

## Imaging of the temporal bone and applied anatomy

D. Bodmer  
HNO-Klinik  
Basel

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*Was ist das  
Schwerste von  
allem?*

*Was Dir das  
Leichteste dünket:  
mit den Augen zu  
sehen was vor den  
Augen Dir lieget.*

JW Goethe

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## External auditory canal



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### Evaluating the CT scan I: external auditory canal

- Stenosis
- Integrity of the bony and cartilage parts
- Exostoses and accumulation of debris
- Bony destruction

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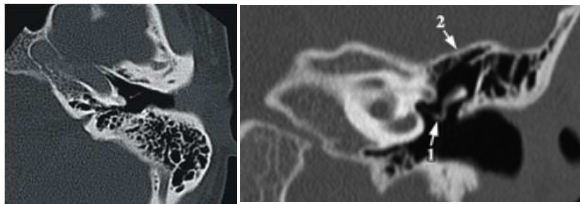
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### Pathology of the external auditory canal

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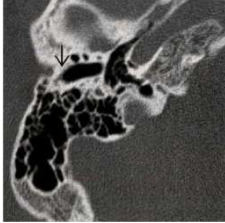
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Dx: Atresia plate of the external  
auditory canal

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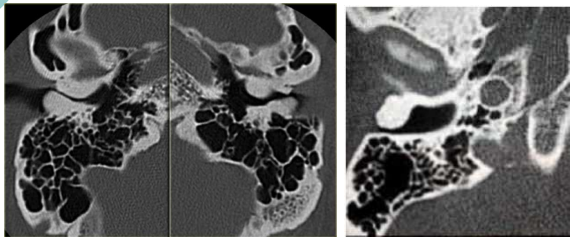
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Dx: Exostosis  
Dx: Osteoma

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### Middle ear and mastoid



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### Evaluating the CT scan II: middle ear

- Aeration
- Masses
- Ossicular chain
- Round and oval window
- Tympanic segment of the facial nerve
- Geniculate ganglion

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### Evaluating the CT scan II: middle ear

- Ear drum: retracted, thickened
- Position and aspect of carotid artery
- Position and aspect of jugular bulb

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### Evaluating the CT-scan III: mastoid

- Pneumatization
- Contents of mastoid cells
- Position of sigmoid sinus
- Bony borders: lateral, posterior and middle fossa
- Vertical segment of the facial nerve

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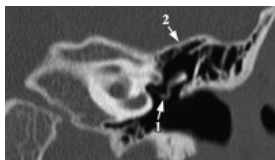
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1 Incudostapedial joint  
2 Tegmen tympani

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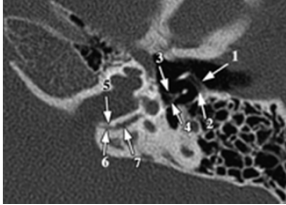
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1 Tympanic membrane  
 2 Chorda tympani  
 3 + 4 Anterior and posterior crus of stapes  
 5 + 6 + 7 Ampullary nerves

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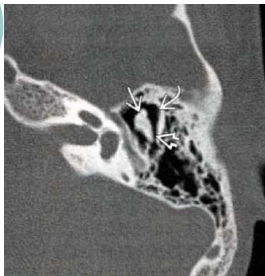
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Straight arrow: Malleus head  
 Open arrow: Short process of Incus  
 Curved arrow: Prussak' space

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Arrow: Sinus tympani  
 Open arrow: Pyramidal prominence  
 Curved arrow: Mastoid segment CN7

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## Pathology of the middle ear and mastoid

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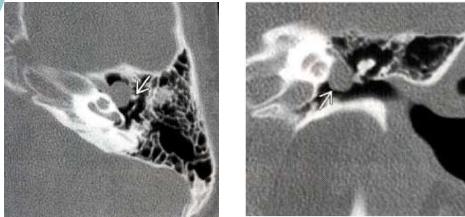
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Dx: Congenital Cholesteatoma

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Dx: AOM with subperiosteal abscess

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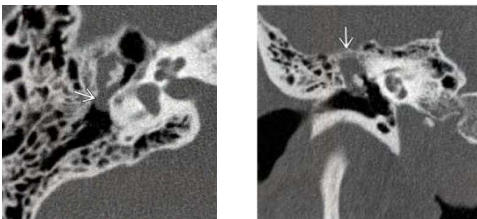
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Dx: P. flaccida cholesteatoma

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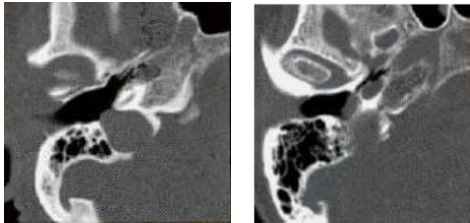
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Vascular retrotympanic mass



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Dx: Dehiscent jugular bulb  
Dx: Glomus jugulare

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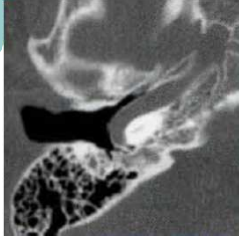
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## Vascular retrotympenic mass II



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Dx: Aberrant ICA  
Dx: Glomus tympanicum

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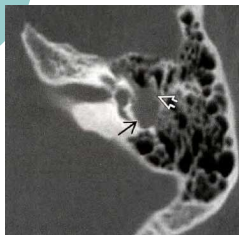
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## Dx: Facial nerve schwannoma

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## Dx: Meningocele

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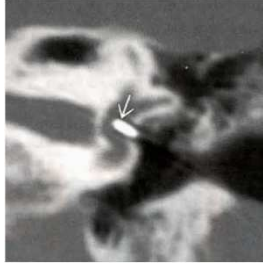
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### Dx: Stapes prosthesis in vestibulum

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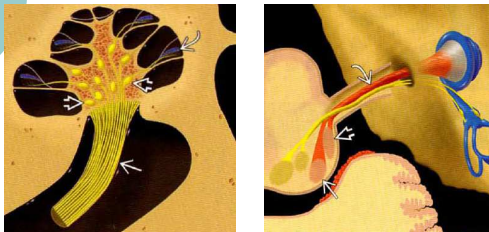
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### Inner Ear and CPA



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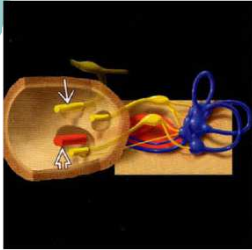
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## IAC



Arrow: CN7  
Open arrow: cochlear nerve  
Yellow: sup. and inf. vestibular nerves

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## Evaluating the CT-scan III: inner ear and CPA

- Cochlea
- Semicircular canals and Vestibulum
- Internal auditory canal
- CPA

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Arrow: Cochlear nerve in IAC  
Open arrow: Osseous spiral lamina

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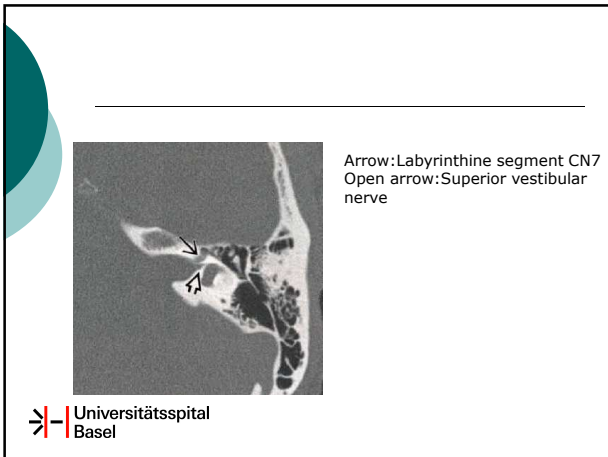
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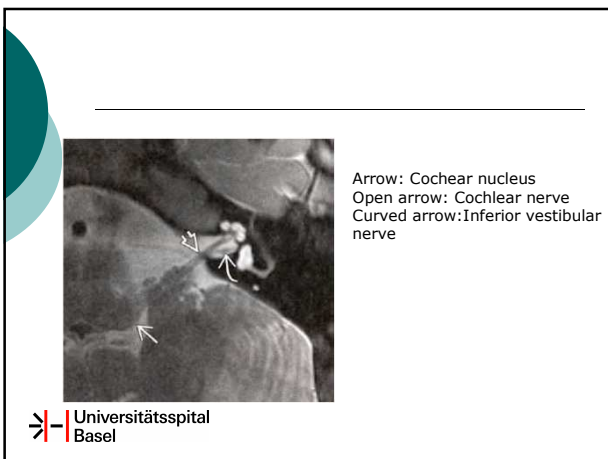
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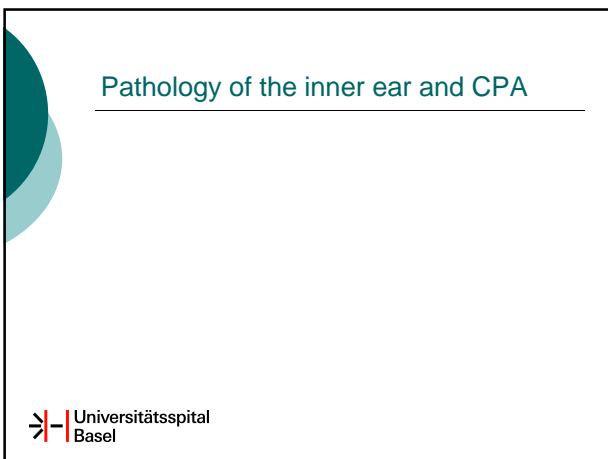
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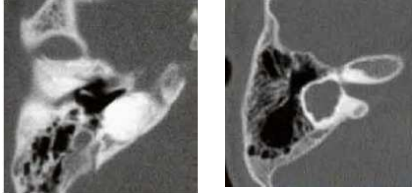
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Dx: Labyrinthine aplasia  
 Dx: Common cavity

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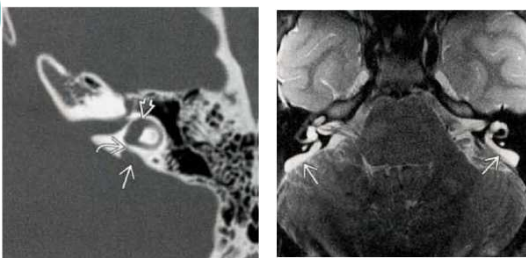
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Dx: Large endolymphatic sac

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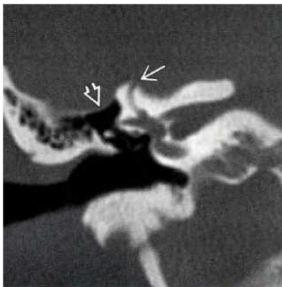
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Dx: Dehiscence of the SSC

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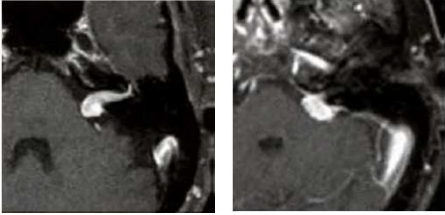
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
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Dx: VS  
Dx: Meningioma

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Thank you for your attention!

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