16-year-old with history of chronic bacterial rhinosinusitis presenting with fever and worsening headache

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Physical Exam and Labs

ED Vitals: BP: 119/71; HR: 99; T: 97.4 F; RR: 22; SPO2: 99% RA

HEENT: Tenderness and swelling over the L forehead; TTP over the L frontal and maxillary sinuses

CRP	< 0.30
SARS-CoV-2 PCR	Positive

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CT Scout

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Contrast CT

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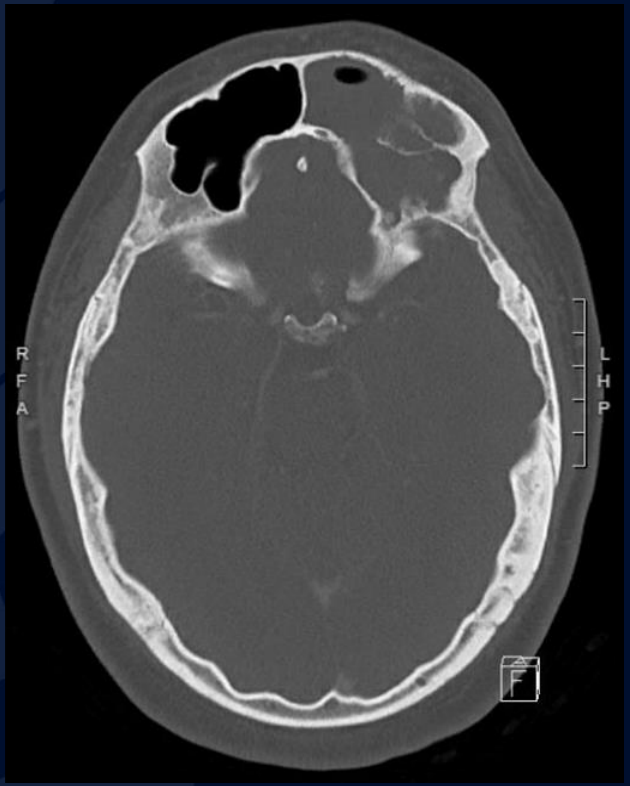
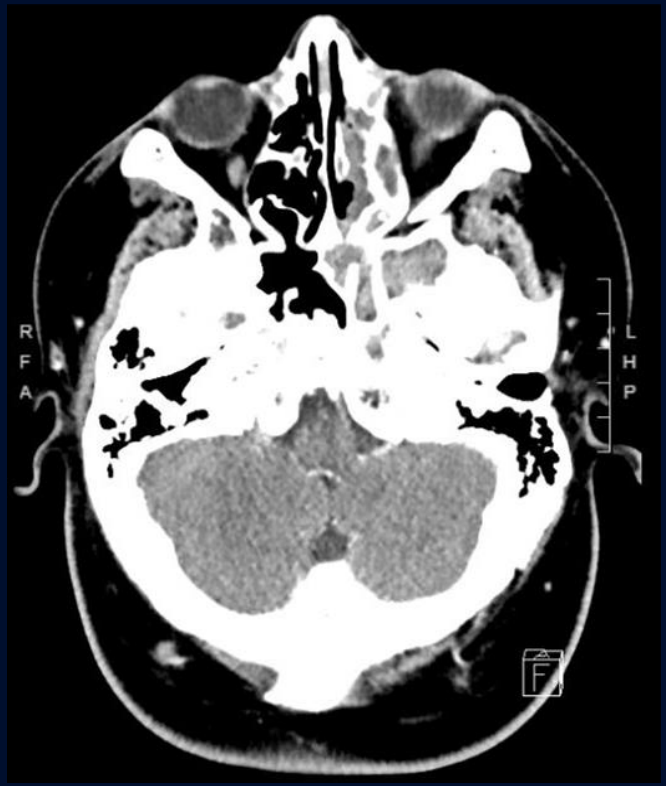
Non-contrast CT



Contrast CT



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Pott Puffy Tumor

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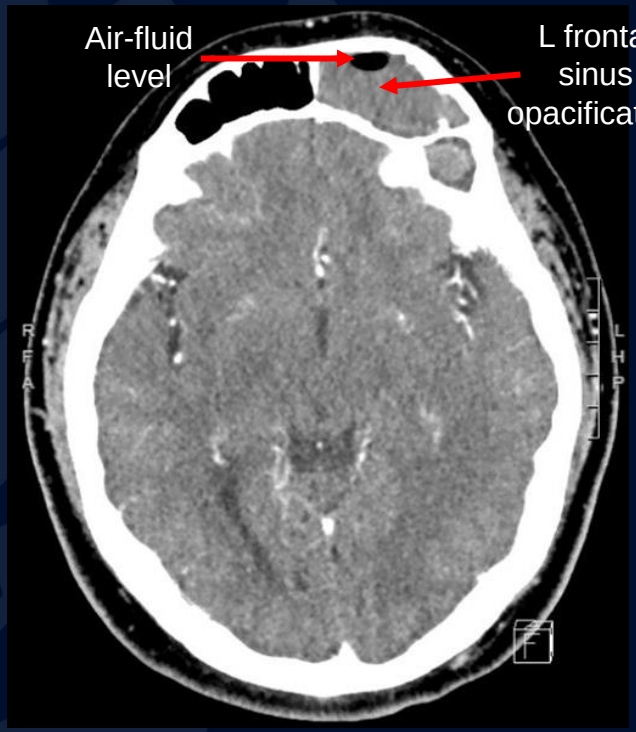
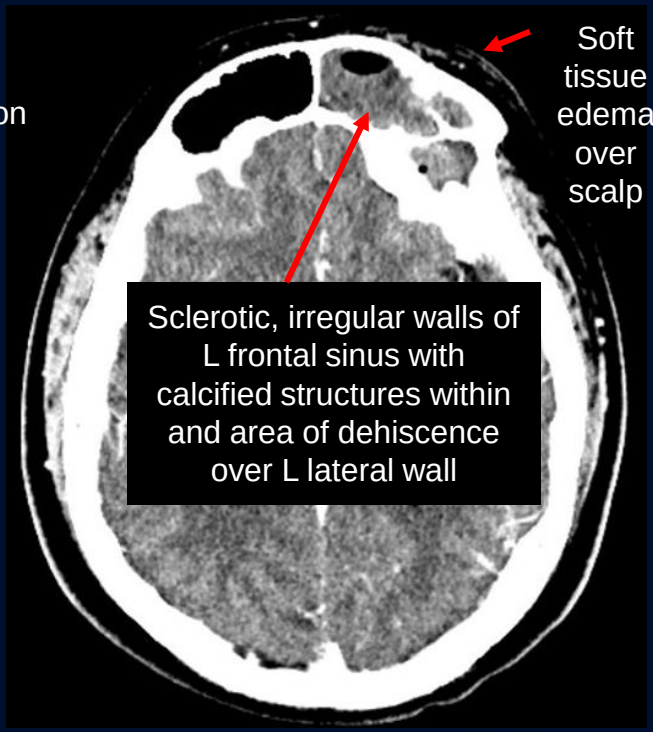
Contrast CT





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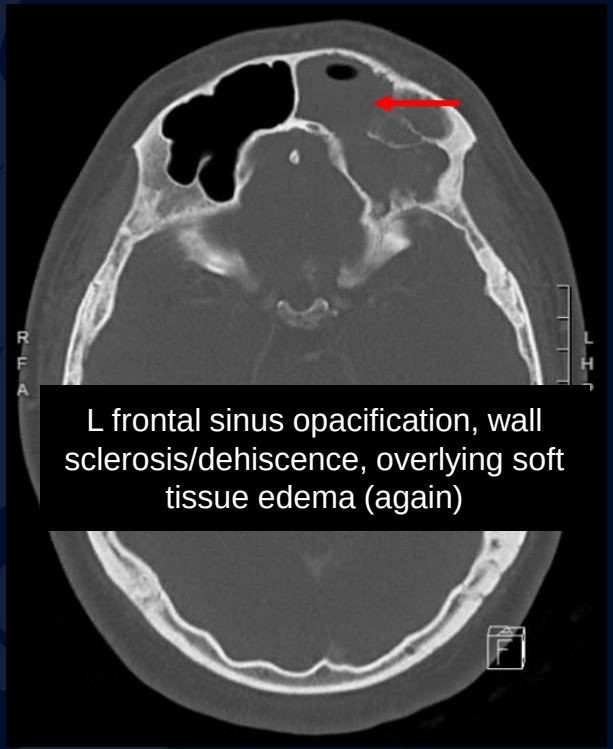
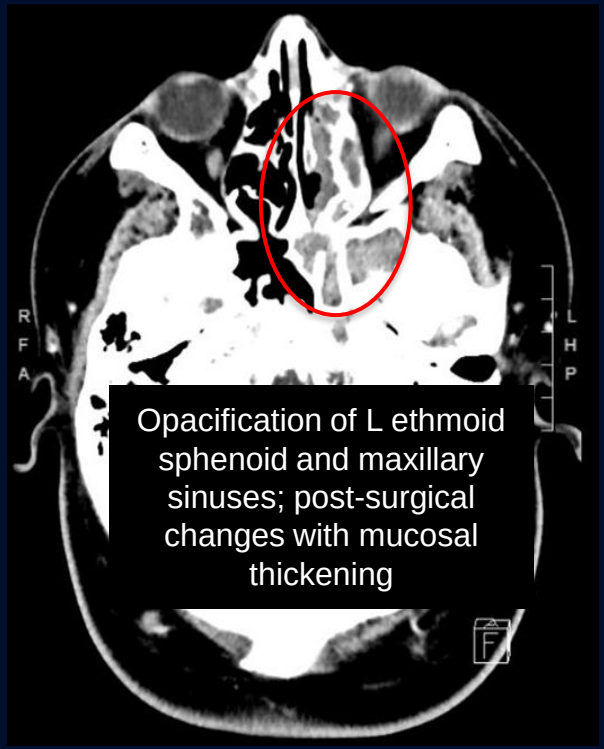
Non-contrast CT



L frontal sinus opacification, wall sclerosis/dehiscence, overlying soft tissue edema (again)

Contrast CT



Opacification of L ethmoid sphenoid and maxillary sinuses; post-surgical changes with mucosal thickening

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Radiolucency (erosion) of the left frontal bone with frontal bossing

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Pott Puffy Tumor (PPT)

- PPT is formally known as chronic osteomyelitis of the frontal bone with subperiosteal abscess
  - Rare complication of chronic, untreated bacterial rhinosinusitis; less commonly, it can also occur from direct trauma to the frontal bone
- **Clinical presentation:** headache, fever, nasal drainage (can be purulent), swelling and tenderness over the frontal sinuses, photophobia, or vision changes; however, presenting symptoms vary and may be subtle
- **Differential diagnosis: s**inus abscess/mucocele; nasal polyposis; nasal mass/neoplasm; cavernous sinus thrombosis; periorbital cellulitis; orbital cellulitis; intracranial abscess; meningitis
- Most commonly implicated causal pathogens are *Streptococcus* spp, *Staphylococcus* spp, *Klebsiella* spp, and *Haemophilus influenzae*
- **Treatment:**
  - Multifaceted, involving surgical debridement by ENT/OMFS with possible repair by plastics and long-term IV antibiotics

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Imaging Findings

- Contrast CT
  - Frontal sinus opacification with overlying soft tissue stranding, bony defects in involved areas of the frontal bone
- MRI
  - Extra-axial fluid collection or cerebral enhancement

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