

Orbital Cellulitis

FAST FACTS

up to age 9

orbital cellulitis typically caused by infection spread from ethmoidal/maxillary sinuses

age 9+ years

polymicrobial infections are more common and may include anaerobes

empiric oral antibiotics

can be considered in well-appearing children with peri-orbital cellulitis

Orbital cellulitis is inflammation involving the soft tissues of the orbit residing posterior to the orbital septum, typically attributed to infection.

ASSESSMENT

Perform a standard history and physical exam (HPE). In children, there are often simultaneous or antecedent upper respiratory infection or “sinus” symptoms including nasal congestion, facial pain, rhinorrhea and cough.

Attempt to differentiate orbital cellulitis from periorbital (or pre-septal) cellulitis during HPE. Check visual acuity if possible, ocular motility and alignment, and pupils. Proptosis, ocular misalignment or limited normal eye motility suggest orbital cellulitis. If the child appears systematically unwell with fussiness, lack of playfulness and/or is febrile, suspect orbital cellulitis. Palpate and retropulse the globe through closed lids to check for globular softness or tension. A tense orbit demonstrating resistance strongly indicates for an emergency referral.

HPE (HISTORY AND PHYSICAL EXAM) RED FLAGS

- Eye pain
- Lid swelling
- Periocular redness
- Proptosis
- Vision loss
- Diplopia
- Fever
- URI symptoms
- Limited ocular motility
- Acute strabismus

MANAGEMENT/TREATMENT

If you suspect orbital cellulitis or cannot rule it out, obtain orbital imaging — usually CT with contrast. Consider imaging for systemically ill-appearing patients with ocular and eyelid signs of periorbital cellulitis as well. Empiric oral antibiotics are reasonable for periorbital cellulitis in patients with less severe symptoms.

WHEN TO REFER

Refer patients with orbital cellulitis to Cincinnati Children's Emergency for pediatric ophthalmology and otolaryngology consultation to facilitate rapid imaging, ophthalmologic exam, labs and IV antibiotics. Patients with orbital cellulitis typically require hospitalization for at least 72 hours.

If you have clinical questions or wish to make an urgent referral, contact a Pediatric Ophthalmologist via Physician Priority Link® at 513-636-7997 or 1-888-987-7997.

For non-urgent questions, email eye@cchmc.org.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children's.

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