

- Atraumatic eyelid swelling is a common presentation in the pediatric ED population
- Differentials include blepharitis, pre-septal cellulitis, and orbital cellulitis
- Appropriate treatment requires accurate diagnosis
- Ultrasound can aid in the diagnosis

Case History:

Pt: 2.5 yo male

- **HPI:** New onset R eye swelling.
 - No antecedent illness, insect bite, trauma, fever, eye discharge, visual changes, or pain

PMH: healthy, fully immunized

Physical:

- Intact extraocular movements
- No afferent pupillary defect
- Normal conjunctiva
- No proptosis

Pre-set

Orbit



Ultrasound Evaluation Of A Pediatric Patient With Eyelid Swelling Adrianna Kyle, LCDR, MC, USN; Kelly Murphy, LT, MC, USN; Kristen Shafer, LT, MC, USN

Patient Photos Before and After Treatment:



Image 1: R circumferential periorbital edema of patient day 1



Image 2: Interval healing of periorbital swelling day 3 status post treatment with warm compresses and antihistamines only

Ultrasound Findings of Orbital Edem	
nfection	Finding
lepharitis	Linear, hypoechoic pre-septal bands
ptal Cellulitis	Pre-Septal Cobblestoning: hypoechoic fluid globules
al Cellulitis	 Post Septal: thickening of orbital wall heterogenous hypo and hyperechoic mate echogenic collections consistent with abs

Point of Care R Eye Ocular Ultrasound:

Image 3: R eye POCUS day 1. Hyperemia and tissue thickening without cobblestoning or fluid infiltration suggestive of non-infectious etiology.

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Discussion:

Blepharitis:

- Angioedema from allergic reaction, insect bite, etc.
- Tx: lid hygiene, warm compresses, antihistamines

Pre-septal cellulitis:

- Bacterial infection in front of orbital septum
- Tx: Oral antibiotics

Orbital cellulitis:

- Bacterial infection behind orbital septum
- Tx: admission, IV antibiotics

Case Outcome:

- Mother wanted to avoid antibiotics
- Ultrasound suggested noninfectious etiology
- Pursued supportive treatment
- Near complete resolution in 3 days

Take Home Points:

POCUS of the eye lid can help:

- Differentiate inflammatory vs infectious etiology
- Maintain antibiotic stewardship
- Avoid unnecessary treatment, especially in pediatric populations

