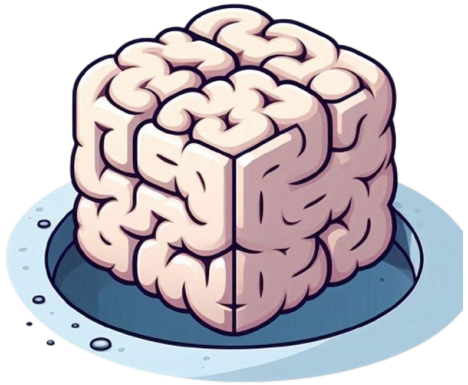
CANADIAN HEADACHE CONFERENCE
COAST TO COAST

Expert on Call: Pediatric Case

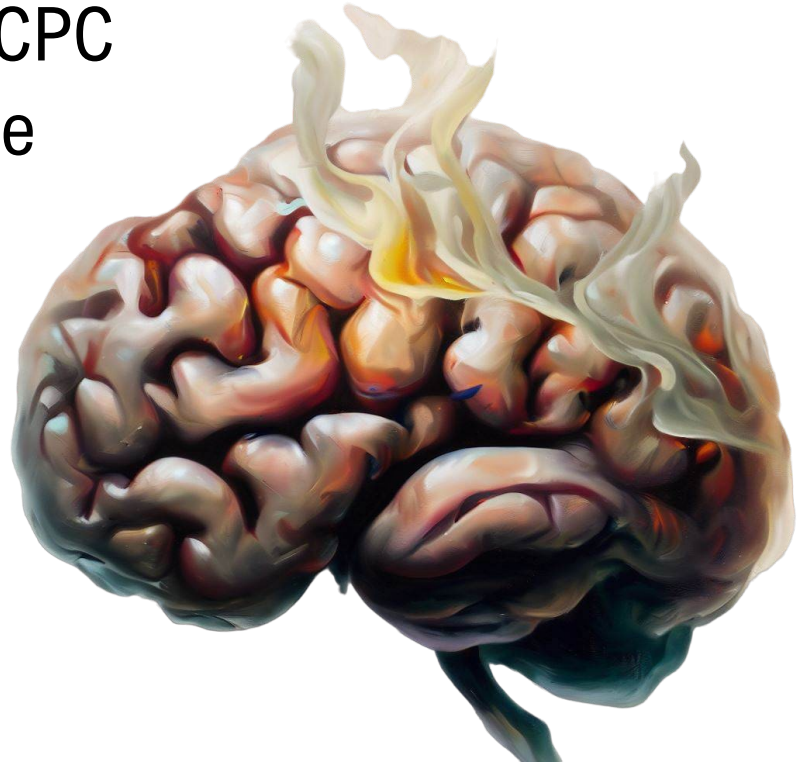
A Square Peg in a Round Hole

Serena L. Orr, MD, FRCPC, FAHS



15 year-old Male

- 5 day history of severe attack, 3 ED presentations
- Typical semiology
  - Background of chronic migraine 15 days/month
  - Diagnosed and followed in CPC
  - No red flags for 2º headache
  - Normal exam



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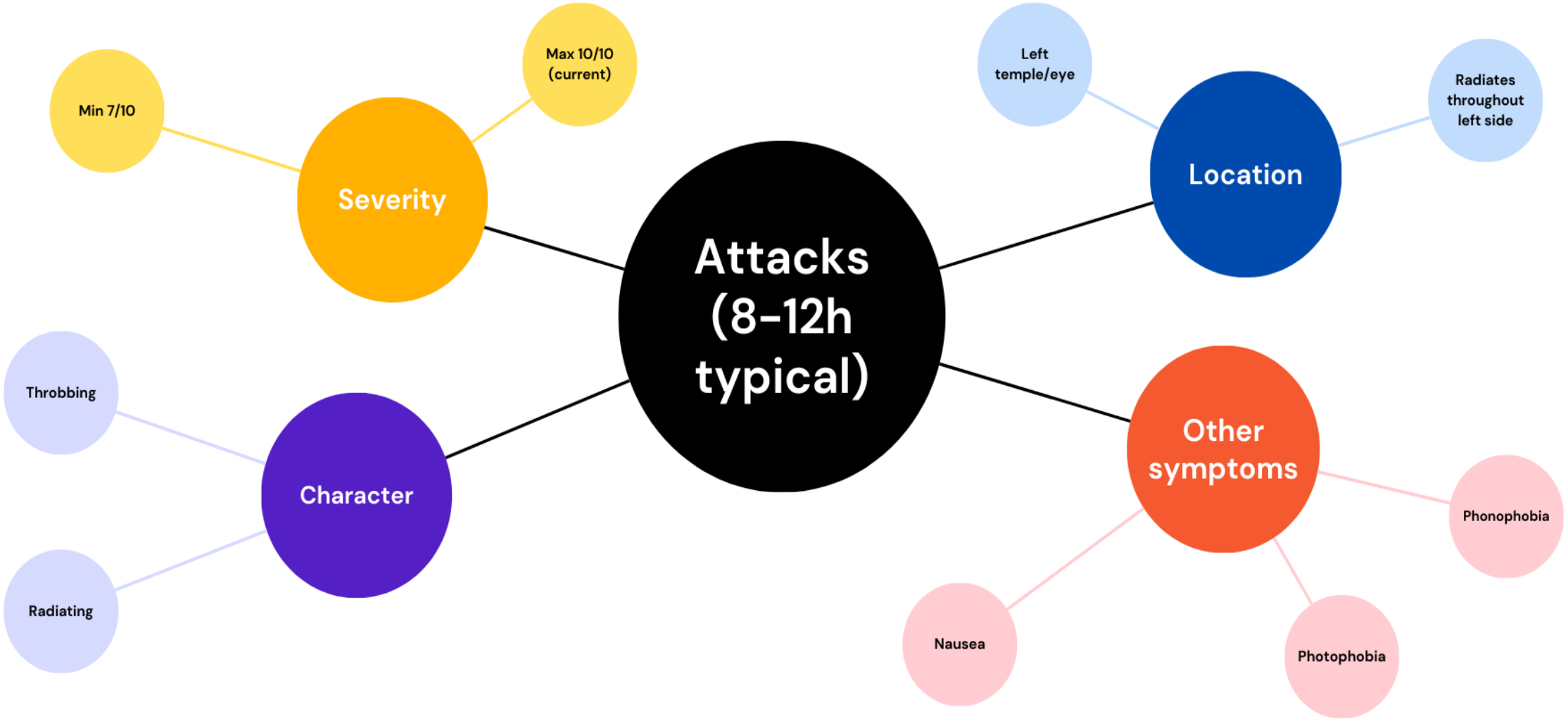
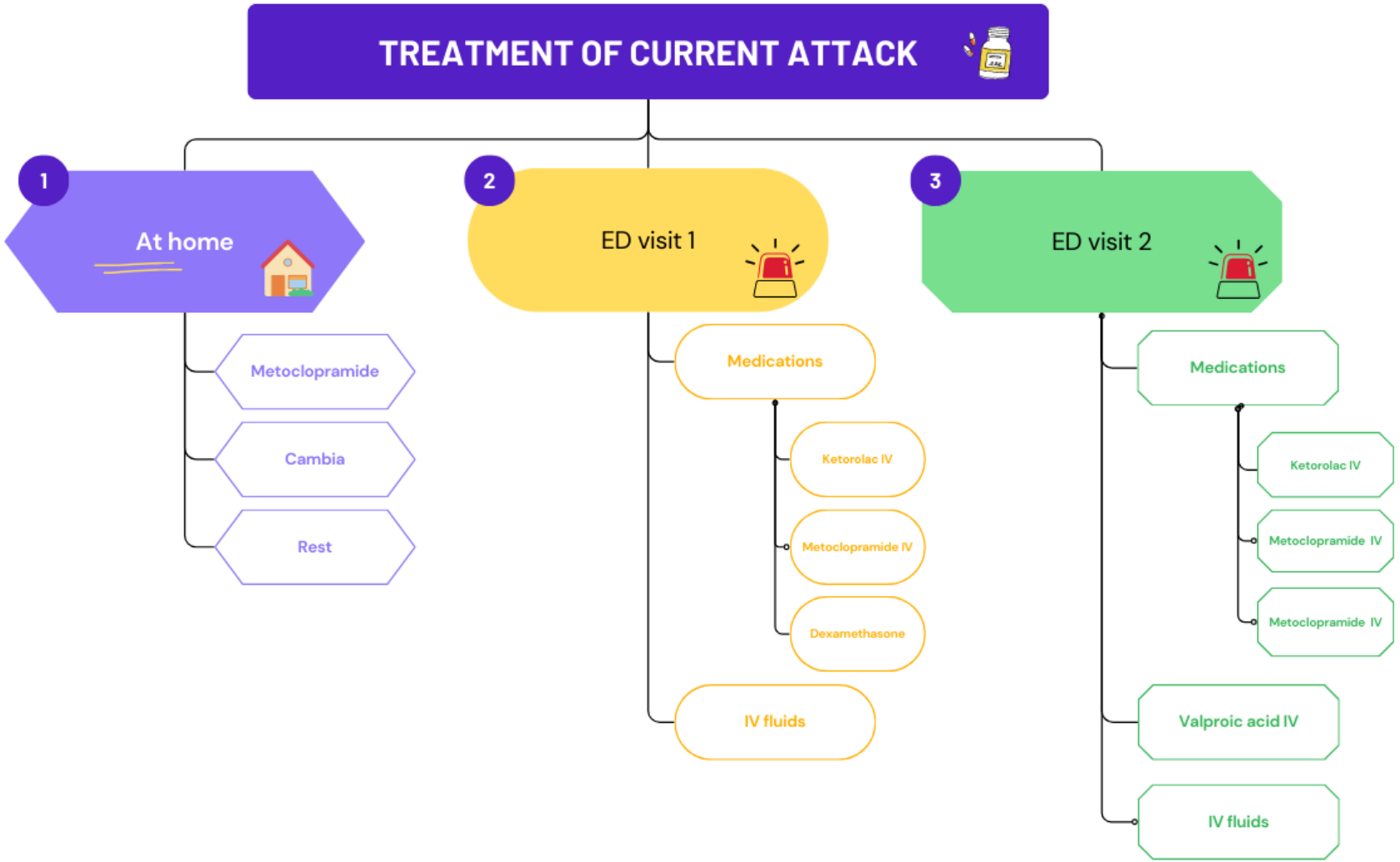
Semiology per the resident



To date…



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Template from: canva.com

How will you treat his status migrainosus?

What will you do next?

- Occipital nerve blocks
- IV magnesium
- IV proprofol
- Admit for IV DHE protocol
- Send home with steroid taper

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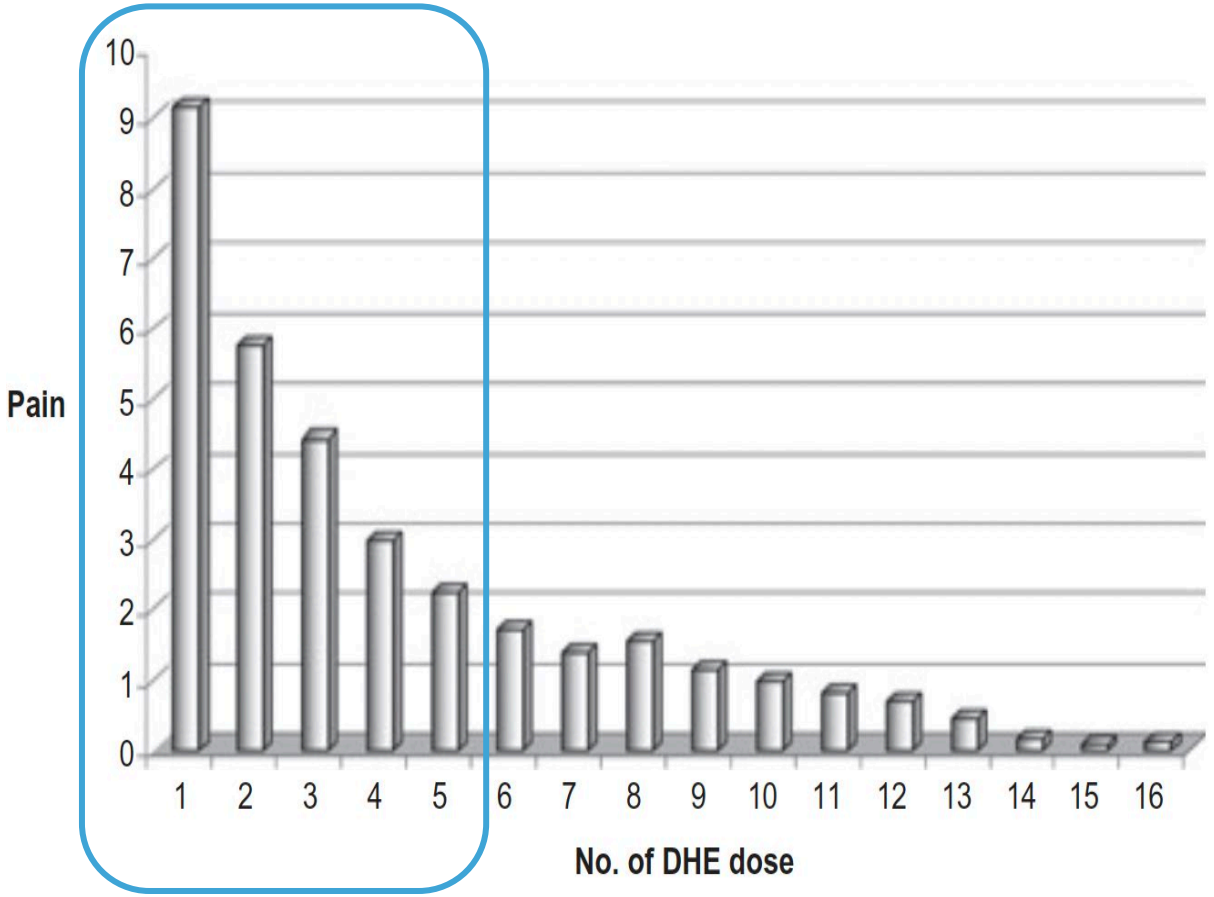
Dihydroergotamine protocol in pediatrics

- Uncontrolled case series show ↑ efficacy
  - N=200 mixed sample (migraine, TTH, NDPH), mean of 6 doses
    - 84% improved post-DHE
    - Most effective for TTH & migraine
  - N=32, median headache duration 6 days, mean of 7 doses
    - 75% headache free at discharge



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Kabbouche M et al. Headache 2009;49:106-109;Srouji R et al. Headache 2021;61:777-789.

What happened next…

In hospital

- DHE 1mg IV q8hrs x 7 doses, headache aborted
- Discharged home on amitriptyline

1st follow-up

- Headache recurrence at 48 hours > rx 5 day steroid taper
- Aborted with taper and recurred again, offered ONB, declined
- Plan: continue amitriptyline & refer for CBT

2nd visit

- Continuous headache now, side locked left side
- Also stabbing left occipital pain
- Plan: trial of ONBs + indomethacin

3rd visit

- Stabbing occipital neuralgia pain gone with q4wk ONBs
- Down to 20 days/month
- Ongoing severe side-locked headache
- Plan: trial of topiramate, though questioning diagnosis

4th visit

- No improvement on topiramate
- Questioned about semiology again…

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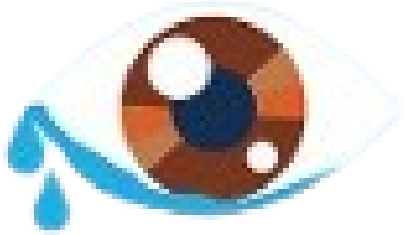
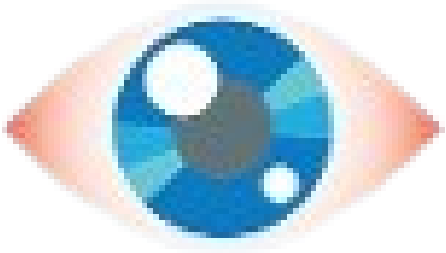
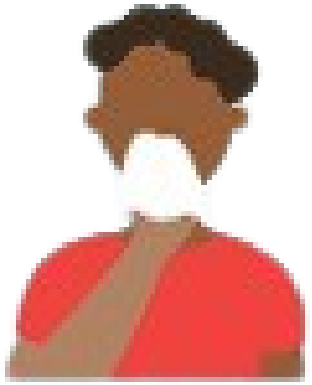
Well actually…







Images from: clevelandclinic.org

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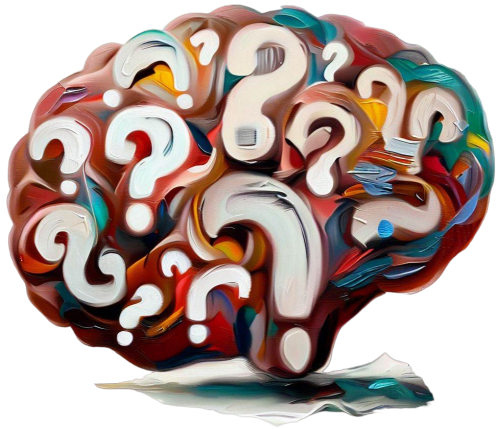
What's Going On?

What do you think his diagnosis is?

- Chronic migraine
- Chronic cluster headache
- Hemicrania continua
- Missed secondary headache
- Doesn't fit into a specific diagnostic category



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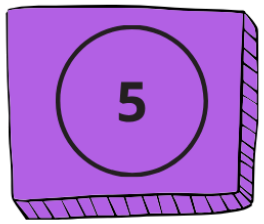
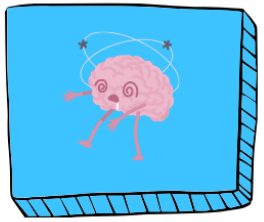
Diagnosis

Cluster
HEADACHE



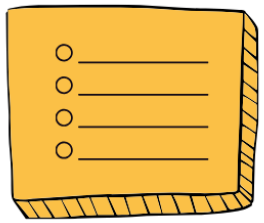
Criterion A

At least 5 attacks meeting other criteria



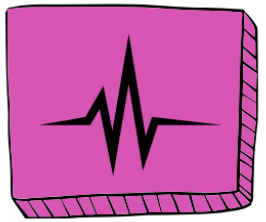
Criterion B

Severe or very severe unilateral orbital, supraorbital and/or temporal pain lasting 15-180 minutes



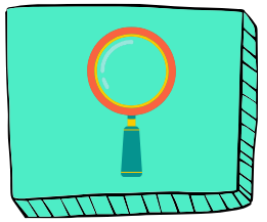
Criterion C

1. Either or both:
   a. ≥1 ipsilateral to the headache:
      - conjunctival injection and/or lacrimation
      - nasal congestion and/or rhinorrhoea
      - eyelid oedema
      - forehead and facial sweating
      - miosis and/or ptosis
   b. a sense of restlessness or agitation



Criterion D

Occurring once every other day to 8x/day



Criterion E

Not better accounted for by another diagnosis

Chronic cluster:
Occurring without a remission period or with remissions < 3 months, for ≥ 1 year

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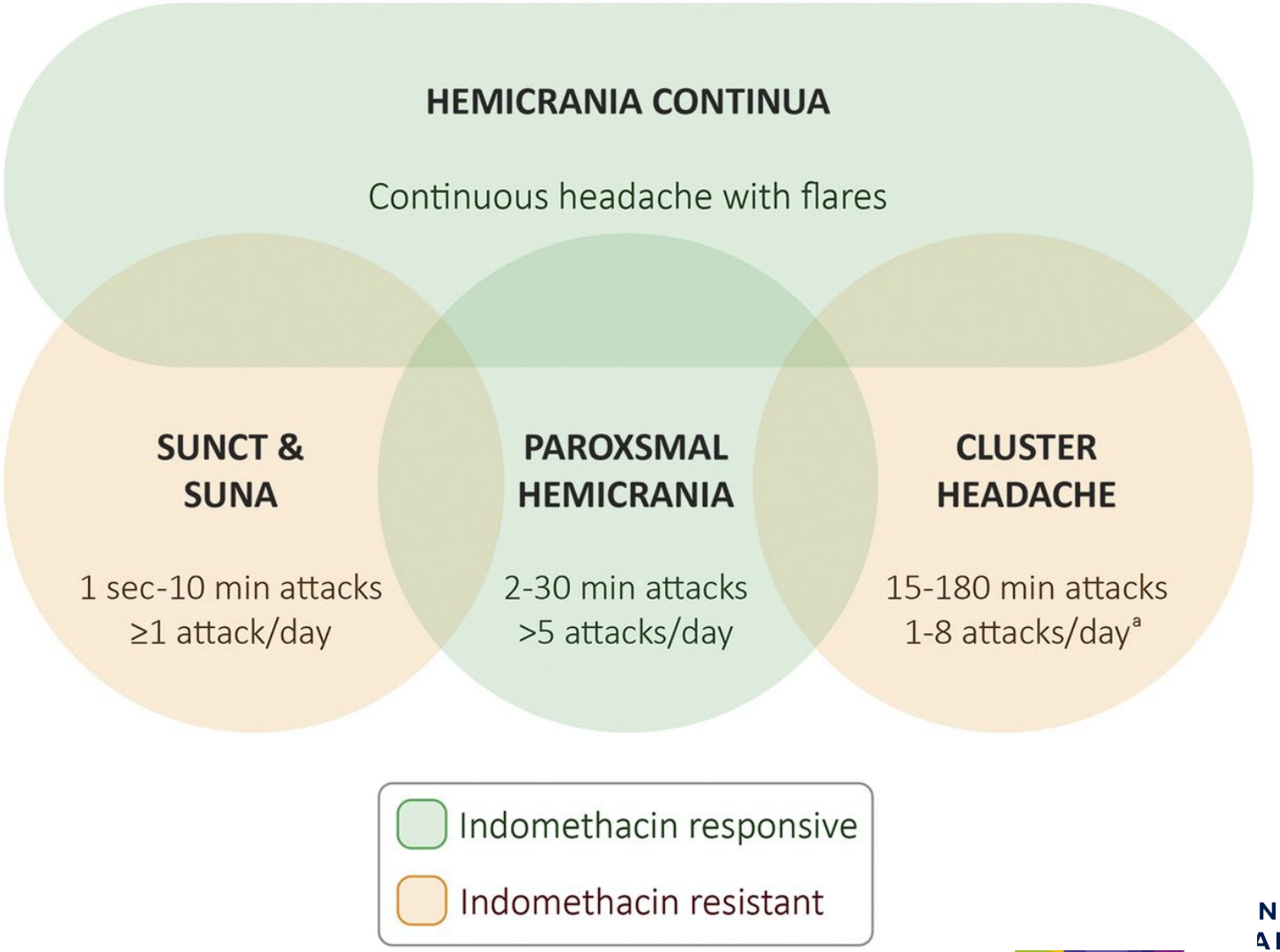
Trigeminal Autonomic Cephalalgias



Images from: Burish M. Continuum 2024;30(2):391-410; merisehat.pk.

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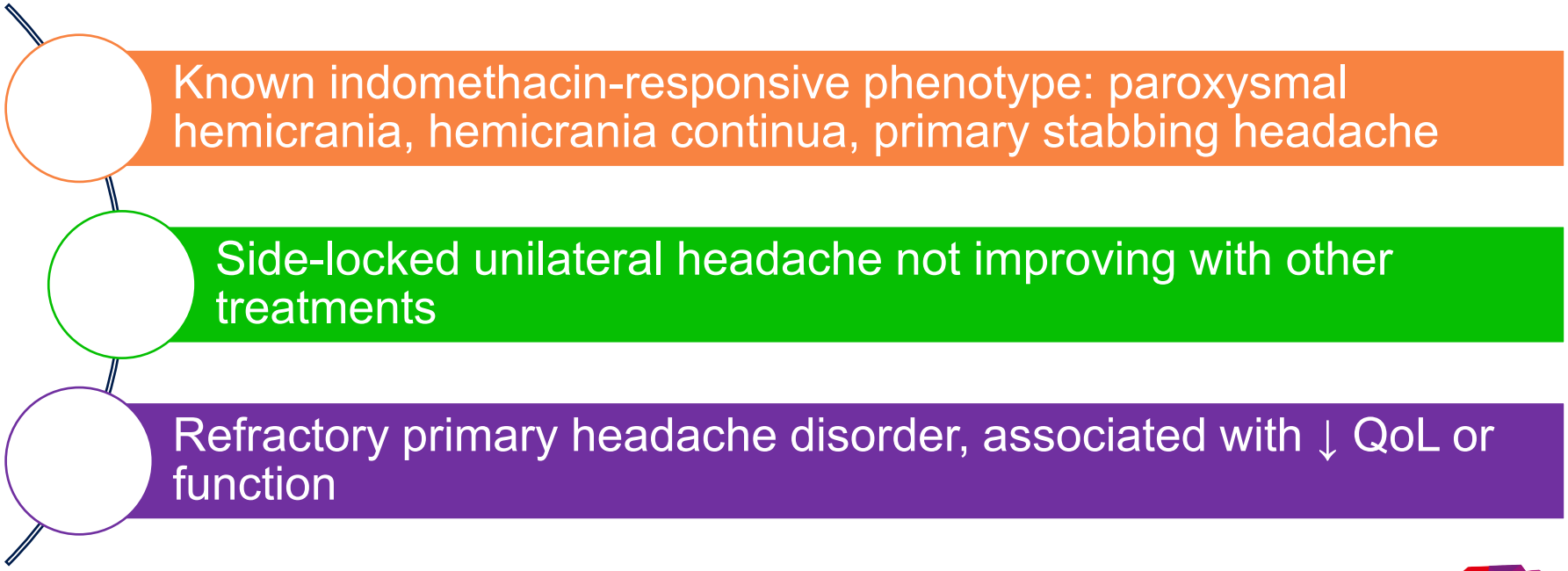
When to Try Indomethacin

- Indomethacin-responsive headaches are harder to diagnose in youth
- Consider indomethacin in youth if:



Orr SL. Continuum 2024;30(2):438-72; Myers et al. Cephalalgia 2022;793-797.

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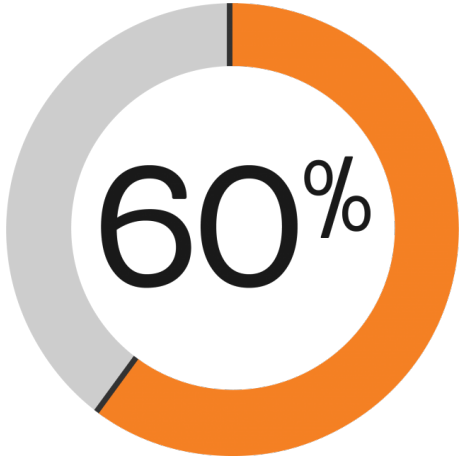
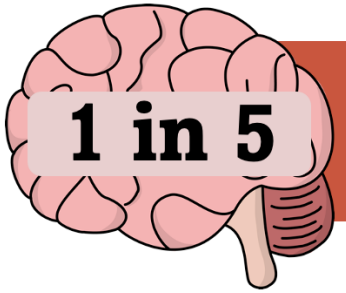
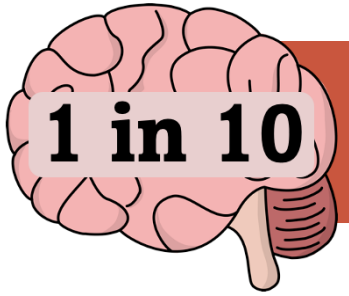
How Common is Cluster in Youth?



Cluster headache



~1 in 5 children and adolescents experience TTH



~1 in 10 children and adolescents experience migraine

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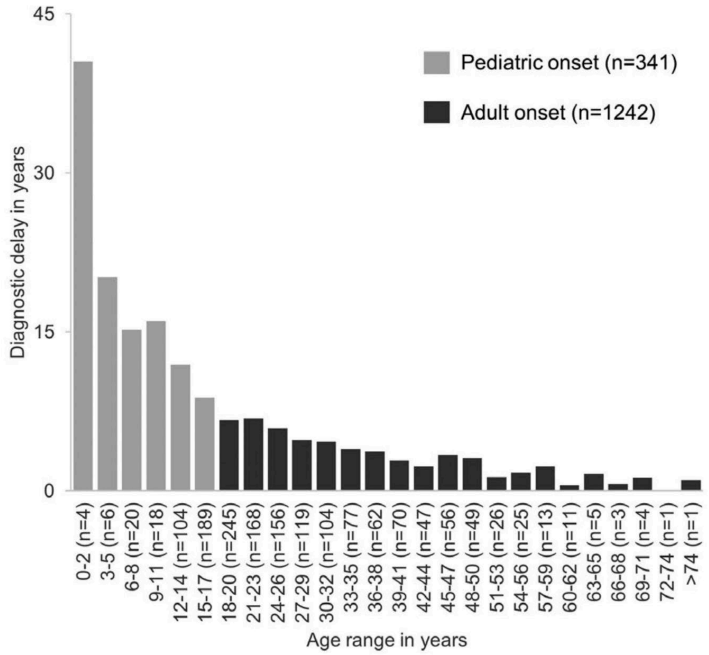
Onofri A et al. J Headache Pain 2023;24(1):8; Abu-Arafeh I et al. Dev Med Child Neurol 2010;52(12):1088–97; Orr SL et al. CJNS 2017;44(1)

Cluster Epidemiology in Youth

Cluster in youth

- Rarer than in adults (0.1% prevalence)
  - 125 cases of pediatric cluster published
  - Estimated pediatric prevalence 0.03%
  - 90% episodic, 10% chronic as in adults
- Delayed diagnosis
  - Average of 13 years delay to diagnosis
  - Only 15% of pediatric onset cases diagnosed <18y



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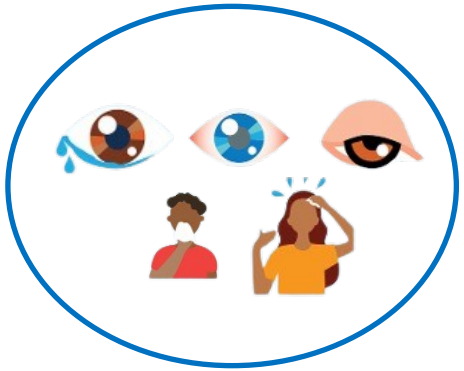
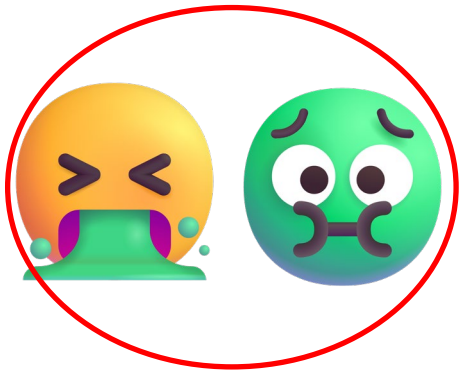
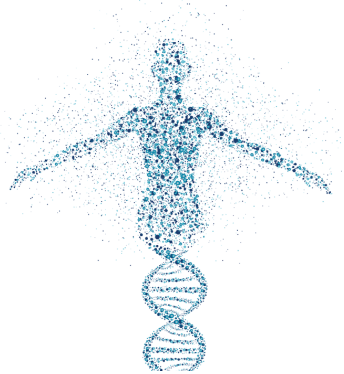
Zidverc-Trajkovic J et al. Cephalalgia 2014;34(9):664-670; Taga et al. Headache 2018;58:443-454; Schor LI et al. Headache 2021;61(10):1511-20; image from: canva.com.

Pediatric vs. Adult Cluster Headache

Clinical differences from adults







Zidverc-Trajkovic J et al. Cephalalgia 2014;34(9):664-670; Taga et al. Headache 2018;58:443-454; Schor LI et al. Headache 2021;61(10):1511-20; Images from: clevelandclinic.org; theepochtimes.com

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Management of Cluster

	ACUTE	PREVENTIVE
First line	• High flow O2 (12-15L/min) • Subcutaneous sumatriptan	• Verapamil • Lithium (ECH) • Greater occipital nerve blocks (bridge) • Steroids (bridge)
Second line	• Intranasal sumatriptan • Intranasal zolmitriptan • Non-invasive vagal nerve stimulation (ECH)	• Galcanezumab (ECH) • Topiramate (ECH) • Non-invasive vagal nerve stimulation (ECH) • Melatonin • Gabapentin

Robbins M. Headache 2016;56:1093-1106; May A et al. Cephalalgia 2023;30:2955-2979; Burish M. Continuum 2024;30(2):391-410.

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Learning Points

- When things aren't working, revisit the diagnosis
- Avoid anchoring bias from historical diagnoses
- TACs are rare in youth but important to recognize
  - Different Rx, with HC and PH absolutely responsive to indomethacin

Image from: canva.com

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THANK YOU
QUESTIONS?