CLINICAL PATHWAY:

Preseptal & Orbital Cellulitis

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Inclusion Criteria: eye swelling concerning for preseptal or orbital cellulitis
Exclusion Criteria: evidence of non-cellulitic cause of eye swelling (e.g., allergy, chalazion, conjunctivitis, dacryocele), supero-lateral abscess on CT (will need orbital surgeon), posterior table erosion of the frontal sinus bone with brain abscess, any patient requiring neurosurgical involvement

Initial Evaluation:
- History including diplopia, systemic symptoms
- Physical exam findings, including:
  - Extent of eyelid edema/erythema
  - Presence of proptosis
  - Ocular motility/pain with eye movement
  - Pupillary reaction/afferent pupillary defect
  - Vision with Snellen chart, if possible
- Labs: CBC w/differential, CRP (unless mild preseptal cellulitis signs and/or attending discretion); If ocular discharge, obtain bacterial culture

***Place Ophthalmology consult for:**
- Urgent calls for any orbital involvement (clinically or on CT) OR
- If ENT taking to OR

Signs of orbital cellulitis (≥1)?
1) Pain w/eye movement
2) EOM's restricted/diplopia
3) Proptosis
4) ANC >10,000/µL or CRP >7 mg/dL
5) Cannot assess d/t extensive eyelid edema

YES →
If high clinical suspicion:
- Formally consult ophthalmology
- Notify ENT via call
- Obtain orbital CT with IV contrast

CT positive for orbital cellulitis?
- NO → Follow preseptal cellulitis arm of pathway AND notify ophtho of neg CT
- YES →
  - Formally consult ENT
  - **Dexamethasone IV** 0.5 mg/kg x1 (max 10 mg/dose)

Surgery required?
- NO → Admit to PHM service; IF ORBITAL INVOLVEMENT but surgery not yet indicated, ENT/Ophtho will continue to follow
- YES →
  - Admit to ENT service
  - Ophtho to follow (needs to document vision PRIOR to surgery)
  - PHM consult for co-management

NO →
Likely **Preseptal Cellulitis due to dental/ sinus source**
- If source of infection from skin (e.g., trauma, bug bite, acne), treat off pathway and follow **Skin and Soft Tissue Infection Pathway**

Meets admission criteria?
Toxic appearing, failed outpatient antibiotics, rapidly progressing, dehydrated, concern for compliance or follow up
- YES → Admit to PHM service; IF ORBITAL INVOLVEMENT but surgery not yet indicated, ENT/Ophtho will continue to follow
- NO → Discharge on PO antibiotics (see discharge instructions below). If Skin/soft tissue infection, follow **Skin Soft Tissue Infection Pathway**

Inpatient Management:
- Patients >5 years old: General pediatric provider to complete vision checks with Snellen chart on admission and BID *(If unable to complete, must document in chart.)*
- Continue to monitor for development of orbital cellulitis
- NPO after midnight if strong possibility of surgery
- *If orbital cellulitis confirmed on CT*: dexamethasone IV 0.5 mg/kg x1 (max 10 mg/dose) if not already given

Pre-Septal or Orbital Cellulitis *without* CNS involvement on imaging:
- **Ampicillin/Sulbactam** based on ampicillin component: 200 mg/kg/day div q6hr (max 2,000 mg ampicillin/dose)
- *If PCN allergy:* **Clindamycin PO/IV** 30-40 mg/kg/day div q8hr (max 600 mg/dose) AND **Ceftriaxone IV** 75 mg/kg/day div q12hr (max 2,000 mg/dose)
- *If concern for MRSA, consider addition of:*
  - **Vancomycin IV:** <52 weeks PMA‡/about <3 mo old: 15 mg/kg q8hr or as determined by pharmacy based on estimated AUC; 52 weeks PMA‡/about ≥3 months old – 11 years old: 70 mg/kg/day div q6hr; ≥12 yrs old: 60 mg/kg/day div q8hr

If Orbital Cellulitis *with* concern for CNS involvement on imaging, treat off pathway with the following:
- **Ceftriaxone IV** 100 mg/kg/day div q12hr (max 2,000 mg/dose) AND **Metronidazole** 30 mg/kg/day IV div q8hr (max 500 mg/dose)
- *If concern for MRSA, consider addition of ONE time dose with subsequent doses directed by ASP:*
  - **Vancomycin IV**: <52 weeks PMA‡/about <3 mo old: 15 mg/kg x1; ≥52 weeks PMA‡/about ≥3 months old – 11 years old: 17.5 mg/kg x1 (max 750 mg/dose); ≥12 yrs old: 20 mg/kg x1 (max 1 g/dose)
- Consult Neurosurgery and Infectious Disease

‡PMA (Post-Menstrual Age) = gestational age + postnatal age

Clinical improvement within 48 hrs?
- NO →
  - Consider CT or MRI
  - If rapidly progressing, obtain CT
  - Discuss with consulting services
- YES →

Discharge Criteria: Vision back to baseline, clinical improvement, afebrile, follow up plan in place
Discharge Antibiotics: [Duration: 10 days or longer as determined by ENT based on extensiveness of disease]
- *Preferred PO antibiotic if no PCN allergy, OR If on Ampicillin/Sulbactam (Unasyn):*
  - *Preferred:* **Amoxicillin/Clavulanate PO** ES (600 mg/5 ml) 90 mg/kg/day div TID (max 1 g of amoxicillin/dose); *Alternate if ≥40 kg:* **Amoxicillin/Clavulanate PO** (500/125 tablets) 1 tablet PO TID
- *If PCN allergy, or if on Clindamycin IV with Ceftriaxone:*
  - **Clindamycin PO** 30-40 mg/kg/day div q6-8hr (max 600 mg/dose) AND
  - **Cefdinir PO** 14 mg/kg/day div BID (max 300 mg/dose) or **Levofloxacin PO** 6 mo-4 yrs: 20 mg/kg/day div q12hr; 5-9 yrs: 14 mg/kg/day div q12hr; 10 yrs: 10 mg/kg once daily (max 750 mg/day)
- *If on Vancomycin:*
  - ADD **Clindamycin PO** 30-40 mg/kg/day div q6-8hr (max 600 mg/dose) (continue Amoxicillin/Clavulanate or Cefdinir/Levoflaxacin as appropriate)

Discharge Instructions:
Follow up with PCP; Complete course of antibiotics, Ophthalmology f/u in 1-2 weeks if involved during admission

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