CLINICAL PATHWAY:

Preseptal & Orbital Cellulitis

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT

Inclusion Criteria: eye swelling concerning for preseptal or orbital cellulitis

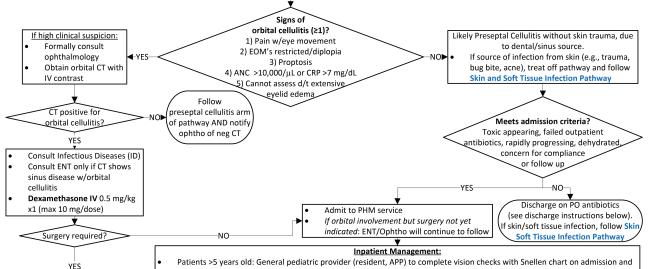
Exclusion Criteria: evidence of non-cellulitic cause of eye swelling (e.g., allergy, chalazion, conjunctivitis, dacryocele), supero-lateral abscess on CT (will need orbital surgeon), posterior table erosion of the frontal sinus bone with brain abscess, any patient requiring neurosurgical involvement

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 with differential, CRP (unless mild preseptal cellulitis signs and/or attending discretion)
 - If ocular discharge: obtain bacterial culture and wound MSSA/MRSA PCR on ocular discharge; if unable to obtain, consider MSSA/MRSA PCR from nares to determine if MRSA coverage is needed
 - If ill-appearing or high suspicion of orbital cellulitis: obtain blood culture

Place Ophthalmology consult for:

- Urgent calls for any orbital involvement (clinically or on CT) or
- If ENT taking to OR



- Admit to ENT service
- Ophtho to follow (needs to document vision PRIOR to surgery)
- PHM consult for comanagement
- If cultures obtained from sinuses or any abscesses: fluid/ pus should be sent to micro lab for Gram stain, aerobic and anaerobic cultures
 - Blue top ESwab may be used for collection Whenever possible, obtain enough sample to send in sterile container for optimal anaerobic growth

- Patients >5 years old: General pediatric provider (resident, APP) 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
 - Consult Infectious Diseases (ID)
 - If signs of systemic illness or intracranial infection, obtain blood culture before antibiotics given, if possible.
 - If recent history of trauma or surgery: consult ID as antibiotic recommendations would be different than those listed below Preseptal or Orbital Cellulitis without CNS involvement on imaging:

Ampicillin/Sulbactam IV based on ampicillin component: 200 mg/kg/day div q6hr (max 2,000 mg ampicillin/dose)

- If preseptal cellulitis and stable: can choose Amoxicillin/Clavulanate PO: <40 kg or unable to take tablets: 600 mg/5 mL (ES) suspension: 90 mg/kg/day div BID (max 1000 mg/dose); >40 kg and can take tablets: 875 mg BID tablets
- 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
- If concern for MRSA, obtain MRSA nasal PCR. If PCR positive, obtain MRSA nasal culture and <u>add</u> the below:
 - If preseptal and stable: add Clindamycin PO/IV 30 mg/kg/day div q8hr (max 600 mg/dose) until susceptibilities finalize (unless already on Clindamycin for PCN allergy)
 - If ill-appearing or orbital: add 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 (max 3 g/day); ≥ 12 yrs old: 60 mg/kg/day div q8hr (max 3 g/day) [$^{\dagger}PMA$ (Post-Menstrual Age) = gestational age + postnatal age]
 - If renal function present, substitute Vancomycin with Linezolid IV: <12 yrs old: 30 mg/kg/day div q8hr (max 600 mg/ dose); ≥12 yrs old: 600 mg q12hr (if ≥12 yrs old and <45 kg: 20 mg/kg/day div q12hr, max 600 mg/dose) If Orbital Cellulitis with concern for CNS involvement on imaging:
 - Treat off pathway and consult Neurosurgery and Infectious Diseases (see Appendix A for work up and antibiotic considerations)



DISCHARGE CRITERIA: Vision back to baseline, clinical improvement, afebrile, follow up plan in place

DISCHARGE INSTRUCTIONS: Follow up with PCP; Complete course of antibiotics, Ophthalmology f/u in 1-2 weeks if involved during admission DISCHARGE ANTIBIOTICS (not to be used if there is CNS involvement):

- Duration: 5-7 days for preseptal cellulitis (if sinusitis, longer therapy may be needed per ENT/ID); ≥2 weeks for orbital cellulitis as determined by ENT/ID
- If sensitivities are available, discuss appropriate antibiotic choice with Infectious Diseases/ASP.
- Preferred PO antibiotic if no PCN allergy or if on Ampicillin/Sulbactam (Unasyn): Amoxicillin/Clavulanate PO: <40 kg or unable to take tablets: 600 mg/5 mL (ES) suspension: 90 mg/kg/day div BID (max 1000 mg/dose); >40 kg and can take tablets: 875 mg BID tablets
- If PCN allergy and IV vancomycin or clindamycin not used: Consider Penicillin Allergy Delabeling Pathway to assess if patient can utilize amox/clav. If PCN allergy confirmed: start cefuroxime PO 30 mg/kg/day div 2 doses (max 500 mg/dose) [Note: only 250 and 500 mg tablets are commercially available; ensur availability for home prior to discharge]. If cefuroxime not available, consult ID.
- If patient was on IV Vancomycin/IV Clindamycin or MRSA nasal PCR/culture positive: discuss with ID to add anti-MRSA antibiotic to antibiotic regimen



CLINICAL PATHWAY: Preseptal & Orbital Cellulitis Appendix A: Orbital Cellulitis with Concern for CNS Involvement on Imaging

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

If there is orbital cellulitis with concern for CNS involvement on imaging, treat patient off pathway and consult Neurosurgery and Infectious Diseases to discuss the following:

- Obtaining a blood culture
- Appropriate antibiotic selection, that may include these three antibiotics:
 - o Ceftriaxone IV 100 mg/kg/day div q12hr (max 2,000 mg/dose) AND
 - Metronidazole IV 30 mg/kg/day div q8hr (max 500 mg/dose) AND EITHER
 - o Nafcillin IV 200 mg/kg/day div q4-6 hr (max 2000 mg/dose) or
 - 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

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

