Periorbital/Orbital Cellulitis

Clinical Practice Guideline

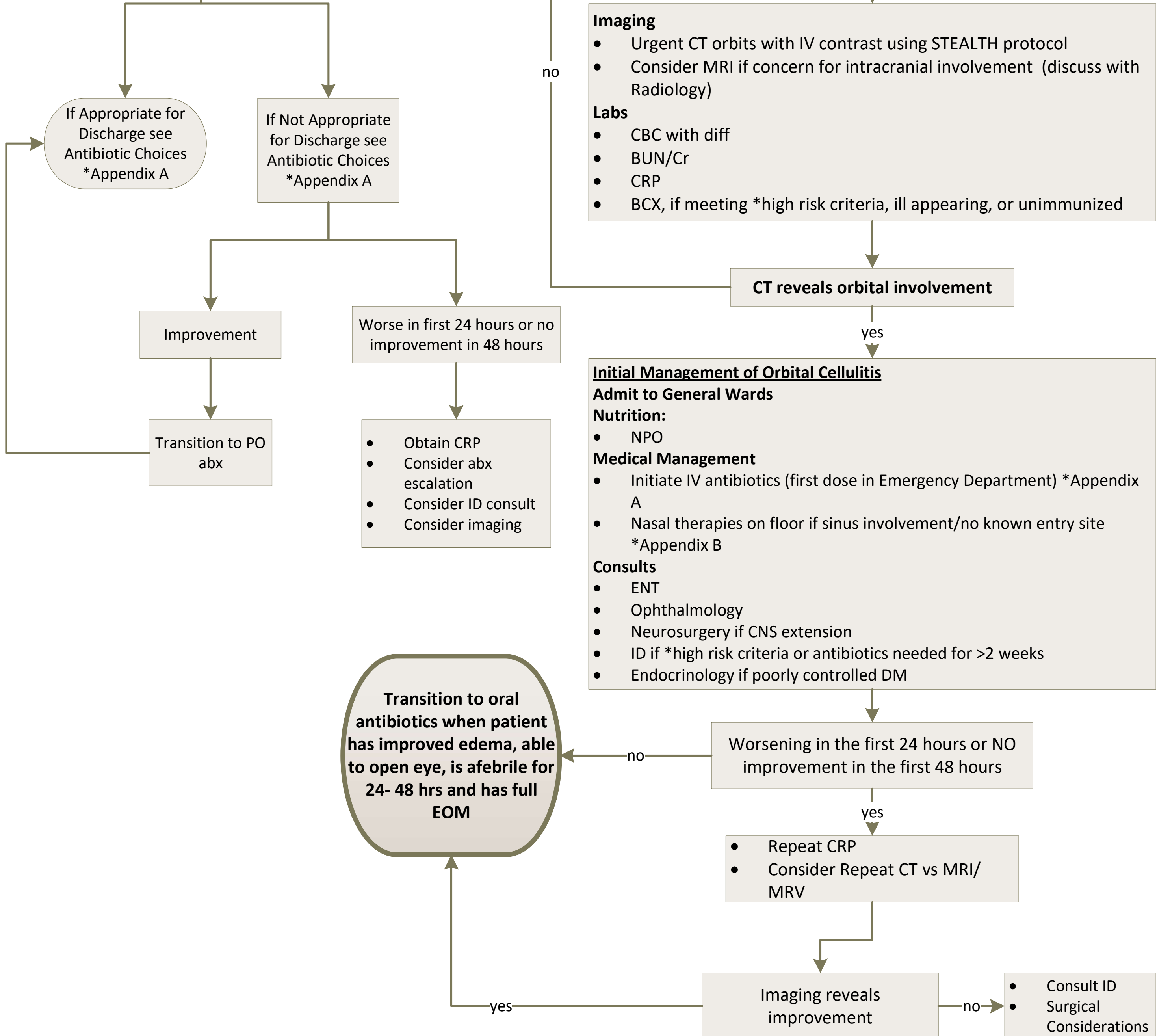
Monroe Carell Jr. Children's Hospital at Vanderbilt

Exclusion Criteria:
- Less than 1 year old
- Traumatic eye injury
- Prior eye or sinus surgery
- Abnormal eye or maxillary-facial anatomy
- Known immunocompromise or malignancy
- Clinical signs of severe sepsis/shock

Patient presents with diffusely red, tender, swollen eyelid/periorbital area

***High Risk Patients include any patients with following conditions/circumstances**:
- Failed course of appropriate outpatient antibiotics
- Use of any immune-modulating medications (ie. Chronic steroids, biologics, chemotherapeutics)
- Concern for CNS infection
- ANC <1000
- Poorly controlled diabetes mellitus (Hgb A1c >7.5)

Any proptosis, pain or restricted EOM, severe or persistent headache, vision changes
OR ill appearance +/- fever
OR age <3 yo/limited exam
OR meets *high risk criteria



This guideline does not take into account individual patient situations, and does not substitute for clinical judgment

Appendix A

Orbital Cellulitis					
	Drug	Dose	Route	Frequency	Notes
First-Line	Ampicillin/sulbactam	75mg of ampicillin/kg/dose	IV	Q6h	Max 2g ampicillin/dose
Unimmunized for age	Ceftriaxone	50mg/kg/dose	IV	Q24h	Max 2g/dose
MRSA suspected[1]	Clindamycin	13mg/kg/dose	IV	Q8h	Max 600mg/dose
History of clindamycin-resistant MRSA[2]	Ampicillin/sulbactam AND Vancomycin	75mg of ampicillin/kg/dose Use Vancomycin Panel in Epic	IV	Q6h Per panel	Max 2g ampicillin/dose
Allergy to first-line therapy	Clindamycin	13mg/kg/dose	IV	Q8h	Max 600mg/dose If unimmunized for age, add ceftriaxone 50mg/kg/dose (max 2g/dose)
Concern for imminent sight-threatening infection based on exam by ophthalmology	Ampicillin/sulbactam AND Vancomycin	75mg of ampicillin/kg/dose Use Vancomycin Panel in Epic	IV	Q6h Per panel	If penicillin allergy, use vancomycin (per panel) + ceftriaxone 50mg/kg/dose q24h (max 2g/dose) + metronidazole 10mg/kg/dose (max 500mg/dose) q8h
Concern for CNS extension on exam[3] or imaging	Vancomycin AND Ceftriaxone AND Metronidazole	Use Vancomycin Panel in Epic 50mg/kg/dose 10mg/kg/dose	IV	Per Panel Q24h Q8h	 Max 2g/dose Max 500mg/dose

<u>Duration:</u> 14-21 days (consider >14 days if presence of abscess, complicated course or slow to improve)

Microbes to consider: *S. pneumoniae, S. pyogenes,* anginosus group streptococci (*S. anginosus, constellatus & intermedius*), *H. influenzae, M. catarrhalis, S. aureus,* oral anaerobes. Consider Gram-negative rods s/p trauma.

If surgery performed, tailor therapy based on operative culture results.

[1]MRSA suspected: history of MRSA infection or frequent SSTI in patient or immediate family members

[2]Approximately 80% of MRSA locally are susceptible to clindamycin. If patient has a history of clindamycin-resistant MRSA< add vancomycin to ampicillin-sulbactam.

[3]Signs of optic nerve or CNS involvement:

- Change in visual acuity
- Severe headache
- Pupillary defect
- Altered mental status
- Bilateral symptoms
- Seizure

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Periorbital Cellulitis

	Drug	Dose	Route	Frequency	Notes
Known Entry Site[1]					
First Line Oral	Cephalexin	20mg/kg/dose	PO	Q8h	Max 1g/dose
Oral Alternative - Cephalosporin allergy or MRSA suspected	Clindamycin	13mg/kg/dose	PO	Q8h	Max 600mg/dose
First Line IV	Clindamycin	13mg/kg/dose	IV	Q8h	Max 600mg/dose
IV Alternative - Clindamycin allergy	Vancomycin	Per panel	IV	Per panel	
No known entry (often associated with sinusitis or unimmunized)					
First Line Oral	Amoxicillin-clavulanate	45mg/kg/dose	PO	Q12h	Max 2g/dose
Oral Alternative – Penicillin allergy	Clindamycin	13mg/kg/dose	PO	Q8h	Max 600mg/dose
First Line IV	Ampicillin-sulbactam	75mg of ampicillin/kg/dose	IV	Q6h	Max 2g ampicillin/dose
IV Alternative – Penicillin allergy	Clindamycin	13mg/kg/dose	IV	Q8h	Max 600mg/dose

Duration: 7 days

Microbes to consider: *S. aureus, S. pyogenes,* oral anaerobes, *Strep pneumoniae. H influenzae* now uncommon in immunized children.

[1]Known entry site: evidence of scratch or trauma on history or physical exam

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Appendix B

Systemic Steroids
Systemic steroids are generally not recommended as there is no evidence that they improve recovery in orbital cellulitis. May consider on a case by case basis as per consultants

Nasal Therapies in Orbital Cellulitis

Age	Treatment
1-4 years old	Nasal Saline spray (Ocean Spray) TID
	*Oxymetazoline nasal spray: 1 spray in each nare twice daily; Maximum duration of therapy: 3 days
4 years or older	Nasal Saline spray (ie. Ocean Spray) TID
	(Could consider saline irrigation in child with more severe sinus disease after discussion with ENT)
	*Oxymetazoline nasal spray: 2 sprays in each nostril twice daily; Maximum duration of therapy: 3 days
	Upon completion of oxymetazoline start Fluticasone propionate: 1 spray (50 mcg/spray) in each nostril once a day

*Oxymetazoline FDA approved for children >6 years old and should only be used for pediatric inpatients under supervision

Fluticasone approved for children aged 4yrs and older (once daily until 12yo; 1-2 sprays BID for children. >12yo and adults)