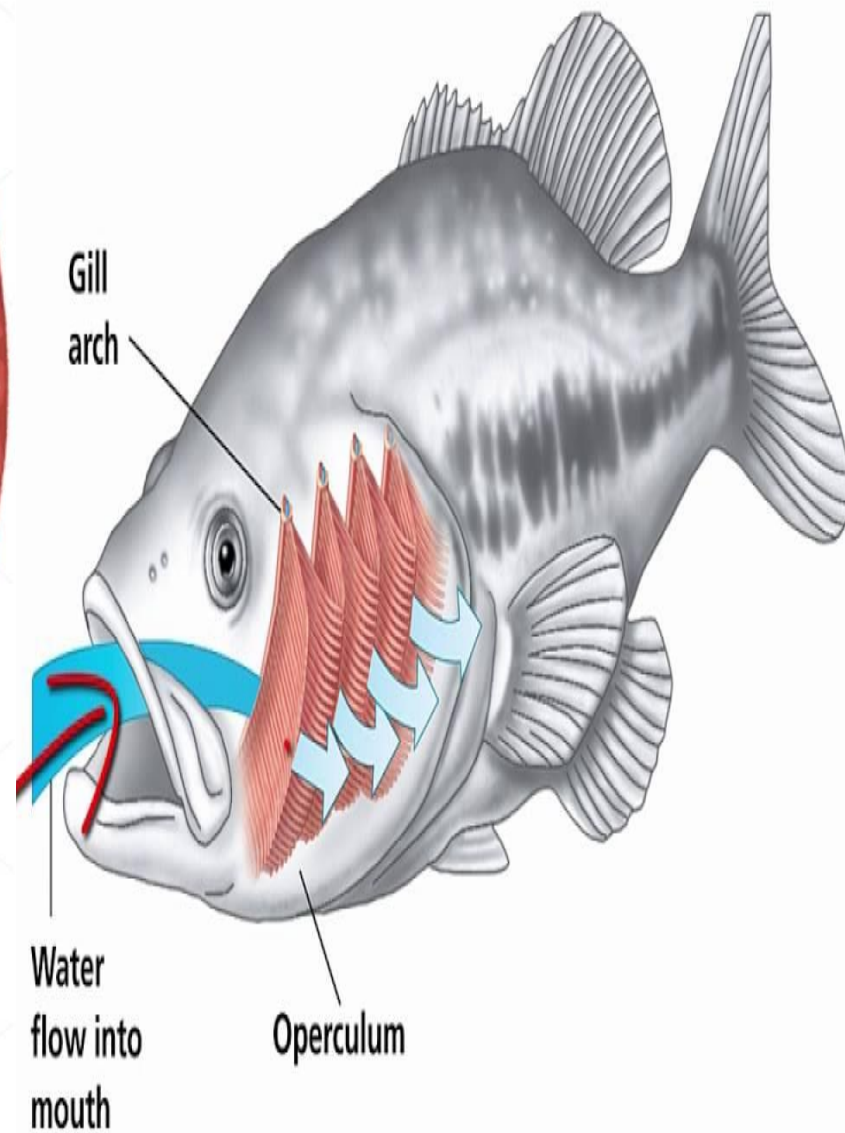
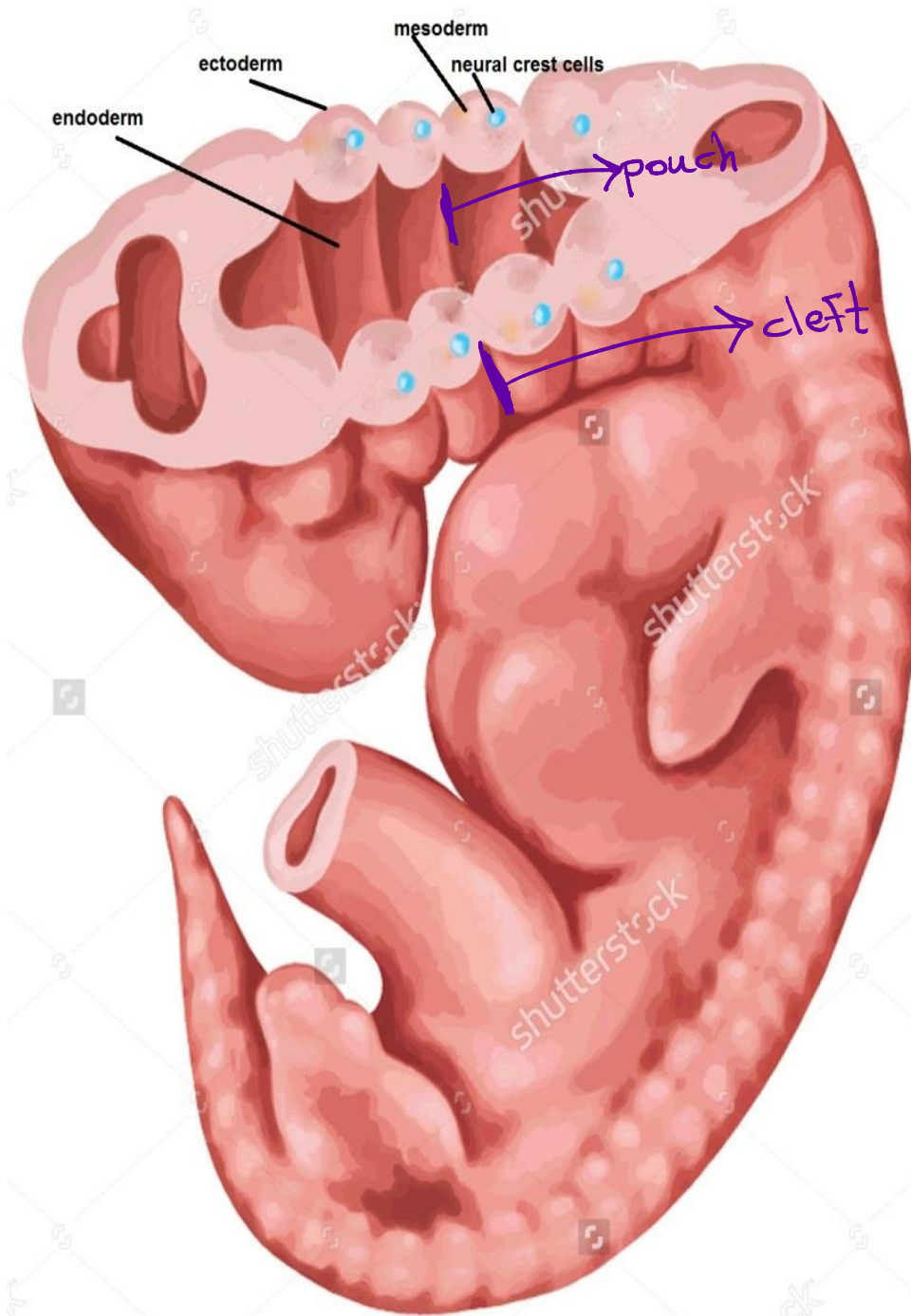


# PHARYNGEAL APPARATUS 2



BY

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(4)

# PHARYNGEAL CLEFTS → ectodermal

## Derivatives

### 1st pharyngeal cleft

form external auditory canal

Outer layer of the tympanic membrane

remaining clefts:

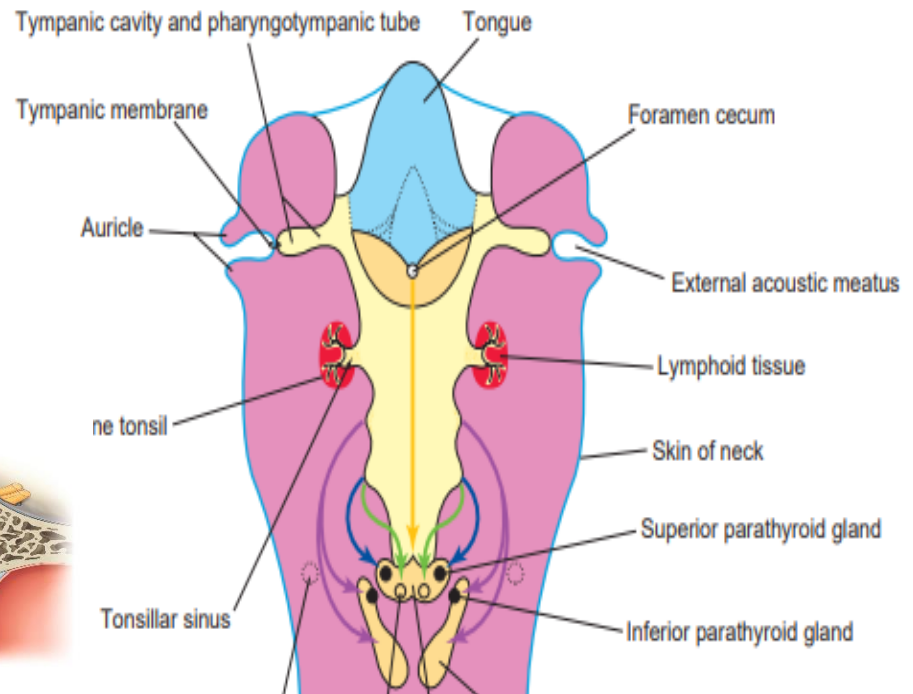
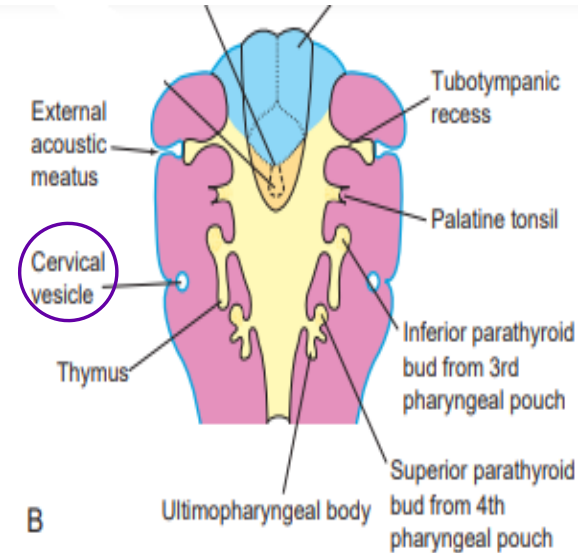
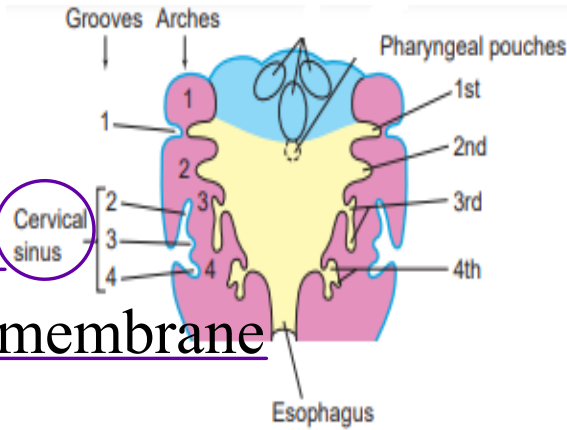
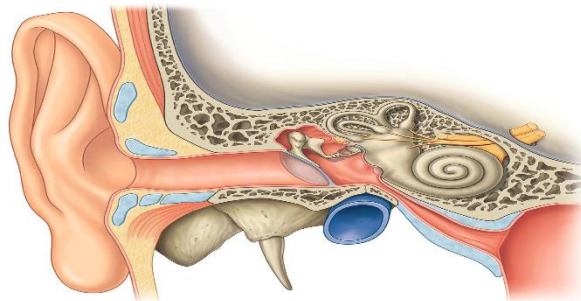
lie in floor of cervical sinus &

are roofed by caudal extension

of 2nd pharyngeal arch (platysma)

the sinus is obliterated by

opposition of roof & floor





# PHARYNGEAL POUCHES → endodermal

# Derivatives

## 1st pharyngeal pouch:

form tubotympanic recess

that gives  
auditory tube

tympanic cavity &

### Inner layer of the Tympanic membrane

## 2nd pharyngeal pouch:

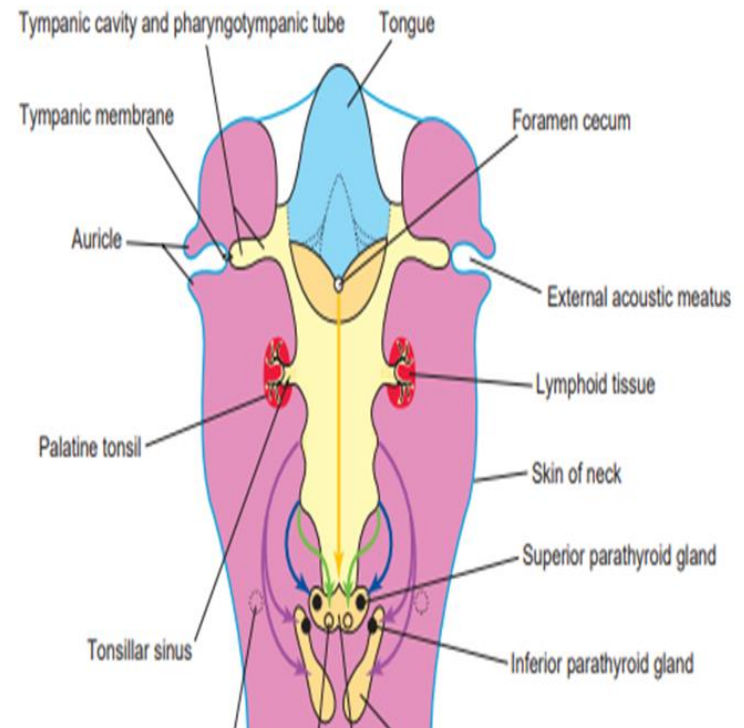
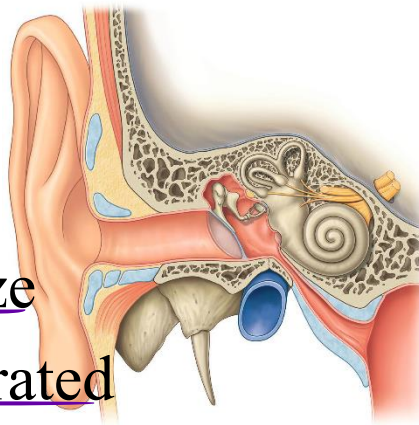
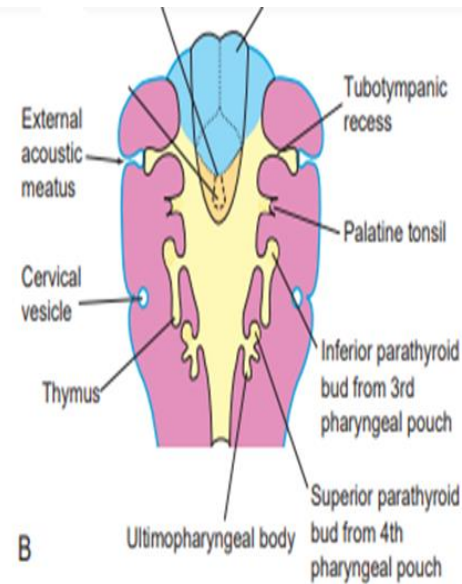
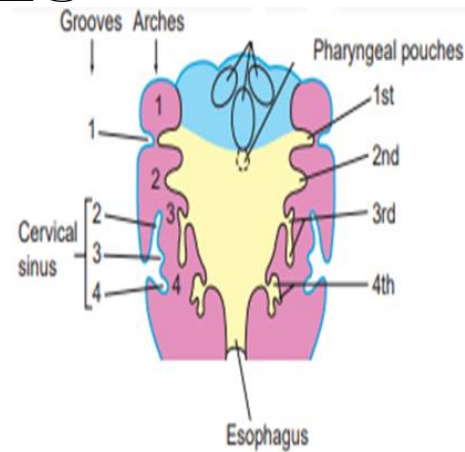
palatine tonsil:

endoderm proliferate

## Forming buds that canalize

## Forming crypts that infiltrated

by lymphatic cells



# PHARYNGEAL POUCHES

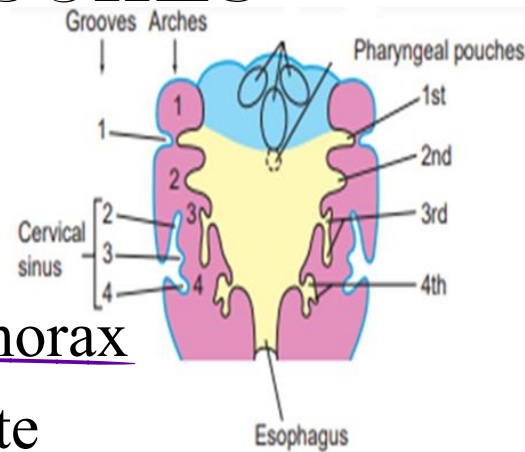
## Derivatives

### 3rd pharyngeal pouch:

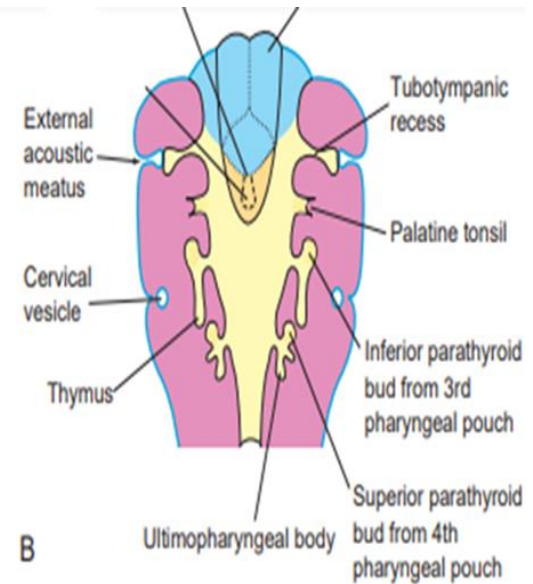
Endoderm proliferate to form  
thymus gland that migrate to thorax  
inferior parathyroid that migrate  
behind the thyroid gland

### 4th pharyngeal pouch:

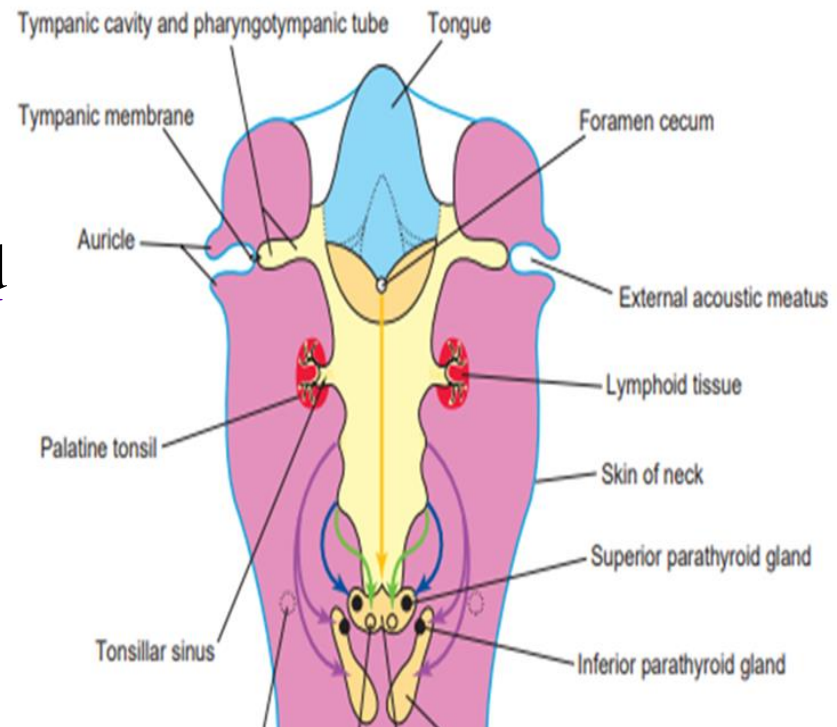
Endoderm proliferate to form  
superior parathyroid  
that migrate behind the thyroid gland  
caudal part of 4th pouch  
ultimo branchial body  
that migrate to thyroid gland  
forming its parafollicular cells



A



B



# CONGENITAL ANOMALIES

## 1-ectopic thymus or parathyroid

due to arrest during migration

As thymus in the neck → *work normally*

Inferior parathyroid at bifurcation of CCA

## 2-accessory thymic tissue

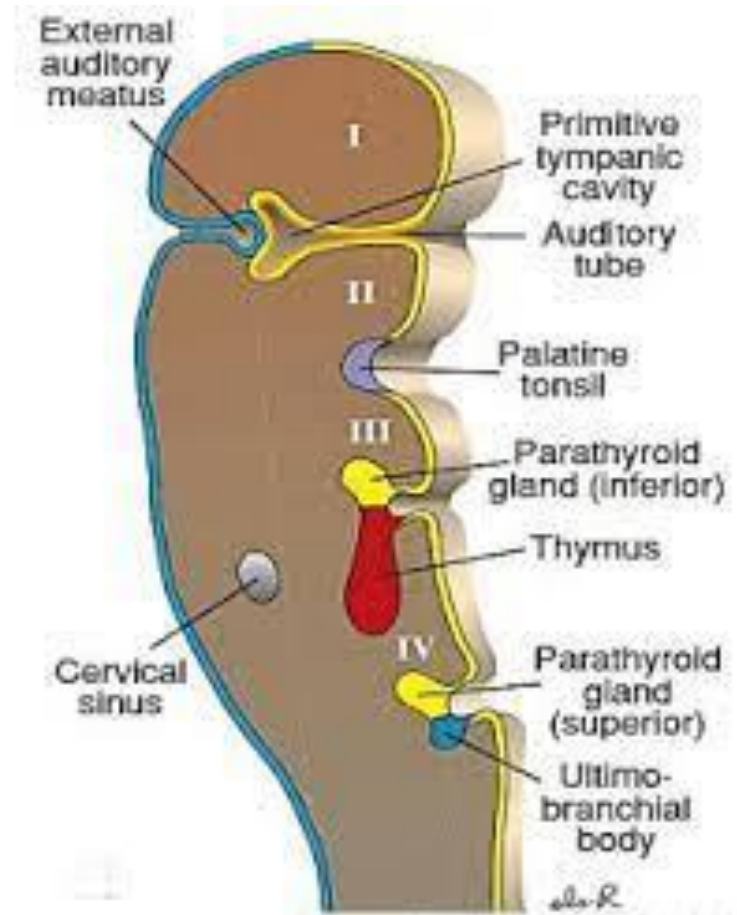
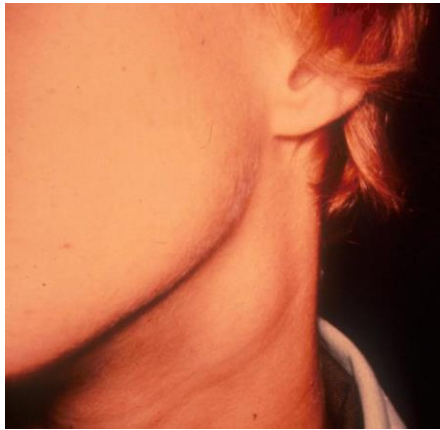
-An isolated mass of thymic tissue may persist in the neck, close to an inferior parathyroid gland.

-This tissue breaks free from the developing thymus during its migration caudally in the neck

# CONGENITAL ANOMALIES

## 3- branchial cyst

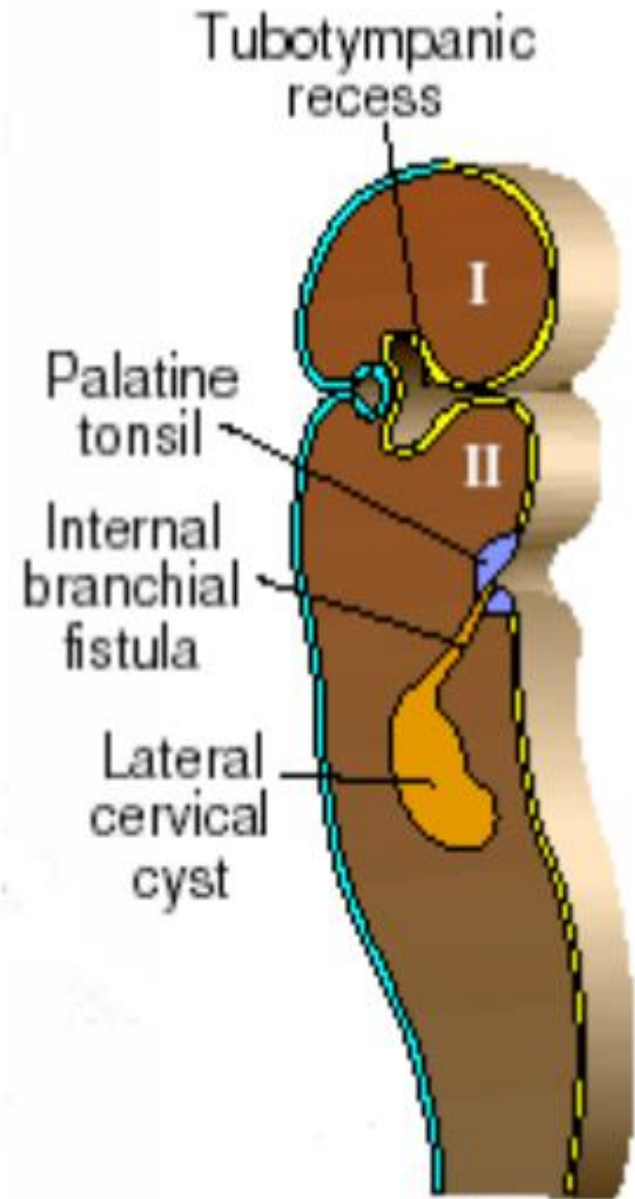
- Remnants of the cervical sinus persist & fluid accumulate in it forming cyst
- along ant. border of Sternomastoid



# CONGENITAL ANOMALIES

## 4-Internal branchial fistula

- persistence of cervical sinus  
forming branchial cyst
- membrane ( ) 2nd cleft & pouch degenerate  
branchial cyst open on pharynx by fistula  
above tonsil

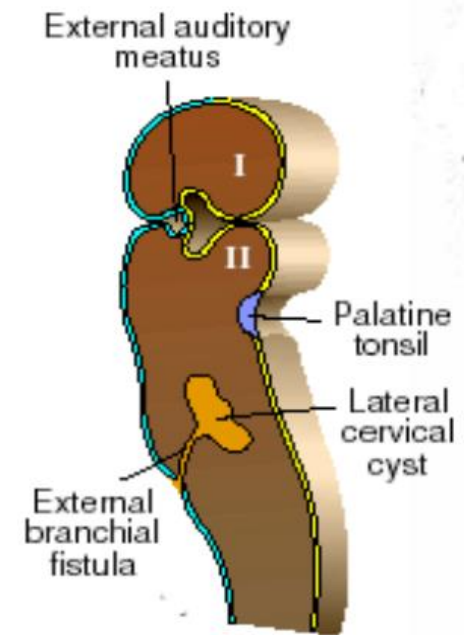


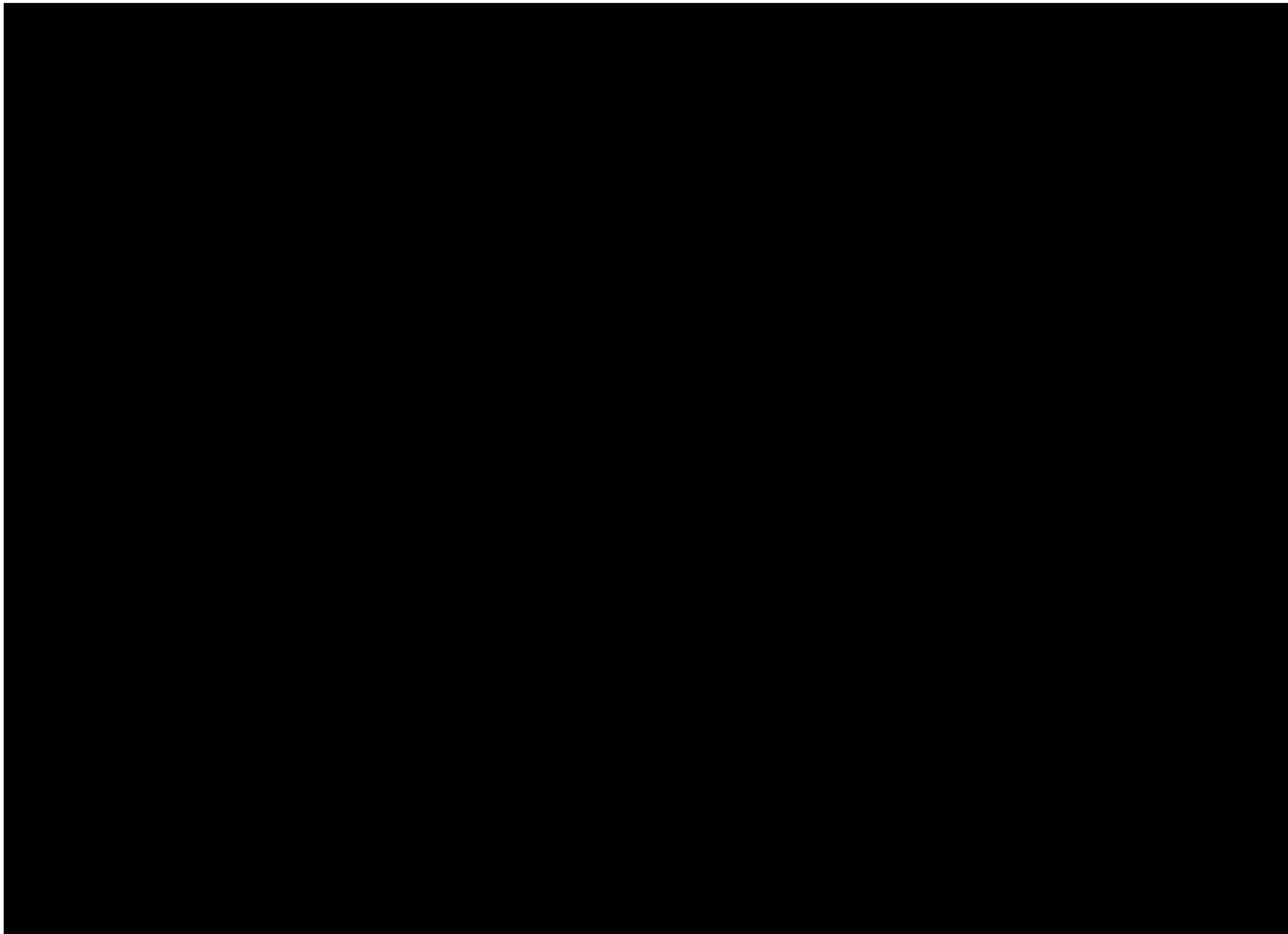


# CONGENITAL ANOMALIES

## 5-External branchial fistula

- failure of caudal growth of 2nd arch
- the remnants of cleft open on surface  
by narrow duct
- along ant. border of sternomastoid





THANK