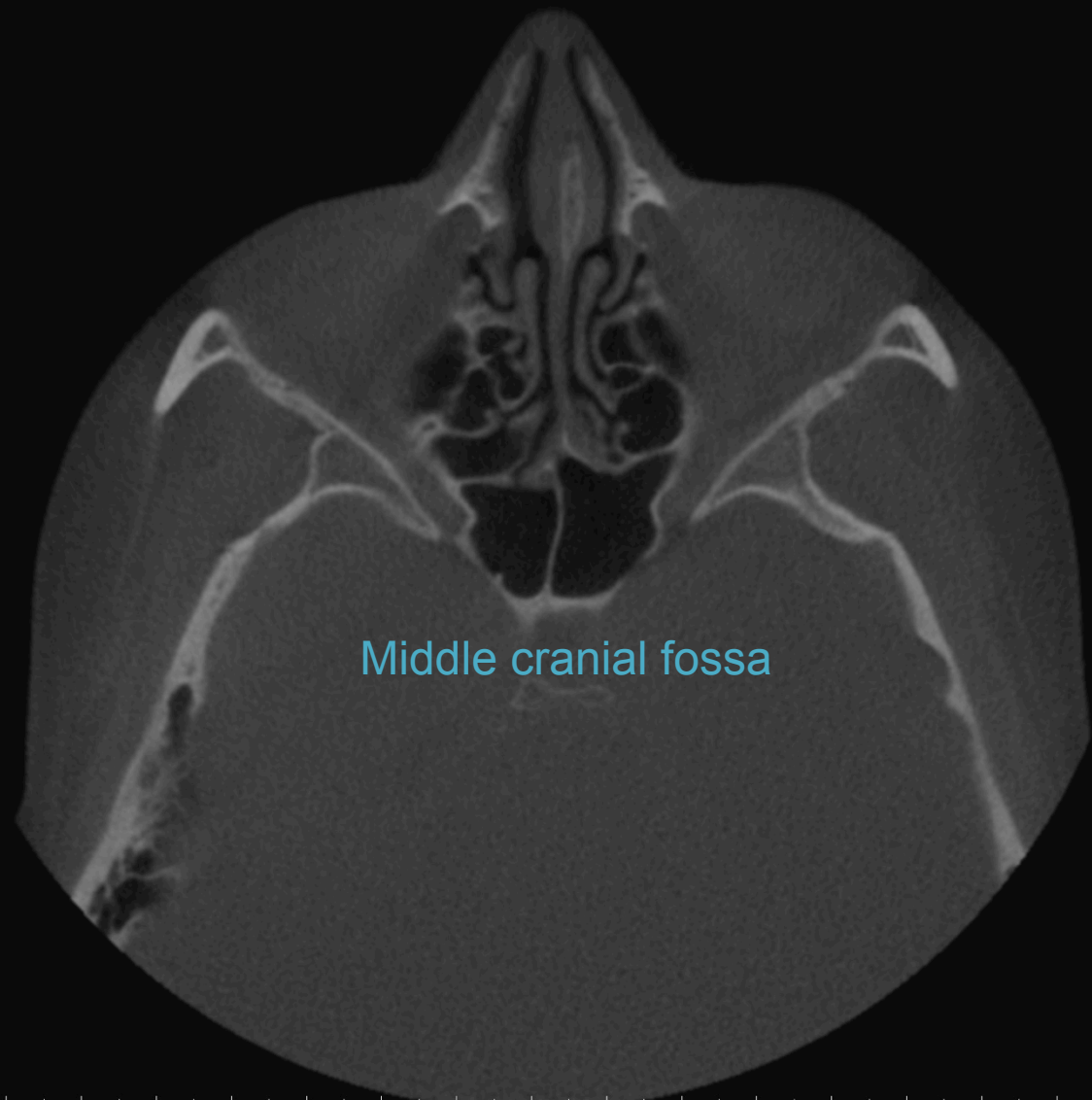
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1.20
cm

R

L



Middle cranial fossa

2.50
mm



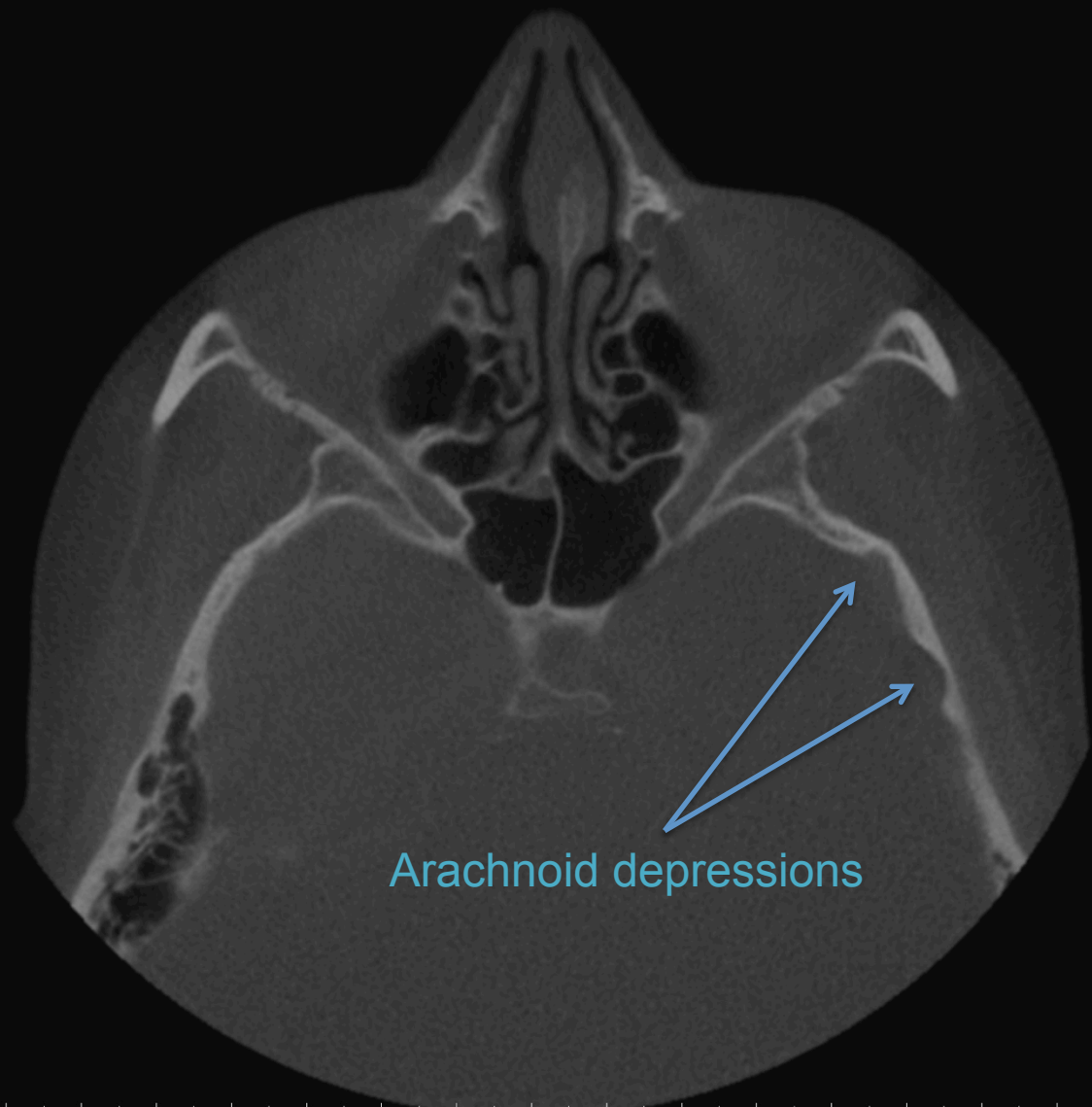
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1.20
(mm)

R

L



Arachnoid depressions

2.50
(mm)



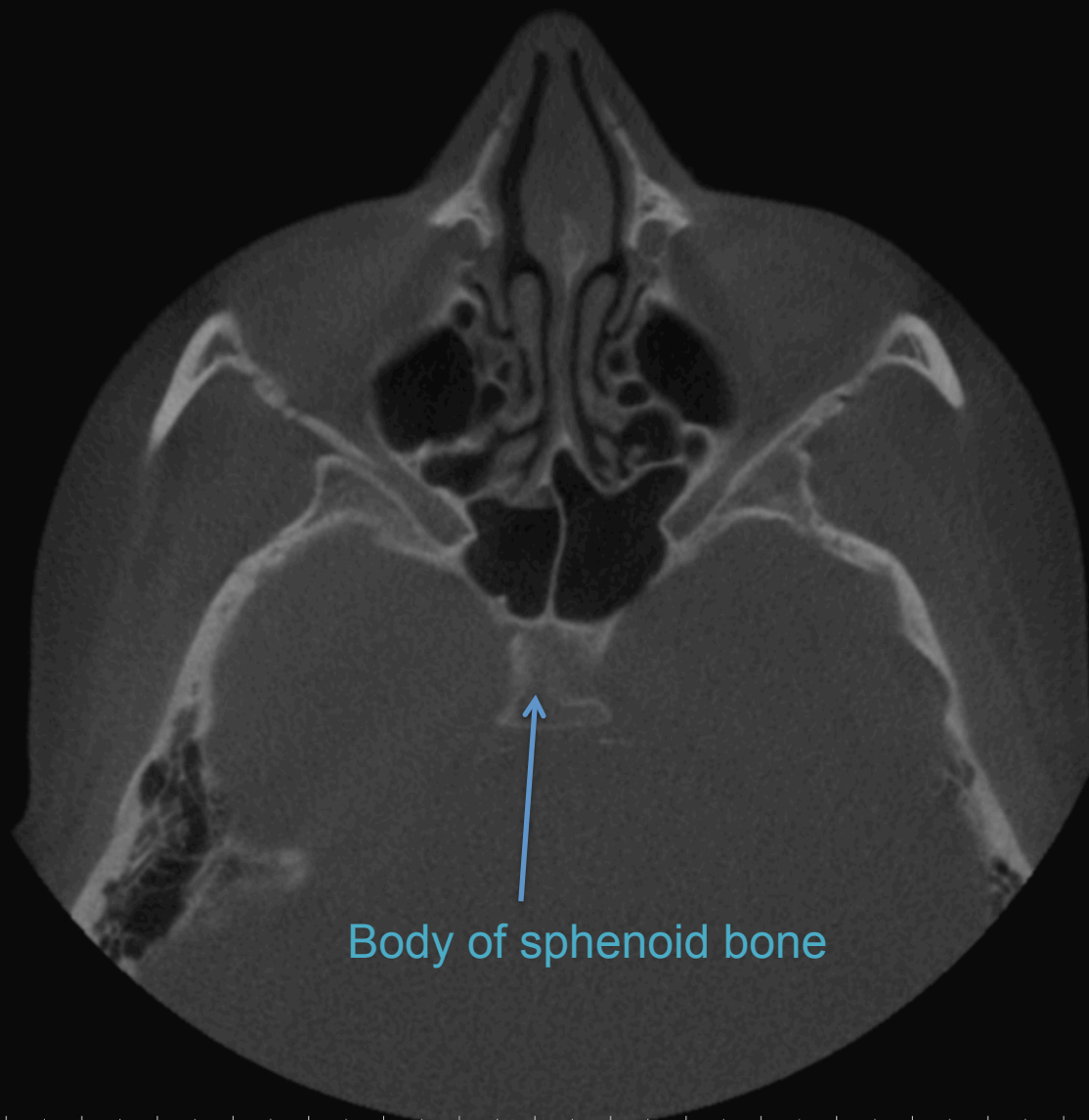
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1.20
cm

R

L



Body of sphenoid bone

2.50
mm

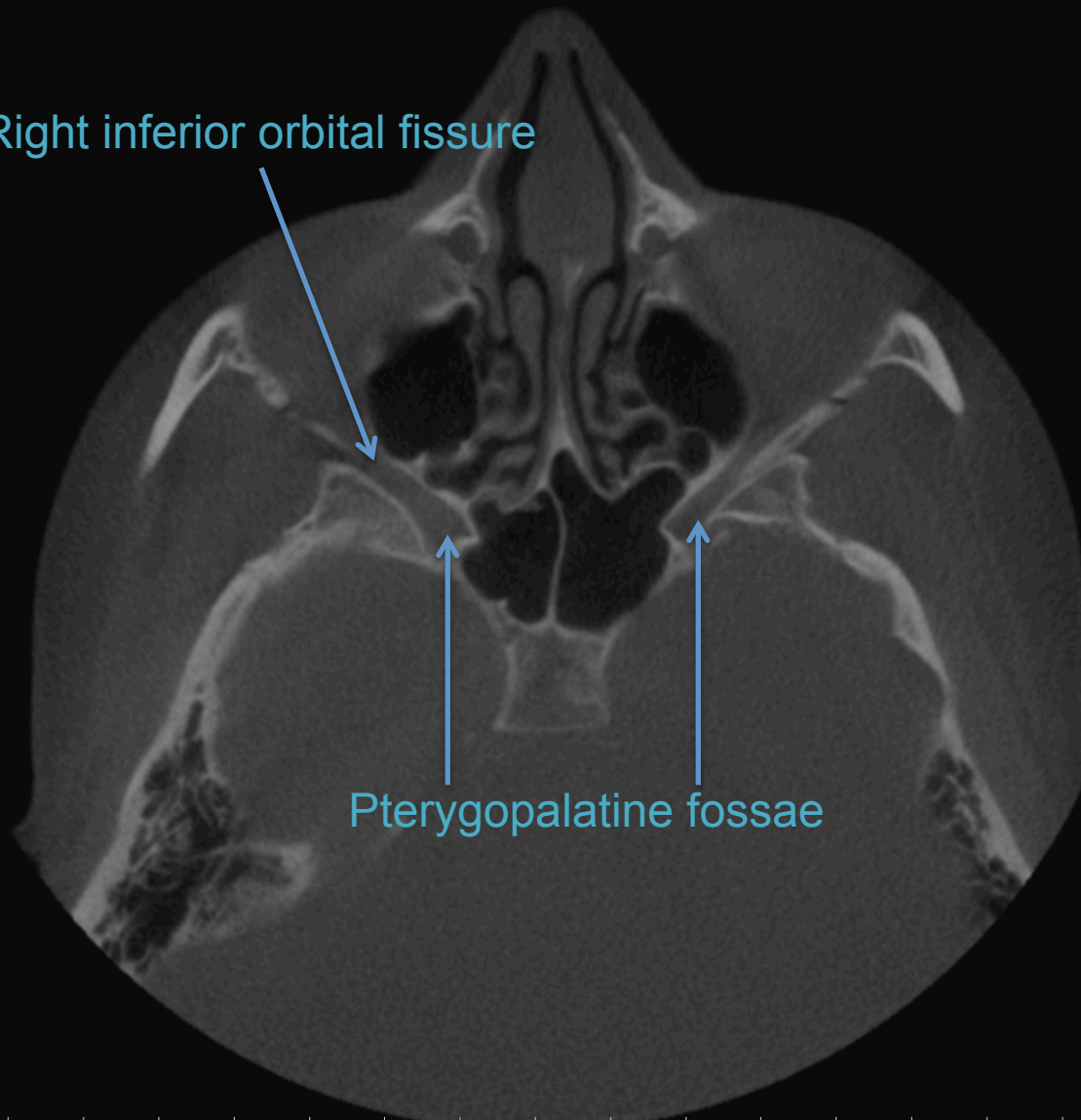


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1.20 (mm)

Right inferior orbital fissure



Inferior orbital fissure

PPF

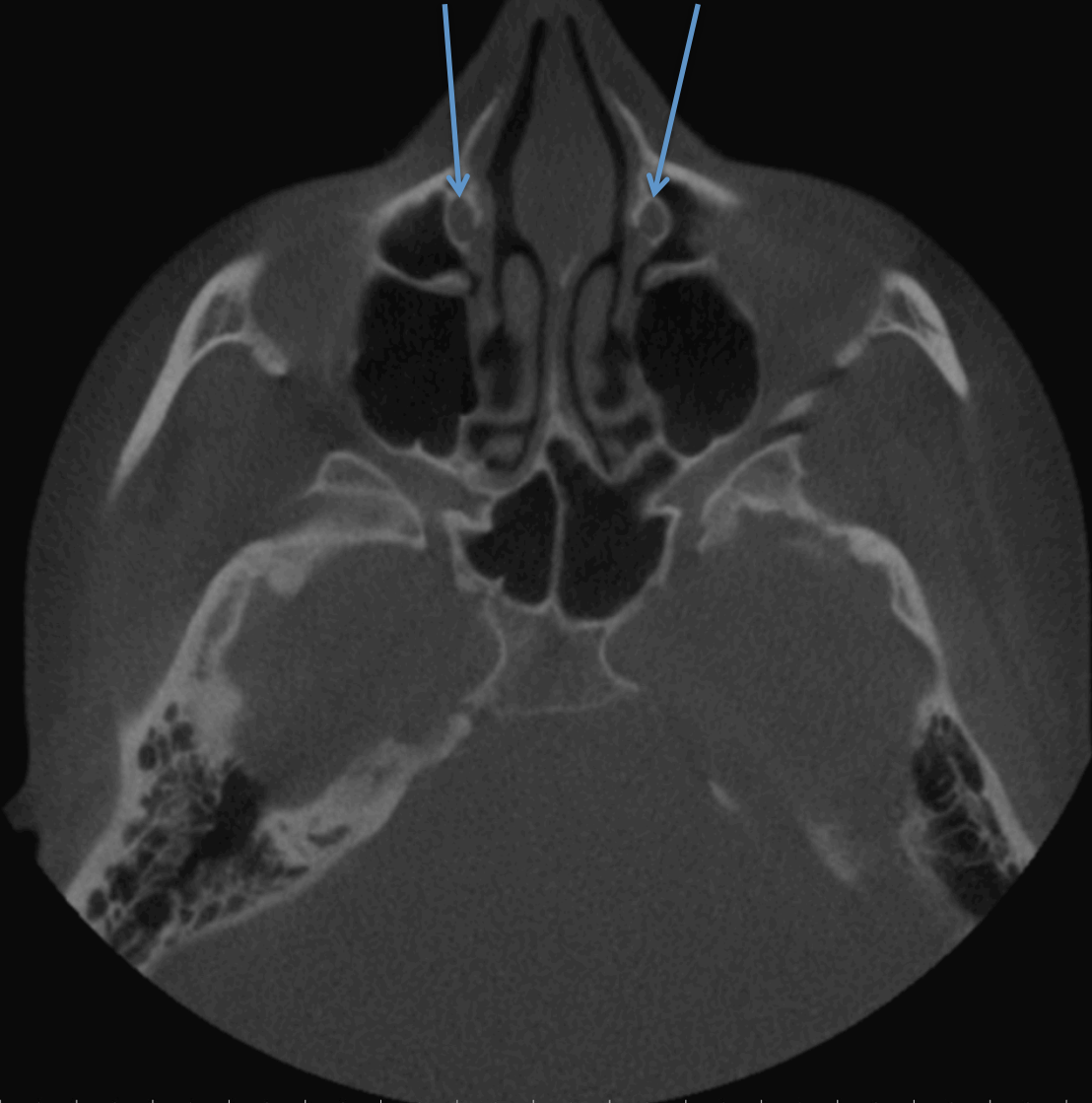
Foramen rotundum



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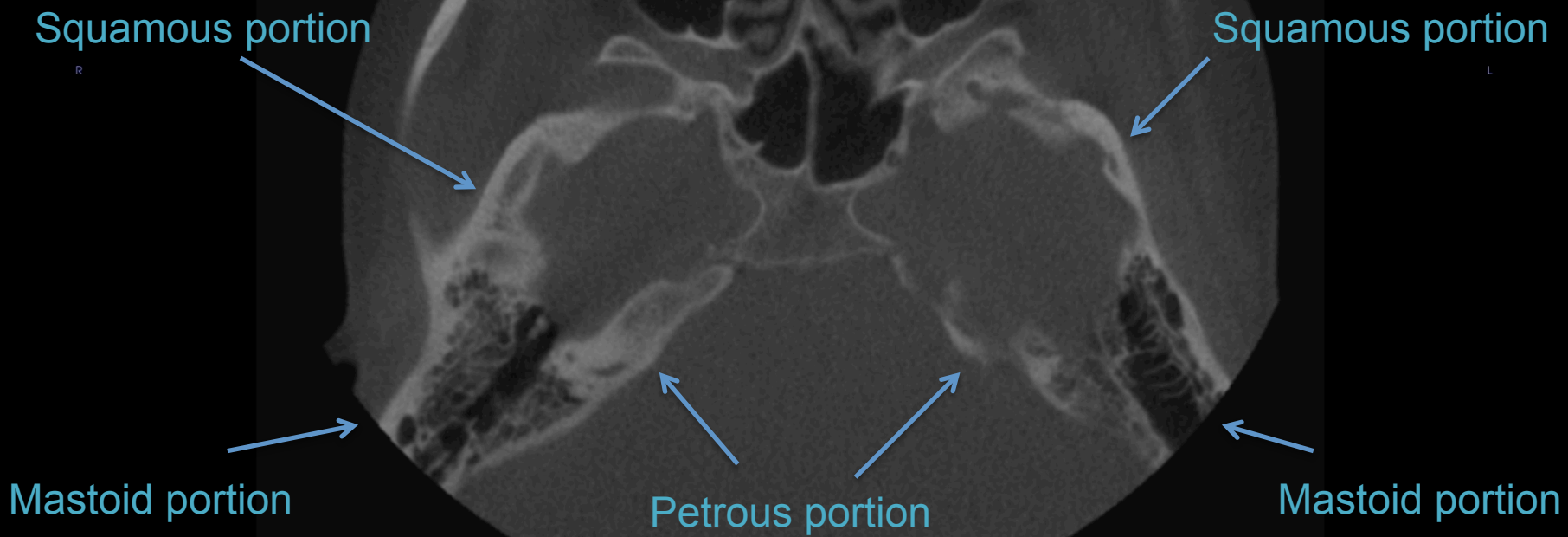
Nasolacrimal ducts



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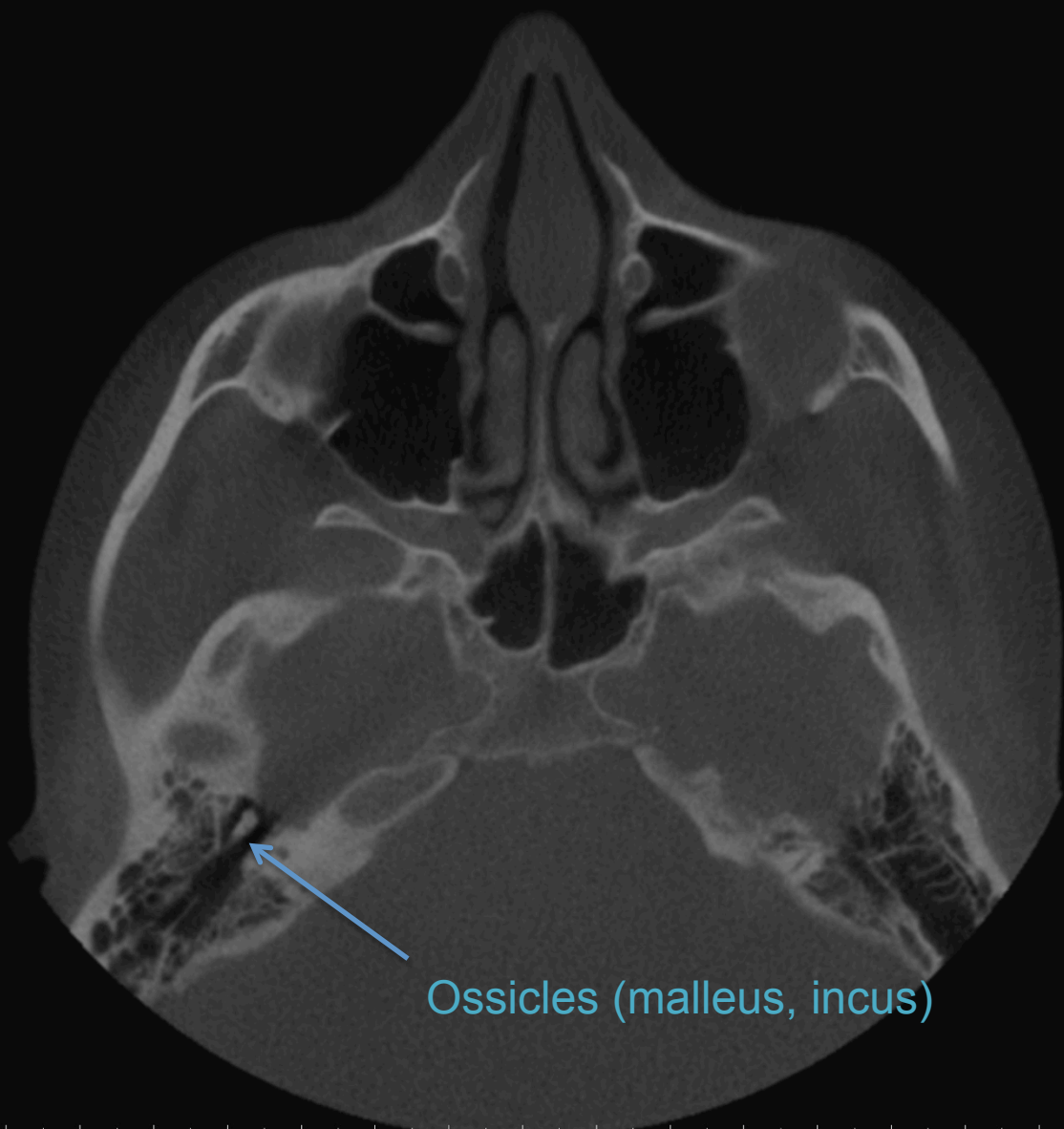
Temporal Bones



1.20
(mm)

R

L



Ossicles (malleus, incus)

2.50
(mm)



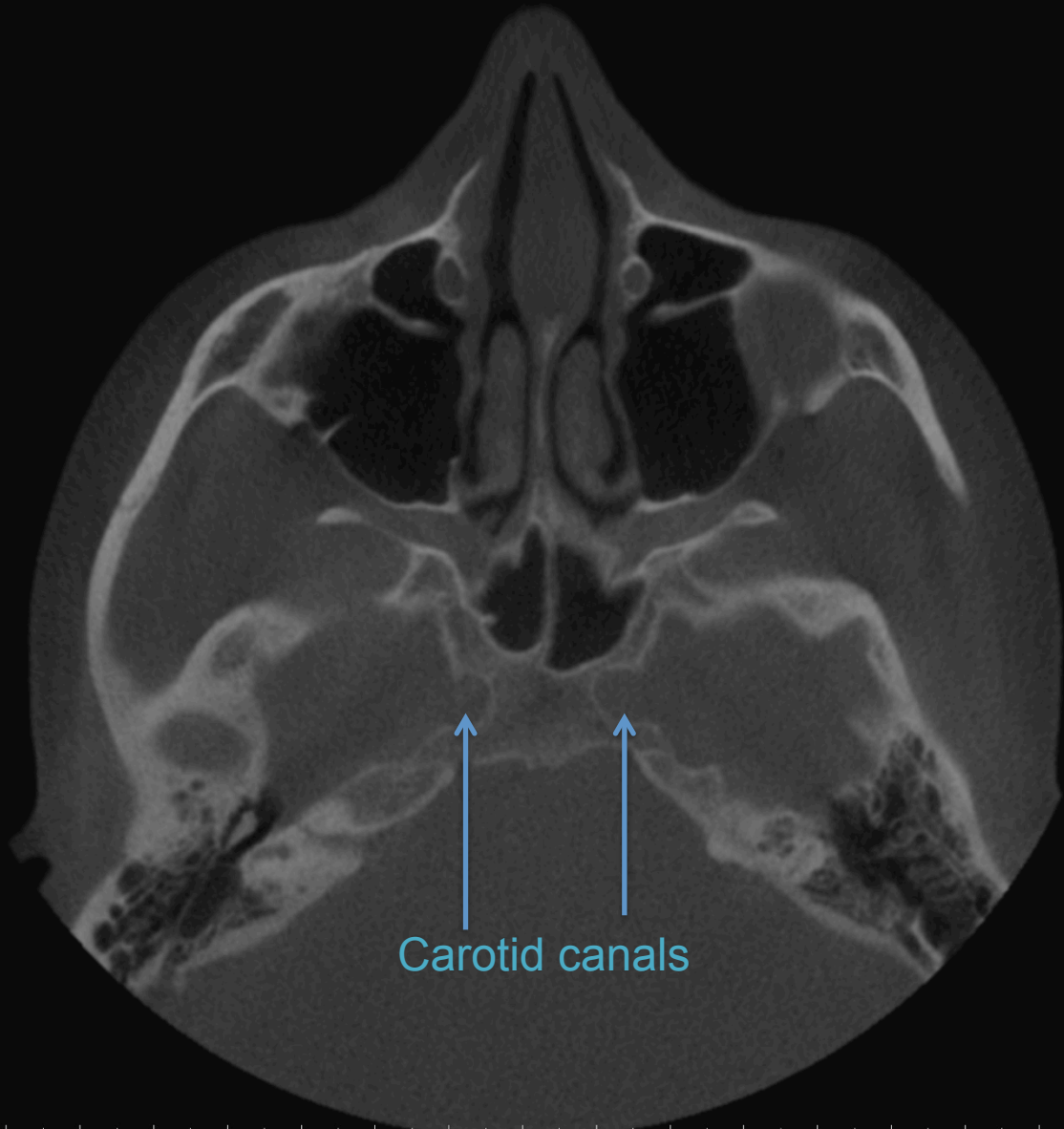
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1.20
(mm)

R

L



Carotid canals

2.50
(mm)



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Zygomatic arch →

Glenoid fossa →



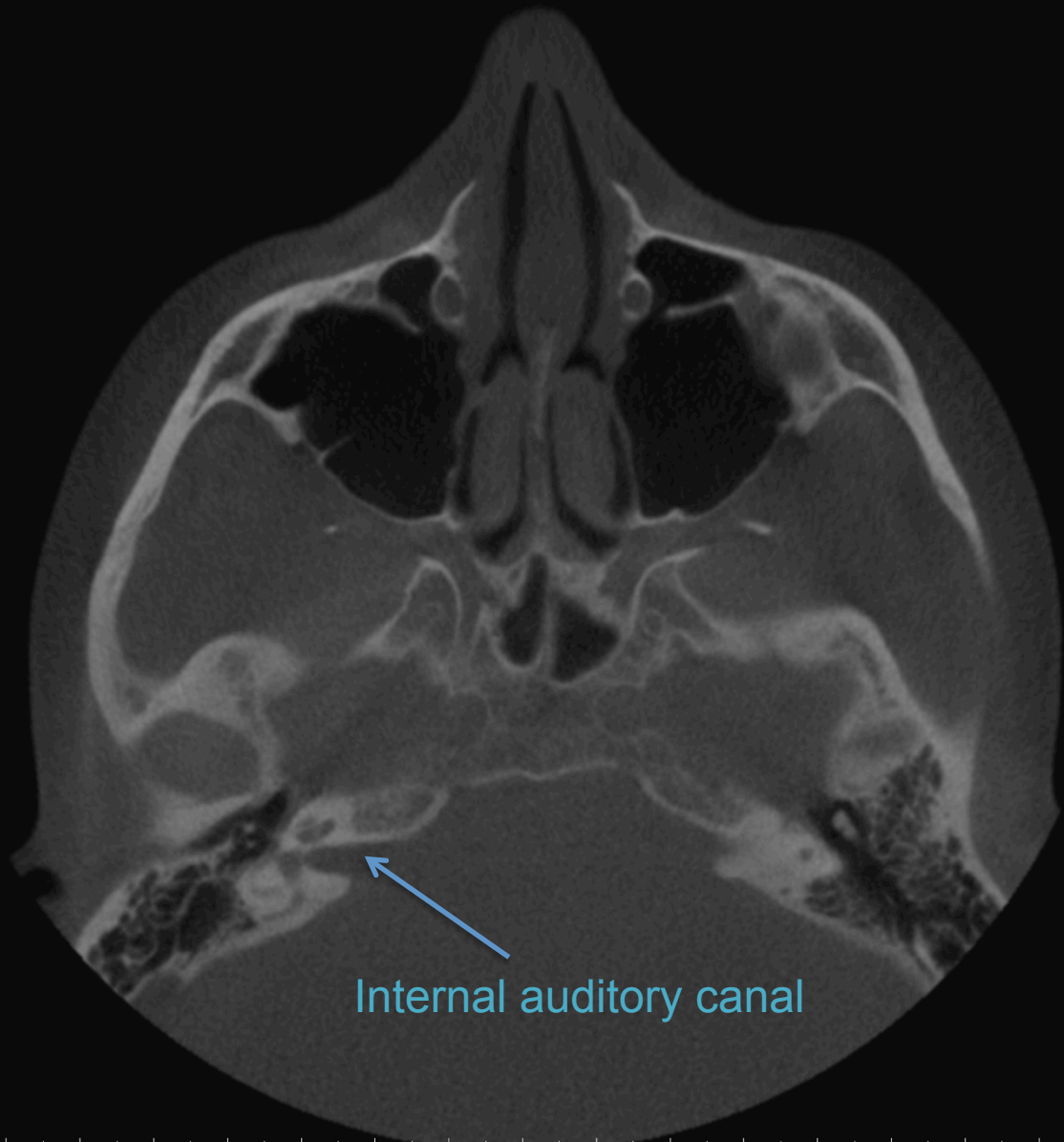
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1.20
(mm)

R

L



Internal auditory canal

2.50
(mm)



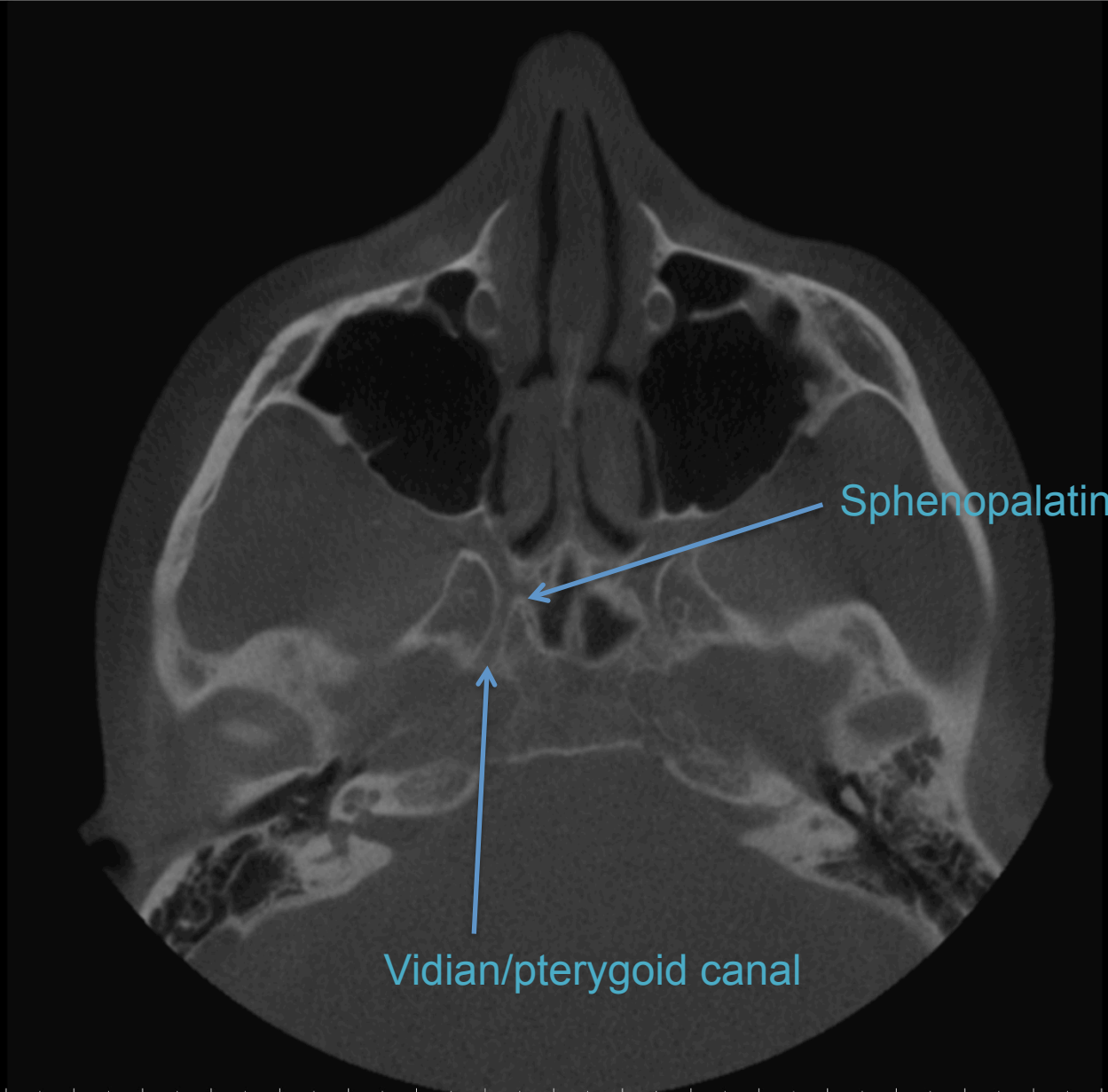
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1.20
cm

R

L



Sphenopalatine foramen

Vidian/pterygoid canal

2.50
mm



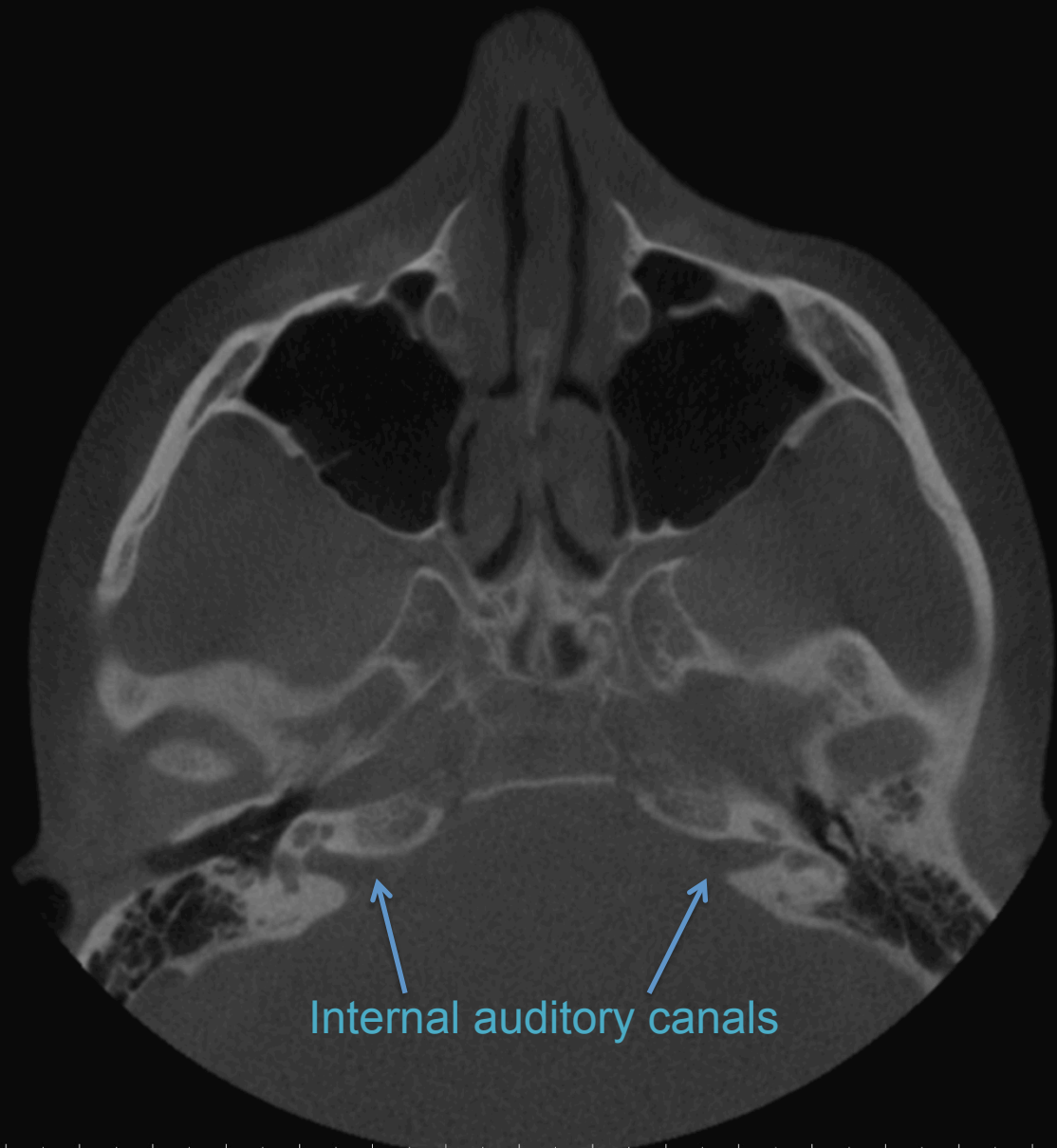
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1.20
cm

R

L



Internal auditory canals

2.50
mm



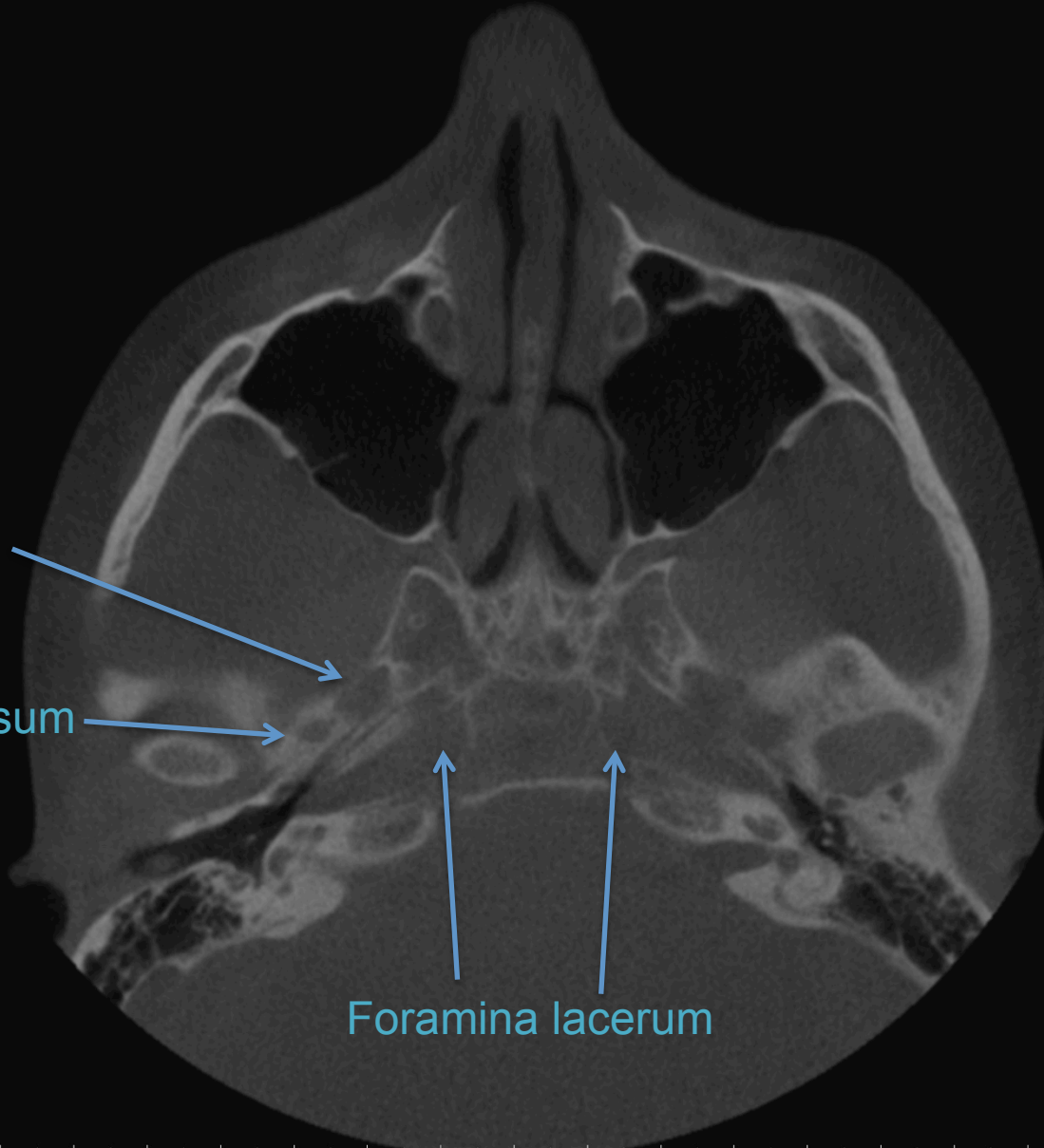
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Foramen ovale

Foramen spinosum

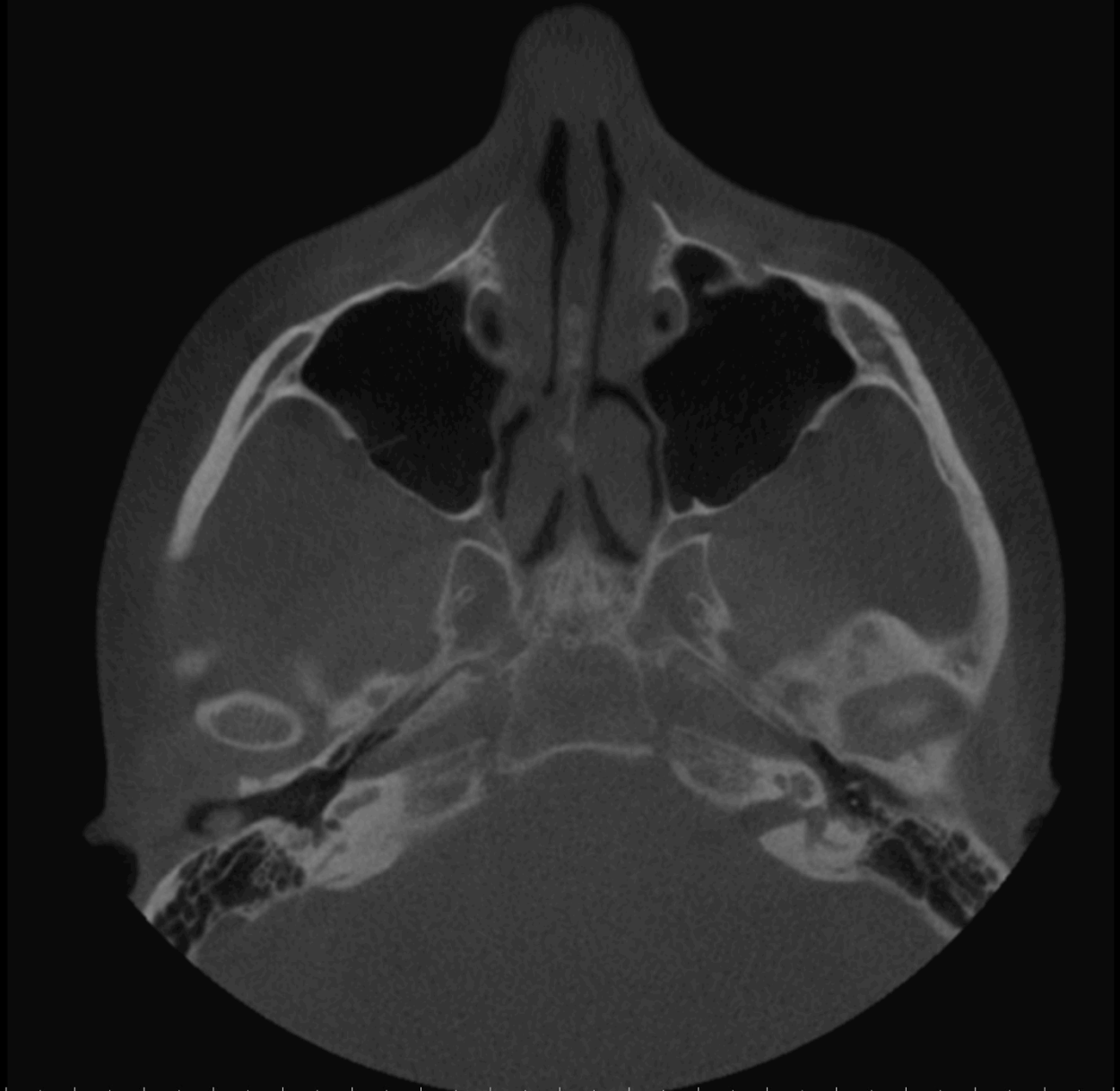
Foramina lacerum



1.20
cm

R

L



2.50
mm



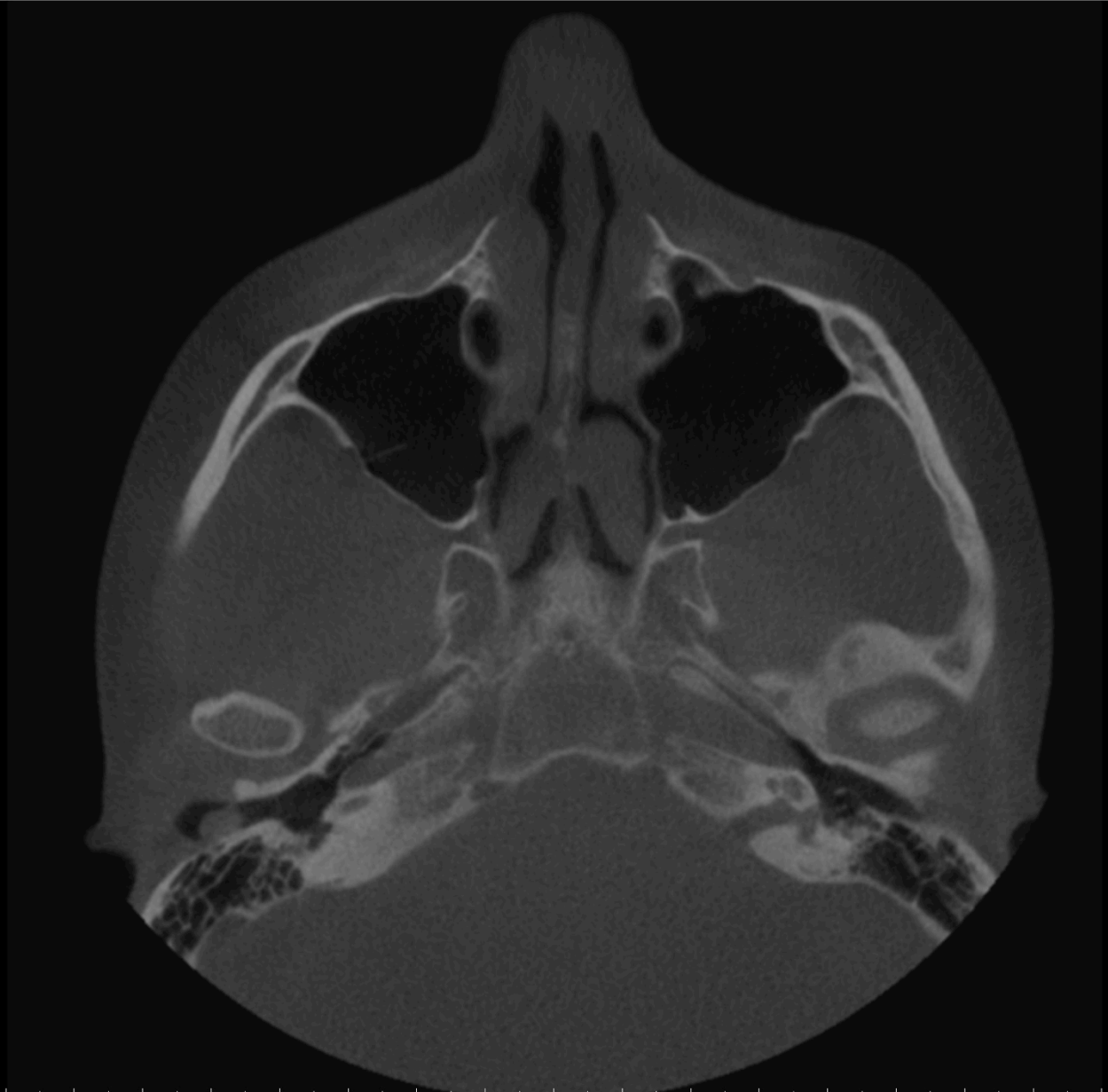
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1.20
cm

R

L



2.50
mm



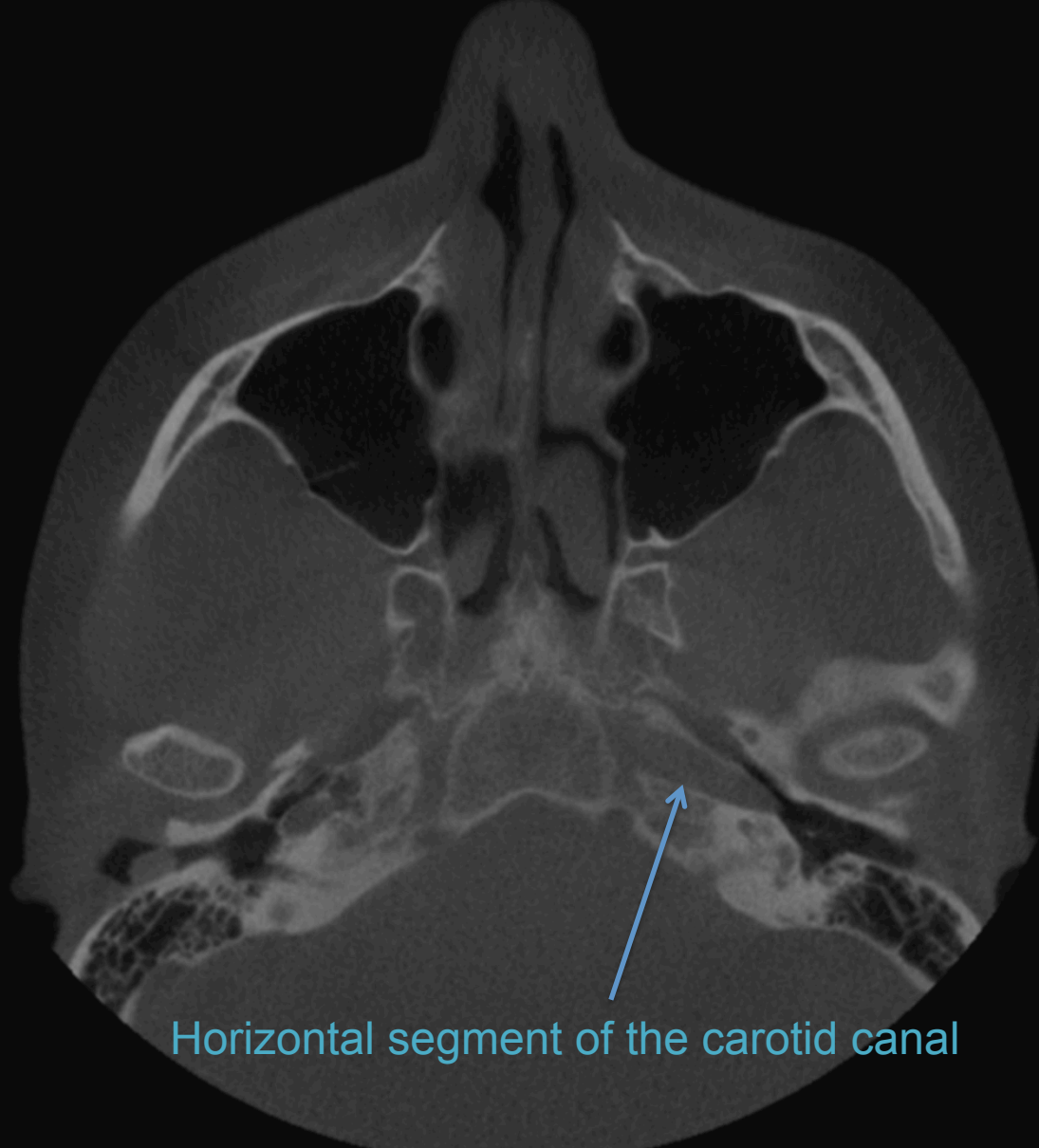
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1.20
(mm)

R

L



Horizontal segment of the carotid canal

2.20
(mm)



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1.20
(mm)

R

L

Condylar head →

← Condylar head



2.50
(mm)

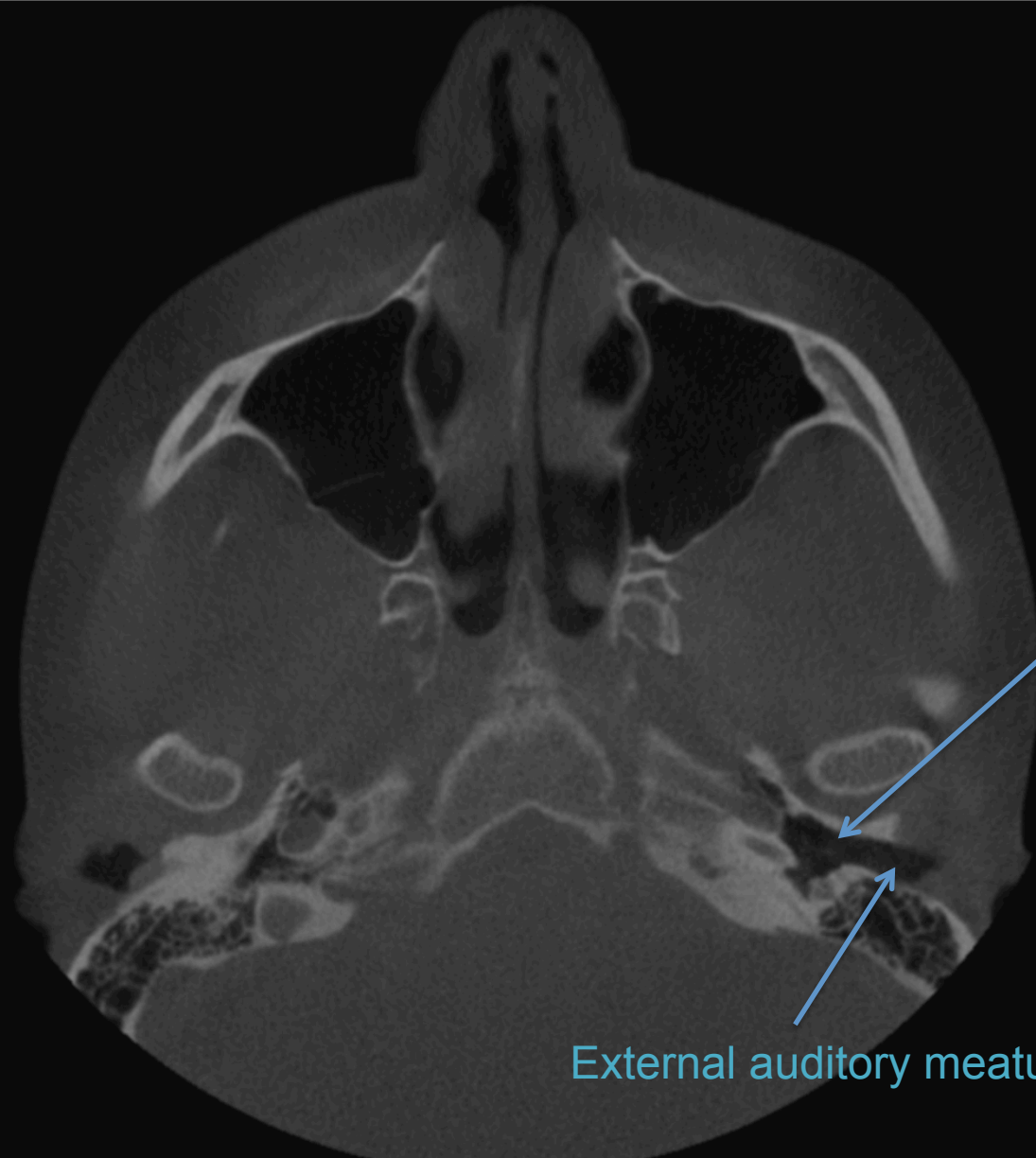


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1.20
cm

R



Middle ear

External auditory meatus

2.20
mm



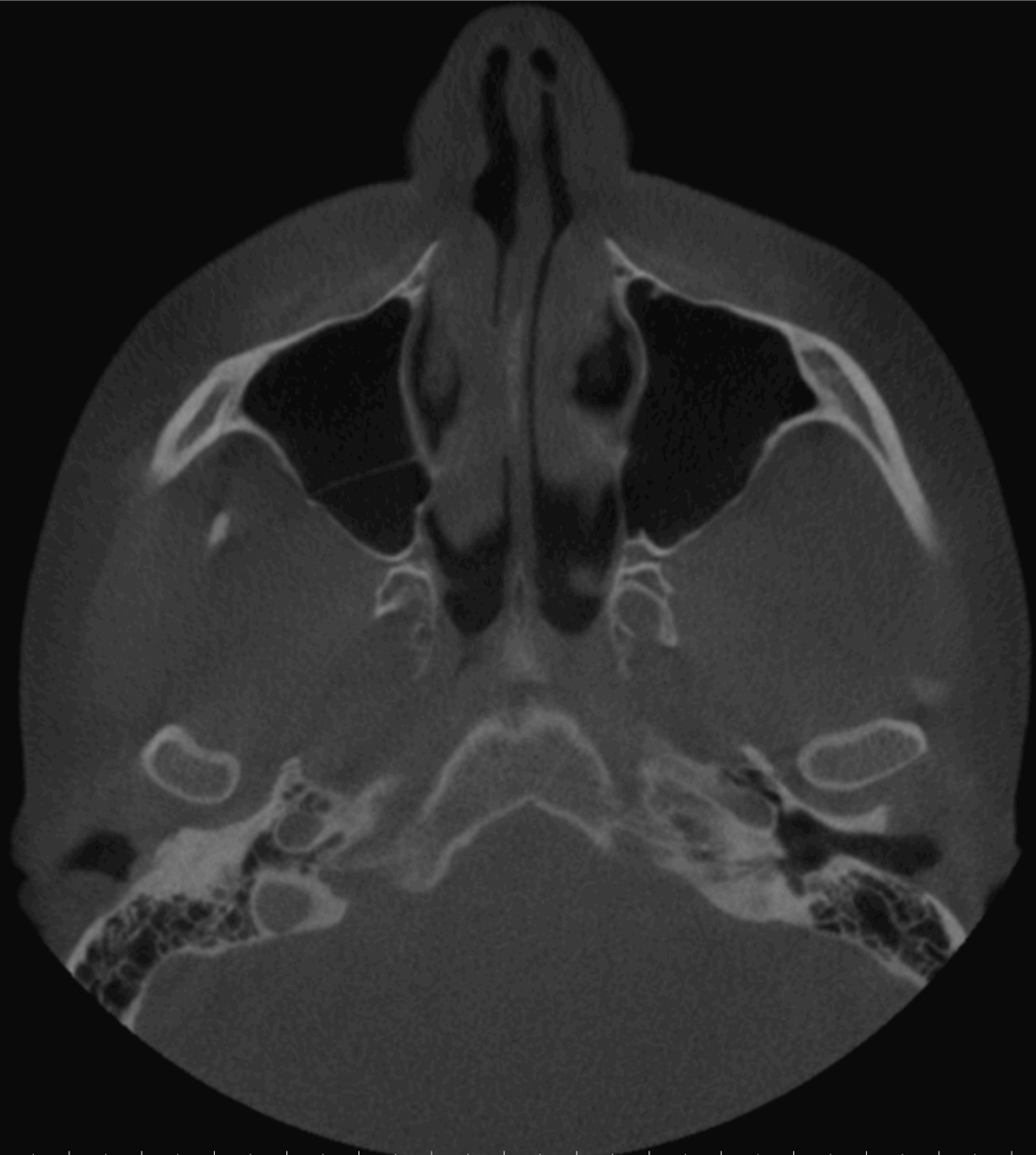
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1.20
cm

R

L



2.50
mm



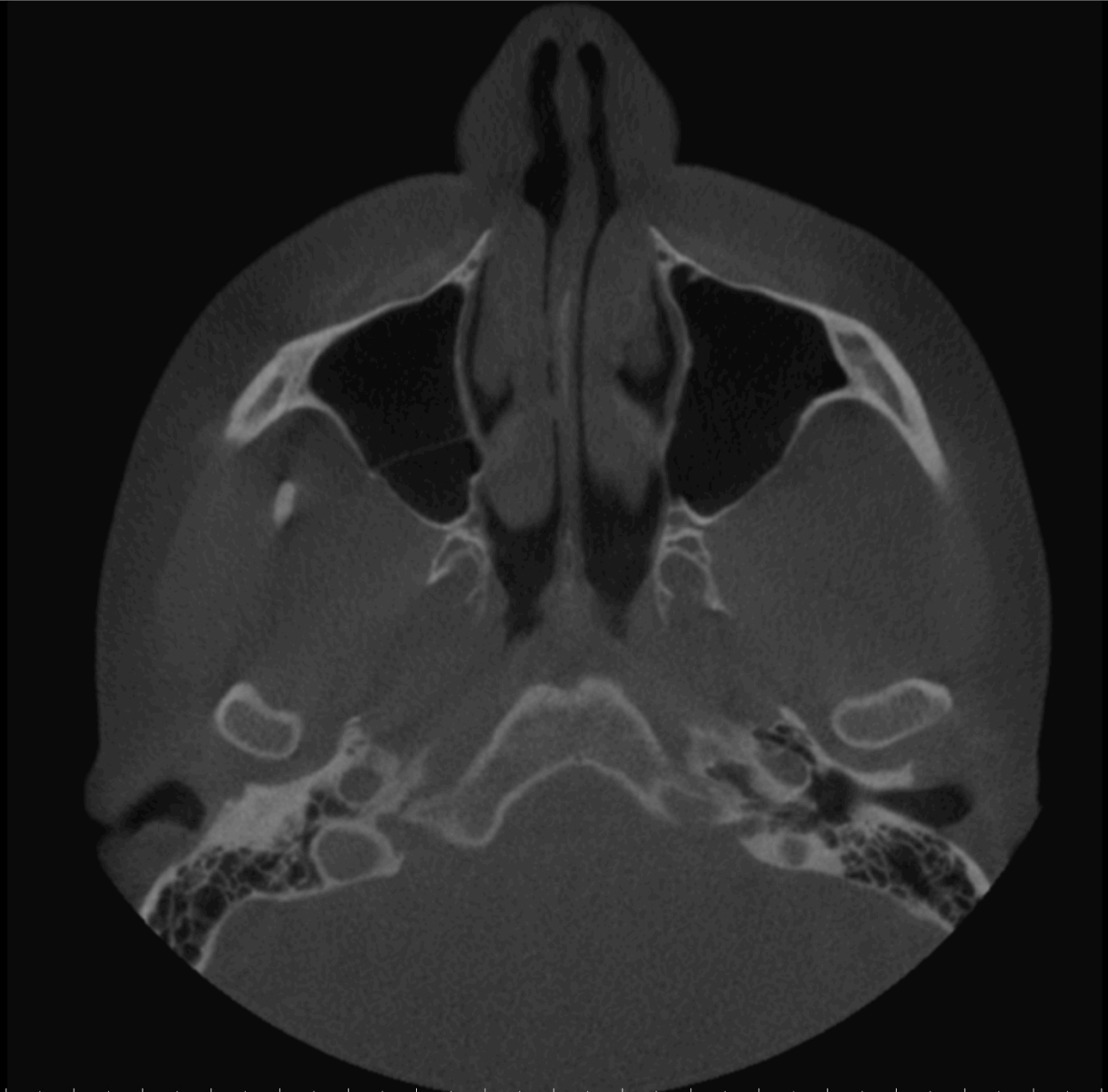
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1.20
(mm)

R

L



2.50
(mm)



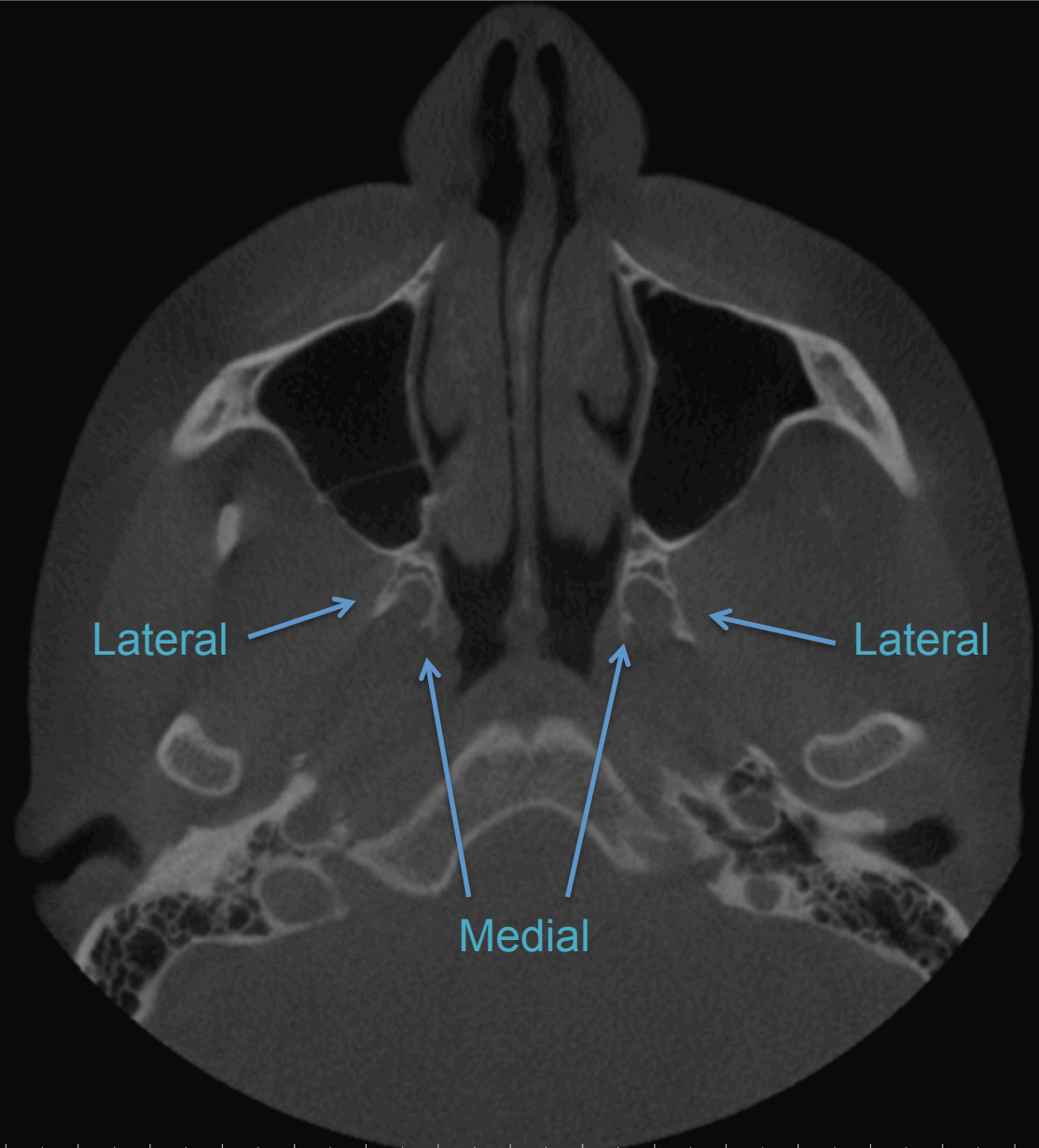
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1.20
cm

R

L



Lateral

Lateral

Medial

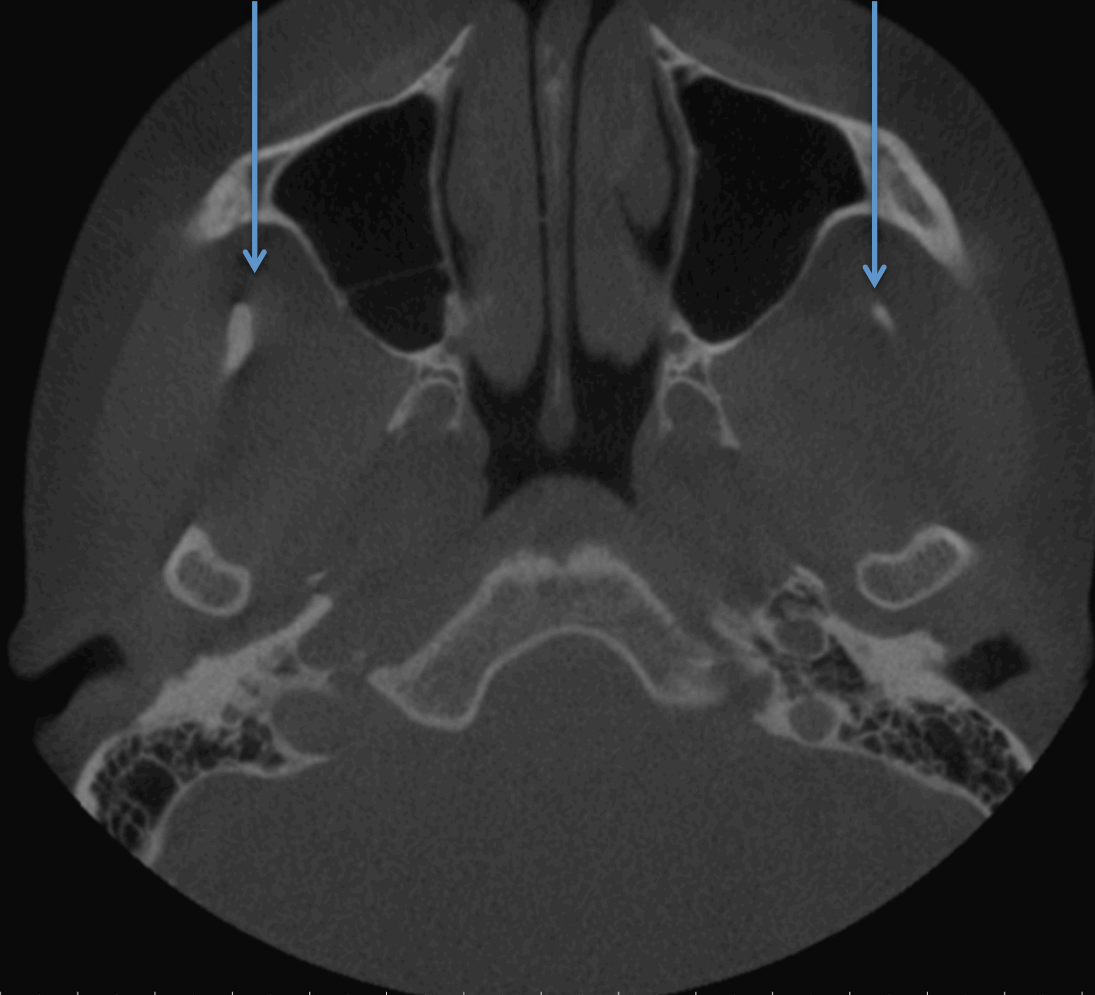
2.50
mm



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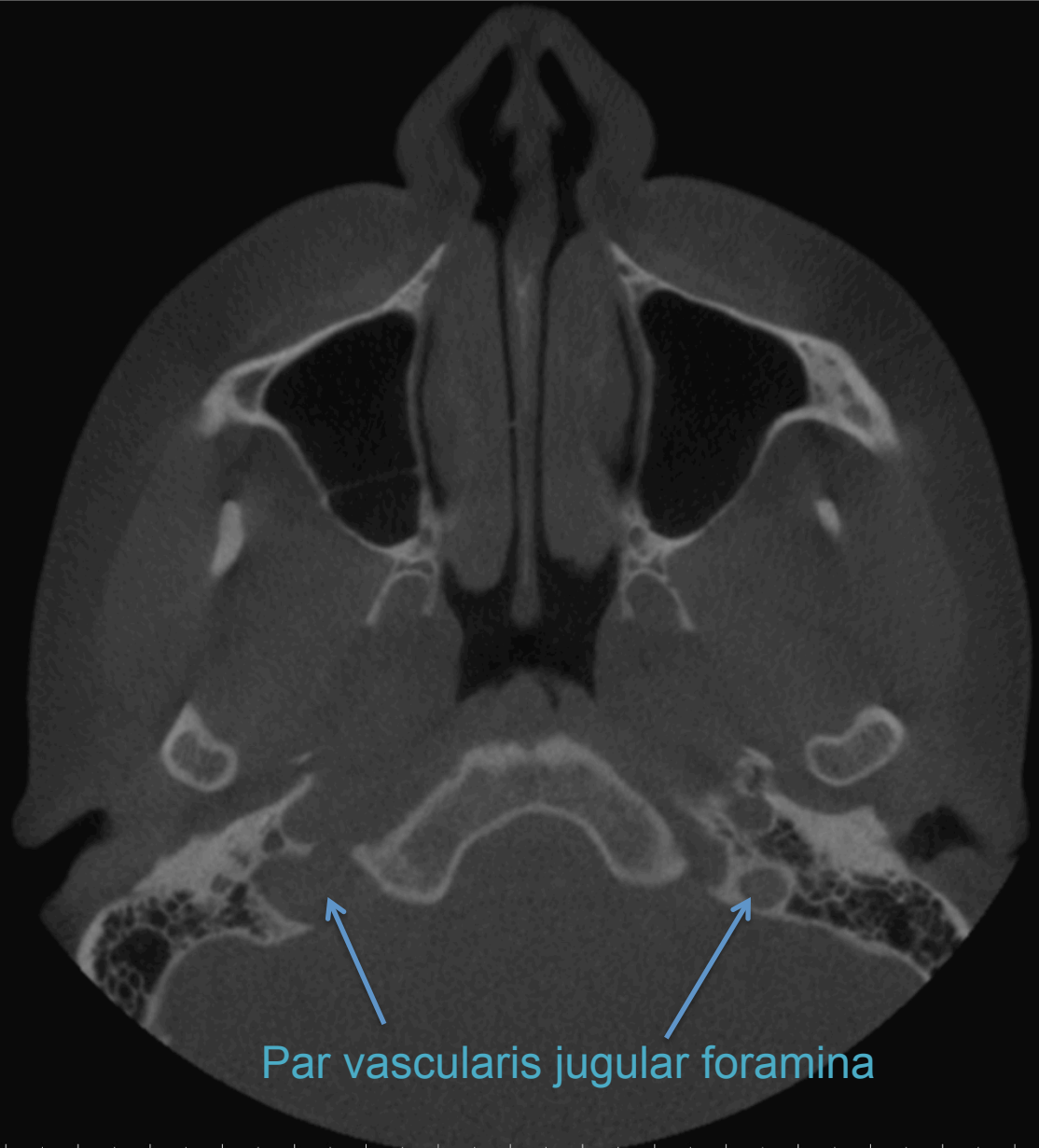
Coronoid processes of the mandible



1.20
cm

R

L



Par vascularis jugular foramina

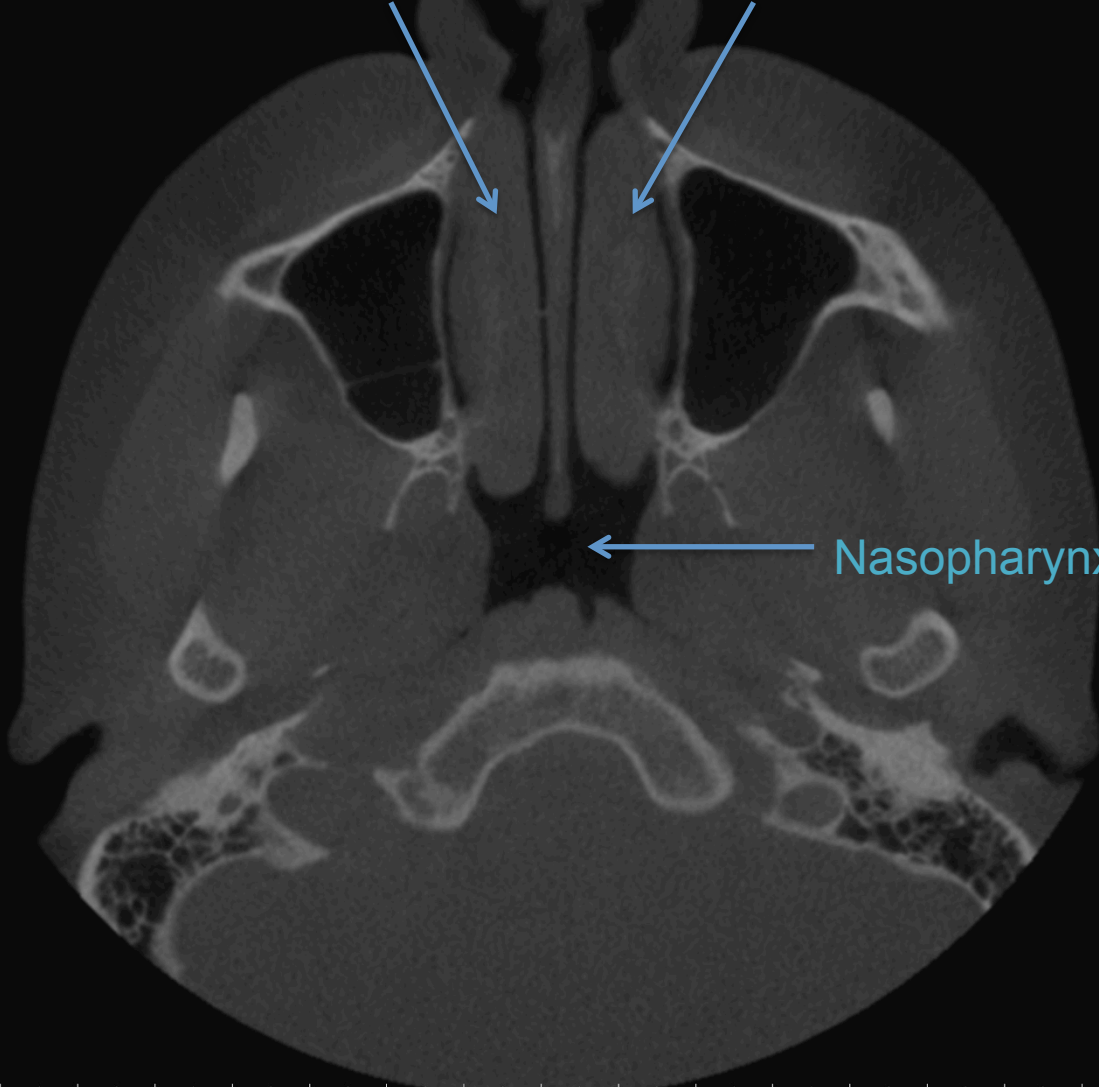
2.20
mm



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Inferior nasal conchae (turbinates)



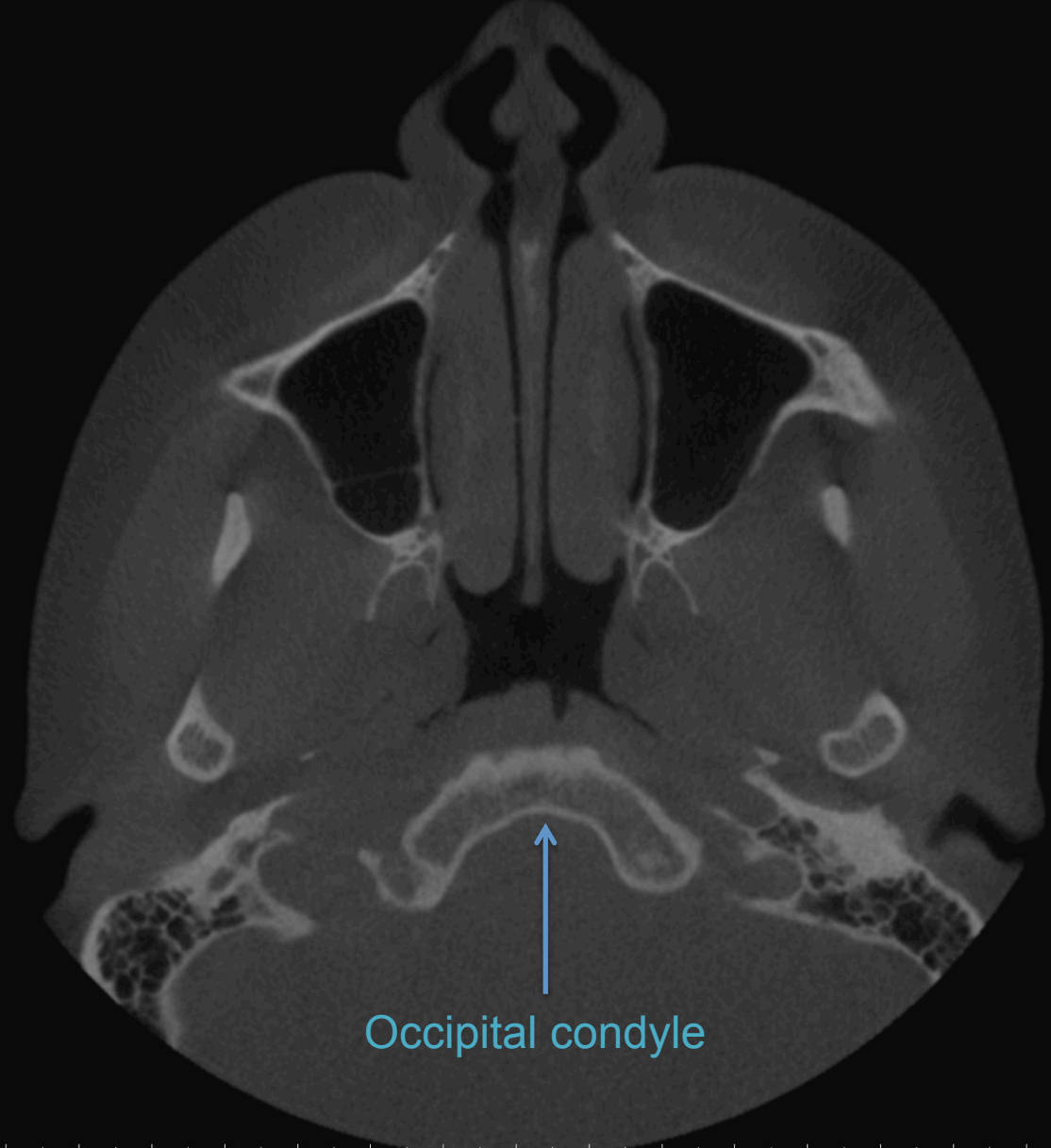
Nasopharynx



1.20
(mm)

R

L



Occipital condyle

2.50
(mm)



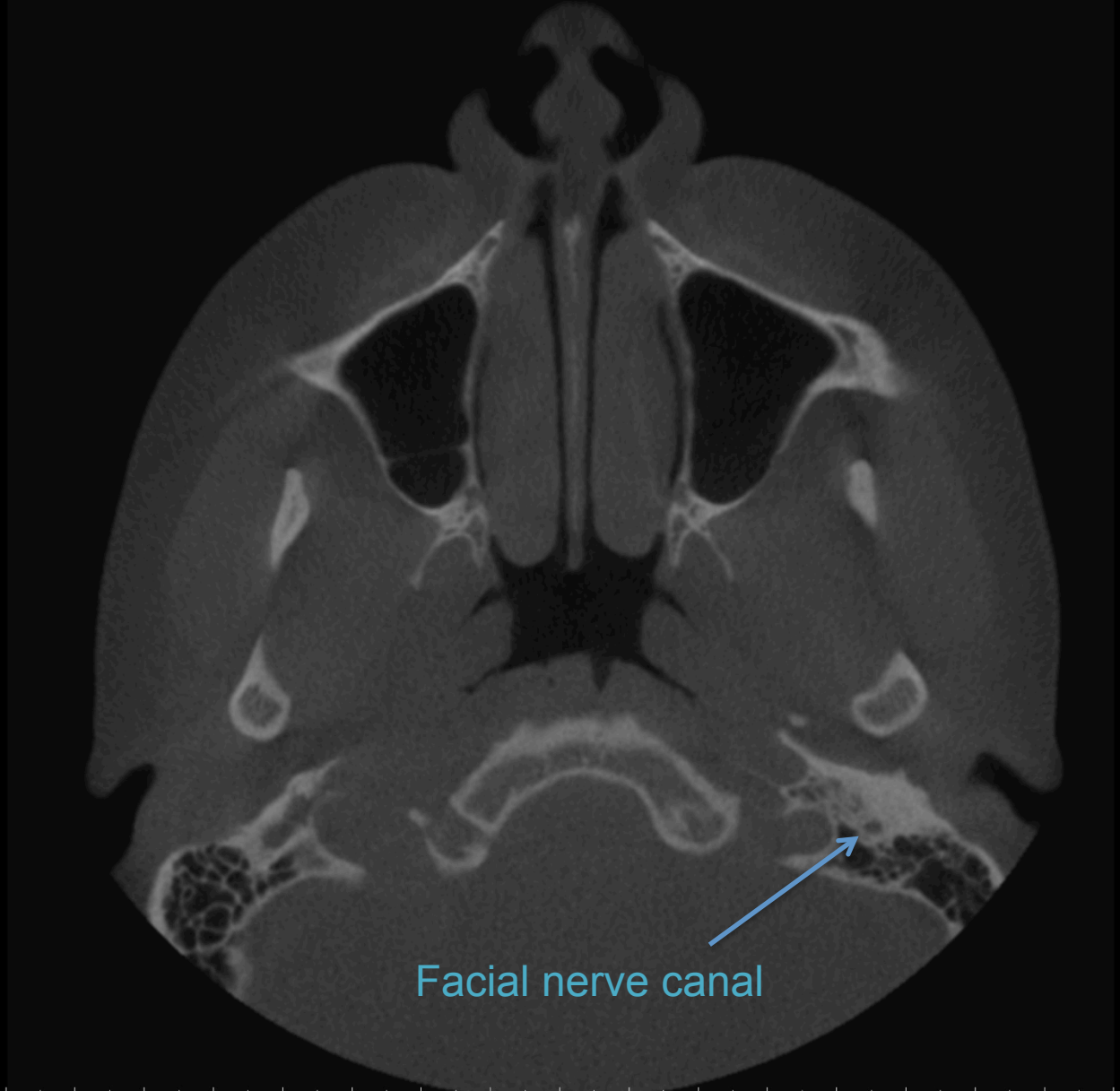
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1.20
(mm)

R

L



Facial nerve canal

2.50
(mm)

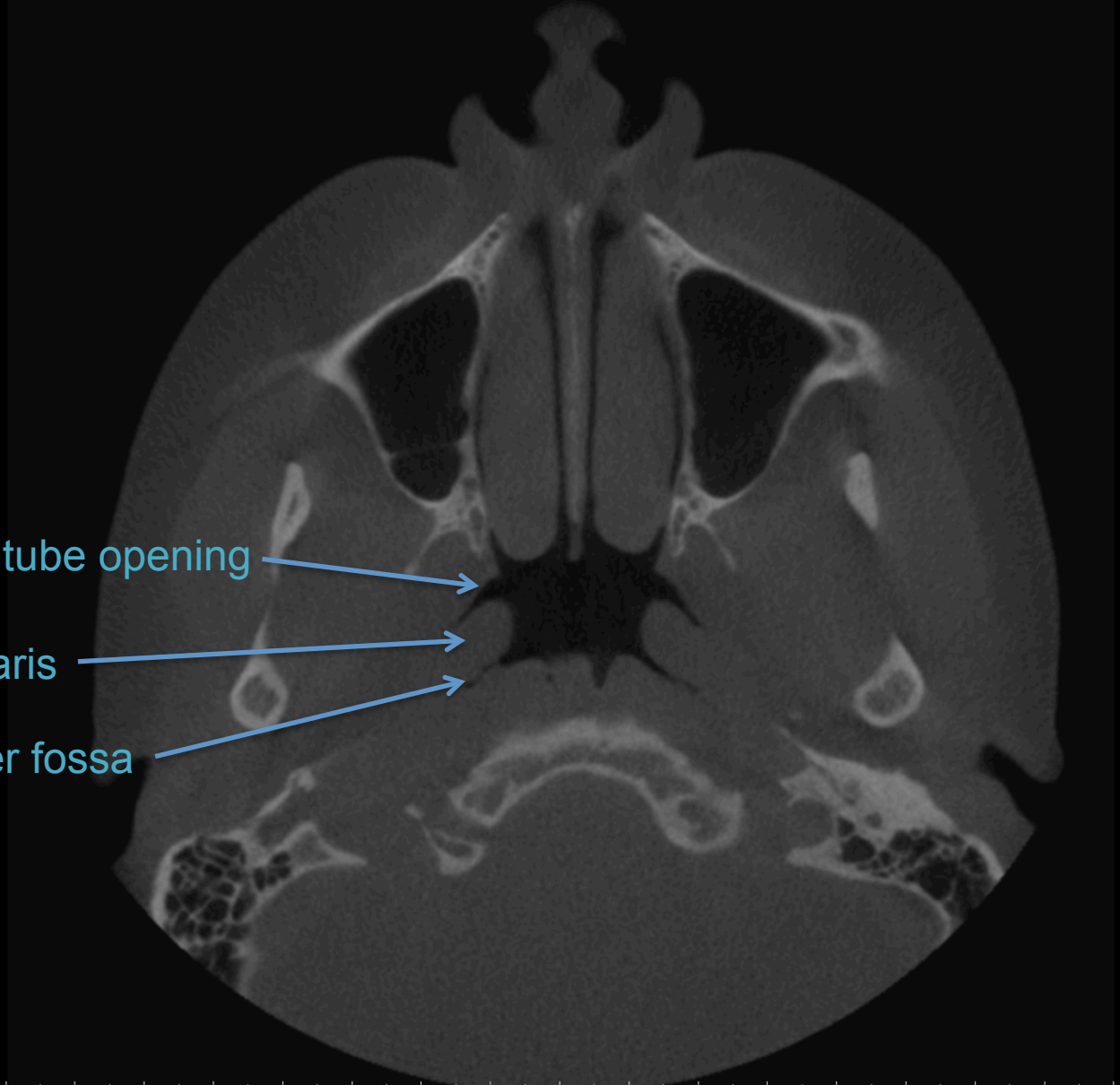


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1.20
(mm)

^R
Eustachian tube opening
Torus tubularis
Rosenmüller fossa



2.20
(mm)



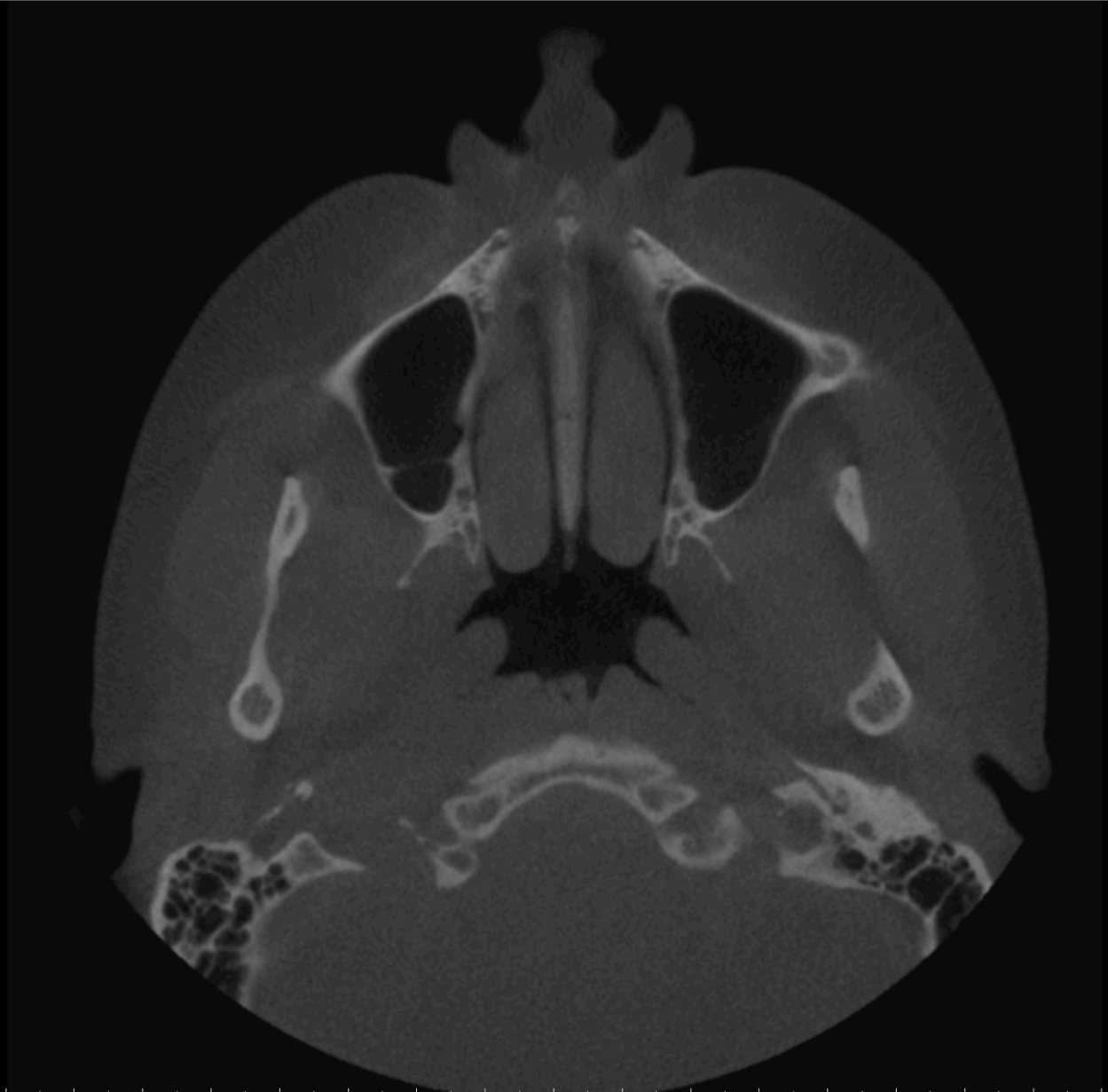
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1.20
cm

R

L



2.50
mm



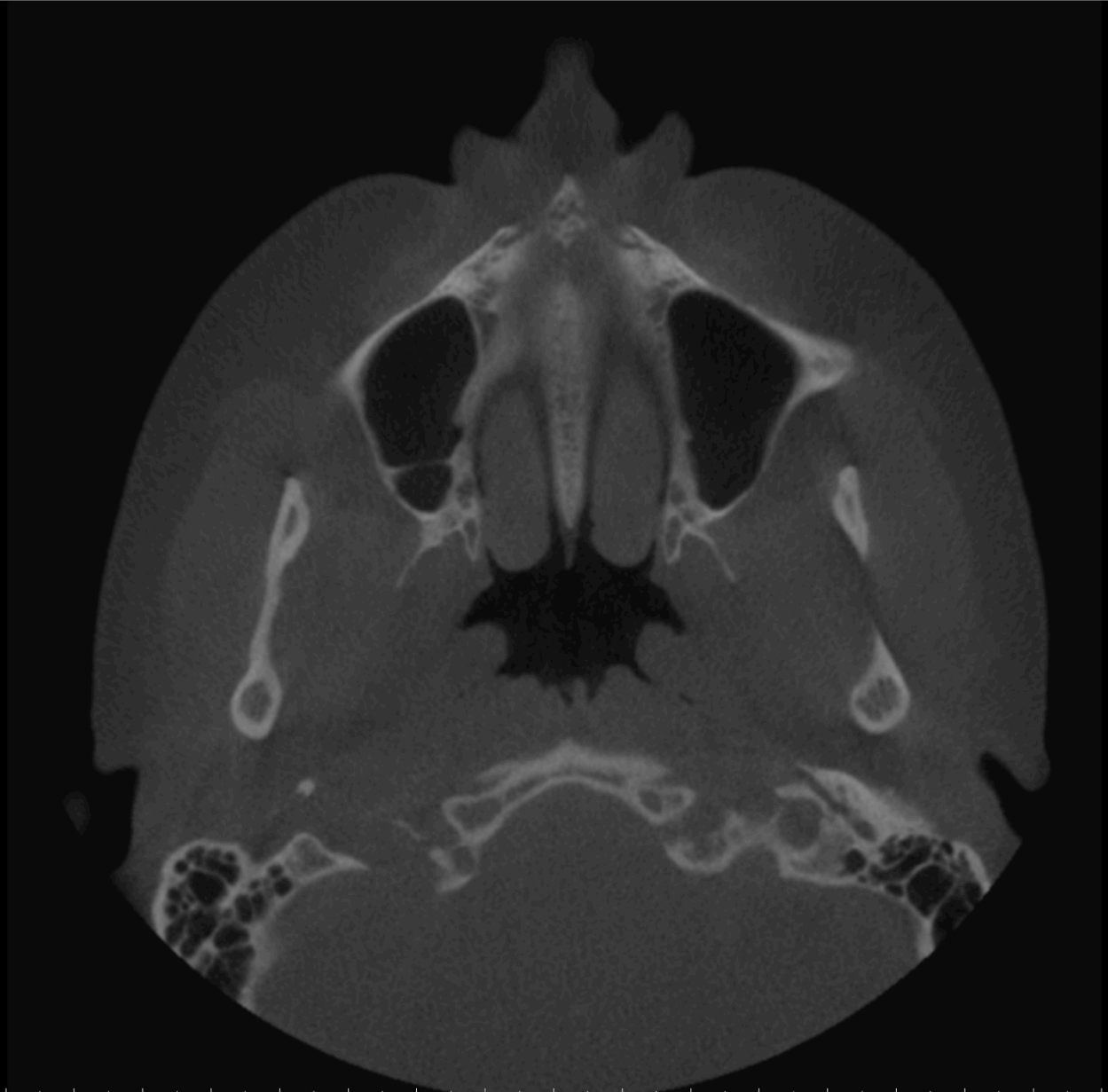
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1.20
cm

R

L



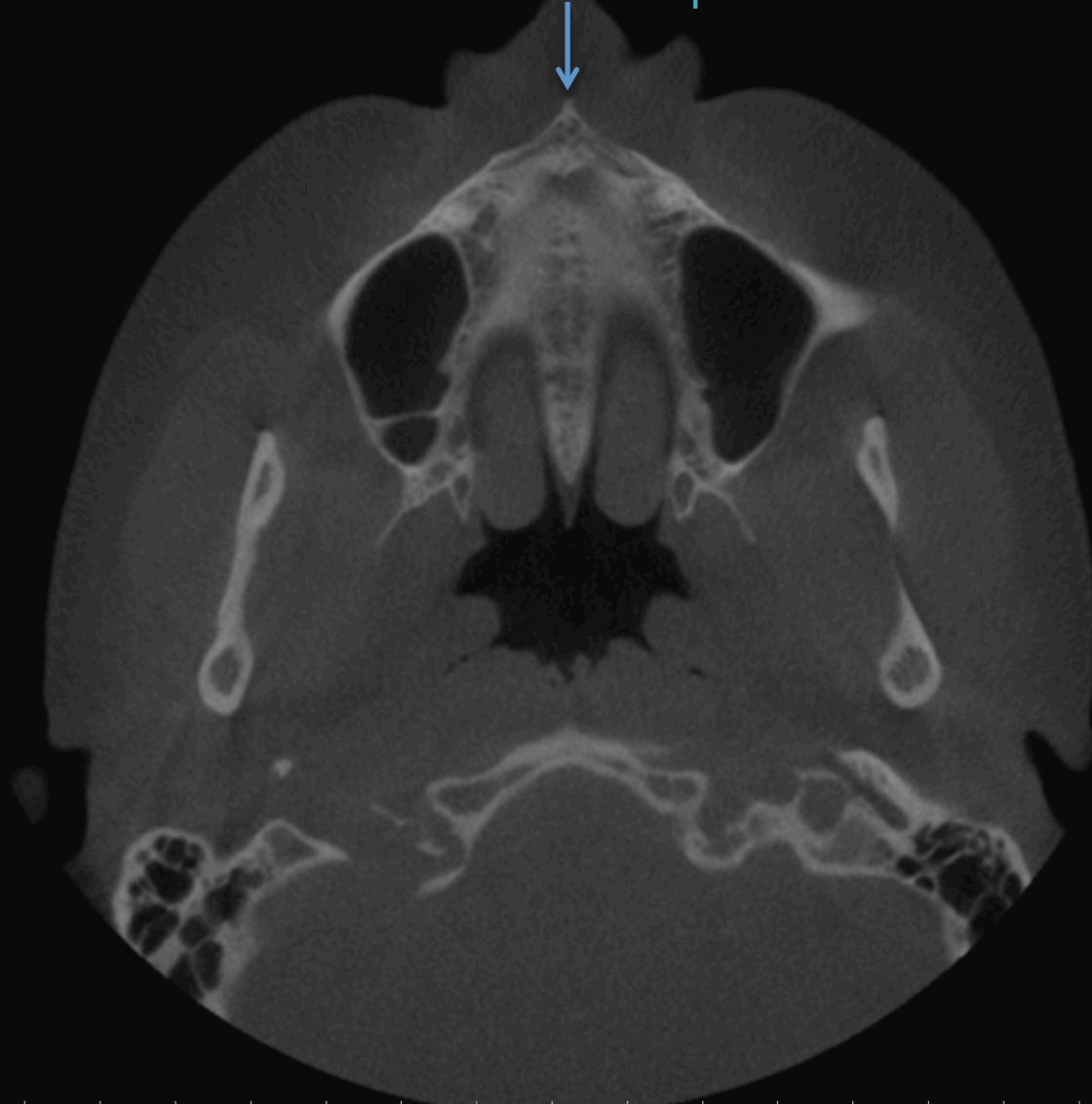
2.20
cm



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Anterior nasal spine



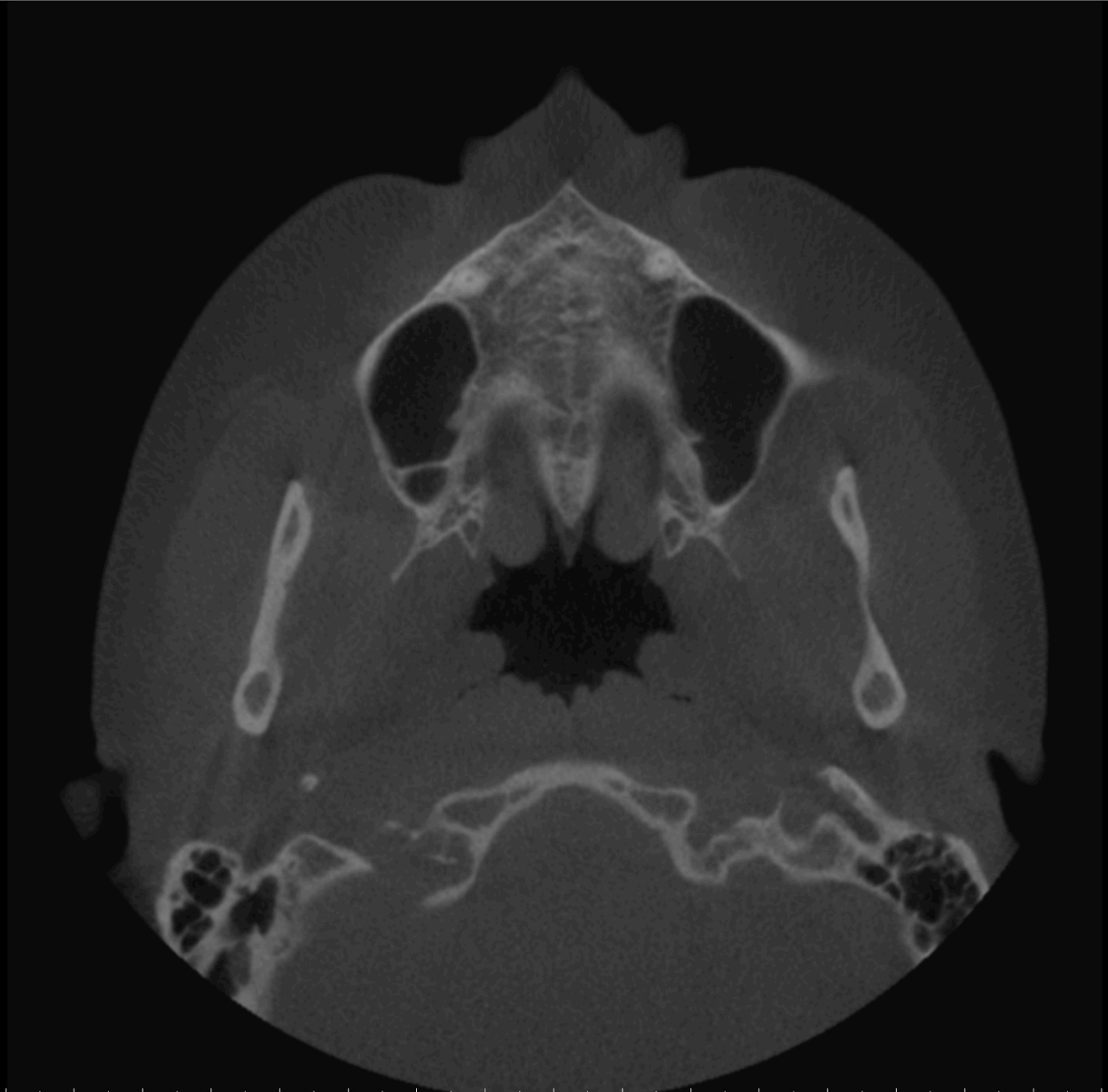
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1.20
cm

R

L



2.50
mm



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1.20
cm

R

L



2.50
mm



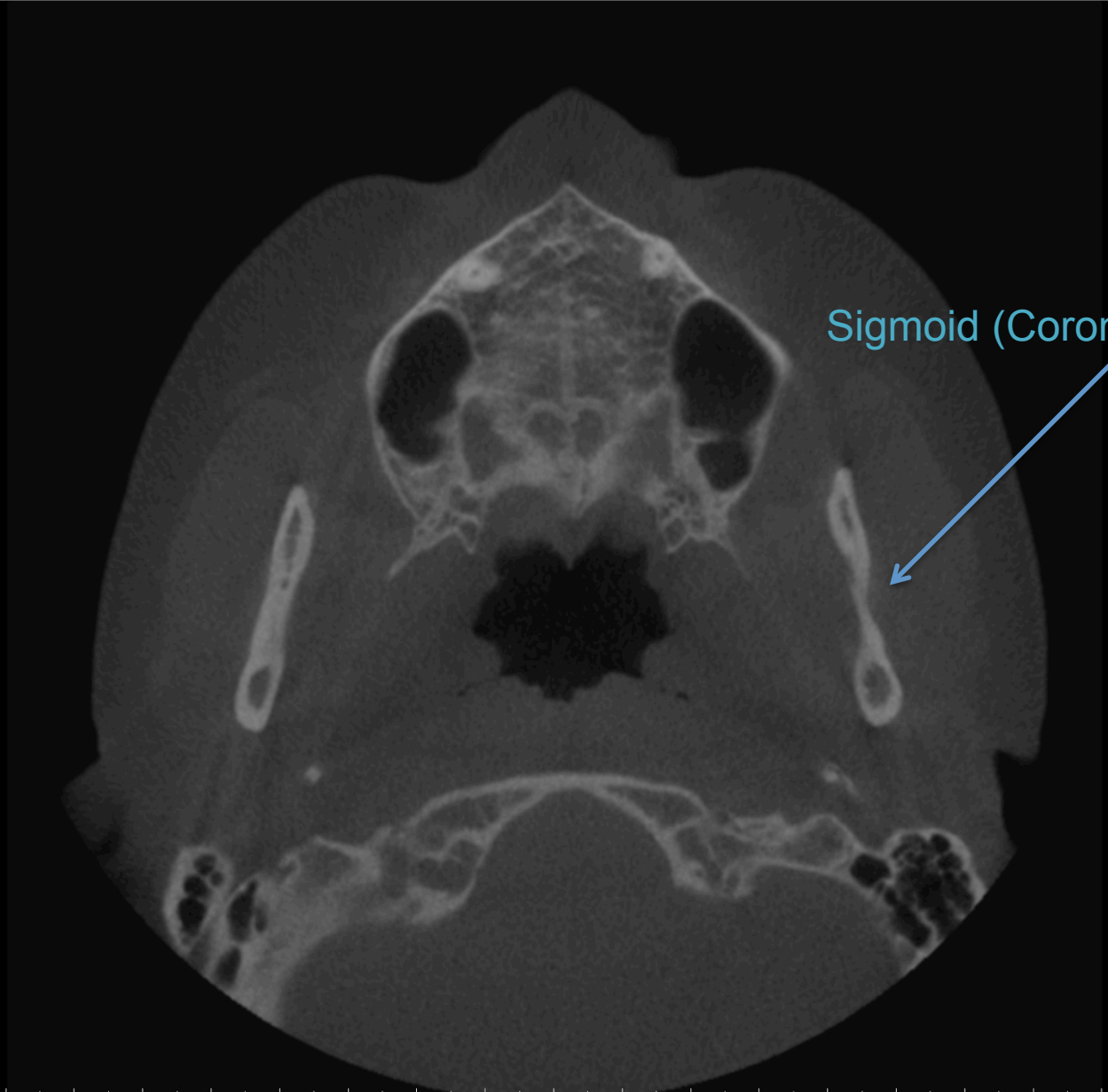
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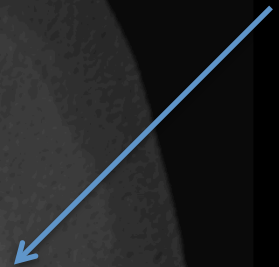
1.20
(mm)

R

L



Sigmoid (Coronoid) notch



2.50
(mm)

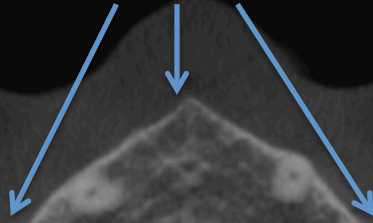


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1.20
(mm)

Maxilla



R

L



2.50
(mm)



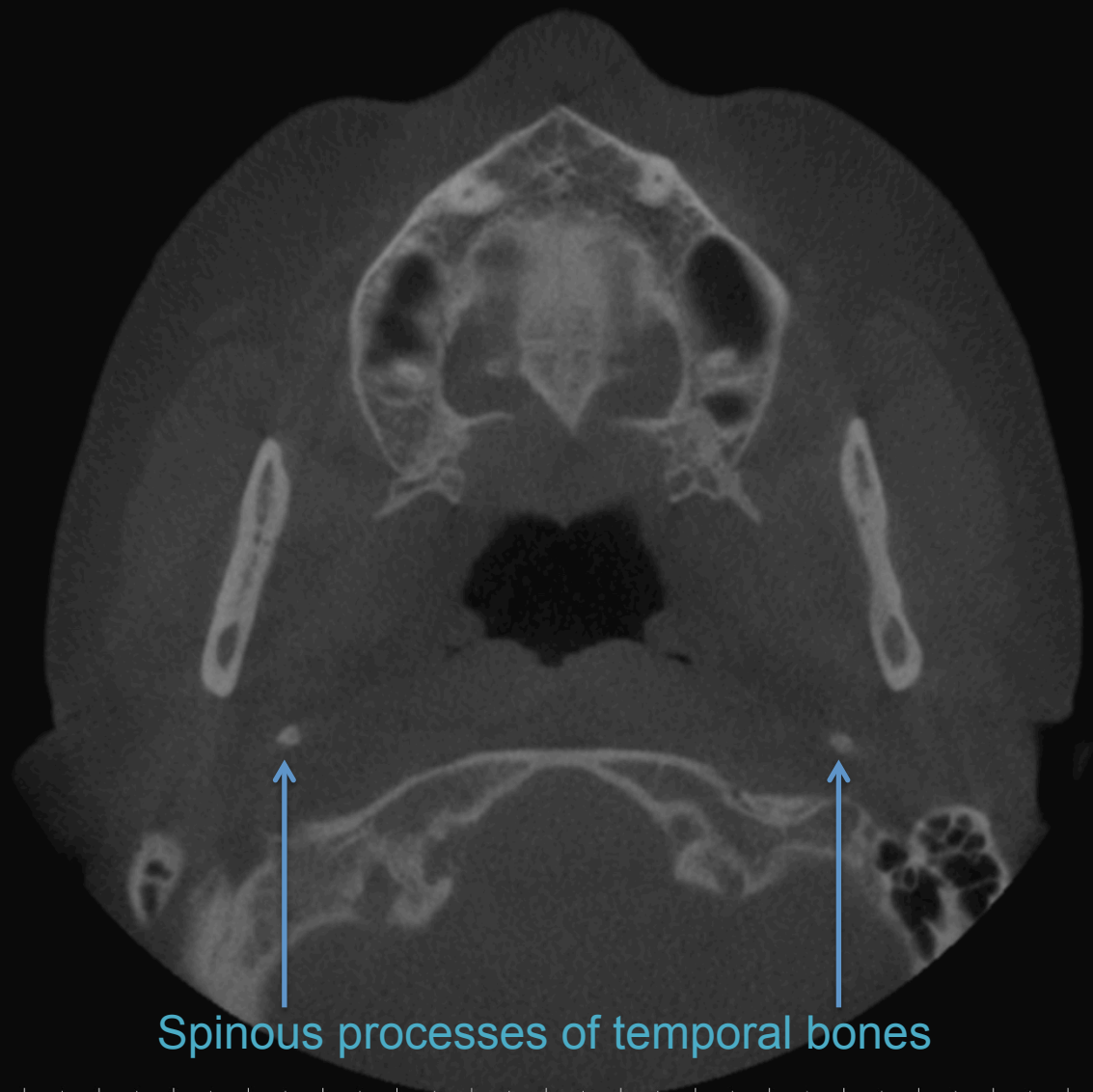
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1.20
cm

R

L



Spinous processes of temporal bones

2.20
cm



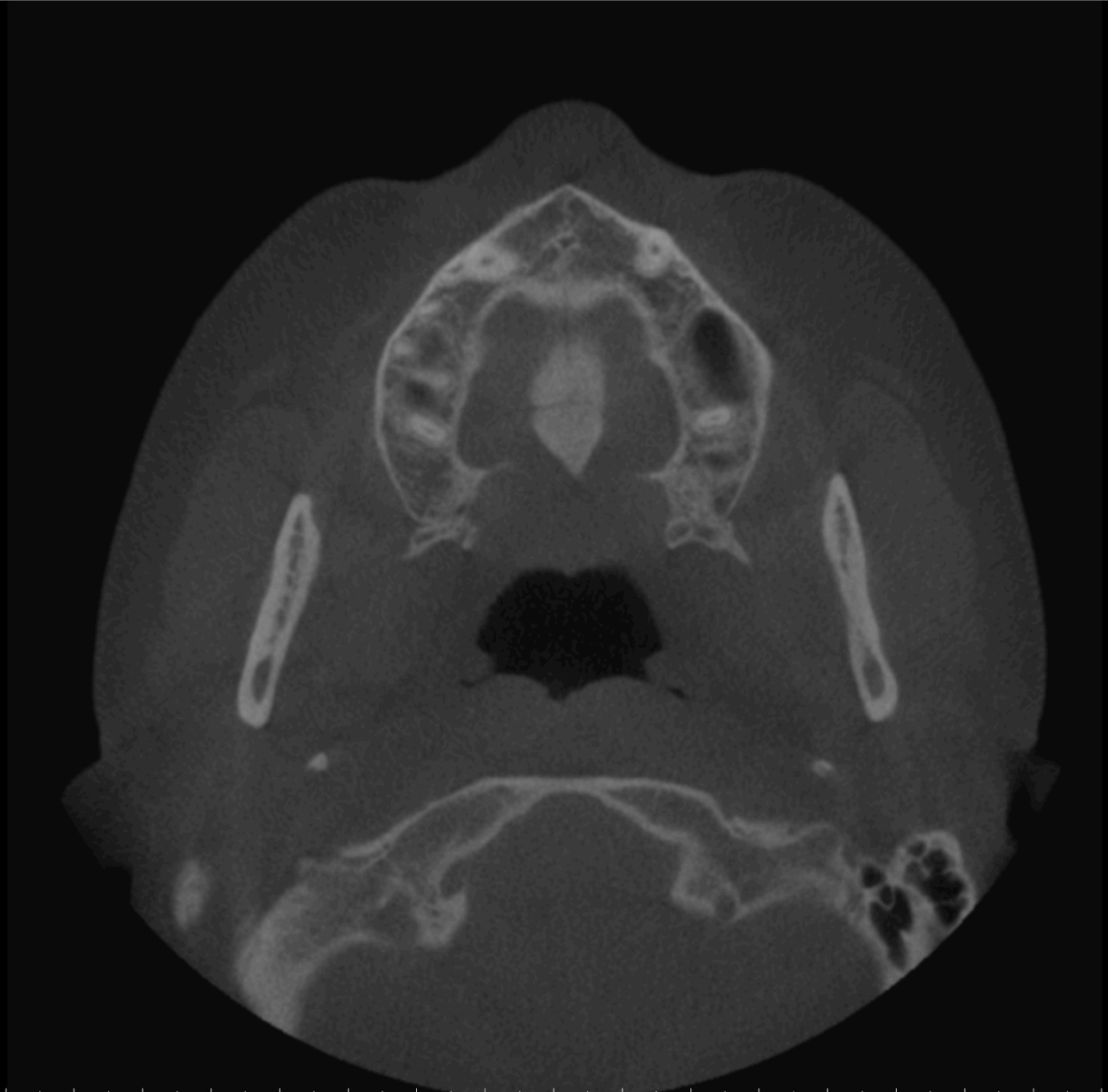
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1.20
(mm)

R

L



2.50
(mm)



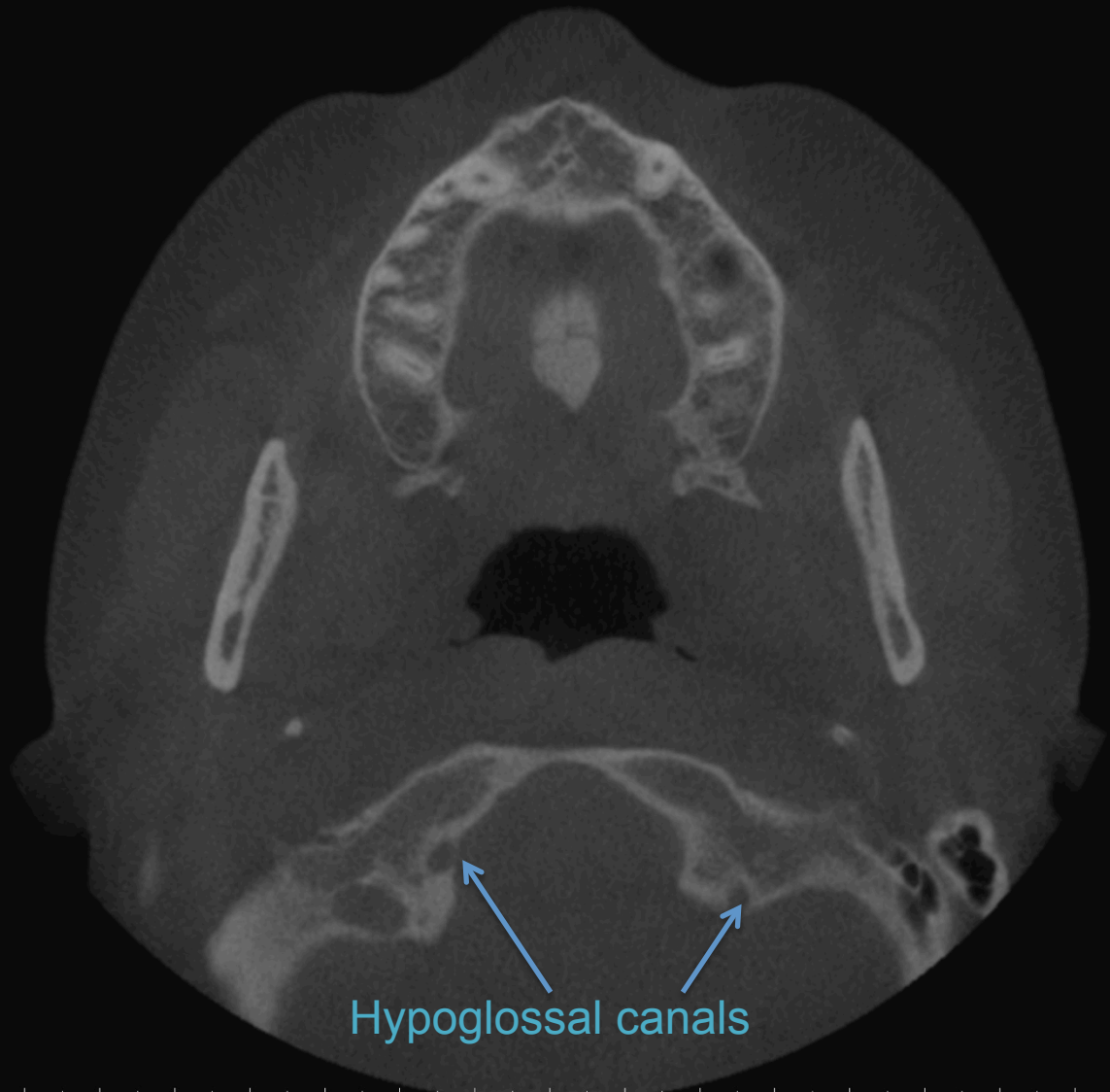
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1.20
(mm)

R

L



Hypoglossal canals

2.50
(mm)



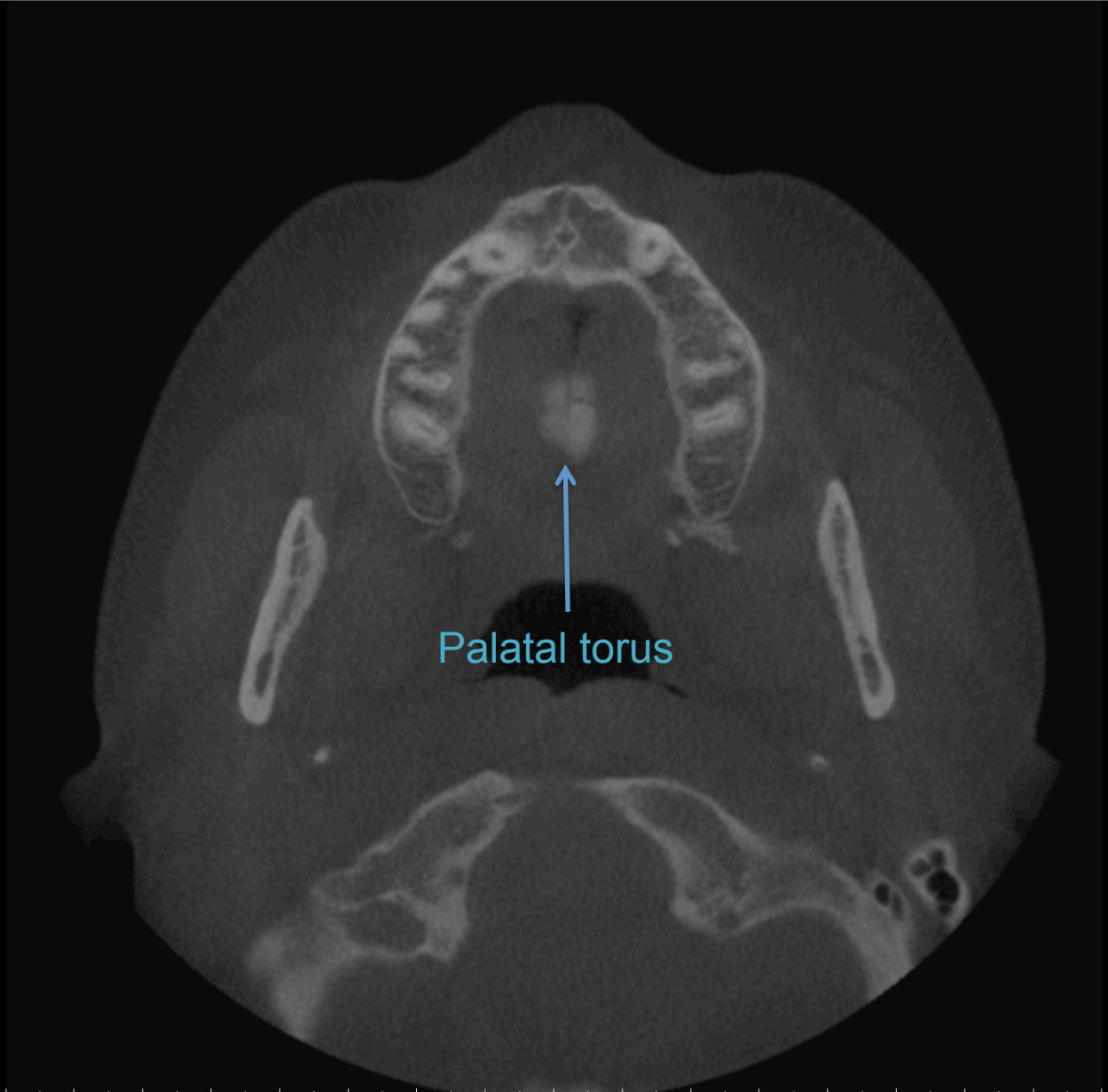
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Health Sciences

1.20
(mm)

R

L



Palatal torus

2.50
(mm)



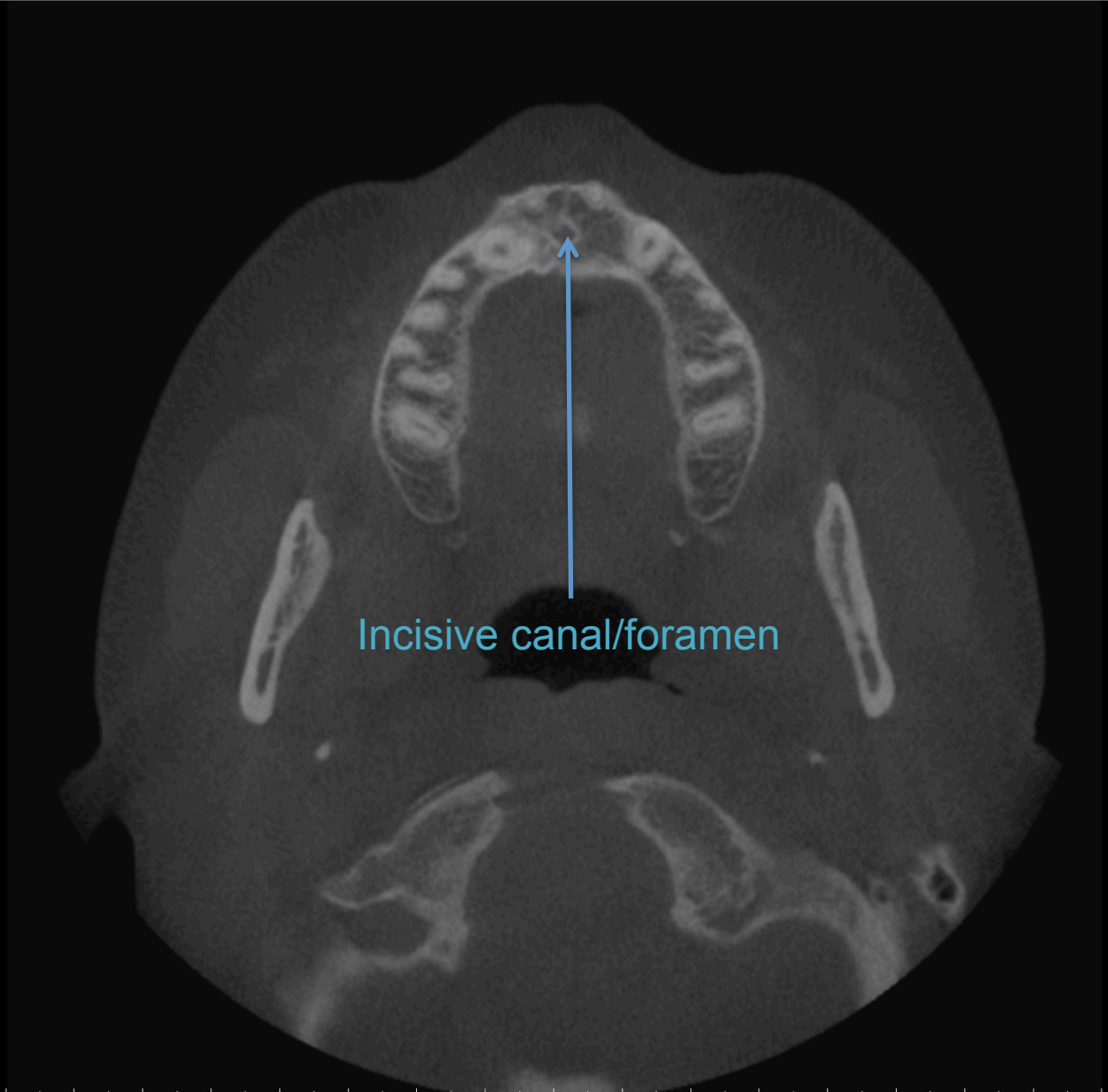
UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
(mm)

R

L



Incisive canal/foramen

2.50
(mm)



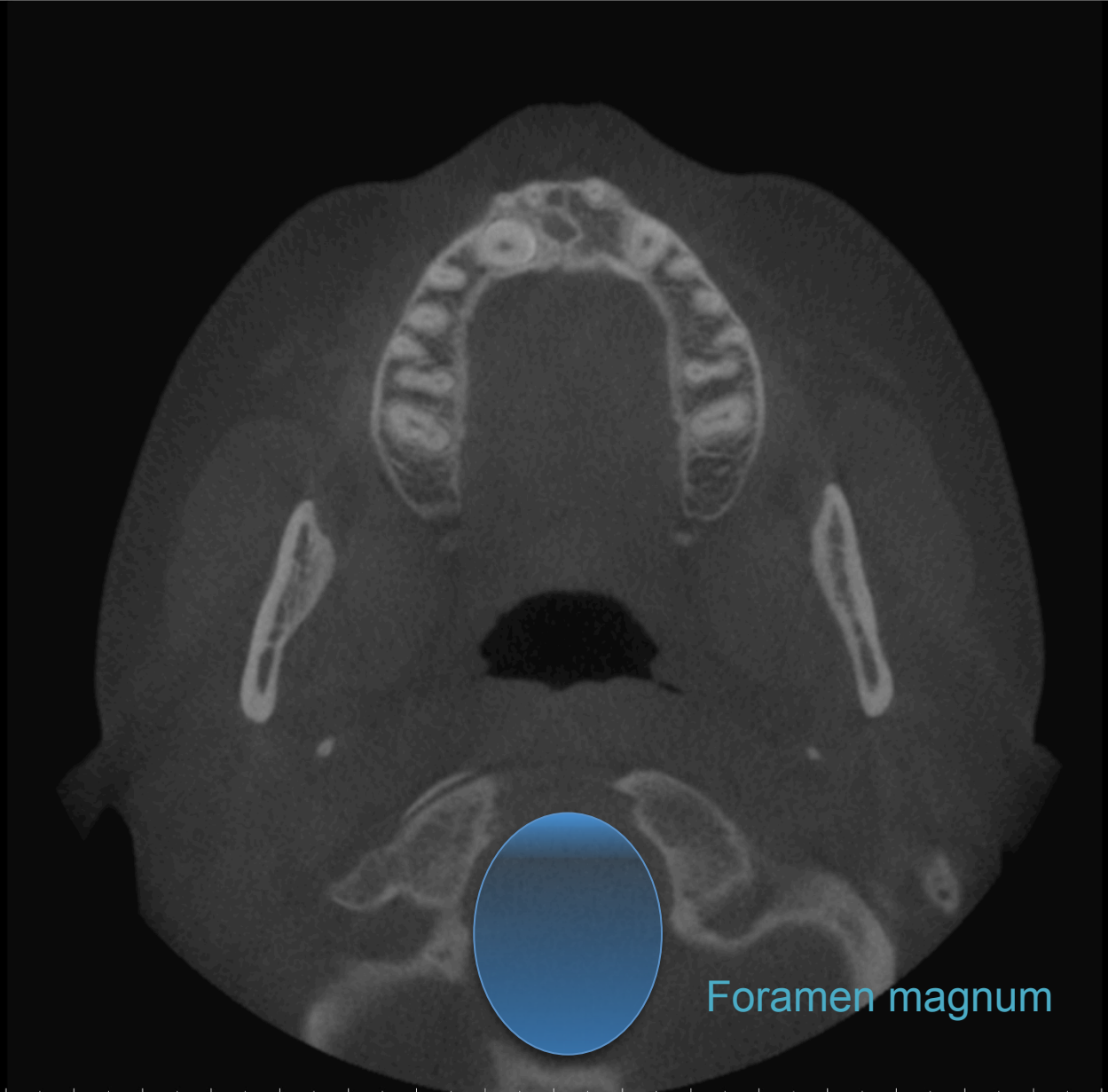
UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
(mm)

R

L



Foramen magnum

2.50
(mm)



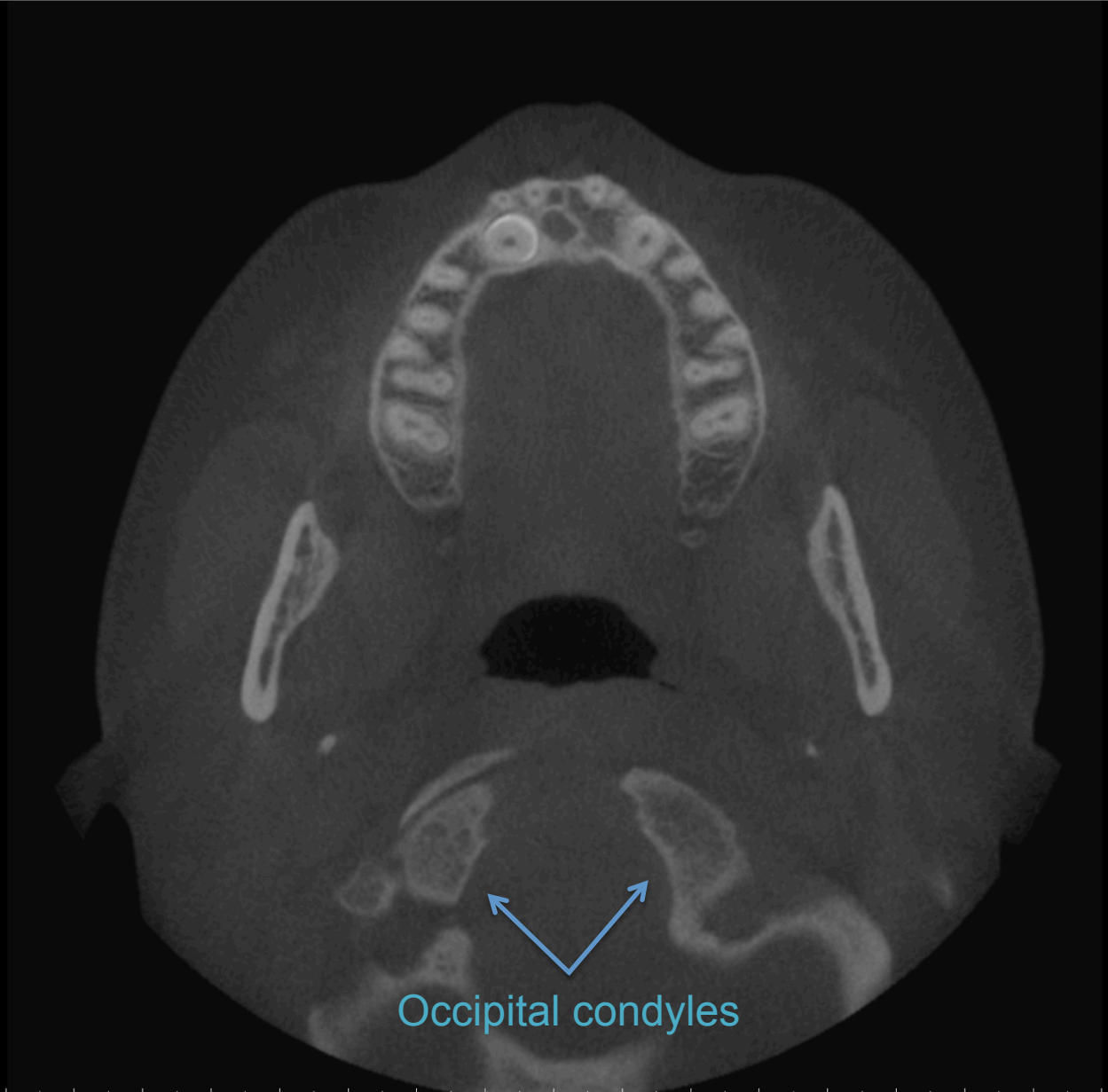
UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
(mm)

R

L



Occipital condyles

2.50
(mm)



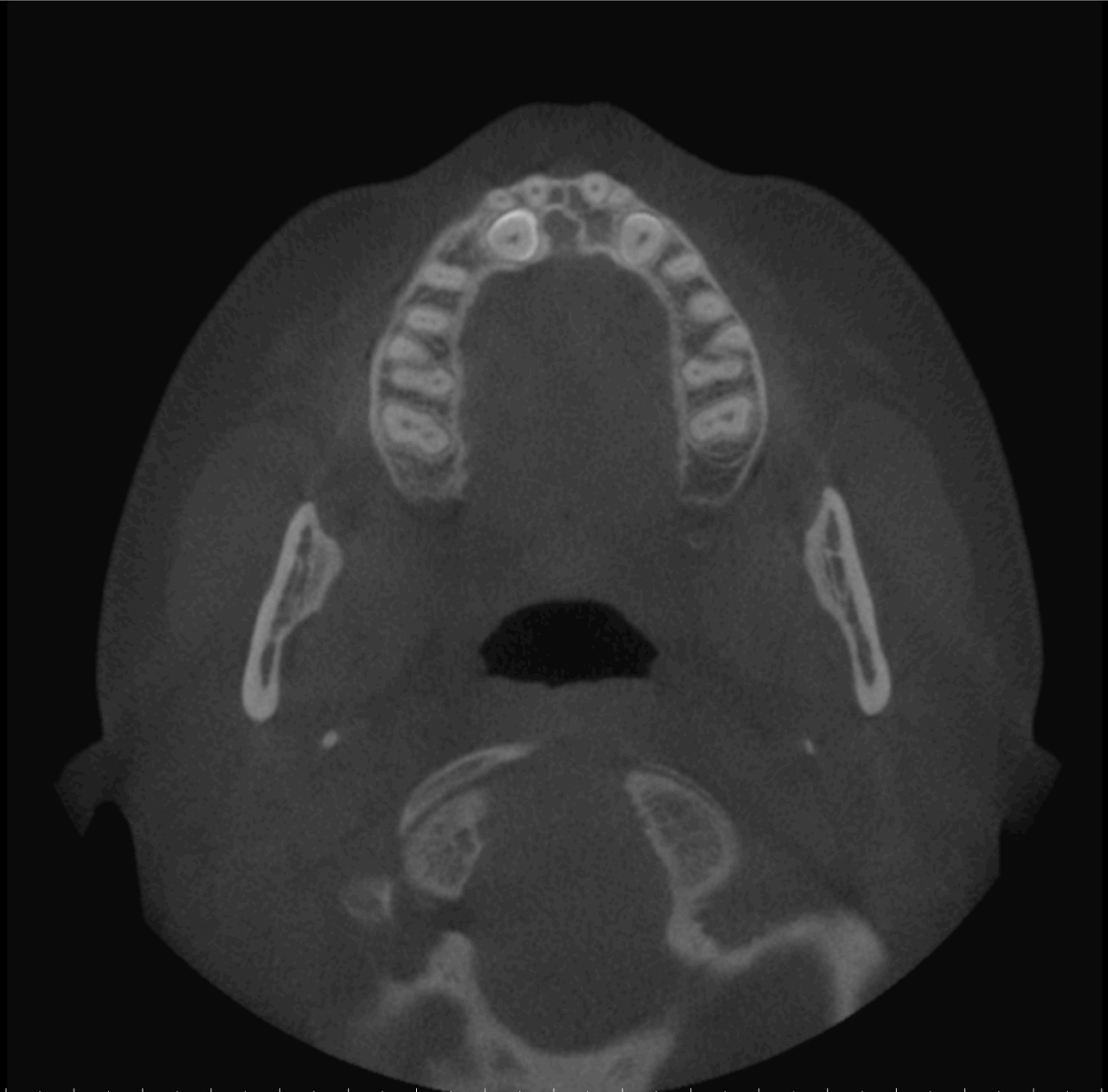
UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
(mm)

R

L



2.50
(mm)



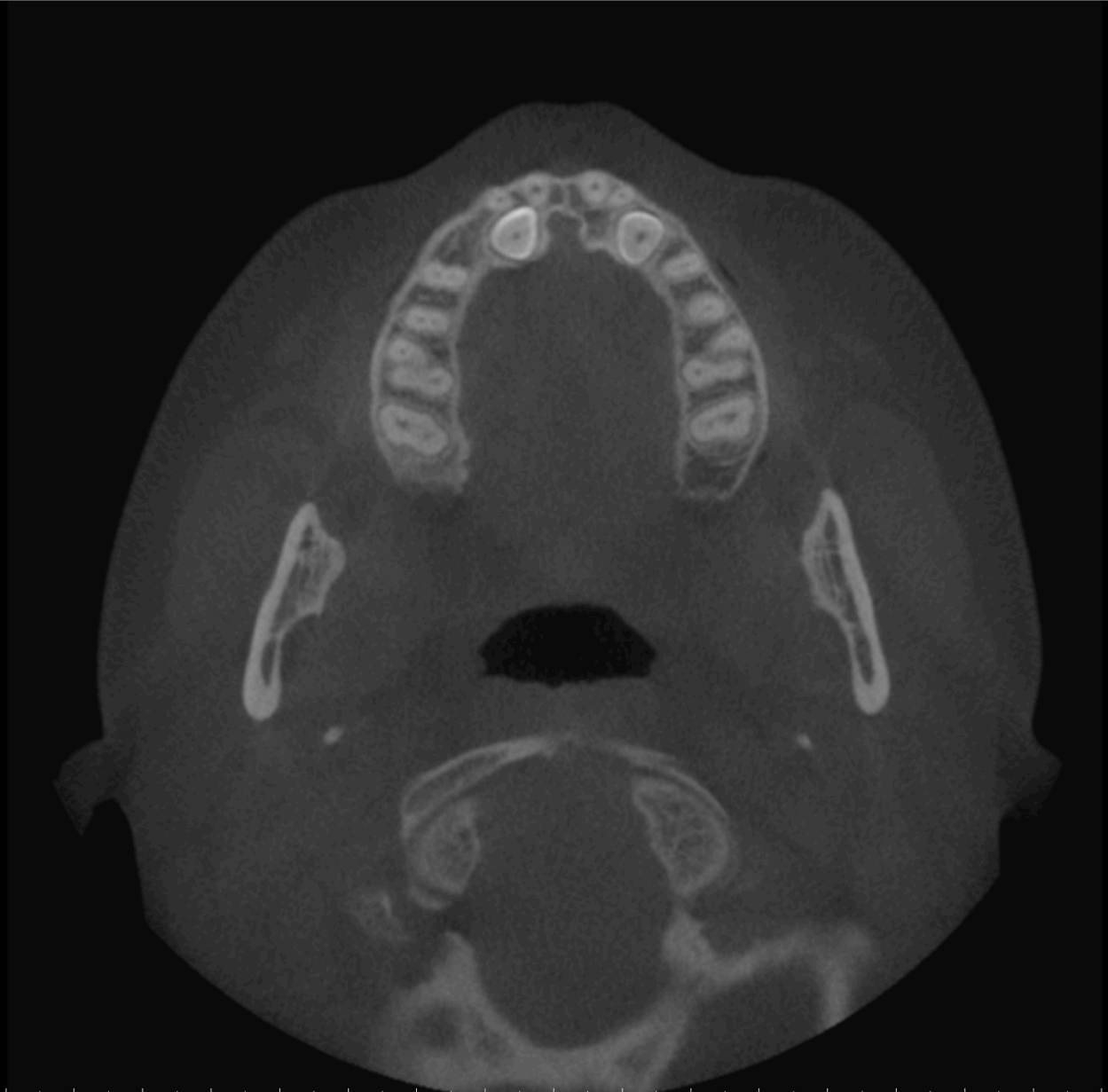
UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
(mm)

R

L



2.50
(mm)



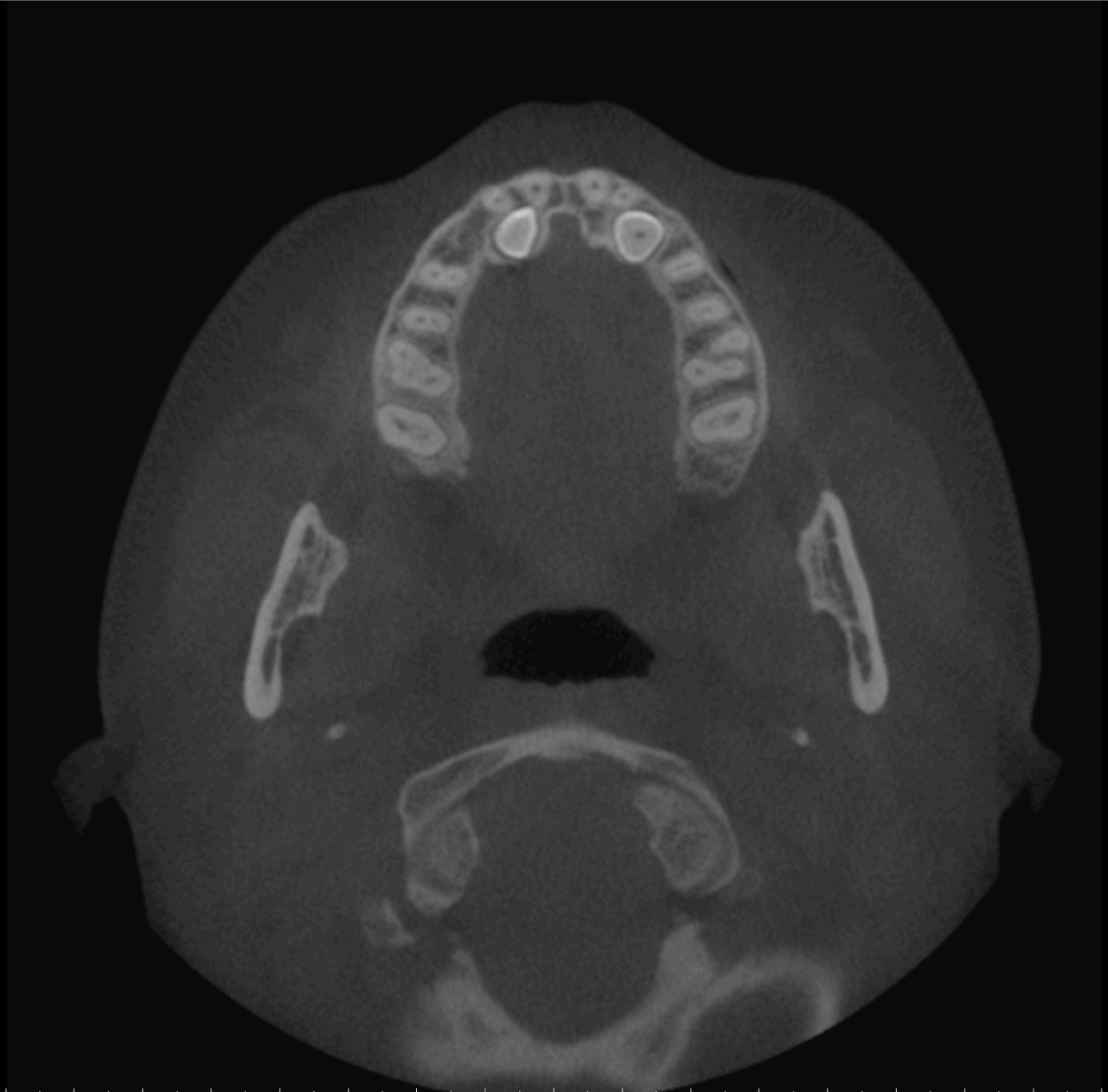
UNIVERSITY
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Health Sciences

1.40
(mm)

R

L



2.40
(mm)



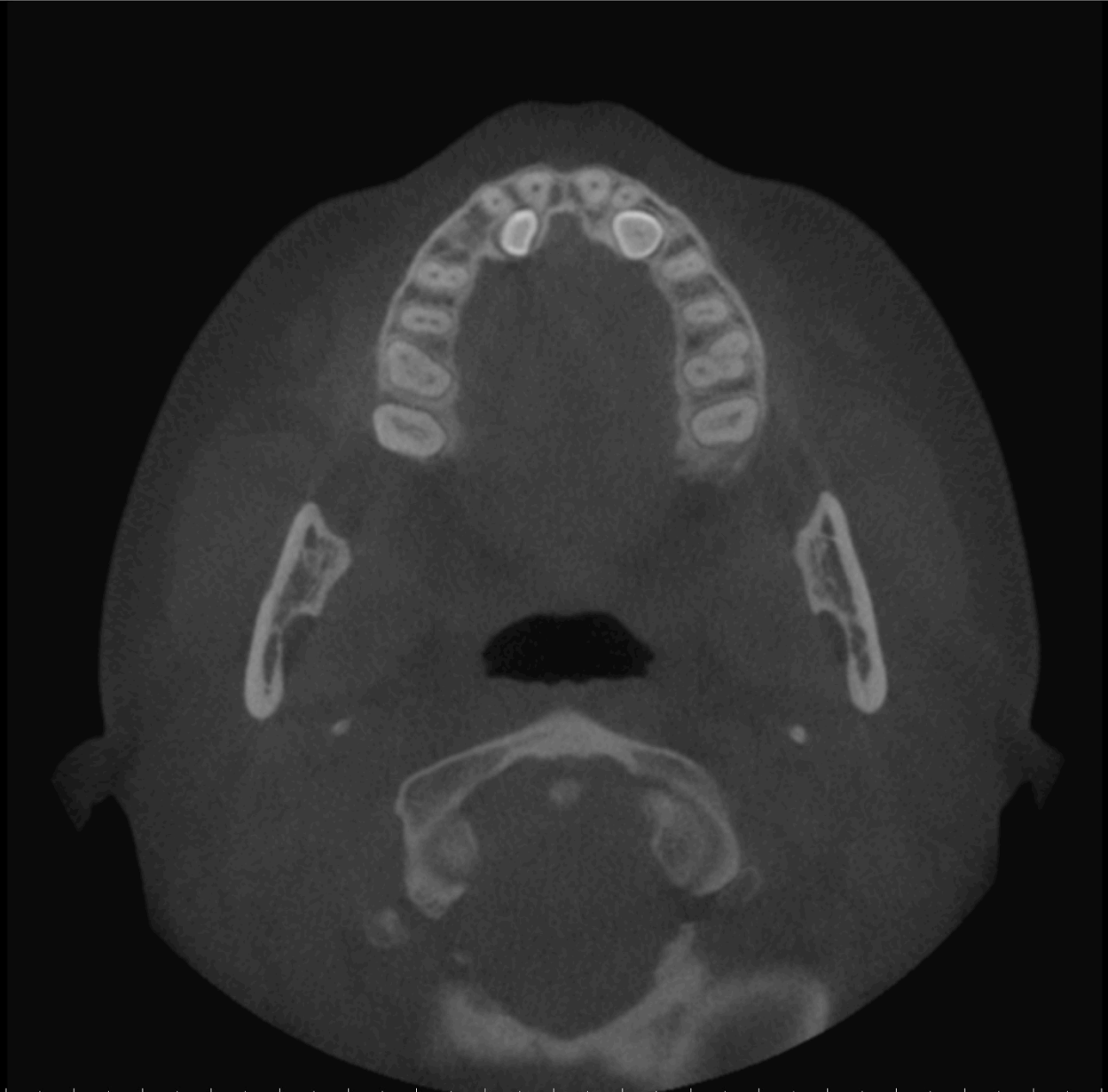
UNIVERSITY
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Health Sciences

1.40
(mm)

R

L



2.40
(mm)



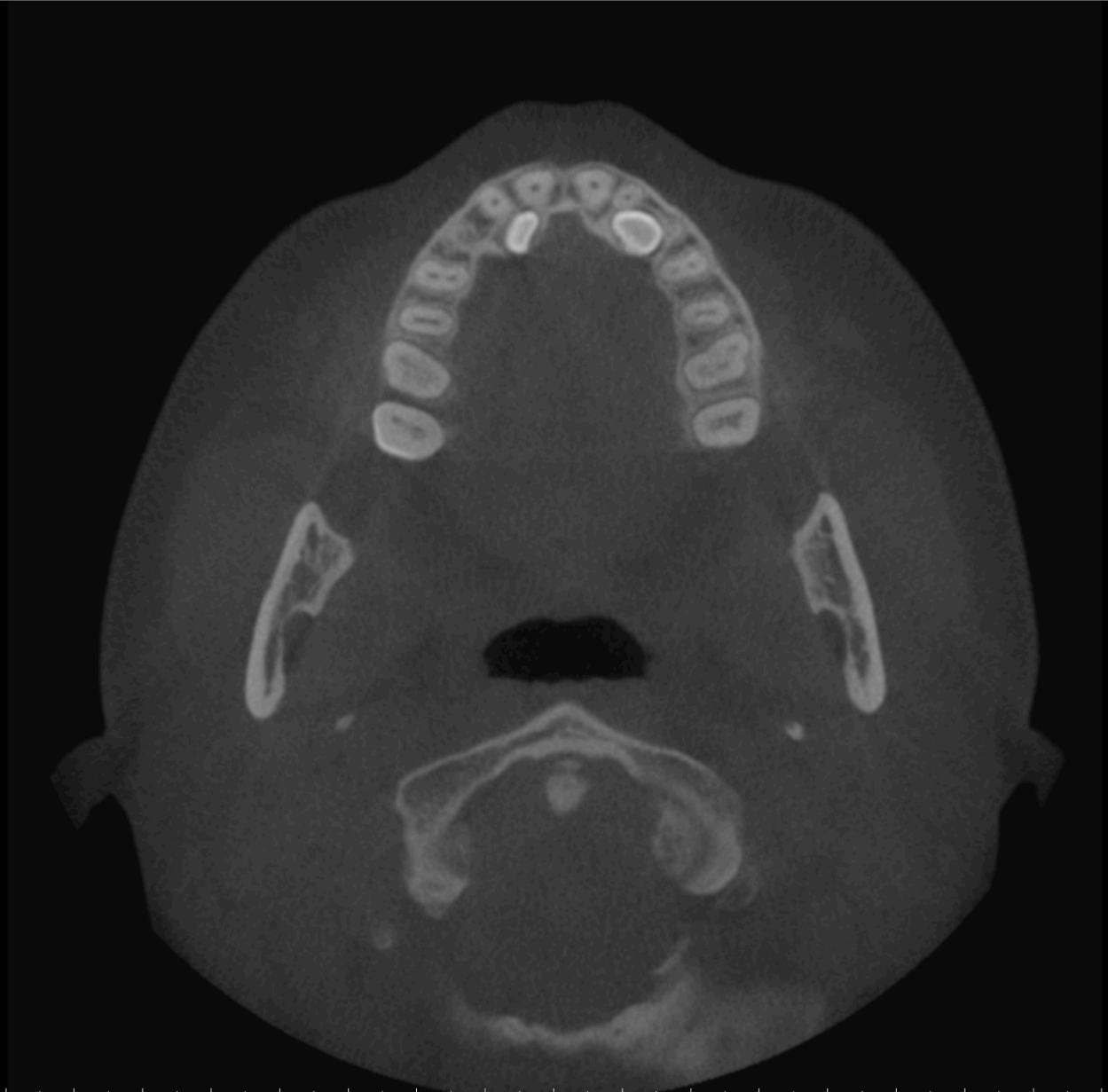
UNIVERSITY
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Health Sciences

1.20
cm

R

L



2.50
mm



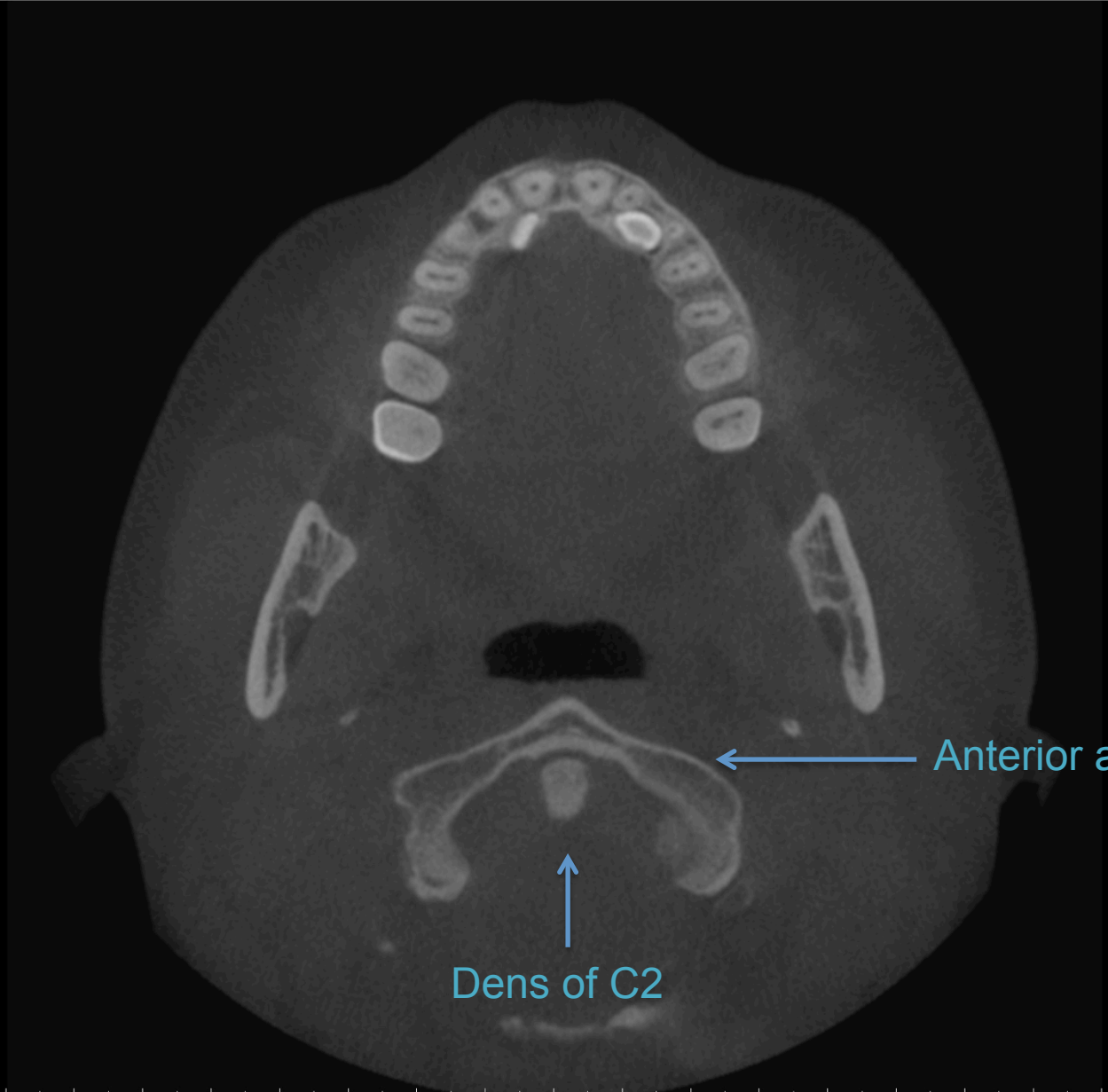
UNIVERSITY
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1.20
cm

R

L



← Anterior arch of C1

↑
Dens of C2

2.20
mm



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1.20
(mm)

R

L

← Mandibular foramina →

2.50
(mm)



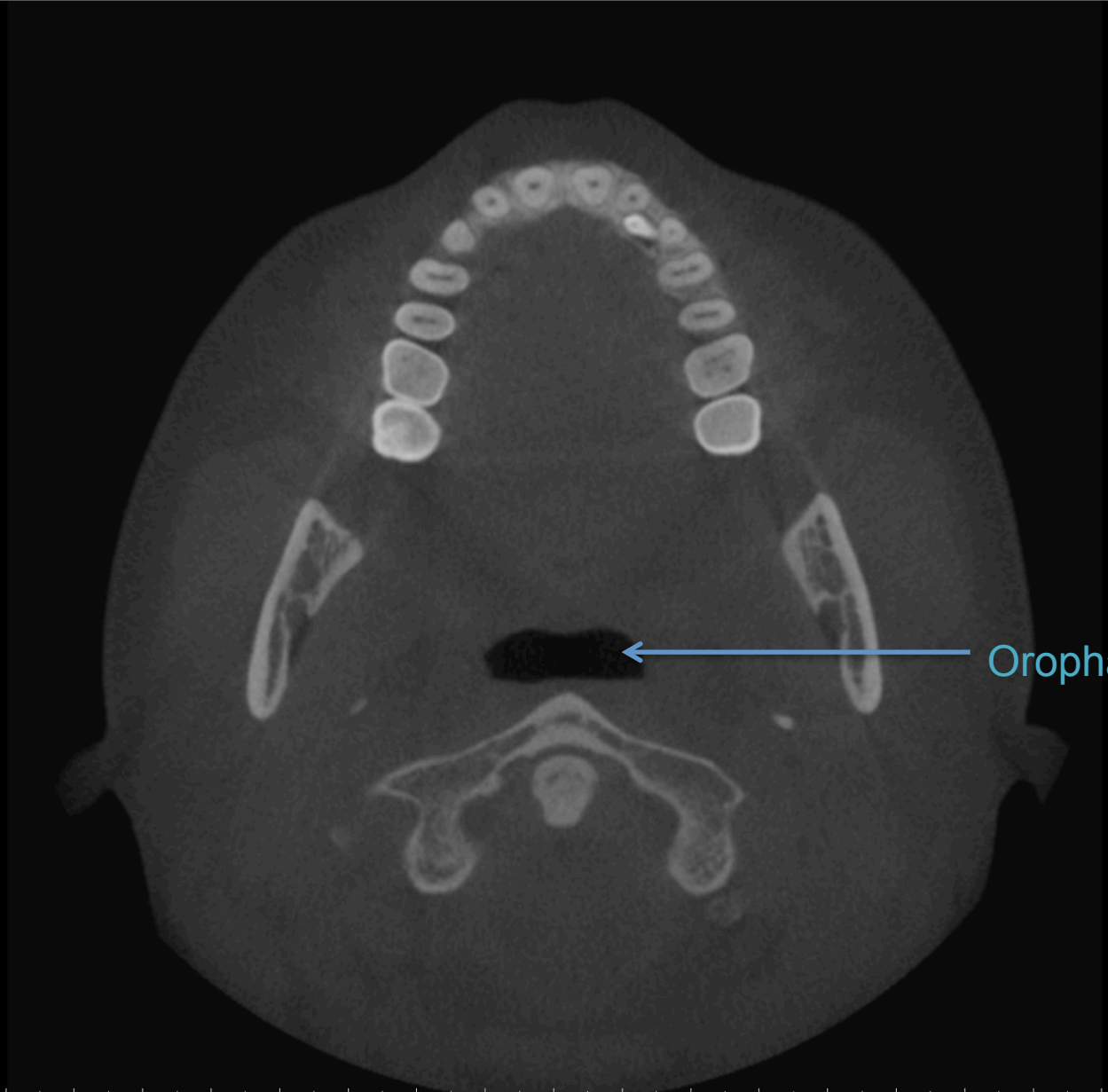
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1.20
cm

R

L



Oropharynx

2.50
mm



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1.20
cm

R

L



2.50
mm



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1.20
cm

R

L



2.50
mm



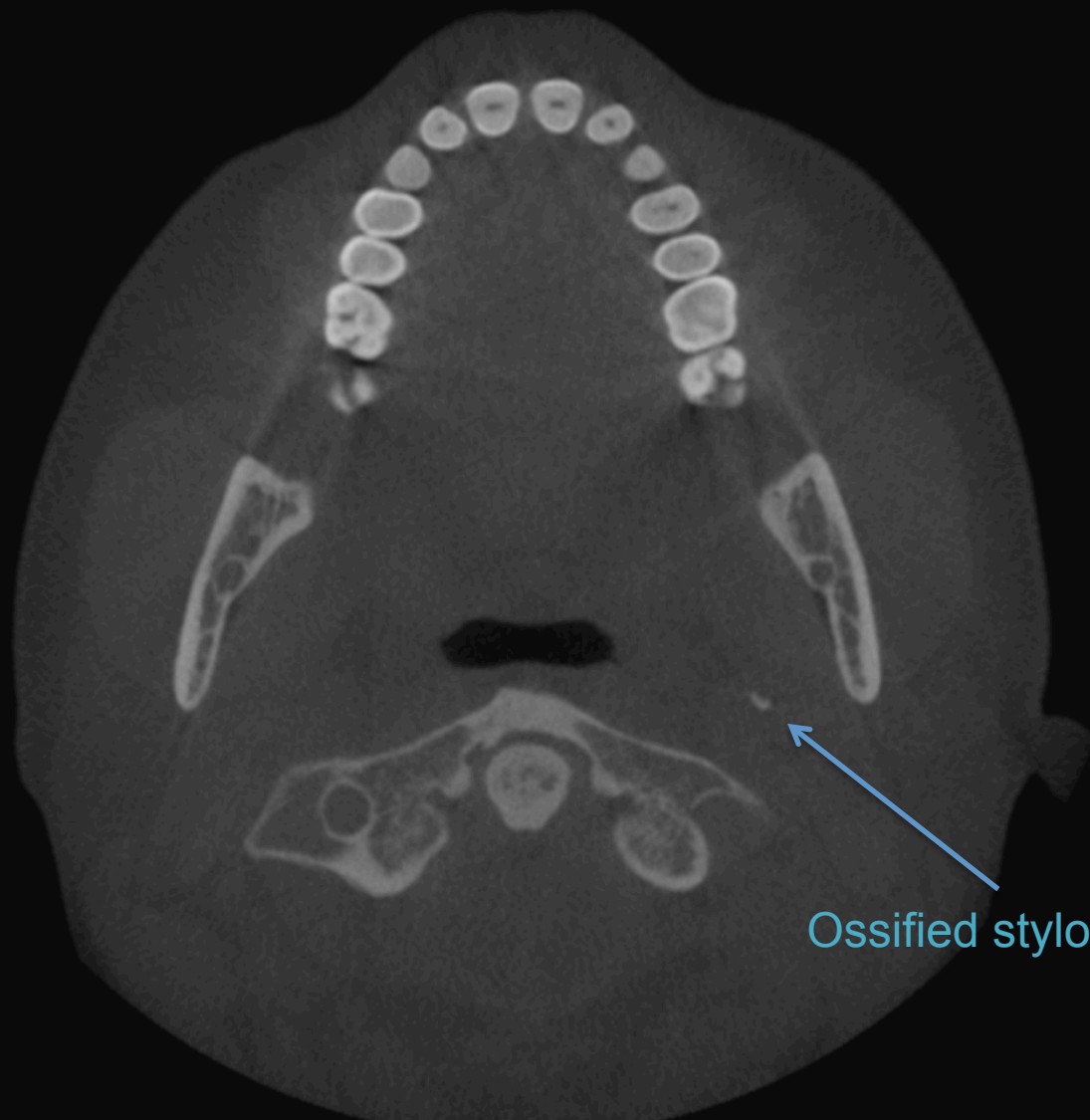
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1.20
(mm)

R

L



Ossified stylohyoid ligament

2.50
(mm)



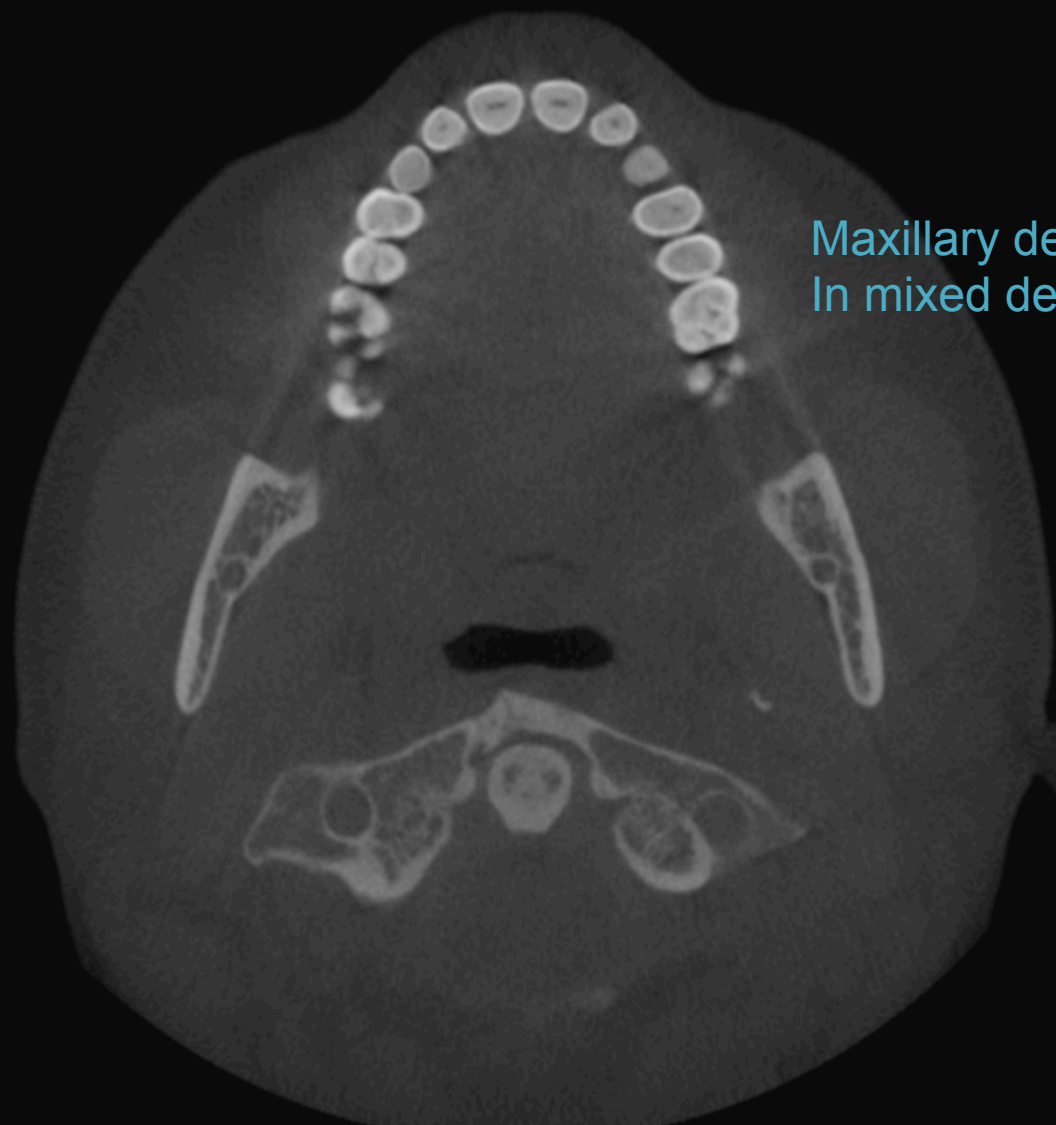
UNIVERSITY
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1.20
mm

R

L



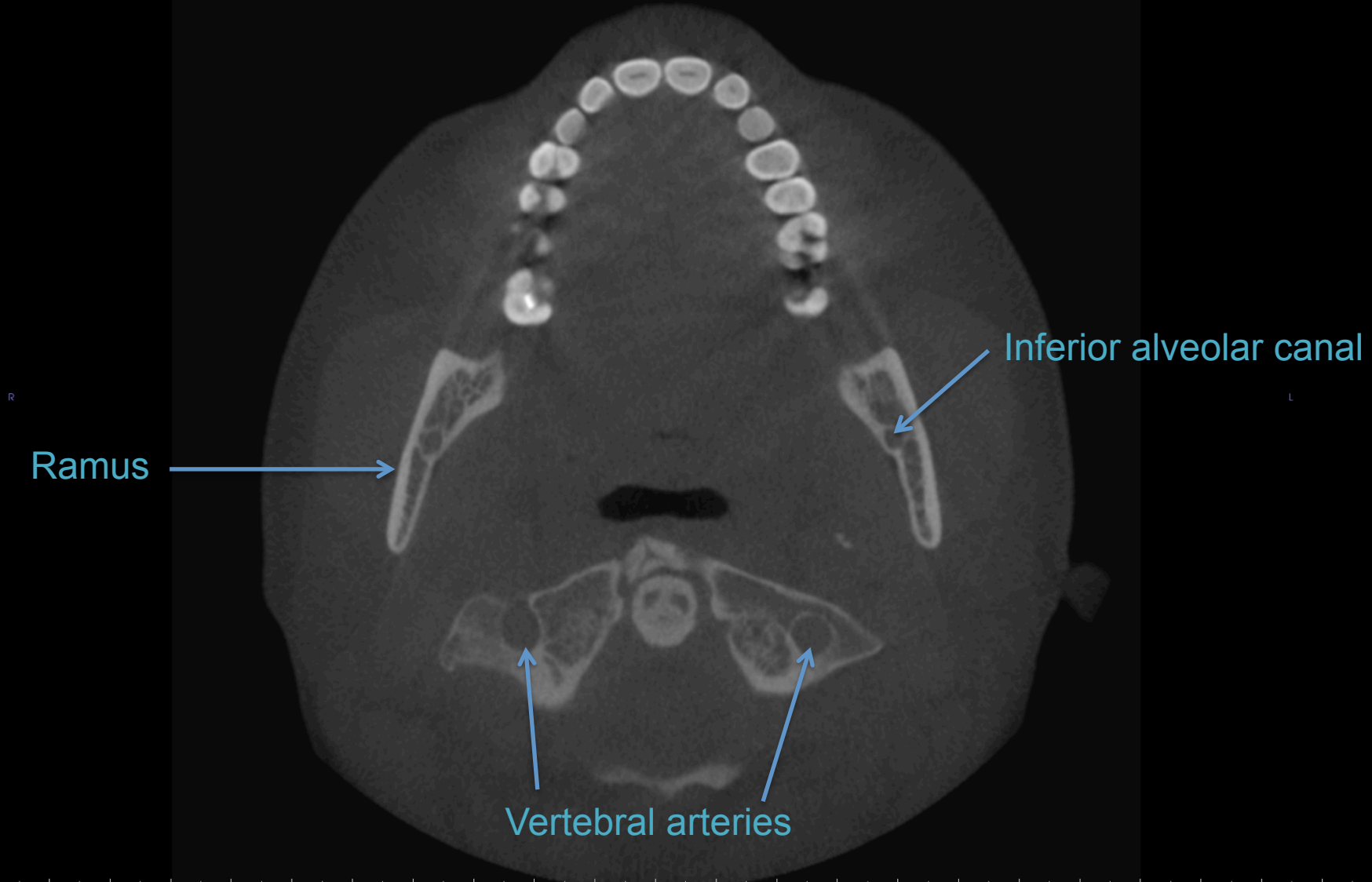
Maxillary dental arch
In mixed dentition stage

2.50
mm



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Ramus

Inferior alveolar canal

Vertebral arteries



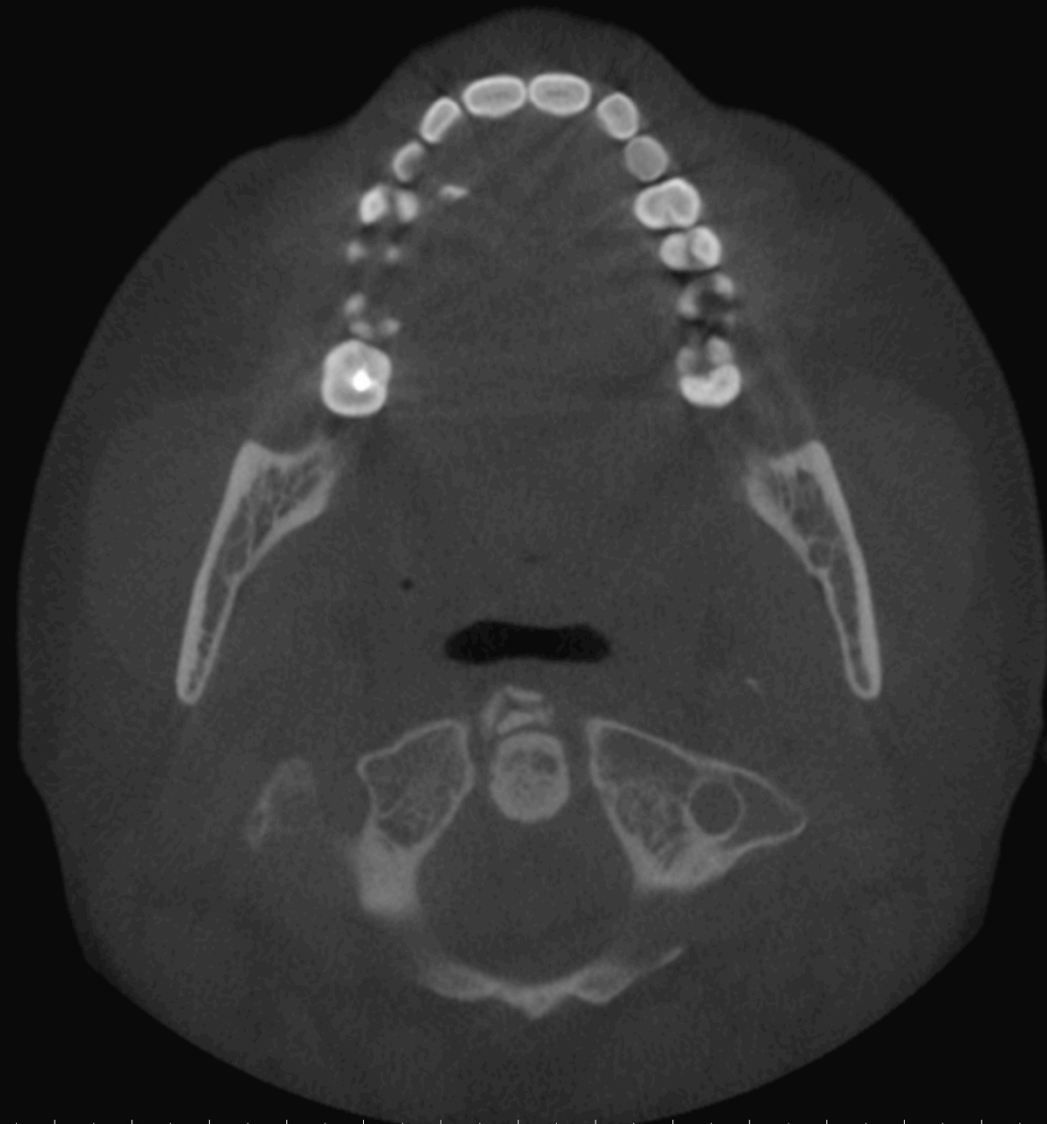
UNIVERSITY
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1.20
cm

R

L



2.50
mm



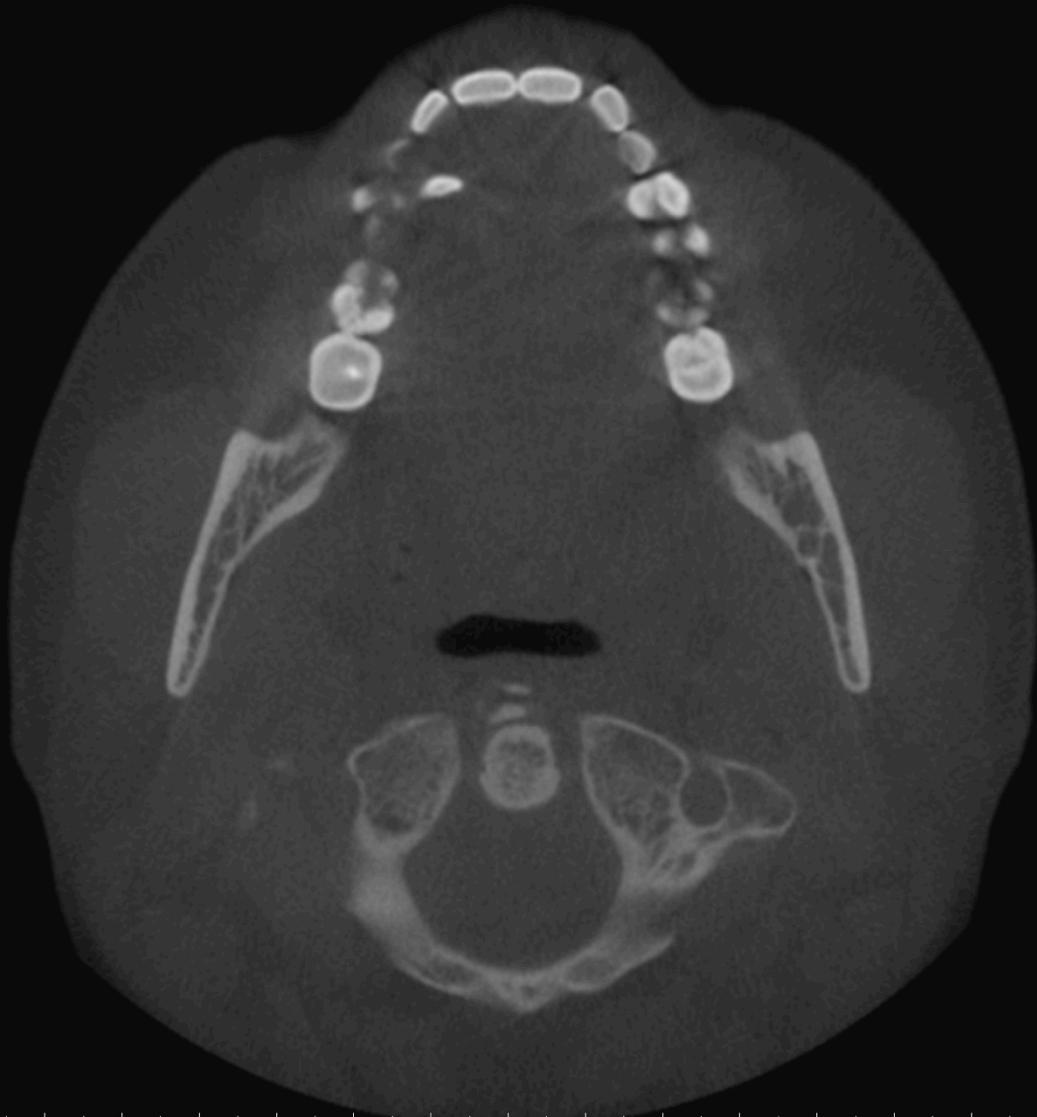
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1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



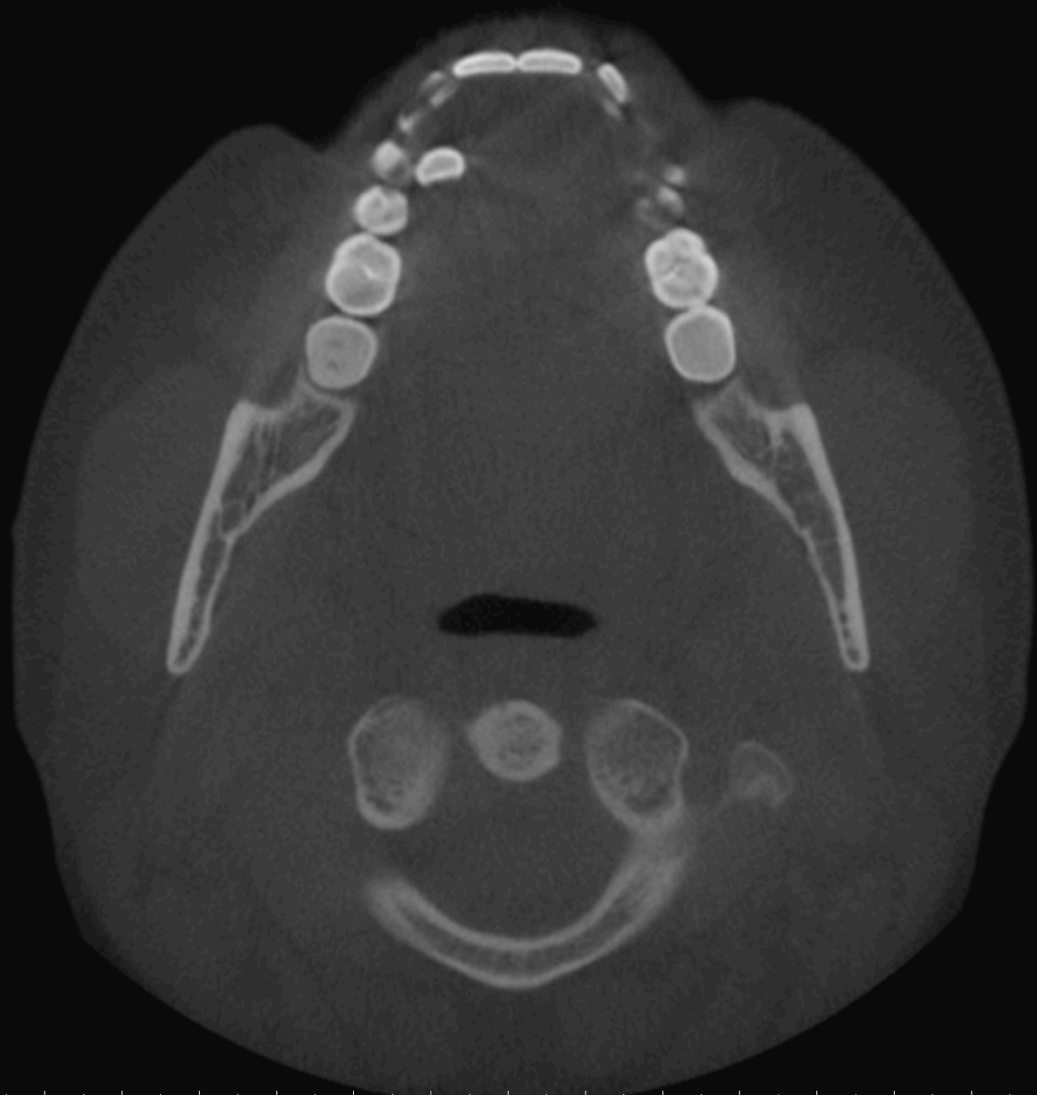
UNIVERSITY
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1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



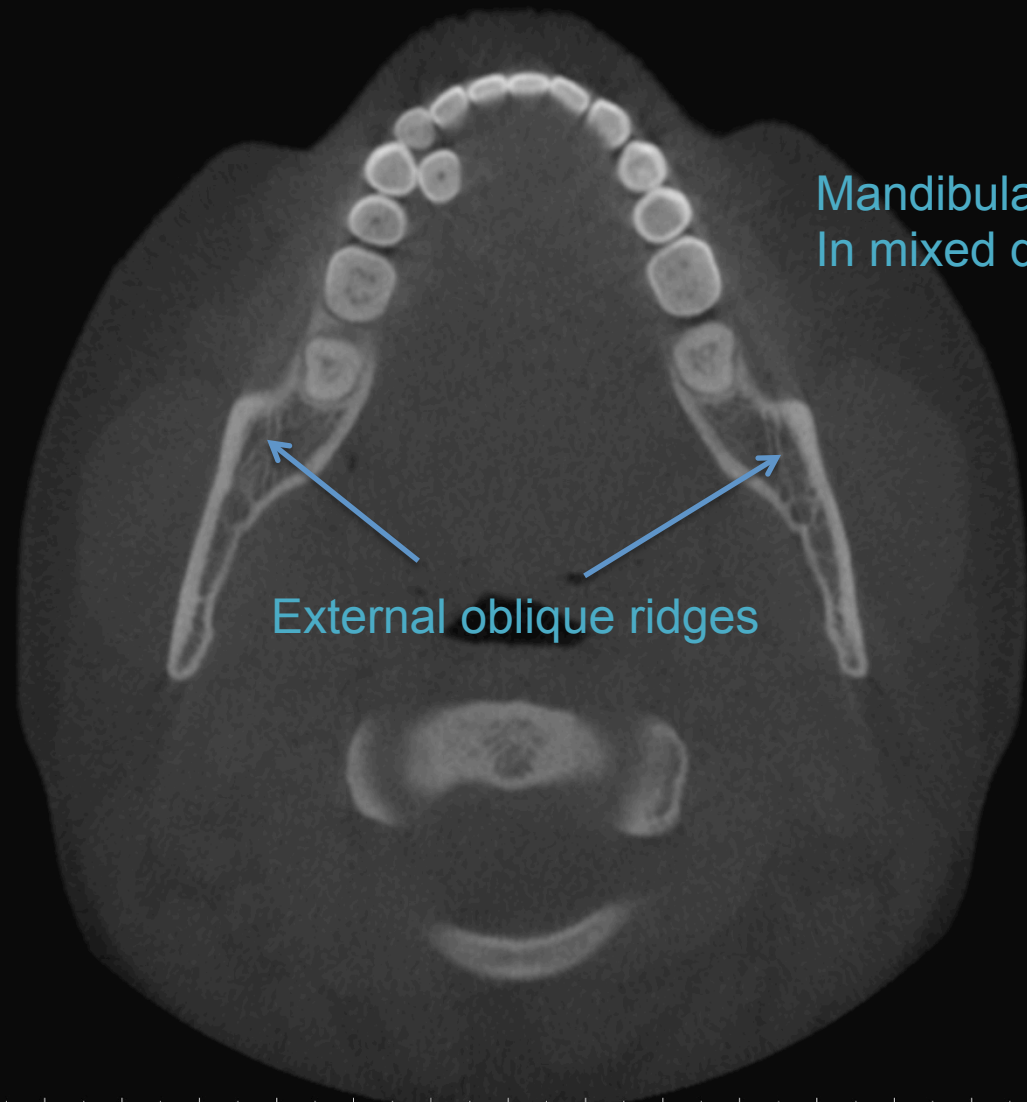
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1.20
(mm)

R

L



Mandibular dental arch
In mixed dentition stage

External oblique ridges



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2.20
(mm)

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



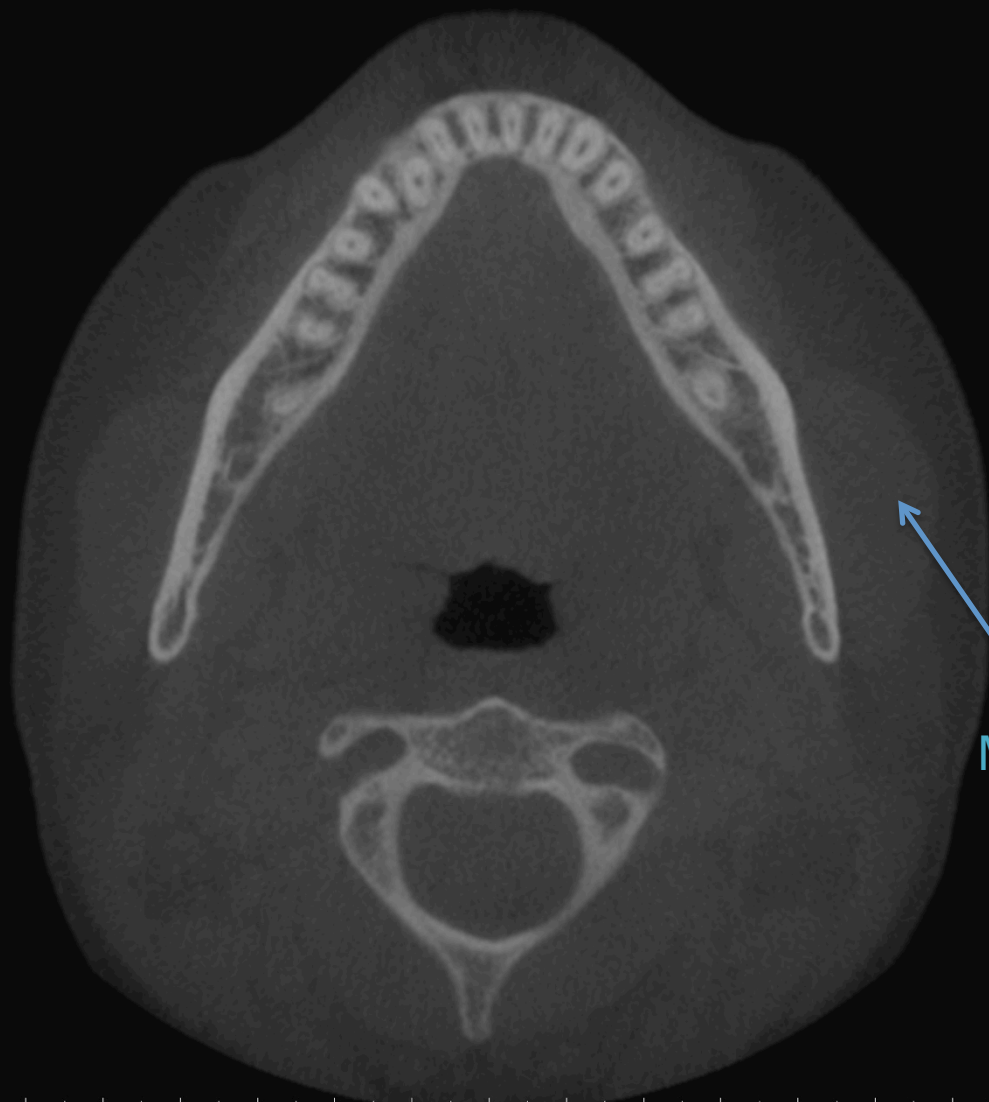
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1.20
cm

R

L



Masseter muscle

2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
OF MANITOBA

Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



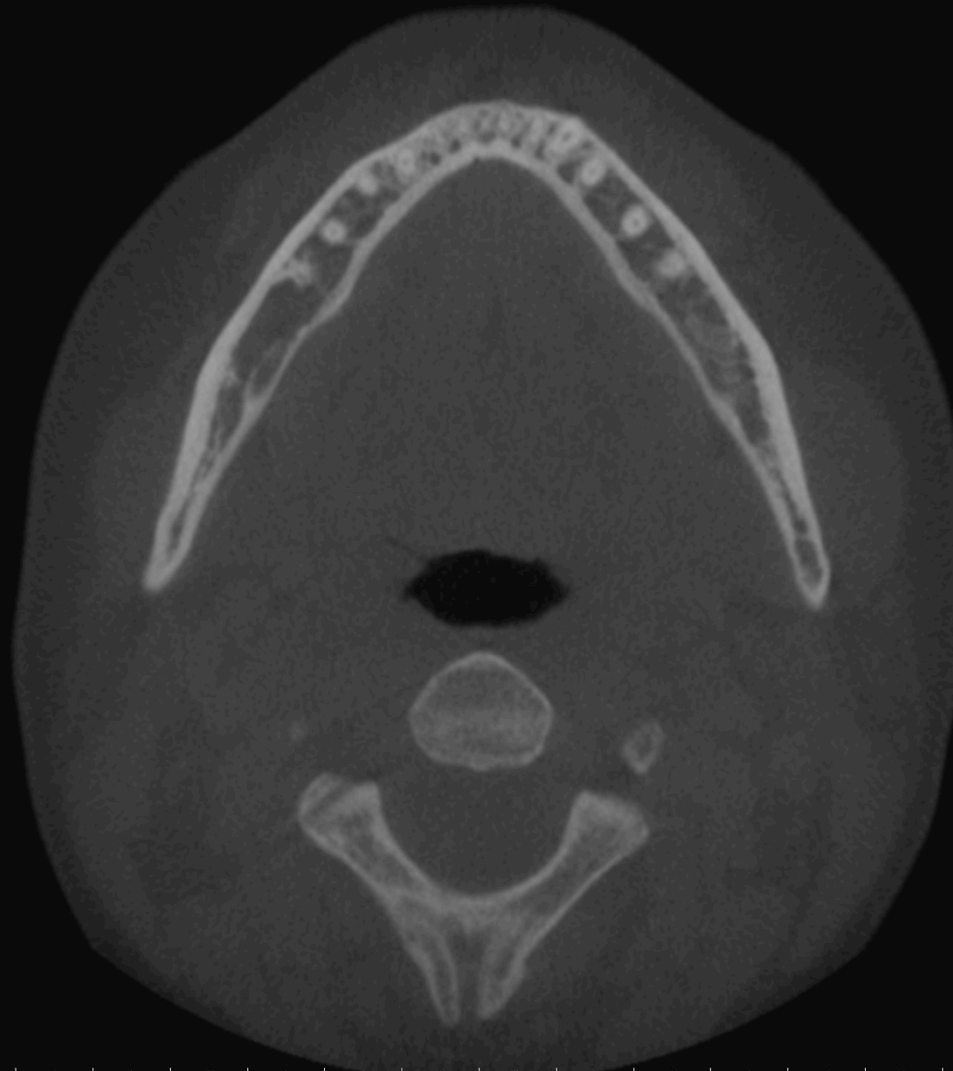
2.50
mm



UNIVERSITY
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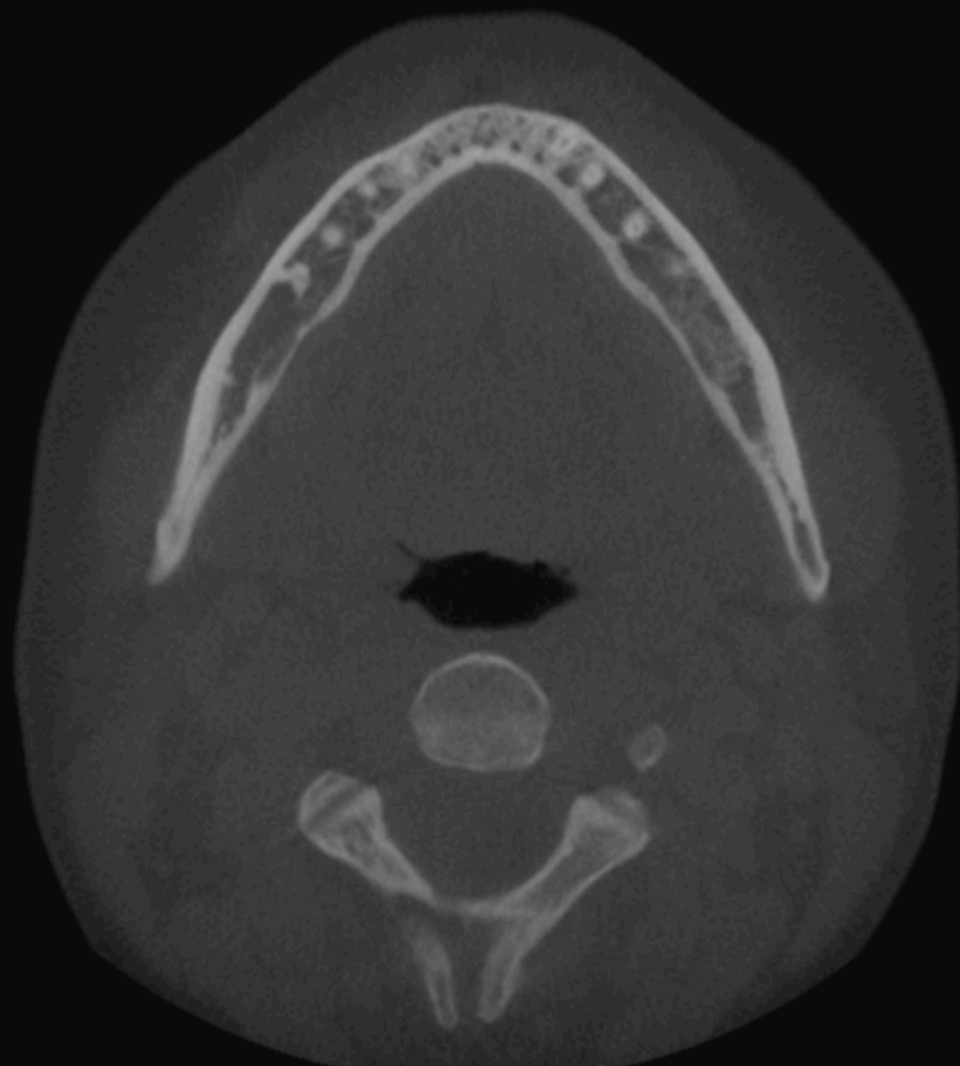
Root apices of mandibular dentition



1.20
cm

R

L



2.50
mm



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1.20
cm

R

L



2.50
mm



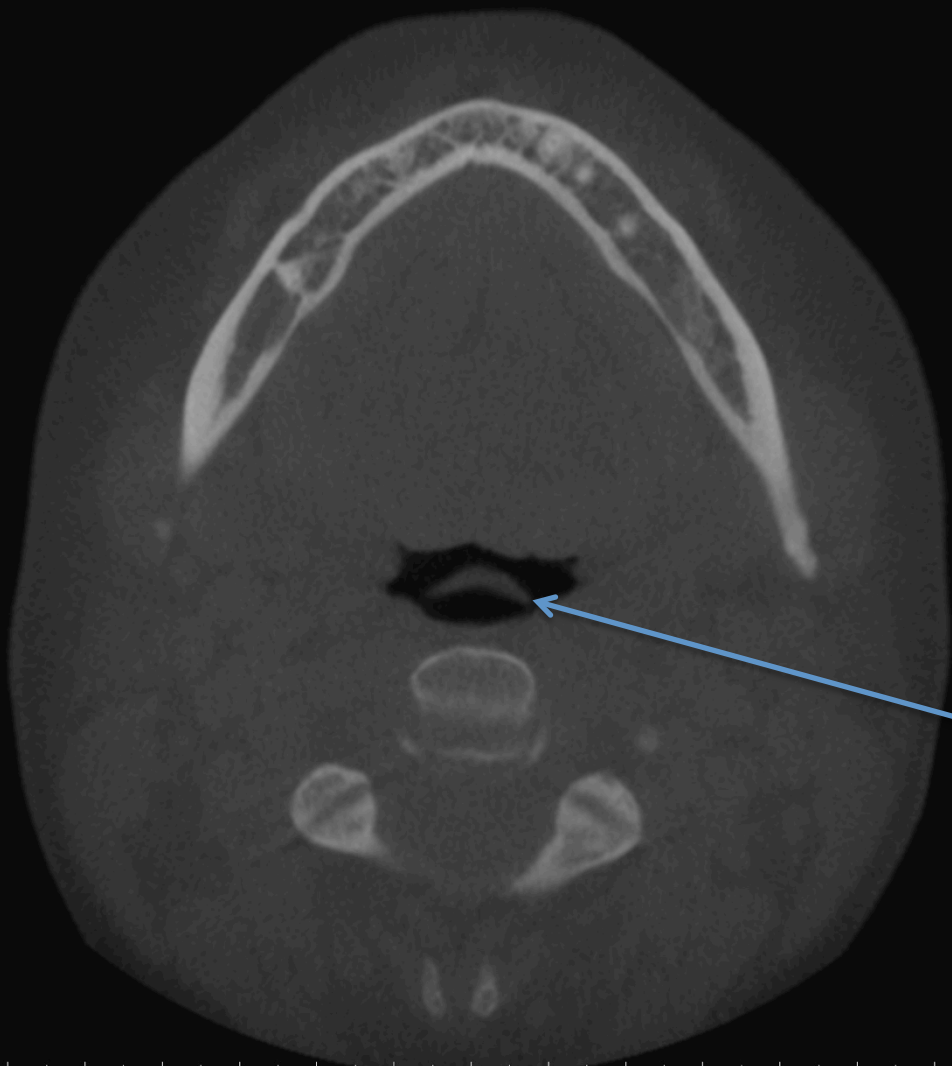
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1.20
(mm)

R

L



Epiglottis

2.50
(mm)



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1.20
cm

R

L



2.50
mm



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Rady Faculty of
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1.20
cm

R

L



2.50
mm



UNIVERSITY
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1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
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1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



UNIVERSITY
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1.20
cm

R

L



2.50
mm



UNIVERSITY
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1.20
cm

R

L



2.50
mm



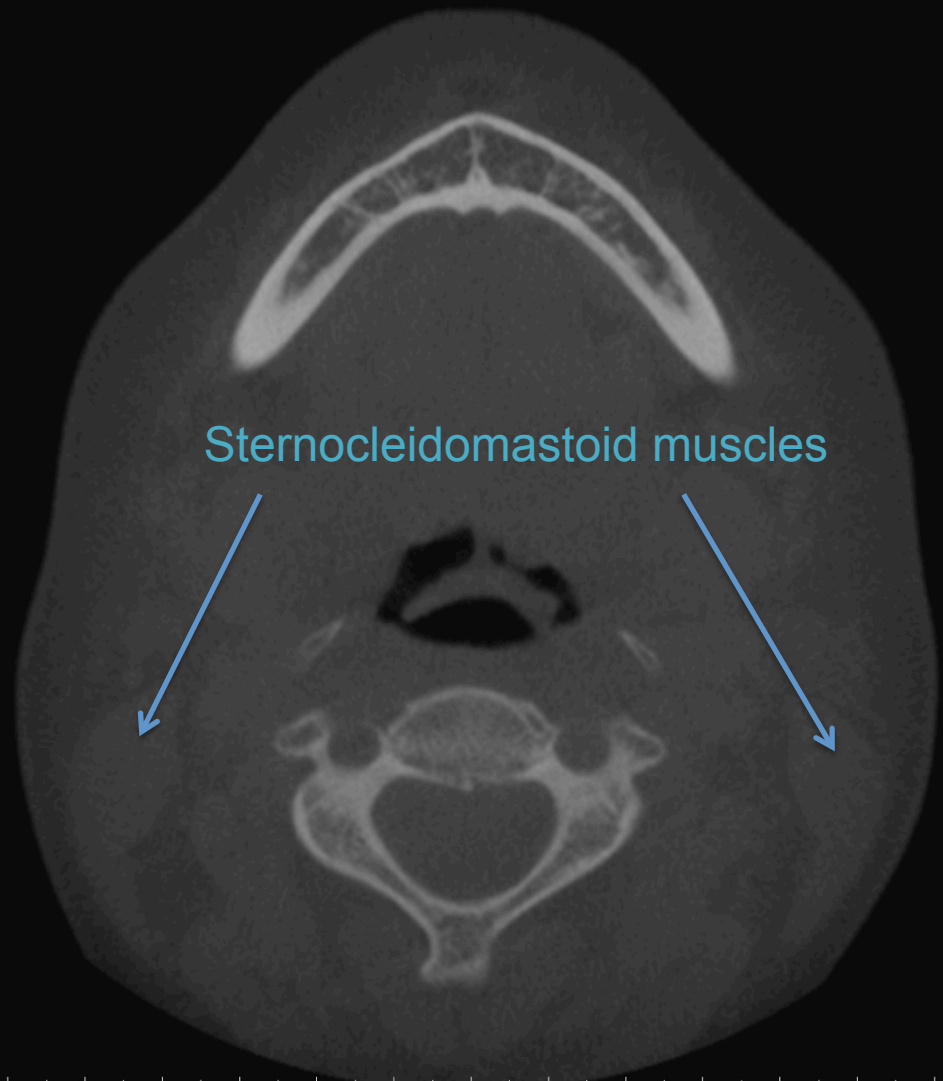
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1.20
(mm)

R

L



Sternocleidomastoid muscles



2.50
(mm)



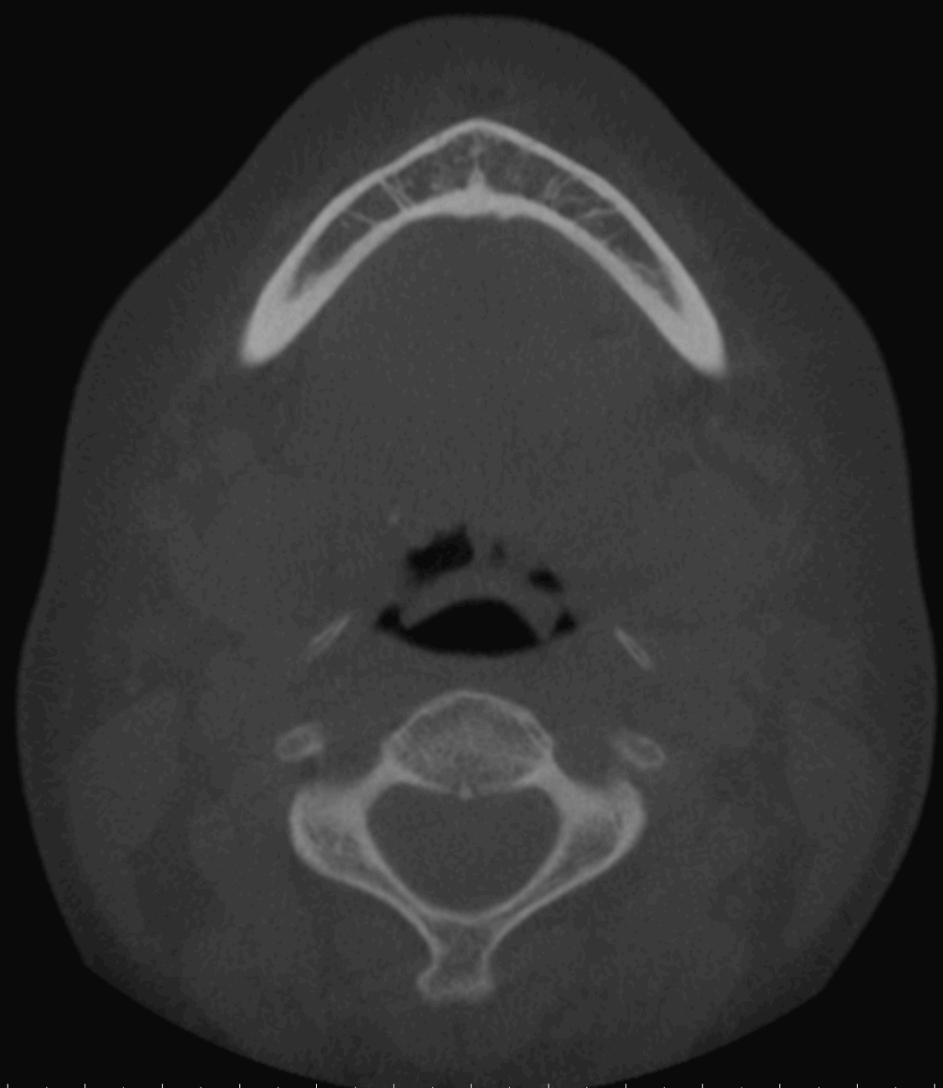
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1.20
cm

R

L



2.50
mm



UNIVERSITY
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1.20
cm

R

L



2.50
mm

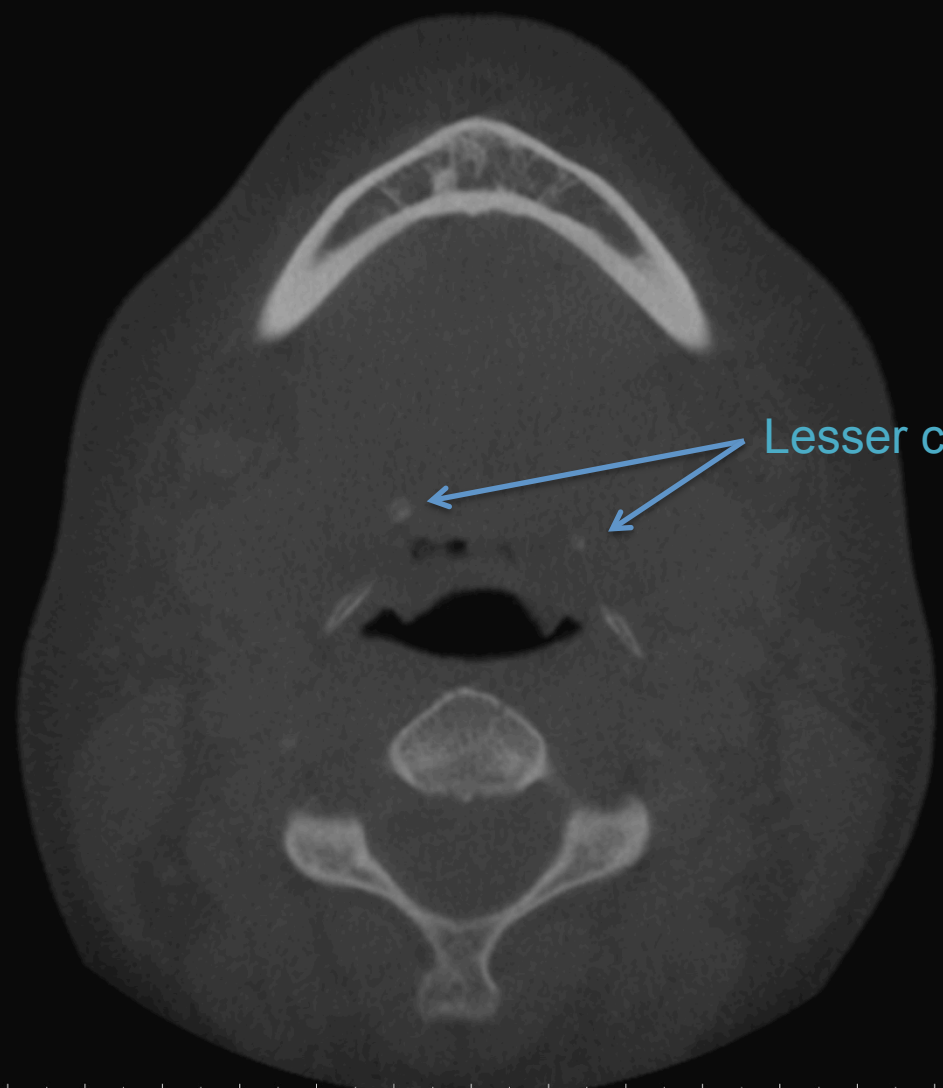


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1.20
cm

R



Lesser cornu of hyoid bone

2.50
mm



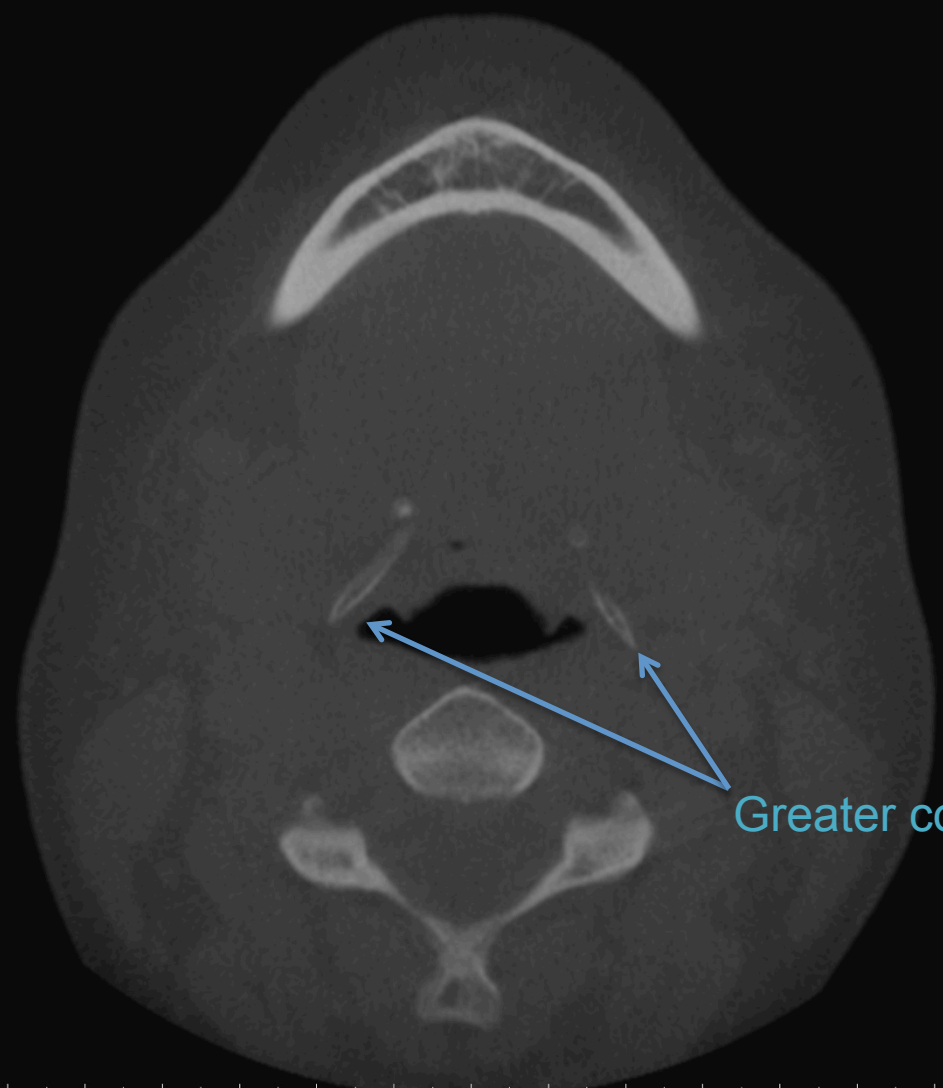
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1.20
(mm)

R

L



Greater cornus of hyoid bone

2.50
(mm)



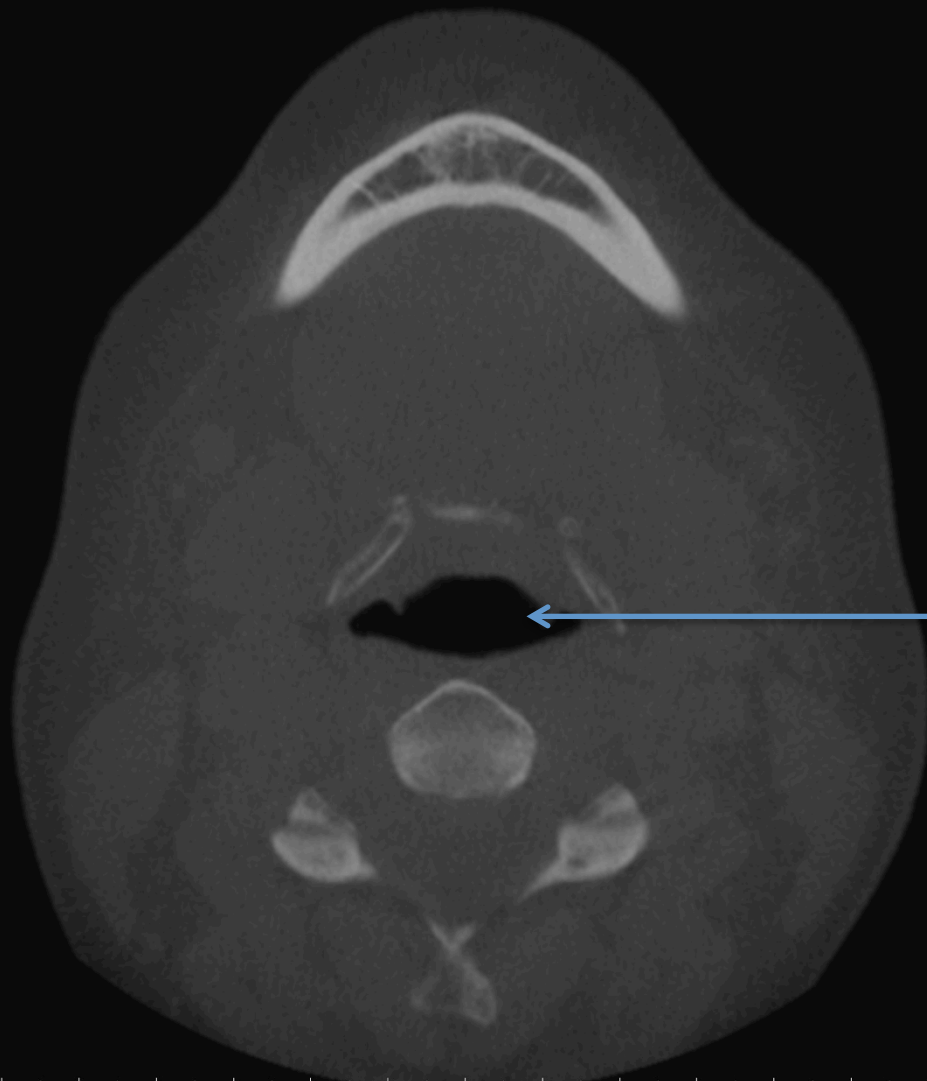
UNIVERSITY
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1.20
cm

R

L



Hypopharynx

2.50
mm



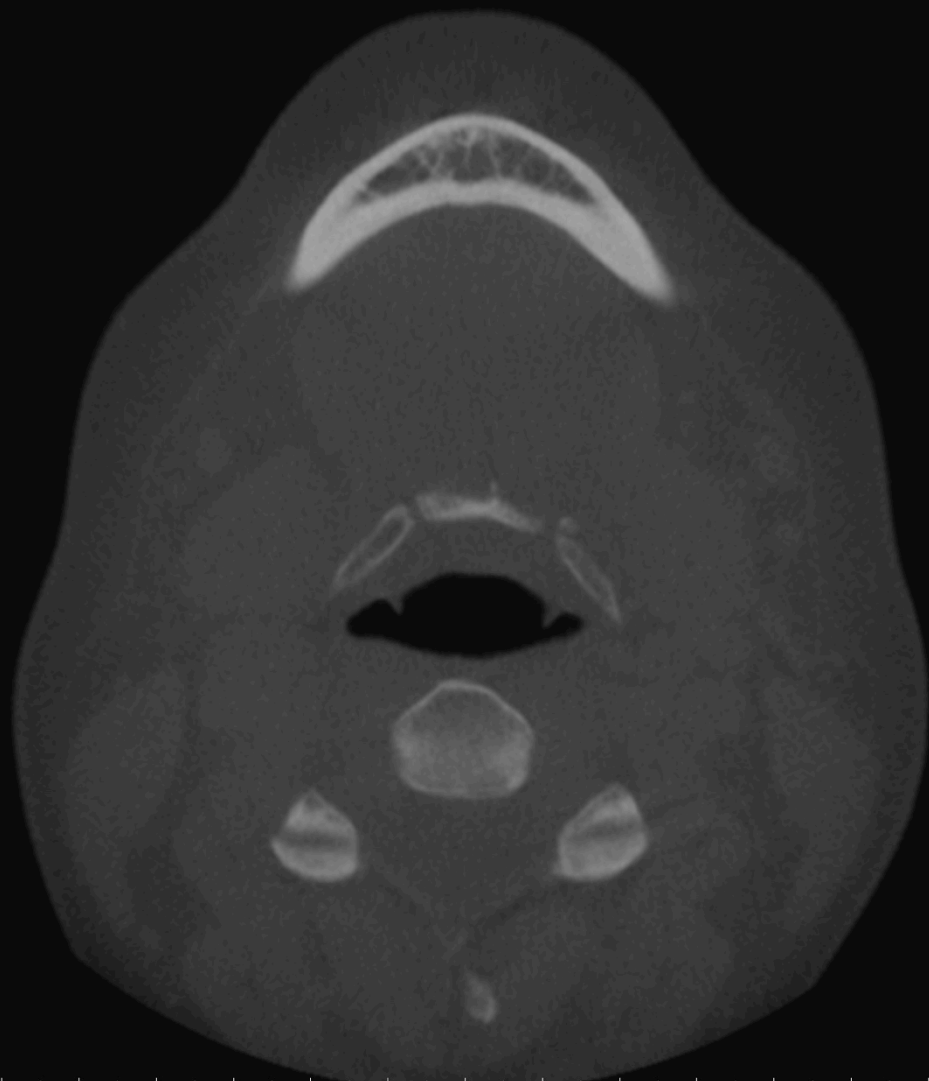
UNIVERSITY
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1.20
cm

R

L



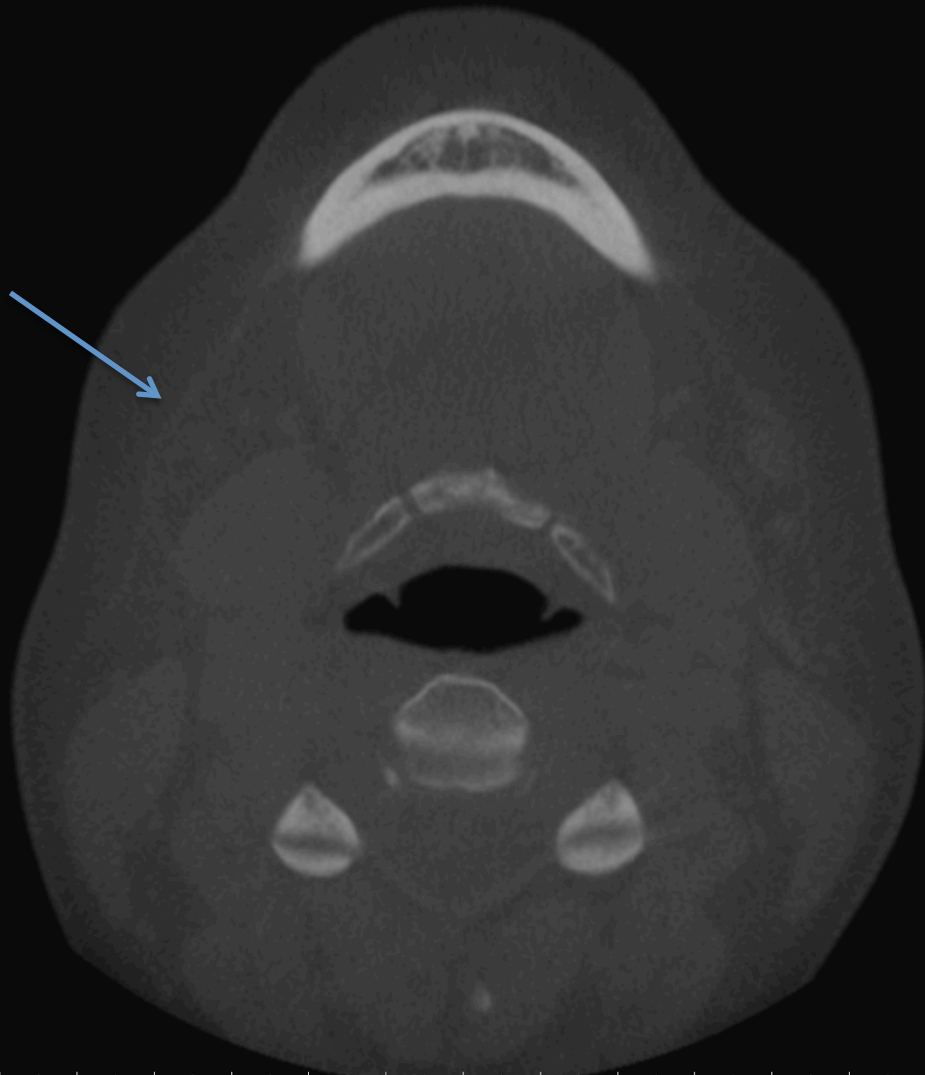
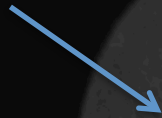
2.50
mm



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Platysma muscle



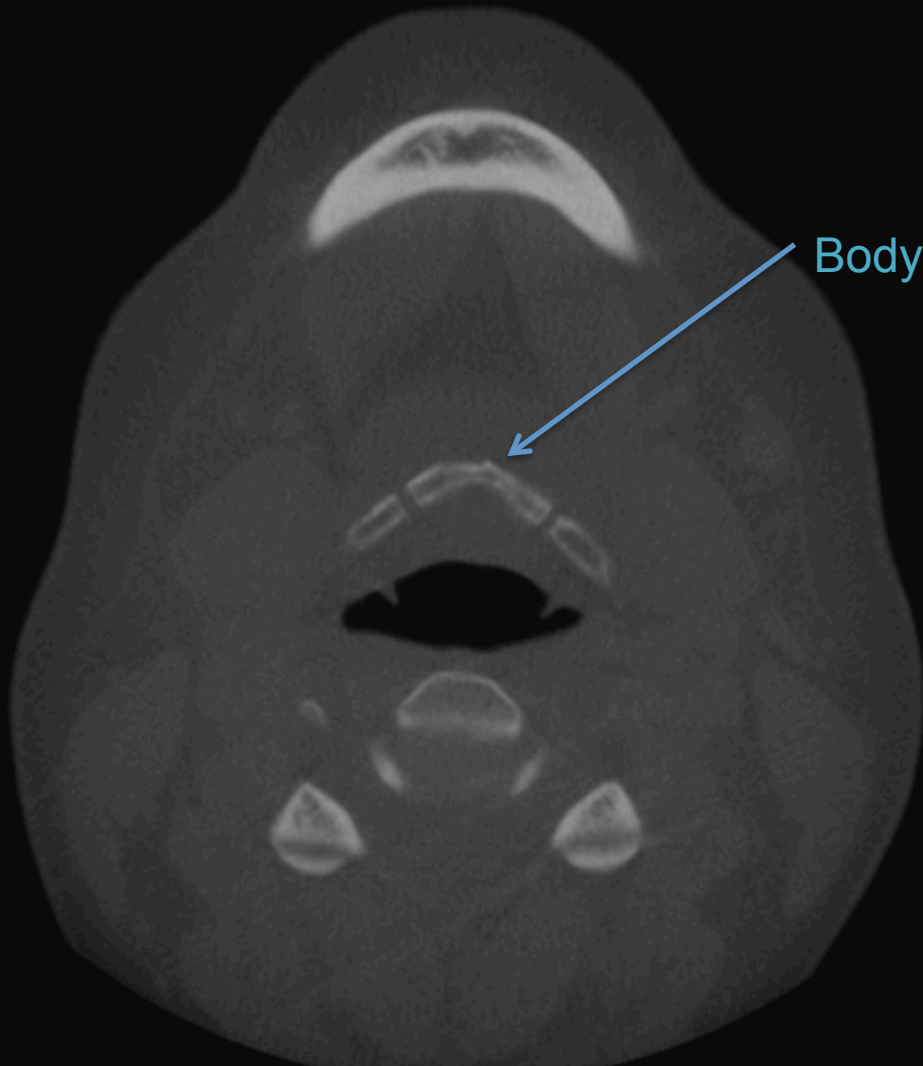
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1.20
cm

R

L



Body of hyoid bone

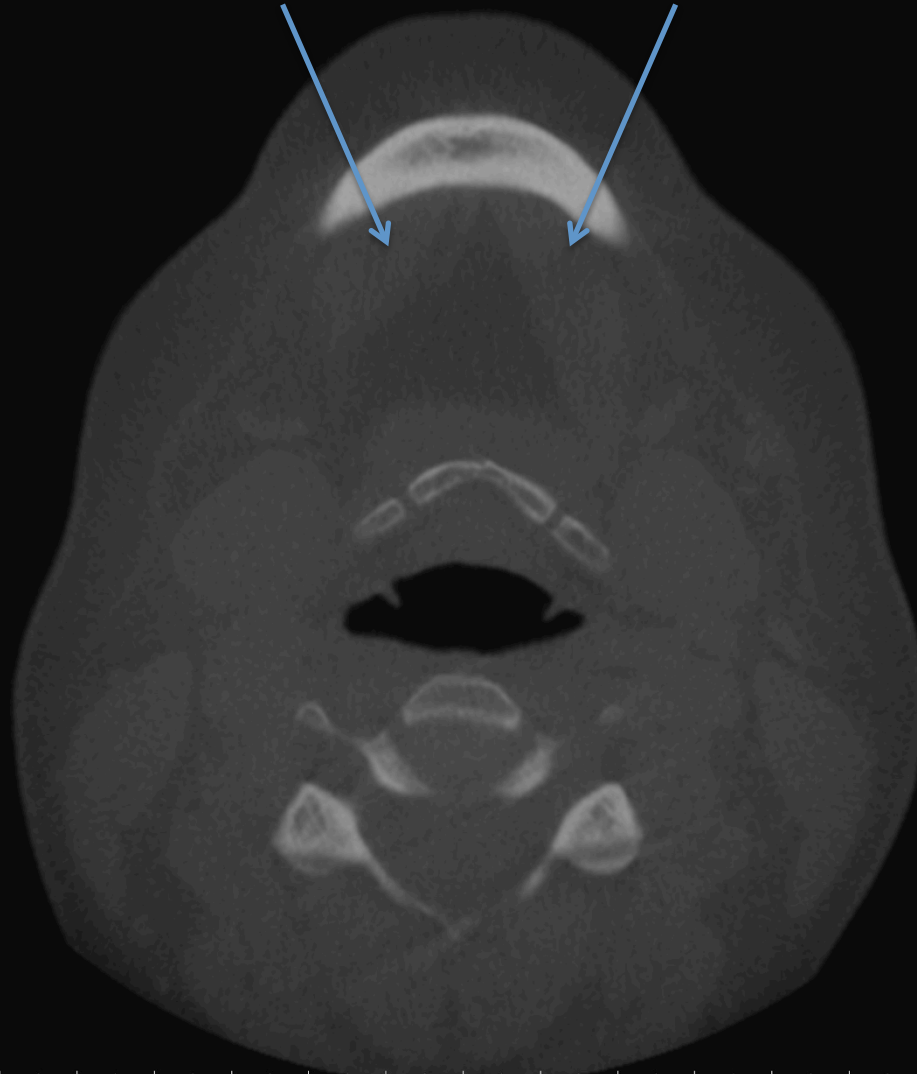
2.50
mm



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Anterior digastric muscles

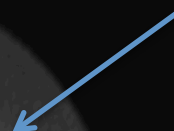


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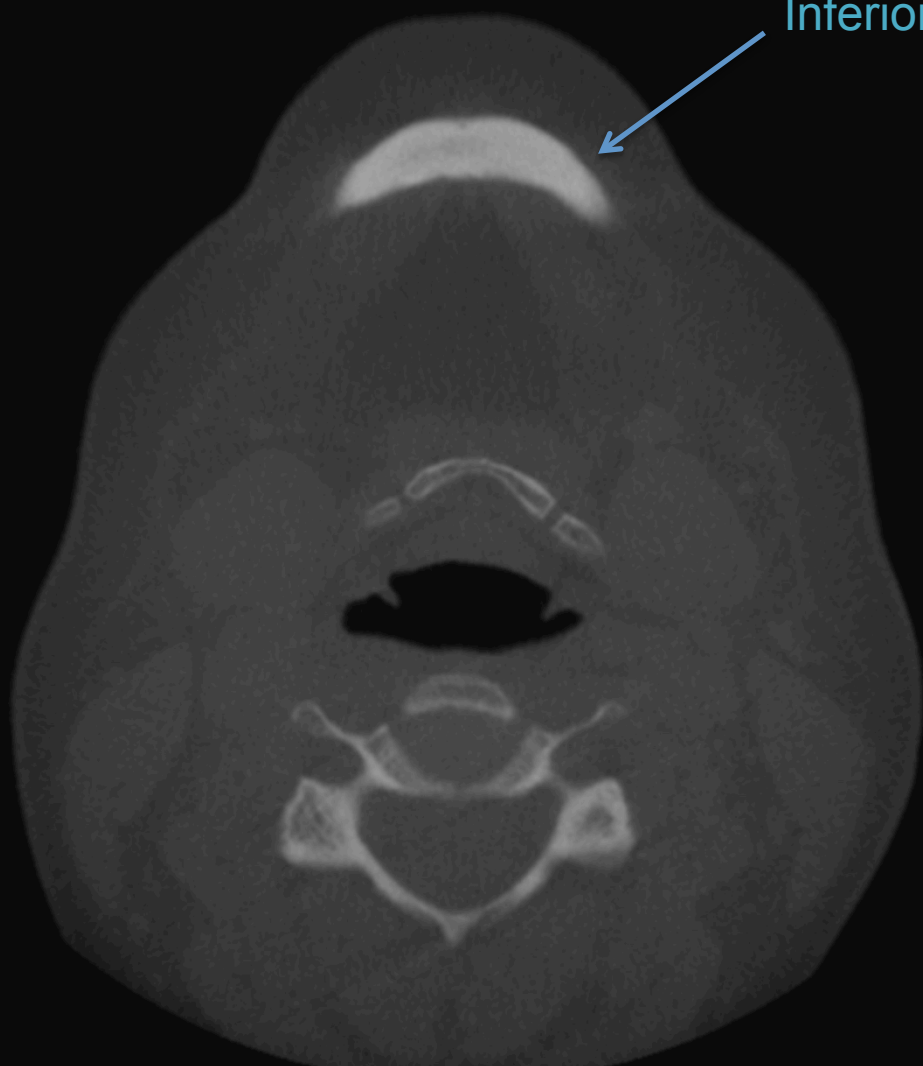
1.20
(mm)

Inferior border of mandible



R

L



2.50
(mm)



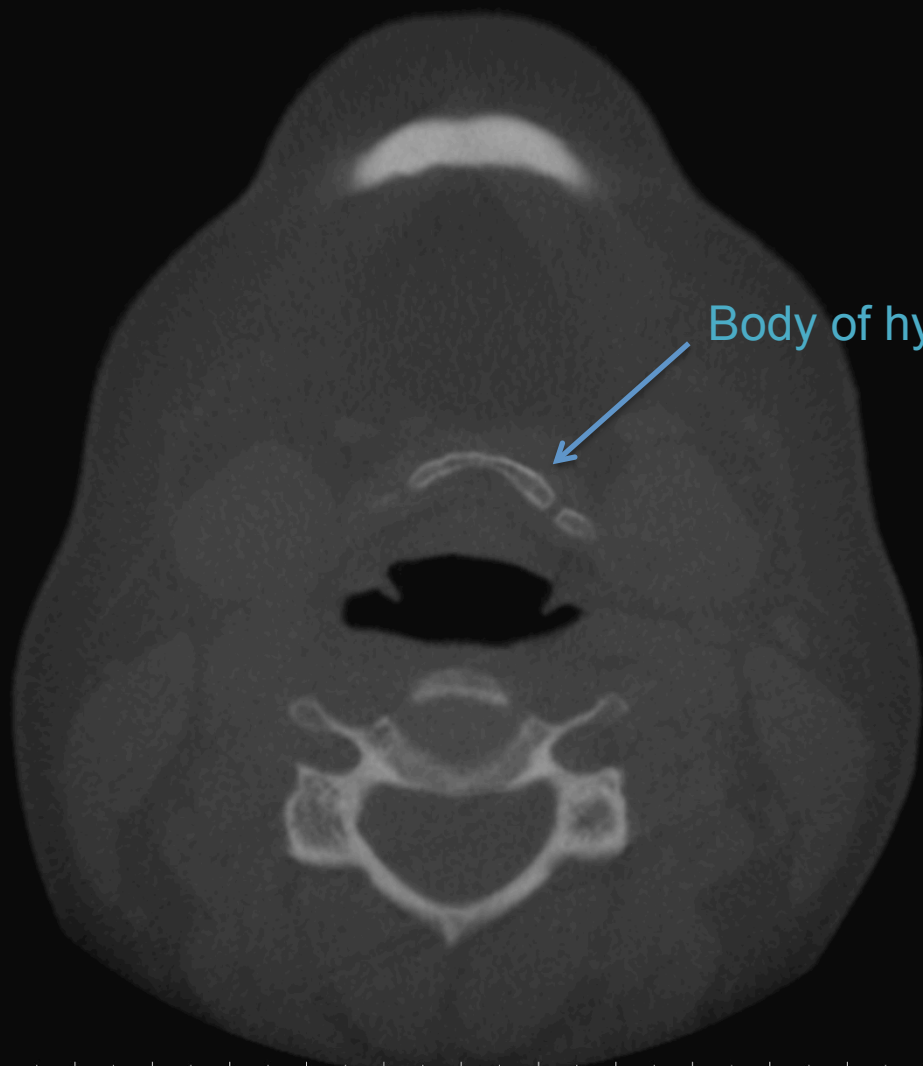
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1.20
(mm)

R

L



Body of hyoid bone

2.50
(mm)



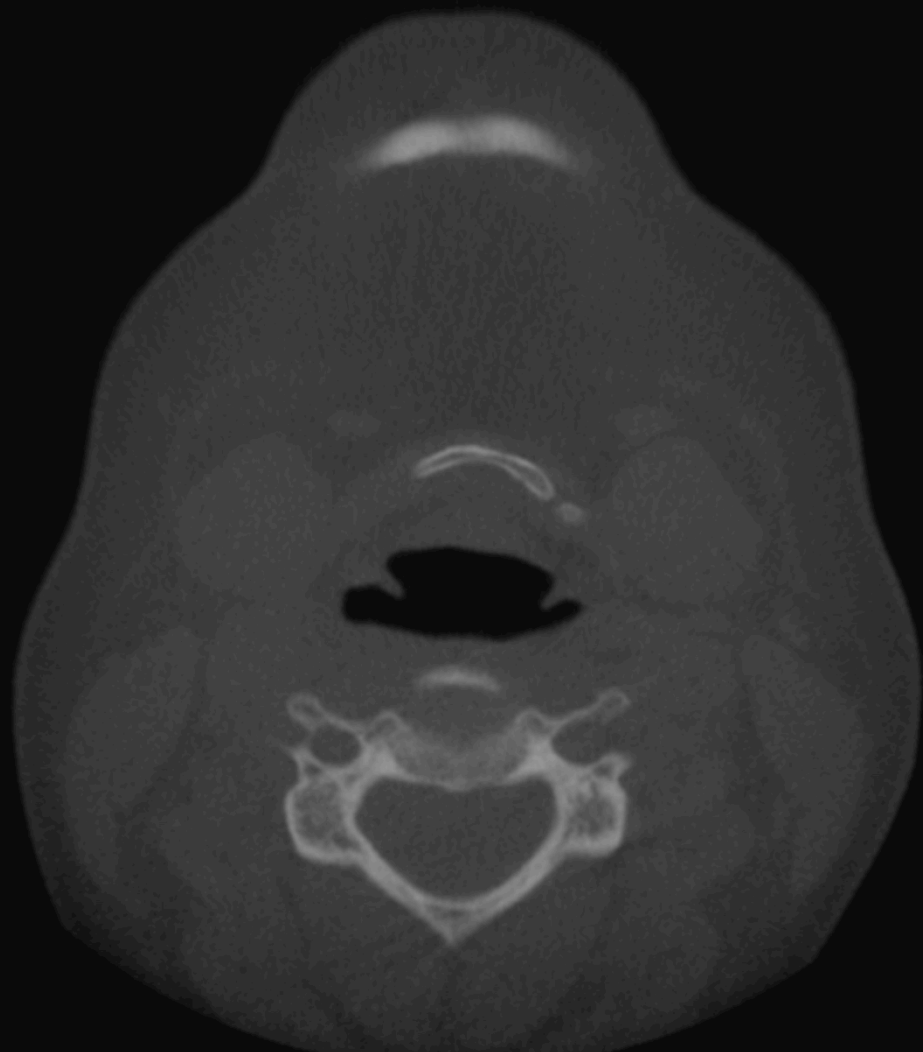
UNIVERSITY
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1.20
cm

R

L



2.50
mm



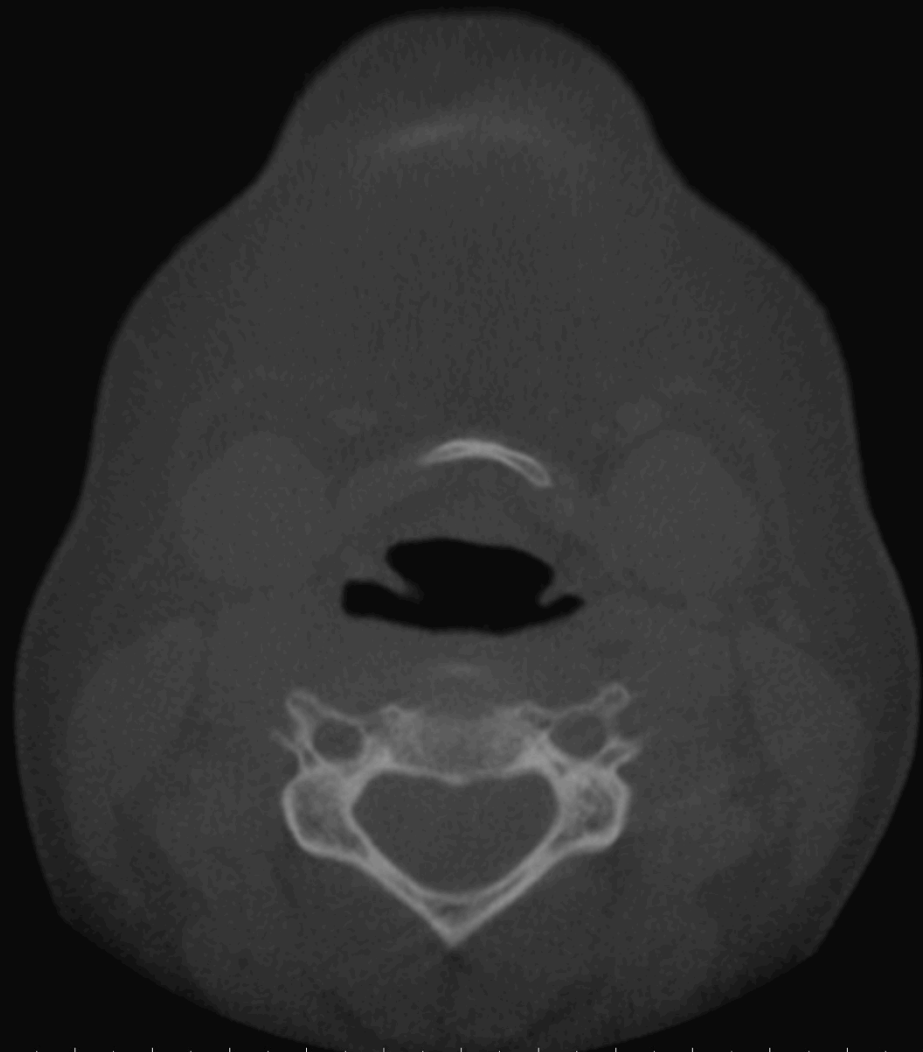
UNIVERSITY
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1.20
cm

R

L



2.50
mm



UNIVERSITY
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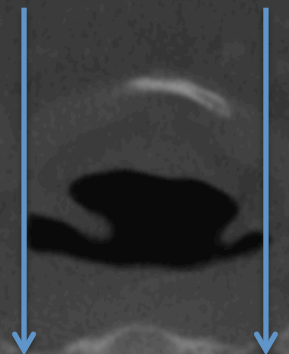
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140 (mm)

R

L

Transverse foramina



240 (mm)



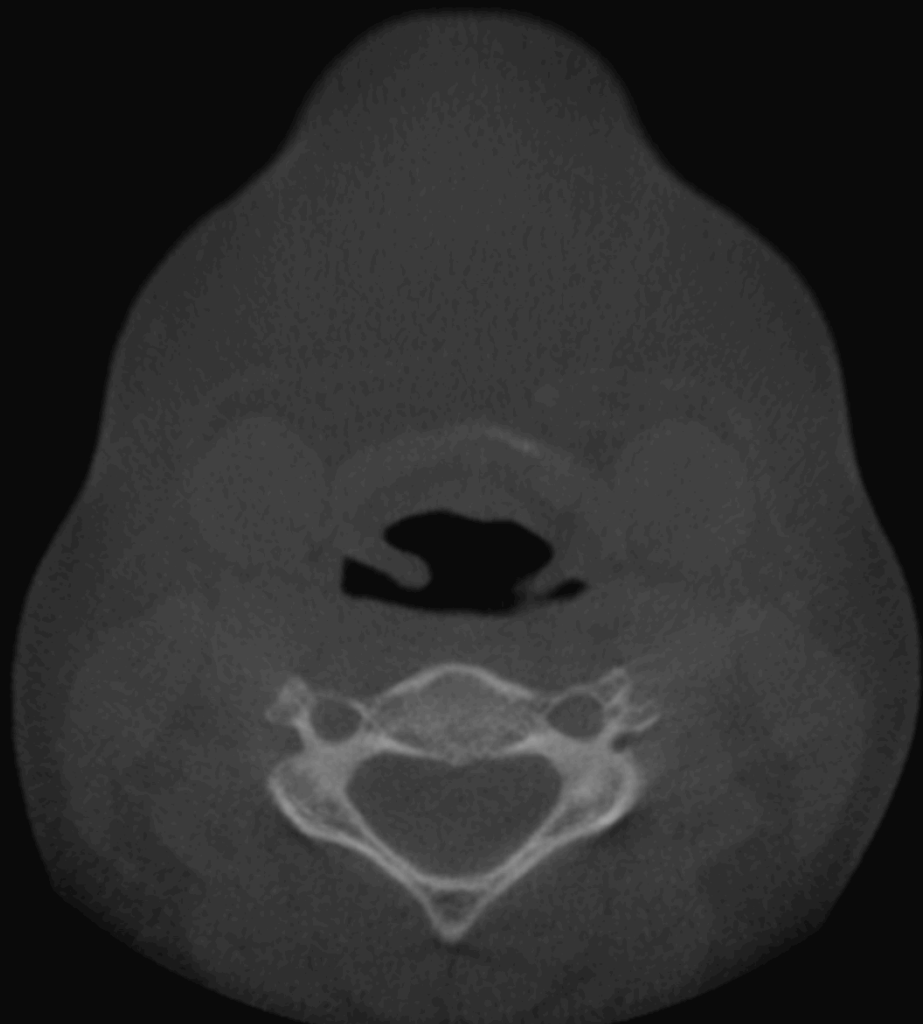
UNIVERSITY
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1.20
cm

R

L



2.50
mm



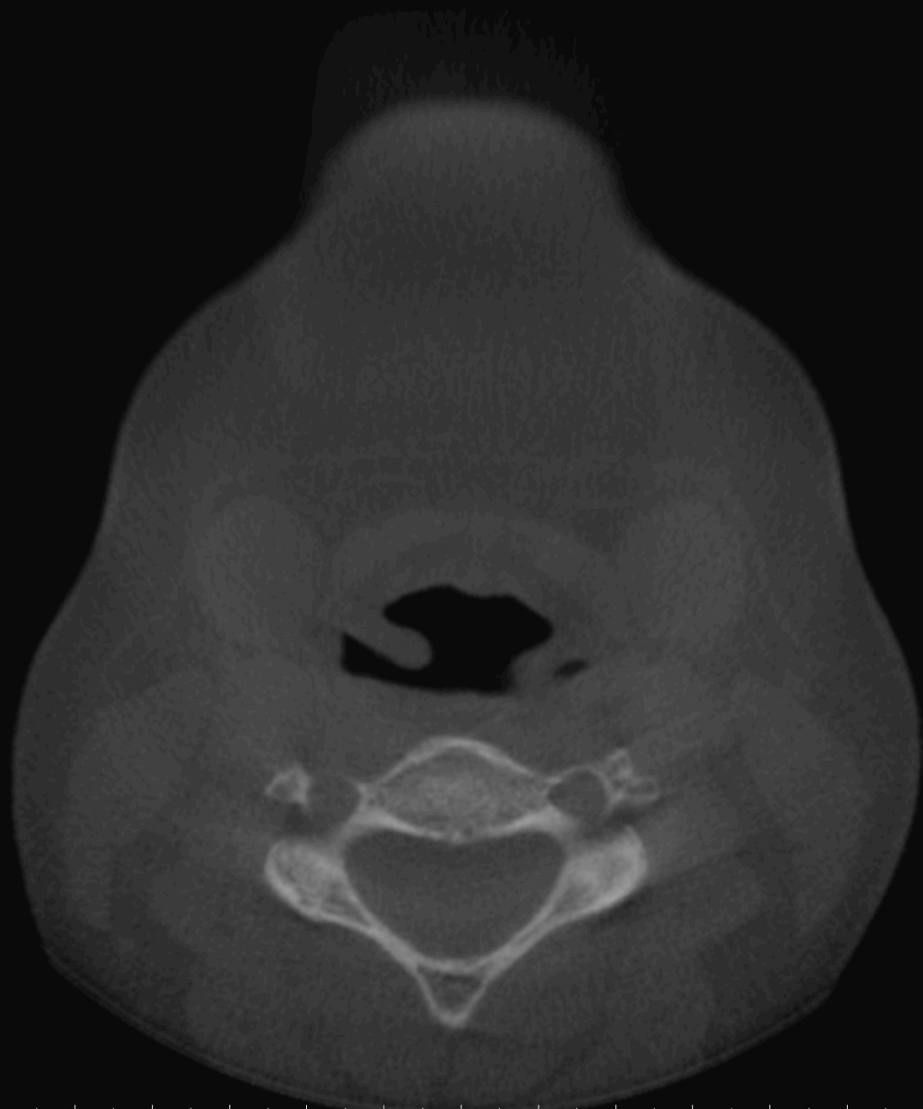
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1.20
cm

R

L



2.50
mm



UNIVERSITY
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Rady Faculty of
Health Sciences

1.20
cm

R

L



2.50
mm



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1.20
(mm)

R

L



Chin rest

2.50
(mm)



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