



PAEDIATRIC MINOR ILLNESSES DAY ENT & OPHTHALMOLOGY

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SESSION AIMS AND OBJECTIVES

Learning Unit 5: Head, Eyes, Ears, Nose, Throat
(HEENT)

Common ENT presentations

Diagnosis and management of otitis media, externa
and glue ear

Adenovirus in children, Sinusitis and nose bleeds. The
red throat

Overview of eye conditions in children



[https://padlet.com/samthenabadu2/pccrldsf
yopg55l6](https://padlet.com/samthenabadu2/pccrldsfyopg55l6)



OVERVIEW

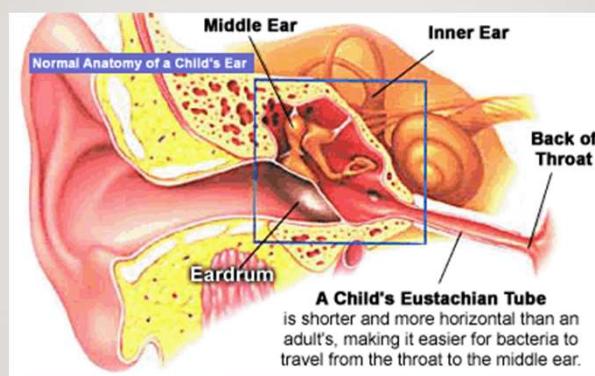
- Whistlestop tour of ENT in Paediatric ED Cases
- Mostly *common* and a few *life threatening*
- Nothing too new...
- One take home point or further reading per case
- Interactive please - NAITSIMP



PEM SUBSPECIALTY CURRICULUM

- | | |
|-----|--|
| 36. | Life-threatening ENT emergencies, e.g. quinsy and post-tonsillectomy bleeding. |
| 37. | Common ear, nose and throat (ENT) disorders, e.g. otitis media, nasal injuries, epistaxis and removal of foreign bodies. |
| 38. | Common oral and dental injuries and emergencies. |
| 39. | Common and emergency ophthalmological presentations. |

ears



POSITIONING



CASE I: 2YR OLD JESSIE

- 2/7 Hx of pulling at right ear
- Reduced E&D
- Blanching rash on trunk
- NFW
- HR 110 CRT<2s T 38.7



OTITIS MEDIA

- AOM is acute inflammation of the middle ear and may be caused by bacteria or viruses. A subtype of AOM is acute suppurative OM, characterised by the presence of pus in the middle ear. In around 5% the eardrum perforates.
- CME is a chronic inflammatory condition without acute inflammation, which often follows a slowly resolving AOM. There is an effusion of glue-like fluid behind an intact tympanic membrane in the absence of signs and symptoms of acute inflammation.
- CSOM is long-standing suppurative middle ear inflammation, usually with a persistently perforated tympanic membrane.
- Mastoiditis is acute inflammation of the mastoid periosteum and air cells occurring when AOM infection spreads out from the middle ear.
- Cholesteatoma occurs when keratinising squamous epithelium (skin) is present in the middle ear as a result of tympanic membrane retraction.

Otitis media - acute: Summary

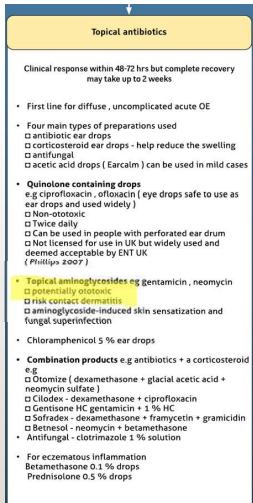
- Acute otitis media (AOM) is defined as the presence of inflammation in the middle ear, associated with an effusion, and accompanied by the rapid onset of symptoms and signs of an ear infection.
- It is a common condition that can be caused by both viruses and bacteria.
- AOM occurs frequently in children but is less common in adults.
 - It most commonly affects children from birth to 4 years of age, especially those who are subject to passive smoking, attend daycare or nursery, are formula-fed, or have craniofacial abnormalities (such as cleft palate).
- Complications of AOM include recurrence of infection, hearing loss, tympanic membrane perforation, and rarely, mastoiditis, meningitis, intracranial abscess, sinus thrombosis, and facial nerve paralysis.
- In older children and adults, AOM usually presents with earache. Younger children may hold or rub their ear, or may have non-specific symptoms such as fever, crying, poor feeding, restlessness, cough, or rhinorrhoea.
- On examination the tympanic membrane is distinctly red, yellow, or cloudy and may be bulging.
- Pain and fever should be managed with paracetamol or ibuprofen.
- Many people with AOM will not need antibiotic treatment as symptoms usually resolve spontaneously within a few days. However, antibiotics are necessary in a number of situations, including for:
 - People who are systemically very unwell.
 - People who have symptoms and signs of a more serious illness or condition.
 - People who have a high risk of complications.

CASE 2: 11 YR OLD LUISA

- County swimmer
- 1/12 Hx of swollen left ear canal
- 2/7 discharge and itching
- BG; Gilbert's Disease
- HR 90 CRT<2s T 37.2



OTITIS EXTERNA



Complications

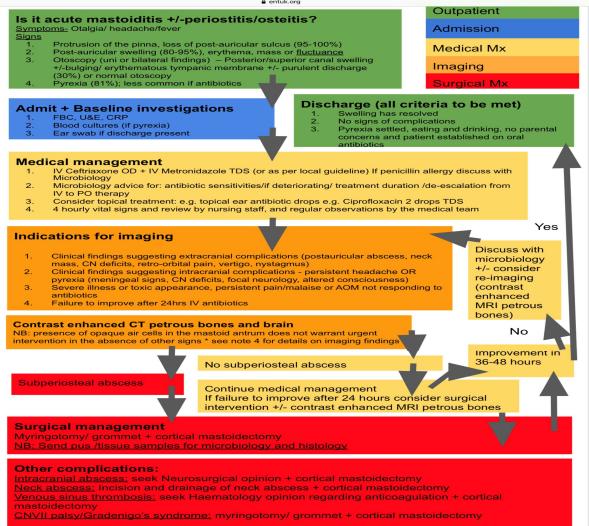
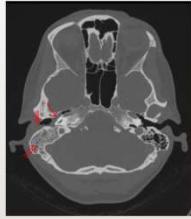
- Temporary hearing loss or muffling.
- Acute otitis externa may become chronic. An outer ear infection is usually considered chronic if signs and symptoms persist for more than three months. Chronic infections are more common if there are conditions that make treatment difficult, such as a rare strain of bacteria, an allergic skin reaction, an allergic reaction to antibiotic eardrops, or a combination of a bacterial and fungal infection.
- Deep tissue infection (cellulitis). Rarely, otitis externa may result in the spread of infection into deep layers and connective tissues of the skin.
- Bone and cartilage damage (necrotising otitis externa). Infection spreads to the skin and cartilage of the outer ear and bones of the lower part of the skull, causing increasingly severe pain. It may involve the mastoid and there may be facial nerve palsy. Older adults and those with diabetes or immunosuppression are at increased risk. Necrotising otitis externa is also known as malignant otitis externa but it is not a malignancy.
- If swimmer's ear develops into necrotising otitis externa, haematogenous extension leading to sepsis may result. This rare complication can be life-threatening.

CASE 3: 11 MONTH OLD NINA

- 2/7 Hx of discharging right ear
- 1/7 Hx of vomiting & intractable crying
- Reduced E&D
- BG: Trisomy 21
- HR 152 CRT 3s T 38.9



ACUTE MASTOIDITIS



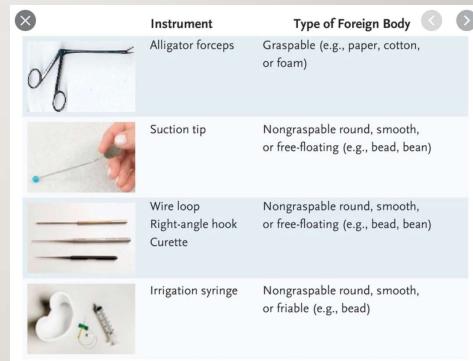
CASE 4: 13YR OLD MEGAN

- 3/7 Hx of pain in ear and offensive discharge
- Refusing examination
- BG: OCD under CAMHS
- HR 90 CRT<2s T 37.2



FOREIGN BODY REMOVAL

Living insects	First kill with oil
Irregular/graspable objects	Remove with crocodile forceps
Organic/ vegetable	Do not syringe. Suction
Button batteries	Do not syringe Remove with crocodile forceps or other instruments
Round, hard, smooth, non-graspable	Syringe/remove with wax hook

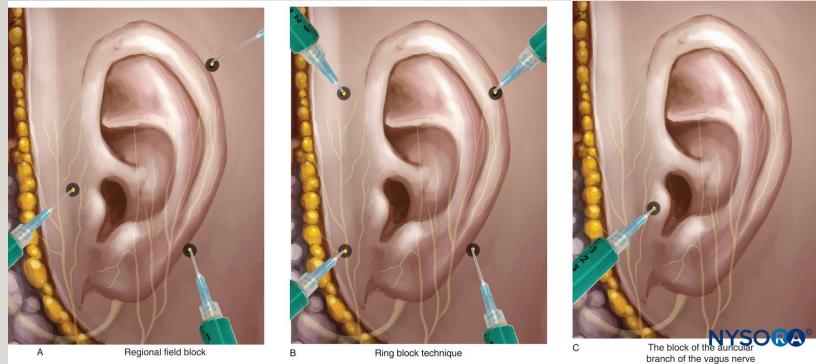


CASE 5: 13YR OLD CERI

- 3/7 Hx of discharging lobe
- Piercing at festival 2/52 ago
- Stud buried
- PMH: Eczema
- HR 95 CRT <2secs T 37.2



REGIONAL BLOCKS / AMETOP

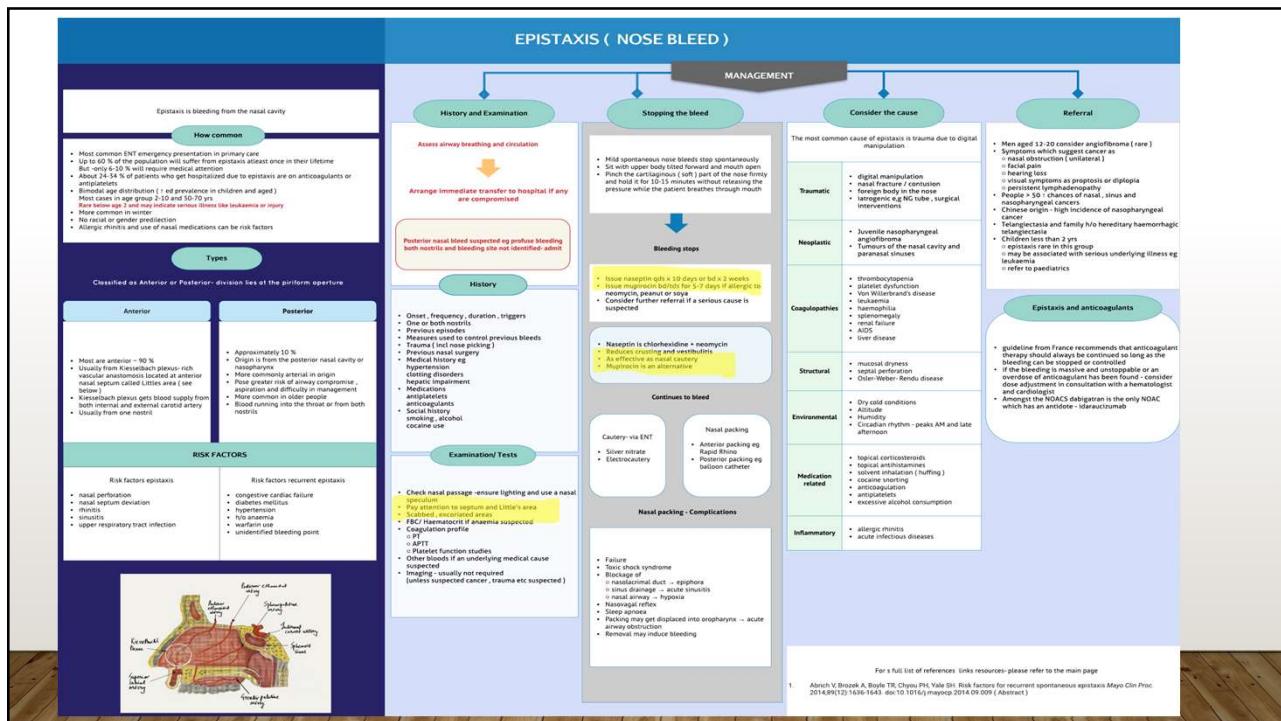


NOSE



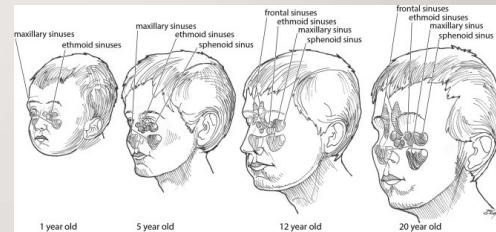
CASE 6: 5YR OLD BERTIE

- Clashed heads with sibling and ongoing epistaxis for 2hrs.
- Not tolerating pinching by mum
- BG: Pica, GDD
- HR 105 CRT<2secs BP 105/70

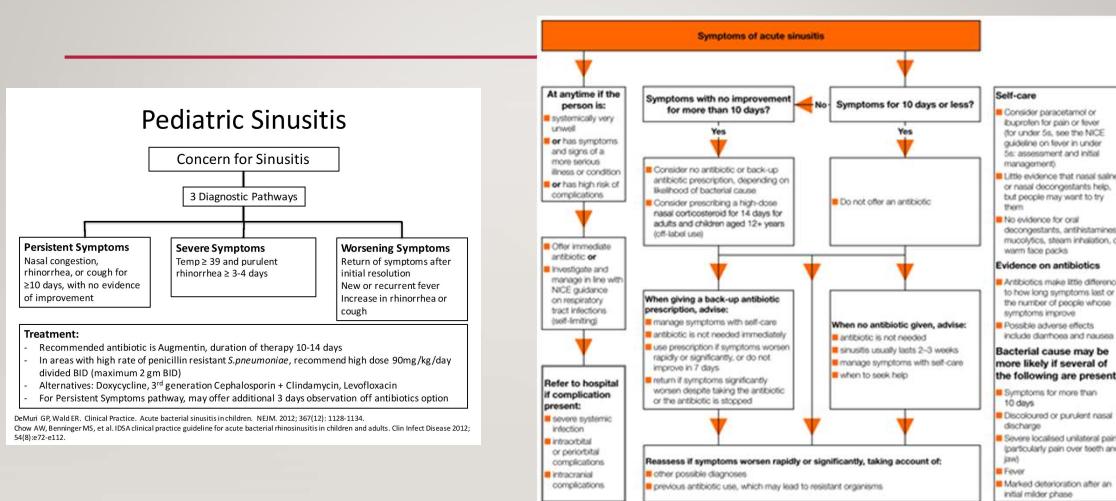


CASE 7: 10YR OLD MALCOLM

- 12/7 Hx purulent nasal discharge
- Left cheek pain
- Lethargy & fatigue
- Reduced E&D
- HR 130 CRT<2s T 38.2



SINUSITIS

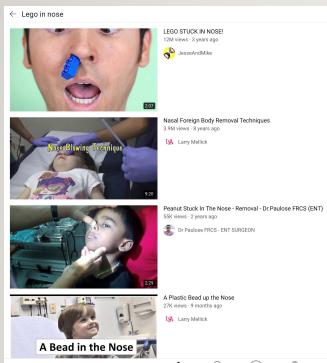


CASE 8: 4YR OLD RITA

- Cross with younger sibling and 'hid' her Lego bead up her nostril 1/7 ago
- No respiratory distress
- Visible with speculum
- HR 105 CRT<2secs T 38.1

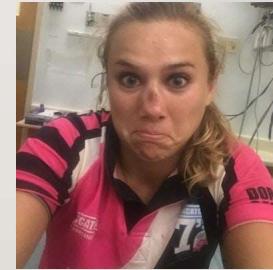


MOTHER'S / CARER'S KISS

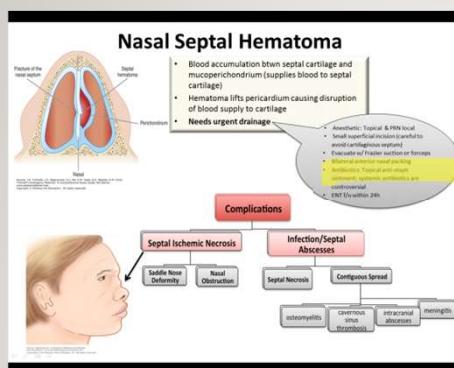


CASE 9: 14YR OLD GINA

- Clashed heads during rugby game
- Opponent then punched patient
- No HI Sequalae
- Deformed septum
- HR 90 BP 125/75 O₂ 96%



NASAL FRACTURE & SEPTAL HAEMATOMAS



THROAT



POSITIONING



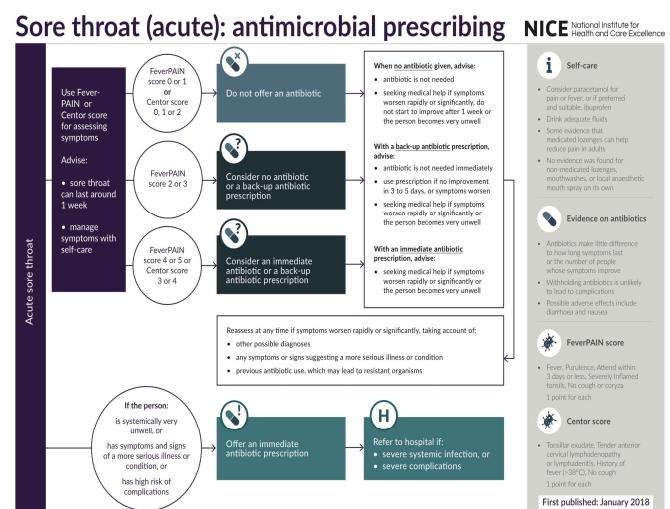
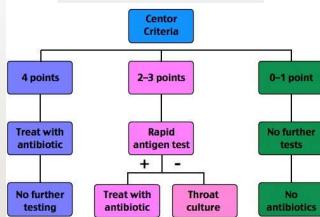
CASE 11: 12YR OLD COLIN

- 3/7 Hx of sore throat
- Reduced E&D
- 'Nasty taste in mouth'
- BG: Recurrent tonsillitis
- HR 120 BP 125/75 O2 96% T 39.1



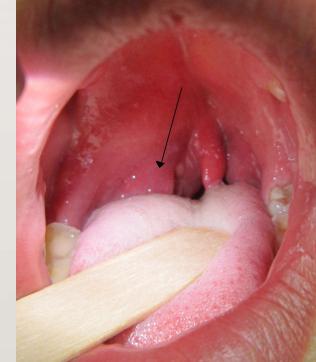
TONSILLITIS

Modified Centor Criteria	
Presence of tonsillar exudates	+1
Tender anterior cervical adenopathy	+1
Fever by history	+1
Absence of cough	+1
Age < 15 years	+1
Age > 45 years	-1

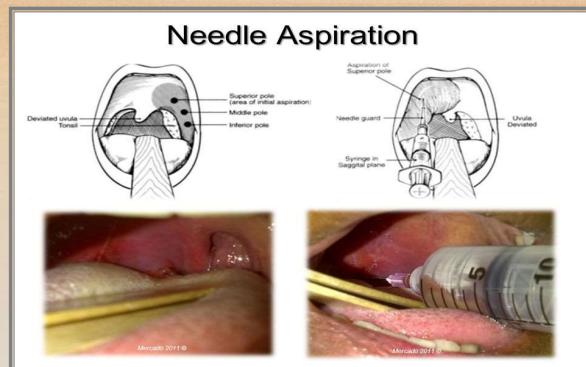


CASE 12: 7YR OLD MONTY

- 3/7 Hx of sore throat and cough
- No eating and minimal fluids



QUINSY

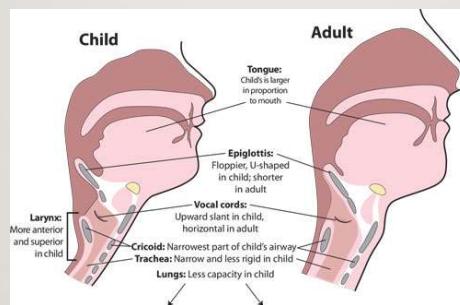


CASE 13: 10 MONTH OLD PETEY

- 2/7 Hx of cough
- Saw UCC who ?FB in throat
- Family have no recollection of potential swallowed FB
- White protrusion visible – blue light to ED
- BG; Ex prem 30/40 – Laryngomalacia
- HR 135 BP 80/60 O₂ 100% RR 28



HIGH RIDING EPIGLOTTIS



CASE 14: 9 YR OLD LENA

- NF&W
- Sudden pain in throat during dinner
- Tried drinking ++ - no improvement
- Panicking++
- HR 110 CRT<2secs RR 28



FOREIGN BODY

Table I: Type of fish bones and the degree of opacity			
Degree of opacity	Opaque even embedded	Opaque in airway	Radiolucent
Types of fish	Seabass Catfish Pangas Tuna Snapper Hardtail scad	Grouper Herring Croaker	Black pomfret Yellowstripe scad Yellowtail scad Pony fish Mackerel Short Mackerel



THROAT BADNESS...

	CROUP	BACTERIAL TRACHEITIS	EPIGLOTTITIS
AGE	6 mo - 6 y/o Peaks at 1-2 years	3 mo -13 y/o More common in 3-5 y/o	Any age
CLINICAL APPEARANCE	Barky cough Inspiratory stridor +/- fever	Cough (may be barky, may have thick sputum) Inspiratory stridor +/- fever Appear toxic	No cough Drooling Dysphagia Muffled "hot potato" voice Worse supine Toxic Respiratory distress
ONSET	1-3 days	viral prodrome for days then suddenly worse	Onset over hours (rapid)
DIAGNOSIS	Clinical Note: Negative x-ray not helpful in these situations	Bronchoscopy (diagnostic + therapeutic) X-ray: "steeple" sign	Direct visualization (be prepared to manage airway) X-ray: not needed but may show irregular tracheal margins or subglottic narrowing
TREATMENT	Dexamethasone 0.15-0.6 mg/kg orally Nebulized racemic epi	OR for airway management and bronchoscopy Ampicillin-sulbactam or 3rd generation cephalosporin + clindamycin	OR for airway management/intubation 2nd/3rd generation cephalosporin May try nebulizer racemic epi

EYES

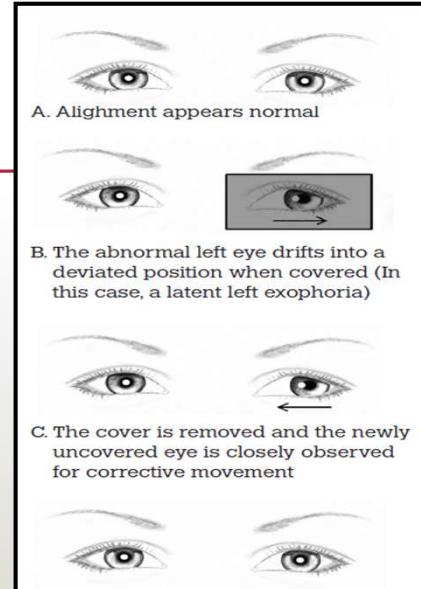


CASE 15: 18MTH OLD BRANDY

- Fell and hit head on sofa today.
- No LOC, vomiting or contusion
- Exam: NAD except eyes
- HR 105 BP 80/60 Avpu PERLA



SQUINT – COVER TEST



CASE 16: 6YR OLD DENNY

- 3/7 Hx of weeping right eye and fevers
- Assoc headaches and vomiting
- Drowsy today
- BG: Hayfever
- HR 155 BP 80/60 CRT 3secs
RR 38 T 40.1



ORBITAL (SEPTAL) CELLULITIS

Lightning Learning: Orbital Cellulitis

em3.org.uk @EM3FOAMed

#EM3
East Midlands Emergency Medicine Educational Media

STOP!

Periorbital infections involve the soft tissues surrounding the globe of the eye. Whilst **preseptal cellulitis** is less dangerous than **postseptal** any pressure or breach to orbit **can endanger the eye.**

Preseptal cellulitis is common, resulting from scratches, insect bites or local spread of infection (URTI, blepharitis, conjunctivitis).

Postseptal/orbital cellulitis arises from secondary spread (sinusitis, local trauma and rarely via blood). **Complications** include abscesses and cavernous sinus thrombosis.

Orbital cellulitis is an emergency!

Consider **ophthalmology** and **ENT** opinions early if concerned.

LOOK

Eyelid oedema AND erythema OR failure to respond to 48hr abx **PLUS** one **red flag** suggests severe infection needing urgent action.

- 1. **Proptosis or chemosis**
- 2. **Ophthalmoplegia**
- 3. **Relative afferent pupillary defect**
- 4. **Systemically unwell**
- 5. **Painful eye movements**
- 6. **Altered visual acuity or blurring**

Severe infection warrants bloods, blood cultures, IV abx, admission **+/- urgent CT imaging** especially if **red flags** or any of the following...

...disturbed colour vision, severe swelling, neurological signs, poor progress or swinging pyrexia despite >24 hrs IV abx.

Surgical drainage may be required if no improvements are seen.

LEARN

Further Resources

1. Watts P. Preseptal and orbital cellulitis in children: a review. *Paediatric and Child Health* 2011; 22(1):1-8.
2. Tagg, A. Peri-orbital vs orbital cellulitis, Don't Forget the Bubbles, 2013.
3. Mathew et al. *Paediatric post-septal and pre-septal cellulitis: 10 years' experience at a tertiary-level children's hospital*. *BJR* 2013; 87 (1033).
4. *Orbital/Periorbital Cellulitis (PED EM Morsels)* <http://bit.ly/2VbUDmW>

Author: Carl van Heyningen Date: 07.05.2019 Version: 1.0

CASE 17: 6MTH OLD CONNIE

- Uncle visiting family notices a squint and a possible white reflection
- 0.9 decile
- HR 125 CRT<2Secs T37.2



WHITE REFLEX

Differential Diagnosis of Leukocoria **PREDICT**

Persistent hyperplastic primary vitreous

Retinoblastoma / **R**etinopathy of prematurity

Endophthalmitis

Dysplasia of the retina

Inflammatory cyclitic membrane

Congenital cataract / **C**oat's Disease

Toxococasis



CASE 18: 4MTH OLD MAXINE

- Attended via Blue light after fall from buggy in park
- Child appears well
- BG: CMPA, Faltering growth
- HR 105 BP 100/60 Avpu

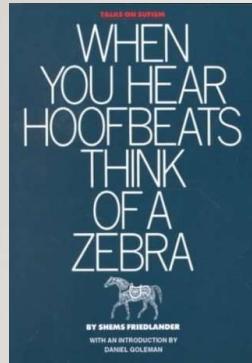


NAI

- NAI surveys inc eyes
- Bloods to exclude organic causes
- ED are probably best placed initially to examine eyes



SUMMARY



- Common presentations to the ED
- Good Hx and Exams
- The 1st time is the best time...
- Utilise local and national guidance
- Paeds is the best!

