Q

most vs least

common pediatric space-occupying lesion of orbit

Orbital Dermoid Cysts
A

Orbital Dermoid Cysts

- Most common pediatric space-occupying lesion of orbit
**Q**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **non-specific histo term** trapped in **two words**
A

**Orbital Dermoid Cysts**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from *epithelial nests* trapped in *bony sutures*
Q

**Orbital Dermoid Cysts**

- Most common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests trapped in bony sutures**

*During what general developmental period does this occur?*
Orbital Dermoid Cysts

- Most common pediatric space-occupying lesion of orbit
- Arise from *epithelial nests* trapped in *bony sutures*

*During what general developmental period does this occur?*
Embryogenesis
Q

- Most common pediatric space-occupying lesion of orbit
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*During what general developmental period does this occur?*
Embryogenesis

*Does this mean dermoid cysts are congenital lesions?*
Orbital Dermoid Cysts

- Most common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**

*During what general developmental period does this occur?*
*Embryogenesis*

*Does this mean dermoid cysts are congenital lesions?*
*Yes and no*
**Orbital Dermoid Cysts**

- Most common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**

During what general developmental period does this occur? Embryogenesis

Does this mean dermoid cysts are congenital lesions? **Yes and no**

*C’mon brah—either they’re congenital, or they’re not. What’s up with this?*
Orbital Dermoid Cysts

- Most common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**

*During what general developmental period does this occur?*  
Embryogenesis

*Does this mean dermoid cysts are congenital lesions?*  
**Yes and no**

*C’mon brah—either they’re congenital, or they’re not. What’s up with this?*  
They’re congenital in the sense that they’re always present at birth. However, depending upon their location, they aren’t always clinically apparent at birth--and may not become so until adulthood.*
Q

**Orbital Dermoid Cysts**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **not nasal/temporal** (most common) or **ditto**
A

**Orbital Dermoid Cysts**

- Most common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **pre-septal** (most common) or **deep**
**Orbital Dermoid Cysts**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from *epithelial nests* trapped in *bony sutures*
- Can be located *pre-septal* (most common) or *deep*
- Pre-septal cysts typically...
A

**Orbital Dermoid Cysts**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **pre-septal** (most common) or **deep**
- Pre-septal cysts typically **superotemporal >> superonasal**
Orbital Dermoid Cysts

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **pre-septal** (most common) or **deep**
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- Presentation: Palpable mass that is **painless**, **smooth** and **mobile**
Orbital Dermoid Cysts

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- Presentation: Palpable mass that is **painless, smooth** and **mobile**
Orbital Dermoid Cysts

Pre-septal orbital dermoid cyst
Most common pediatric space-occupying lesion of orbit
Arise from epithelial nests trapped in bony sutures
Can be located pre-septal (most common) or deep
Pre-septal cysts typically superotemporal >> superonasal
Presentation: Palpable mass that is painless, smooth and mobile

Can they be affixed to the underlying periosteum?
Most common pediatric space-occupying lesion of orbit

Arise from epithelial nests trapped in bony sutures

Can be located pre-septal (most common) or deep

Pre-septal cysts typically superotemporal >> superonasal

Presentation: Palpable mass that is painless, smooth and mobile

Can they be affixed to the underlying periosteum?
Yes, and this may render them immobile
Q

**Orbital Dermoid Cysts**

- Most common pediatric space-occupying lesion of orbit
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Can they be affixed to the underlying periosteum?
Yes, and this may render them immobile

Can they be affixed to the overlying skin?
Most common pediatric space-occupying lesion of orbit
Arise from epithelial nests trapped in bony sutures
Can be located pre-septal (most common) or deep
Pre-septal cysts typically superotemporal >> superonasal
Presentation: Palpable mass that is painless, smooth and mobile

Can they be affixed to the underlying periosteum?
Yes, and this may render them immobile

Can they be affixed to the overlying skin?
Only if the cyst has partially ruptured, leading to scarring
Most common pediatric space-occupying lesion of orbit
- Arise from epithelial nests trapped in bony sutures
- Can be located pre-septal (most common) or deep
- Pre-septal cysts typically superotemporal >> superonasal
- Presentation: Palpable mass that is painless, smooth and mobile

What about cysts located deep in the orbit--how do they present?
Most common pediatric space-occupying lesion of orbit
Arise from epithelial nests trapped in bony sutures
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Orbital Dermoid Cysts

What about cysts located deep in the orbit—how do they present?
With progressive proptosis +/- off-axial globe displacement
Orbital Dermoid Cysts

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What about cysts located deep in the orbit—how do they present?
With progressive proptosis +/- off-axial globe displacement

At what age does this occur?
Orbital Dermoid Cysts

- Most common pediatric space-occupying lesion of orbit
- Arise from epithelial nests trapped in bony sutures
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What about cysts located deep in the orbit--how do they present?
With progressive proptosis +/- off-axial globe displacement

At what age does this occur?
Adulthood
Orbital Dermoid Cysts

- **Most** common pediatric space-occupying lesion of orbit
- Arise from *epithelial nests* trapped in *bony sutures*
- Can be located **pre-septal** (most common) or **deep**
- Pre-septal cysts typically **superotemporal >> superonasal**
- Presentation: Palpable mass that is *painless*, *smooth* and *mobile*
  
  - Natural history: **progressive enlargement vs spontaneous involution**
Most common pediatric space-occupying lesion of orbit
Arise from epithelial nests trapped in bony sutures
Can be located pre-septal (most common) or deep
Pre-septal cysts typically superotemporal >> superonasal
Presentation: Palpable mass that is painless, smooth and mobile
Natural history: Progressive enlargement
Orbital Dermoid Cysts

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **pre-septal** (most common) or **deep**
- Pre-septal cysts typically **superotemporal >> superonasal**
- Presentation: Palpable mass that is **painless**, **smooth** and **mobile**
  - Natural history: **Progressive enlargement**
- **CT finding:** **well vs poorly circumscribed** lesion with **low vs high density lumen**
**Orbital Dermoid Cysts**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from *epithelial nests* trapped in *bony sutures*
- Can be located *pre-septal* (most common) or *deep*
- Pre-septal cysts typically *superotemporal* >> *superonasal*
- Presentation: Palpable mass that is *painless, smooth* and *mobile*
  - Natural history: *Progressive enlargement*
- CT finding: *Well* circumscribed lesion with *low* density lumen
Orbital Dermoid Cysts

Post-septal orbital dermoid cyst causing left proptosis
Q

Orbital Dermoid Cysts

- Most common pediatric space-occupying lesion of orbit
- Arise from epithelial nests trapped in bony sutures
- Can be located pre-septal (most common) or deep
- Pre-septal cysts typically superotemporal >> superonasal
- Presentation: Palpable mass that is painless, smooth and mobile
  - Natural history: Progressive enlargement
- **CT finding**: Well circumscribed lesion with low density lumen

Is it necessary to CT suspected dermoid cysts?
**Orbital Dermoid Cysts**

- Most common pediatric space-occupying lesion of orbit
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- Presentation: Palpable mass that is painless, smooth and mobile
  - Natural history: Progressive enlargement
- **CT finding**: Well circumscribed lesion with low density lumen

*Is it necessary to CT suspected dermoid cysts?*
In most cases, no--the dx can be made clinically
 Orbital Dermoid Cysts

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **pre-septal** (most common) or **deep**
- Pre-septal cysts typically **superotemporal >> superonasal**
- Presentation: Palpable mass that is **painless**, **smooth** and **mobile**
  - Natural history: **Progressive enlargement**
- CT finding: **Well circumscribed** lesion with **low** density lumen
- Histology:
  - Cyst lined with **common change** epithelium
A

**Orbital Dermoid Cysts**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **pre-septal** (most common) or **deep**
- Pre-septal cysts typically **superotemporal >> superonasal**
- Presentation: Palpable mass that is **painless**, **smooth** and **mobile**
  - Natural history: **Progressive enlargement**
- CT finding: **Well** circumscribed lesion with **low** density lumen
- Histology:
  - Cyst lined with **keratinized** epithelium
Orbital Dermoid Cysts

10X H&E stained image of a dermoid cyst. Note the keratin-filled lumen and the epithelial lining.
**Orbital Dermoid Cysts**

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- Presentation: Palpable mass that is **painless**, **smooth** and **mobile**
  - Natural history: **Progressive enlargement**
- CT finding: **Well** circumscribed lesion with **low** density lumen
- Histology:
  - Cyst lined with **keratinized** epithelium
  - Dermal appendages (aka *adnexal structures*) **are vs not** present
Orbital Dermoid Cysts

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Orbital Dermoid Cysts

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  - Cyst lined with keratinized epithelium
  - Dermal appendages (aka adnexal structures) are present

What three things constitute dermal appendages/adnexal structures?
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Orbital Dermoid Cysts

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  - Cyst lined with keratinized epithelium
  - Dermal appendages (aka adnexal structures) are present

What three things constitute dermal appendages/adnexal structures?
- Hair
- Sebaceous glands
- Sweat glands
Most common pediatric space-occupying lesion of orbit
Arise from epithelial nests trapped in bony sutures
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  Cyst lined with keratinized epithelium
  Dermal appendages (aka adnexal structures) are present

What three things constitute dermal appendages/adnexal structures?
  -- Hair
  -- Sebaceous glands
  -- Sweat glands

Orbital Dermoid Cysts
This 50X view of the cyst wall demonstrates a hair follicle (arrow), one of the adnexal structures that are commonly found in walls of dermoid cysts. Note the keratinized stratified squamous epithelium lining the cyst.
**Orbital Dermoid Cysts**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **pre-septal** (most common) or **deep**
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- Presentation: Palpable mass that is **painless**, **smooth** and **mobile**
  - Natural history: **Progressive enlargement**
- CT finding: **Well** circumscribed lesion with **low** density lumen
- Histology:
  - Cyst lined with **keratinized** epithelium
  - Dermal appendages (aka **adnexal structures**) are present
  - Cyst filled with [ ] and [ ]
**Orbital Dermoid Cysts**

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- Arise from epithelial nests trapped in bony sutures
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- Histology:
  - Cyst lined with keratinized epithelium
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  - Cyst filled with oil and keratin
**Orbital Dermoid Cysts**

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- Histology:
  - Cyst lined with keratinized epithelium
  - Dermal appendages (aka adnexal structures) are present
  - Cyst filled with oil and keratin

A closely-related clinical entity presents similarly to dermoid cysts, but has a somewhat different histology—it’s lined with nonkeratinized squamous epithelium, has no dermal appendages, and contains no oil. What is this entity called?
Orbital Dermoid Cysts

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  - Cyst filled with oil and keratin

A closely-related clinical entity presents similarly to dermoid cysts, but has a somewhat different histology—it’s lined with nonkeratinized squamous epithelium, has no dermal appendages, and contains no oil. What is this entity called?

Epidermoid cyst (aka simple epithelial cyst)
Most common pediatric space-occupying lesion of orbit
Arise from epithelial nests trapped in bony sutures
Can be located pre-septal (most common) or deep
Pre-septal cysts typically superotemporal >> superonasal
Presentation: Palpable mass that is painless, smooth and mobile
  • Natural history: Progressive enlargement
CT finding: Well circumscribed lesion with low density lumen
Histology:
  • Cyst lined with keratinized epithelium
  • Dermal appendages (aka adnexal structures) are present
  • Cyst filled with oil and keratin
Management: conservative vs surgical
**Orbital Dermoid Cysts**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **pre-septal** (most common) or **deep**
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- Presentation: Palpable mass that is **painless**, **smooth** and **mobile**
- Natural history: **Progressive enlargement**
- CT finding: **Well** circumscribed lesion with **low** density lumen
- **Histology:**
  - Cyst lined with **keratinized** epithelium
  - Dermal appendages (aka **adnexal structures**) **are** present
  - Cyst filled with **oil** and **keratin**
- **Management:** **Excision**
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  Cyst lined with keratinized epithelium
  Dermal appendages (aka adnexal structures)
  Cyst filled with oil and keratin
Management: Excision

At what age should excision be performed?

Opinions differ, but many authorities would recommend ~1 year
Because at around this age, newly-mobile toddlers are at increased risk of cyst rupture from accidental trauma (eg, from falling and bonking their face)
Orbital Dermoid Cysts

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Why this age?
**Orbital Dermoid Cysts**

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Histology:
  - Cyst lined with keratinized epithelium
  - Dermal appendages (aka adnexal structures) are present
  - Cyst filled with oil and keratin
Management: Excision
  - Effort should be made to remove the cyst without...
A

**Orbital Dermoid Cysts**

- **Most** common pediatric space-occupying lesion of orbit
- Arise from **epithelial nests** trapped in **bony sutures**
- Can be located **pre-septal** (most common) or **deep**
- Pre-septal cysts typically **superotemporal** >> **supronasal**
- Presentation: Palpable mass that is **painless**, **smooth** and **mobile**
  - Natural history: **Progressive enlargement**
- CT finding: **Well** circumscribed lesion with **low** density lumen
- Histology:
  - Cyst lined with **keratinized** epithelium
  - Dermal appendages (aka **adnexal structures**) **are** present
  - Cyst filled with **oil** and **keratin**
- Management: **Excision**
  - Effort should be made to remove the cyst without **spilling its contents**
Most common pediatric space-occupying lesion of orbit

Arise from epithelial nests trapped in bony sutures

Can be located pre-septal (most common) or deep

Pre-septal cysts typically superotemporal >> superonasal

Presentation: Palpable mass that is painless, smooth and mobile
  - Natural history: Progressive enlargement

CT finding: Well circumscribed lesion with low density lumen

Histology:
  - Cyst lined with keratinized epithelium
  - Dermal appendages (aka adnexal structures) are present
  - Cyst filled with oil and keratin

Management: Excision
  - Effort should be made to remove the cyst without spilling its contents

Why is this important?
Because if released into the orbit and/or subQ space, the cyst’s contents will provoke a strong inflammatory response, with subsequent scarring.
Most common pediatric space-occupying lesion of orbit

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**Why is this important?**
Because if released into the orbit and/or subQ space, the cyst’s contents will provoke a strong inflammatory response, with subsequent scarring

**Management:** Excision
- Effort should be made to remove the cyst without spilling its contents
Q

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- Management: Excision
  - Effort should be made to remove the cyst without spilling its contents

**Orbital Dermoid Cysts**

= epibulbar dermoid?

**BTW:** Are epibulbar dermoids related to dermoid cysts?
Orbital Dermoid Cysts

- = epibulbar dermoid? No

BTW: Are epibulbar dermoids related to dermoid cysts?
No, they are completely unrelated entities

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- Management: Excision
  - Effort should be made to remove the cyst without spilling its contents
Orbital Dermoid Cysts

= epibulbar dermoid? No

**BTW:** Are epibulbar dermoids related to dermoid cysts? No, they are completely unrelated entities

Where are epibulbar dermoids located?

- **Q**
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Orbital Dermoid Cysts

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Where are epibulbar dermoids located?
**Orbital Dermoid Cysts**

* = epibulbar dermoid? **No**

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- CT finding: Well circumscribed lesion with low density lumen
- Histology:
  - Cyst lined with **keratinized** epithelium
  - Dermal appendages (aka **adnexal structures**) are present
  - Cyst filled with oil and keratin
- Management: **Excision**
  - Effort should be made to remove the cyst without spilling its contents

**BTW: Are epibulbar dermoids related to dermoid cysts?**
No, they are completely unrelated entities

**Where are epibulbar dermoids located?**
On the ocular surface
**Orbital Dermoid Cysts**

= epibulbar dermoid? No

**BTW: Are epibulbar dermoids related to dermoid cysts?**
No, they are completely unrelated entities

**Where are epibulbar dermoids located?**
On the ocular surface

**Where on the ocular surface are they typically located?**
At the limbus

**With what syndrome are epibulbar dermoids associated?**
Goldenhar

**Most common pediatric space-occupying lesion of orbit**

**Arise from epithelial nests trapped in bony sutures**

**Can be located pre-septal (most common) or deep**

**Pre-septal cysts typically superotemporal or superonasal**

**Presentation:** Palpable mass that is painless, smooth, and mobile

**Natural history:** Progressive enlargement

**CT finding:** Well circumscribed lesion with low density lumen

**Histology:**
- Cyst lined with keratinized epithelium
- Dermal appendages (aka adnexal structures) are present
- Cyst filled with oil and keratin

**Management:** Excision
- Effort should be made to remove the cyst without spilling its contents
Most common pediatric space-occupying lesion of orbit

- Arise from epithelial nests trapped in bony sutures
- Can be located pre-septal (most common) or deep
- Pre-septal cysts typically superotemporal or superonasal
- Presentation: Palpable mass that is painless, smooth, and mobile
- Natural history: Progressive enlargement
- CT finding: Well-circumscribed lesion with low-density lumen
- Histology:
  - Cyst lined with keratinized epithelium
  - Dermal appendages (aka adnexal structures) are present
  - Cyst filled with oil and keratin
- Management: Excision
  - Effort should be made to remove the cyst without spilling its contents

Orbital Dermoid Cysts = epibulbar dermoid? No

BTW: Are epibulbar dermoids related to dermoid cysts? No, they are completely unrelated entities

Where are epibulbar dermoids located?
On the ocular surface

Where on the ocular surface are they typically located?
At the limbus
**Orbital Dermoid Cysts**

= epibulbar dermoid? No

**Q**

- Most common pediatric space-occupying lesion of orbit
- Arise from epithelial nests trapped in bony sutures
- Can be located pre-septal (most common) or deep
- Pre-septal cysts typically superotemporal or superonasal
- Presentation: Palpable mass that is painless, smooth, and mobile
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- CT finding: Well circumscribed lesion with low density lumen
- Histology:
  - Cyst lined with keratinized epithelium
  - Dermal appendages (aka adnexal structures) are present
  - Cyst filled with oil and keratin
- Management: Excision
  - Effort should be made to remove the cyst without spilling its contents

**BTW: Are epibulbar dermoids related to dermoid cysts?**
No, they are completely unrelated entities

**Where are epibulbar dermoids located?**
On the ocular surface

**Where on the ocular surface are they typically located?**
At the limbus

**By what other name are epibulbar dermoids commonly known?**
Limbal dermoids
Most common pediatric space-occupying lesion of orbit
Arise from epithelial nests trapped in bony sutures
Can be located pre-septal (most common) or deep
Pre-septal cysts typically superotemporal or superonasal
Presentation: Palpable mass that is painless, smooth, and mobile
Natural history: Progressive enlargement
CT finding: Well circumscribed lesion with low density lumen
Histology:
- Cyst lined with keratinized epithelium
- Dermal appendages (aka adnexal structures) are present
- Cyst filled with oil and keratin
Management: Excision
- Effort should be made to remove the cyst without spilling its contents
**Orbital Dermoid Cysts**

= epibulbar dermoid? **No**

- Most common pediatric space-occupying lesion of orbit
- Arise from epithelial nests trapped in bony sutures
- Can be located pre-septal (most common) or deep
- Pre-septal cysts typically superotemporal or superonasal
- Presentation: Palpable mass that is painless, smooth, and mobile
- Natural history: Progressive enlargement
- CT finding: Well circumscribed lesion with low-density lumen
- Histology:
  - Cyst lined with keratinized epithelium
  - Dermal appendages (aka adnexal structures) are present
  - Cyst filled with oil and keratin
- Management: **Excision**
  - Effort should be made to remove the cyst without spilling its contents

---

**BTW:** Are epibulbar dermoids related to dermoid cysts? **No,** they are completely unrelated entities.

**Where are epibulbar dermoids located?**
On the ocular surface

**Where on the ocular surface are they typically located?**
At the limbus

**With what syndrome are epibulbar dermoids associated?**
Goldenhar
Orbital Dermoid Cysts

= epibulbar dermoid? No

BTW: Are epibulbar dermoids related to dermoid cysts? No, they are completely unrelated entities

Where are epibulbar dermoids located? On the ocular surface

Where on the ocular surface are they typically located? At the limbus

With what syndrome are epibulbar dermoids associated? Goldenhar

- Most common pediatric space-occupying lesion of orbit
- Arise from epithelial nests trapped in bony sutures
- Can be located pre-septal (most common) or deep
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  - Cyst filled with oil and keratin
- Management: Excision
  - Effort should be made to remove the cyst without spilling its contents
Orbital Dermoid Cysts

Epibulbar or limbal dermoid in Goldenhar
Q

- Most common pediatric space-occupying lesion of orbit
- Arise from epithelial nests trapped in bony sutures
- Can be located pre-septal (most common) or deep
- Pre-septal cysts typically superotemporal or superonasal
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  - Dermal appendages (aka adnexal structures) are present
  - Cyst filled with oil and keratin
- Management: Excision
  - Effort should be made to remove the cyst without spilling its contents

**Orbital Dermoid Cysts**

= epibulbar dermoid? No

*BTW: Are epibulbar dermoids related to dermoid cysts?*
No, they are completely unrelated entities

*Where are epibulbar dermoids located?*
On the ocular surface

*Where on the ocular surface are they typically located?*
At the limbus

*With what syndrome are epibulbar dermoids associated?*
Goldenhar

*What is the noneponymous name for Goldenhar?*
Oculo-auriculo-vertebral syndrome
Most common pediatric space-occupying lesion of orbit

- Arise from epithelial nests trapped in bony sutures
- Can be located pre-septal (most common) or deep
  - Pre-septal cysts typically superotemporal or superonasal
- Presentation: Palpable mass that is painless, smooth, and mobile
  - Natural history: Progressive enlargement
- CT finding: Well circumscribed lesion with low density lumen
- Histology: Cyst lined with keratinized epithelium, dermal appendages (aka adnexal structures) are present, cyst filled with oil and keratin
- Management: Excision
  - Effort should be made to remove the cyst without spilling its contents

---

Orbital Dermoid Cysts

= epibulbar dermoid? No

**BTW: Are epibulbar dermoids related to dermoid cysts?**
- No, they are completely unrelated entities

**Where are epibulbar dermoids located?**
- On the ocular surface

**Where on the ocular surface are they typically located?**
- At the limbus

**What is the non-eponymous name for Goldenhar?**
- Oculo-auriculo-vertebral syndrome
**Orbital Dermoid Cysts**

= epibulbar dermoid? No

**BTW: Are epibulbar dermoids related to dermoid cysts?**
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**Where are epibulbar dermoids located?**
On the ocular surface

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At the limbus

**What is the noneponymous name for Goldenhar?**
Oculo-auriculo-vertebral syndrome

**In two words, what sort of condition is Goldenhar?**
It’s a craniofacial malformation

**Dermal appendages (aka adnexal structures) are present**

**Cyst filled with oil and keratin**

**Management: Excision**

Effort should be made to remove the cyst without spilling its contents
Q/A

- **Orbital Dermoid Cysts**
  
  **= epibulbar dermoid? No**

  - **BTW: Are epibulbar dermoids related to dermoid cysts?**
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  - **Where on the ocular surface are they typically located?**
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- **Most common pediatric space-occupying lesion of orbit**
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Orbital Dermoid Cysts

= epibulbar dermoid? No

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At the limbus

With what syndrome are epibulbar dermoids associated?
Goldenhar

What is the non-eponymous name for Goldenhar?
Oculo-auriculo-vertebral syndrome

In two words, what sort of condition is Goldenhar?
It's a craniofacial malformation
Orbital Dermoid Cysts

Hemifacial microsomia in Goldenhar
Orbital Dermoid Cysts

= epibulbar dermoid? No

BTW: Are epibulbar dermoids related to dermoid cysts? No, they are completely unrelated entities

Where are epibulbar dermoids located? On the ocular surface

Where on the ocular surface are they typically located? At the limbus

What is the noneponymous name for Goldenhar? Oculo-auriculo-vertebral syndrome

What is the noneponymous name for Goldenhar? Oculo-auriculo-vertebral syndrome

In two words, what sort of condition is Goldenhar? Craniofacial malformation

Craniofacial malformations are divided into two categories based on etiology—what are they?
**Orbital Dermoid Cysts**

= epibulbar dermoid? No

**BTW:** Are epibulbar dermoids related to dermoid cysts? No, they are completely unrelated entities.

Where are epibulbar dermoids located? On the ocular surface.

Where on the ocular surface are they typically located? At the limbus.

With what syndrome are epibulbar dermoids associated? Goldenhar.

What is the noneponymous name for Goldenhar? Oculo-auriculo-vertebral syndrome.

**Craniofacial malformations** are divided into two categories based on etiology—what are they? Those due to craniosynostosis, and those not due to craniosynostosis.

Effort should be made to remove the cyst without spilling its contents.
Orbital Dermoid Cysts

Most common pediatric space-occupying lesion of orbit

Arise from epithelial nests trapped in bony sutures

Can be located pre-septal (most common) or deep

Pre-septal cysts typically superotemporal or superonasal

Presentation: Palpable mass that is painless, smooth, and mobile

Natural history: Progressive enlargement

CT finding: Well circumscribed lesion with low density lumen

Histology:
- Cyst lined with keratinized epithelium
- Dermal appendages (aka adnexal structures) are present
- Cyst filled with oil and keratin

Management: Excision

Effort should be made to remove the cyst without spilling its contents

BTW: Are epibulbar dermoids related to dermoid cysts? No, they are completely unrelated entities

Where are epibulbar dermoids located? On the ocular surface

Where on the ocular surface are they typically located? At the limbus

With what syndrome are epibulbar dermoids associated? Goldenhar

In two words, what sort of condition is Goldenhar? It’s a craniofacial malformation

Craniofacial malformations are divided into two categories based on etiology—what are they? Those due to craniosynostosis, and those not due to craniosynostosis

What is the non-pseudonym name for Goldenhar? Oculo-auriculo-vertebral syndrome
**Most common pediatric space-occupying lesion of orbit**

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No, they are completely unrelated entities

**Where are epibulbar dermoids located?**

On the ocular surface

**Where on the ocular surface are they typically located?**

At the limbus

**With what syndrome are epibulbar dermoids associated?**

Goldenhar

**What is the noneponymous name for Goldenhar?**

Oculo-auriculo-vertebral syndrome

---

**In two words, what sort of condition is Goldenhar?**

Craniofacial malformation

**To what process does craniosynostosis refer?**

Craniofacial malformations are divided into two categories based on etiology—what are they?

Those due to craniosynostosis, and those not due to craniosynostosis.
Orbital Dermoid Cysts

= epibulbar dermoid? No

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With what syndrome are epibulbar dermoids associated?
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What is the noneponymous name for Goldenhar?
Oculo-auriculo-vertebral syndrome

In two words, what sort of condition is Goldenhar?
Craniofacial malformation

Craniofacial malformations are divided into two categories based on etiology—what are they?
Those due to craniosynostosis, and those not due to craniosynostosis

To what process does craniosynostosis refer?
To the premature closing of the bony sutures of the cranium
Most common pediatric space-occupying lesion of orbit

Arise from epithelial nests trapped in bony sutures

Can be located pre-septal (most common) or deep

Pre-septal cysts typically superotemporal or superonasal

Presentation: Palpable mass that is painless, smooth, and mobile

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- Cyst lined with keratinized epithelium
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- Cyst filled with oil and keratin

Management: Excision
- Effort should be made to remove the cyst without spilling its contents

**Orbital Dermoid Cysts** = epibulbar dermoid? **No**

*BTW: Are epibulbar dermoids related to dermoid cysts?*
- No, they are completely unrelated entities

*Where are epibulbar dermoids located?*
- On the ocular surface

*Where on the ocular surface are they typically located?*
- At the limbus

*With what syndrome are epibulbar dermoids associated?*
- Goldenhar

*In two words, what sort of condition is Goldenhar?*
- **Craniofacial malformation**

Craniofacial malformations are divided into two categories based on etiology—what are they?
- Those due to craniosynostosis, and those not due to craniosynostosis

*To which category does Goldenhar belong?*
- It is of the non-craniosynostosis sort

*What is the noneponymous name for Goldenhar?*
- Oculo-auriculo-vertebral syndrome
**Orbital Dermoid Cysts**

- Most common pediatric space-occupying lesion of orbit
- Arise from epithelial nests trapped in bony sutures
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Management:
- Excision
  - Effort should be made to remove the cyst without spilling its contents

*BTW: Are epibulbar dermoids related to dermoid cysts?*
No, they are completely unrelated entities

*Where are epibulbar dermoids located?*
On the ocular surface

*Where on the ocular surface are they typically located?*
At the limbus

*With what syndrome is Goldenhar associated?*
Goldenhar

*What is the non-eponymous name for Goldenhar?*
Oculo-auriculo-vertebral syndrome

*In two words, what is Goldenhar?*
Craniofacial malformation

*Craniofacial malformations are divided into two categories based on etiology--what are they?*
Those due to craniosynostosis, and those not due to craniosynostosis

*To which category does Goldenhar belong?*
It is of the non-craniosynostosis sort
OK, confession time. To my frustration, I discovered that I inadvertently revised this topic on separate occasions, and thus am ‘stuck’ with two reviews of the same subject. That said, the two differ in a number of ways—so much so it’s worth keeping both. The second, same-but-different review commences with the next slide.
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
A choristoma
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?

A choristoma

What is a choristoma?
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?

A choristoma

What is a choristoma?
A tumor composed of histologically normal cells found in an abnormal location.
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?

A choristoma

What is a choristoma?
A tumor composed of histologically normal cells found in an abnormal location
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a choristoma?

A choristoma is a tumor composed of histologically normal cells found in an abnormal location.

What is the name of the reverse clinical entity, ie, one with abnormal cells found in their normal location?

A hamartoma is the name of the reverse clinical entity.
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a choristoma? A tumor composed of histologically normal cells found in an abnormal location.

What is the name of the reverse clinical entity, ie, one with abnormal cells found in their normal location? A hamartoma.
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a choristoma?

What is the name of the reverse clinical entity, i.e., one with abnormal cells found in their normal location?

A hamartoma

That a lesion is a choristoma (or hamartoma) indicates what about its onset?
Q/A

Orbital Dermoid Cysts

In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a choristoma?

A choristoma

What is the name of the reverse clinical entity, ie, one with abnormal cells found in their normal location?

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That a lesion is a choristoma (or hamartoma) indicates what about its onset?

That, by definition, it is...

[congenital vs acquired]
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a choristoma?

A choristoma

What is the name of the reverse clinical entity, ie, one with abnormal cells found in their normal location?

A hamartoma

That a lesion is a choristoma (or hamartoma) indicates what about its onset?

That, by definition, it is... congenital
What is a choristoma?

A tumor composed of histologically normal cells found in an abnormal location.

What is the name of the reverse clinical entity, ie, one with abnormal cells found in their normal location?

A hamartoma

What is a choristoma?

A hamartoma

What is a hamartoma?

A tumor composed of histologically abnormal normal cells found in an abnormal normal location.

That a lesion is a choristoma (or hamartoma) indicates what about its onset?

It is...congenital

Are all choristomas/hamartomas congenital?

No
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a choristoma?

A tumor composed of histologically normal cells found in an abnormal location

What is the name of the reverse clinical entity, i.e., one with abnormal cells found in their normal location?

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What is a choristoma?

A tumor composed of histologically normal cells found in an abnormal location

That a lesion is a choristoma (or hamartoma) indicates what about its onset?

It is... congenital

Are all choristomas/hamartomas congenital?

Yes
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a choristoma?

A choristoma is a tumor composed of histologically normal cells found in an abnormal location.

What is the name of the reverse clinical entity, ie, one with abnormal cells found in their normal location?

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That a lesion is a choristoma (or hamartoma) indicates what about its onset?

It is congenital

Are all choristomas/hamartomas congenital?

Yes

Are all congenital lesions choristomas/hamartomas?

No
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a choristoma?

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That a lesion is a choristoma (or hamartoma) indicates what about its onset?

It is congenital.

Are all choristomas/hamartomas congenital?

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Are all congenital lesions choristomas/hamartomas?

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What is the name of the reverse clinical entity, ie, one with abnormal cells found in their normal location?
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That a lesion is a choristoma (or hamartoma) indicates what about its onset?
That, by definition, it is... congenital

That a lesion is a choristoma (or hamartoma) indicates what about its status vis a vis malignancy?
What is a choristoma?
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A hamartoma

That a lesion is a choristoma (or hamartoma) indicates what about its onset?
That, by definition, it is... congenital

That a lesion is a choristoma (or hamartoma) indicates what about its status vis a vis malignancy?
That, by definition, it is... [benign vs malignant]
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a choristoma?

A choristoma is a tumor composed of histologically normal cells found in an abnormal location.

What is the name of the reverse clinical entity, i.e., one with abnormal cells found in their normal location?

A hamartoma

That a lesion is a choristoma (or hamartoma) indicates what about its onset?

That, by definition, it is…congenital.

That a lesion is a choristoma (or hamartoma) indicates what about its status vis a vis malignancy?

That, by definition, it is…benign.
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
A choristoma

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
A choristoma

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?
#1
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
A choristoma

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?
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What embryologic event results in the eventual development of a dermoid cyst?
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
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Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?
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What embryologic event results in the eventual development of a dermoid cyst?
The sequestration of dermoid elements within bony sutures
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
A choristoma

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?
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What embryologic event results in the eventual development of a dermoid cyst?
The sequestration of dermoid elements within bony sutures

A closely-related condition presents in a manner identical to that of dermoid cysts, differing only with regard to histology. What is this condition?
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
A choristoma

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?
#1

What embryologic event results in the eventual development of a dermoid cyst?
The sequestration of dermoid elements within bony sutures

A closely-related condition presents in a manner identical to that of dermoid cysts, differing only with regard to histology. What is this condition?
Epidermoid cysts
**Q**

**Orbital Dermoid Cysts**

*In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?*

A choristoma

*Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?*

#1

*What embryologic event results in the eventual development of a dermoid cyst?*

The sequestration of dermoid elements within bony sutures

*A closely-related condition presents in a manner identical to that of dermoid cysts, differing only with regard to histology. What is this condition?*

**Epidermoid cysts** *aka...*

*The BCSC Path book uses a different name for this lesion—what is it?*
**Orbital Dermoid Cysts**

In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
A choristoma

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?
#1

What embryologic event results in the eventual development of a dermoid cyst?
The sequestration of dermoid elements within bony sutures

A closely-related condition presents in a manner identical to that of dermoid cysts, differing only with regard to histology. What is this condition? **Epidermoid cysts aka... simple epithelial cyst**

*The BCSC Path book uses a different name for this lesion—what is it?*
Simple epithelial cyst
**Orbital Dermoid Cysts**

*In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?*

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<tr>
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<tbody>
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*Is a choristoma?*
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
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Is a choristoma?
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?
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Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?
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What embryologic event results in the eventual development of a dermoid cyst?
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| Is a choristoma? |   | Contains dermal appendages?

Yes

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What three ‘dermal appendages’ being referred to here?
--Hair follicles
--Sebaceous glands
--Sweat glands

Contains dermal appendages?
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<td>No</td>
<td>VS</td>
<td>Yes</td>
</tr>
<tr>
<td>Keratin</td>
<td>VS</td>
<td>Keratin and oil</td>
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**Can epi/dermoid cysts appear in the nasal orbit?** Yes, but it is uncommon and unexpected

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The differential for a preseptal mass in the nasal orbit of an infant is influenced by another anatomic factor—what is it?
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The differential for a preseptal mass in the nasal orbit of an infant is influenced by another anatomic factor—what is it? It’s whether the mass is above or below the lateral canthus.

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What is the primary condition of concern for a mass above the nasal canthus in an infant?

A meningocele (or encephalocele, or meningoencephalocele)

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<td>Nasal! Temporal</td>
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<td></td>
<td>Pre-septal</td>
<td>Post-septal</td>
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Anatomic issue: Is the mass…

Above canthus

Below canthus

The differential for a preseptal mass in the nasal orbit of an infant is influenced by another anatomic factor—what is it? It’s whether the mass is above or below the medial canthus.

Diagram:

1. Pre-septal mass in *nasal* orbit
2. Anatomic issue: *Is the mass…*
3. Above canthus
4. Below canthus

---

*Q* means question.
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?

A choristoma

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?

#1

What embryologic event results in the eventual development of a dermoid cyst?
The sequestration of dermoid elements within bony sutures

A closely-related condition presents in a manner identical to that of dermoid cysts, differing only with regard to histology. What is this condition?

Epi-dermoid cysts

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The lesion’s location

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<tr>
<td>Presentation</td>
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</tr>
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What is the primary condition of concern for a mass above the nasal canthus in an infant? A meningocele (or encephalocele, or meningoencephalocele)

What is the primary condition of concern for a mass below the nasal canthus in an infant? A meningocele (or encephalocele, or meningoencephalocele)

The differential for a preseptal mass in the nasal orbit of an infant is influenced by another anatomic factor—what is it? It’s whether the mass is above or below the medial canthus.
**Q**

In very general terms (think in terms of the [Path and/or Fundamentals book](#)), what sort of lesion is a dermoid cyst?

- *A choristoma*

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?

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Obstruction at the distal end of the nasolacrimal duct leads to stasis of fluid within the lacrimal sac, which subsequently becomes infected.

What is the classic sign of CNLDO?

The presence of epiphora with sticky mucopurulent discharge. Further, the lacrimal sac often swells, resulting in an erythematous mass below the nasal canthus.

How is CNLDO managed?

Initially conservatively, with lacrimal-sac massage + topical abx-steroid drop; if this fails, with probing at around age 1 yr.
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Pre-septal mass in *nasal* orbit

Above canthus

Meningocele

Below canthus

CNLDO

Dacryoccele

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**Orbital Dermoid Cysts**

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Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?

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| Nasal |
| Temporal |
|---|---|
| Nasal! |
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**Presentation**

- Slowly… enlarging mass
- Slowly… progressive proptosis

Painful?

- No

Nasal! Nasal!

The differential for a preseptal mass in the nasal orbit of an infant is influenced by another anatomic factor—what is it?

- It's whether the mass is above or below the medial canthus

**Anatomic issue:**

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<td>Meningocele</td>
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<td>Below canthus</td>
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What are the other two findings in the classic triad? --Epiphora

Late infancy/early toddlerhood

Adult

Nasal

Temporal

Nasal

Temporal

Pre-septal

Post-septal

Age it becomes clinically apparent

Nasal vs temporal aspect of orbit

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The lesion's location

Do dacryoceles present with sticky, mucopurulent epiphora a la congenital NLDO?

No. In fact, they generally don't have much epiphora at all.

When and how does dacryocele present?

At birth, with a bluish swelling below the nasal canthus

What is the key anatomic difference between CNLDO and dacryocele?

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For more about dacryoceles, see slide-set O8
In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst?

A choristoma

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?

#1

What embryologic event results in the eventual development of a dermoid cyst?

The sequestration of dermoid elements within bony sutures

A closely-related condition presents in a manner identical to that of dermoid cysts, differing only with regard to histology. What is this condition?

Epidermoid cyst

In general terms, dermoid/epidermoid cysts presents in one of two manners. We'll get to what the two presentations are shortly, but first: What factor determines the manner in which it presents?

The lesion's location

Do dacryocyes present with sticky, mucopurulent epiphora a la congenital NLDO?

No. In fact, they generally don't have much epiphora at all.

Epidermoid cysts present in a manner identical to that of dermoid cysts, differing only with regard to histology. The sequestration of epidermoid elements within bony sutures results in the eventual development of an epidermoid cyst.

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No. In fact, they generally don’t have much epiphora at all.

When and how does dacryocele present?

At birth, with a bluish swelling below the nasal canthus.
**Q/A**

**In very general terms (think in terms of the Path &/or Fundamentals book), what sort of lesion is a dermoid cyst?**

A choristoma

**Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?**

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Epi-dermoid cysts

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The lesion’s location

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**Do dacryoceles present with sticky, mucopurulent epiphora a la congenital NLDO?**

No. In fact, they generally don’t have much epiphora at all.

**When and how does dacrycele present?**

At birth, with a swelling below the nasal canthus

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Orbital Dermoid Cysts

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The lesion's location

Do dacryocyes present with sticky, mucopurulent epiphora a la congenital NLDO?

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When and how does dacryocye present?

At birth, with a bluish swelling below the nasal canthus

What is the key anatomic difference between CNLDO and dacryocye?

CNLDO involves obstruction at only one site ('below' the lacrimal sac), whereas a dacryocye involves obstruction at two—one below the lacrimal sac (as in CNLDO), but also one 'above' it (usually at the common canaliculus).

For more about dacryoceles, see slide-set O8
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When and how does dacryoceles present? At birth, with a bluish swelling below the nasal canthus.

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Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?

* #1

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Do dacryoceles present with sticky, mucopurulent epiphora a la congenital NLDO?

* No. In fact, they generally don’t have much epiphora at all.

When and how does dacryocele present?

* At birth, with a **bluish** swelling below the nasal canthus

What is the key anatomic difference between CNLDO and dacryocele?

* CNLDO involves obstruction at only one site (‘below’ the lacrimal sac), whereas a dacryocele involves obstruction at **two**—one below the lacrimal sac (as in CNLDO), but also one ‘above’ it (usually at the common canaliculus)

For more about CNLDO and dacryoceles, see slide-set O8

In general terms, when and how does a pre-septal mass in the nasal orbit present? **Nasal!**

<table>
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<th>Above canthus</th>
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Anatomic issue: Is the mass…

* Above canthus
  * Meningocele
* Below canthus
  * CNLDO
  * **Dacryocele**

When and how does dacryocele present?

* At birth, with a **bluish** swelling below the nasal canthus

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Orbital Dermoid Cysts

In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst? A choristoma.


What embryologic event results in the eventual development of a dermoid cyst? The sequestration of dermoid elements within bony sutures.

A closely-related condition presents in a manner identical to that of dermoid cysts, differing only with regard to histology. What is this condition? Epi-dermoid cysts.

In general terms, dermoid/epidermoid cysts presents in one of two manners. We'll get to what the two presentations are shortly, but first: What factor determines the manner in which it presents? The lesion’s location.

In a nutshell, what is involved with the various -oceles? A herniation of CNS contents through a bony defect. What’s up with the various names? They reflect the contents of the herniation. If it’s meninges only, it’s called a meningocele. If it’s brain tissue, it’s an encephalocele. If both are present, it’s a meningoencephalocele.

In addition to its relation to the medial canthus, what other exam finding should alert you to the possibility that one of these ‘oceles’ is present? If the mass is pulsatile.

In a nutshell, what is involved with the various -oceles?

A herniation of CNS contents through a bony defect.

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**Pre-septal mass in nasal orbit**

**Above canthus**

Meningocele

**Anatomic issue:** Is the mass...

**Below canthus**

CNLDO

Dacryocele

**Presentation**

Slowly...

enlarging mass

Slowly...

progressive proptosis

Painful?

No

Nasal! Nasal!

**The lesion’s location**

Age it becomes clinically apparent

Late infancy/early toddlerhood

Adult

Nasal vs temporal aspect of orbit

Nasal! Temporal

Temporal

Pre-septal

Post-septal

Dacryocele

CNLDO

Meningocele

**In a nutshell, what is involved with the various -oceles?**

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In addition to its relation to the medial canthus, what other exam finding should alert you to the possibility that one of these ‘oceles’ is present? If the mass is pulsatile.

**Pre-septal mass in nasal orbit of an infant**

Anatomic factor—what is it?

Below the medial canthus

**Pre-septal mass in nasal orbit**

Dacryocele

CNLDO

Meningocele

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Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids?

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Epi-dermoid cysts

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The lesion’s location

In a nutshell, what is involved with the various -oceles?

A herniation of CNS contents through a bony defect

In a preseptal mass in the nasal orbit of an infant, the anatomic factor—what is it?

No

Is the mass above or below the medial canthus?

Above canthus

Below canthus

Anatomic issue:

Is the mass...

Pre-septal

Post-septal

Nasal vs temporal aspect of orbit

Nasal

Temporal

Late infancy/early toddlerhood

Adult

Age it becomes clinically apparent

Pre-septal

Post-septal

Slowly...

Progressive proptosis

Painful?

No

Nasal!

Nasal!

If the mass is pulsatile

Dacryocele

CNLDO

Meningocele

In a nutshell, what is involved with the various -oceles?

A herniation of CNS contents through a bony defect

What’s up with the various names?

They reflect the contents of the herniation. If it’s meninges only, it’s called a meningocele. If it’s brain tissue, it’s an encephalocele. If both are present, it’s a meningoencephalocele.

In addition to its relation to the medial canthus, what other exam finding should alert you to the possibility that one of these ‘oceles’ is present?

If the mass is pulsatile
Nasal encephalocele
**Orbital Dermoid Cysts**

In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst? **A choristoma**

Where does dermoid cyst rank as a cause of space-occupying orbital lesions in kids? **#1**

What embryologic event results in the eventual development of a dermoid cyst? **The sequestration of dermoid elements within bony sutures**

A closely-related condition presents in a manner identical to that of dermoid cysts, differing only with regard to histology. What is this condition? **Epidemoid cysts**

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In a nutshell, what is involved with the various -oceles? A herniation of CNS contents through a bony defect

What’s up with the various names? They reflect the contents of the herniation. If it’s meninges only, it’s called a **meningocele**. If it’s brain tissue, it’s an **encephalocele**. If both are present, it’s a **meningoencephalocele**.

In addition to its relation to the medial canthus, what other exam finding should alert you to the possibility that one of these ‘oceles’ is present? **If the mass is pulsatile**

---

**Diagram:**

- **Pre-septal mass in nasal orbit**
  - **Above canthus**
  - **Meningocele**
  - **Anatomic issue:** Is the mass…
  - **Below canthus**
  - **CNLDO**
  - **Dacryocle**

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A herniation of CNS contents through a bony defect

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What is the differential for a preseptal mass in the nasal orbit of an infant?

- It's whether the mass is above or below the medial canthus
- The mass is... pre-septal mass in nasal orbit
  - Dacryocele
  - CNLDO
  - Meningocele
  - Anatomic issue: Is the mass...
  - Nasal
  - Temporal
  - Age it becomes clinically apparent
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In addition to its relation to the medial canthus, what other exam finding should alert you to the possibility that one of these ‘oceles’ is present?

If the mass is pulsatile

In a pre-septal mass in the nasal orbit of an infant, another anatomic factor—what is it?

It’s whether the mass is above or below the medial canthus

Above canthus

Below canthus

Meningocele

Dacryocele

CNLDO

Meningocele

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Meningoencephalocele

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In a nutshell, what is involved with the various -oceles? A herniation of CNS contents through a bony defect

What’s up with the various names? They reflect the contents of the herniation. If it’s meninges only, it’s called a meningocele. If it’s brain tissue, it’s an encephalocele. If both are present, it’s a meningoencephalocele.

In addition to its relation to the medial canthus, what other exam finding should alert you to the possibility that one of these ‘oceles’ is present? If the mass is pulsatile.

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The lesion’s location:

- Above canthus
  - Meningocele

Anatomic issue: Is the mass...

- Below canthus
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In very general terms (think in terms of the Path and/or Fundamentals book), what sort of lesion is a dermoid cyst? A choristoma.


What embryologic event results in the eventual development of a dermoid cyst? The sequestration of dermoid elements within bony sutures.

A closely-related condition presents in a manner identical to that of dermoid cysts, differing only with regard to histology. What is this condition? Epi-dermoid cysts.

In general terms, dermoid/epidermoid cysts presents in one of two manners. We’ll get to what the two presentations are shortly, but first: What factor determines the manner in which it presents? The lesion’s location.

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Why this age?
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*Why is it important not to rupture the cyst during excision?*
Because the cyst’s contents are highly inflammogenic-- if spilled, they can produce significant local scarring. (And, circling back: This is also why traumatic rupture is something to be avoided.)