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Headaches That Won't Go Away

Marissa Lagman-Bartolome, MD, FRCPC, FAHS

Disclosures:
Marissa Lagman-Bartolome, MD, FRCPC, FAHS

Consultant/Advisory Boards: AbbVie, TEVA, Lundbeck, Pfizer, Searchlight

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Royalties as Author: Canadian Pharmacists Association

I will discuss off label treatments in this presentation.

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Learning Objectives

Upon completion of this activity, learners will be able to

- Develop an approach to evaluation and diagnosis of chronic daily headache (CDH) in children & adolescents
- Review the differential diagnosis for CDH in the young
- Discuss the updates in diagnosis and management of new daily persistent headache (NDPH)

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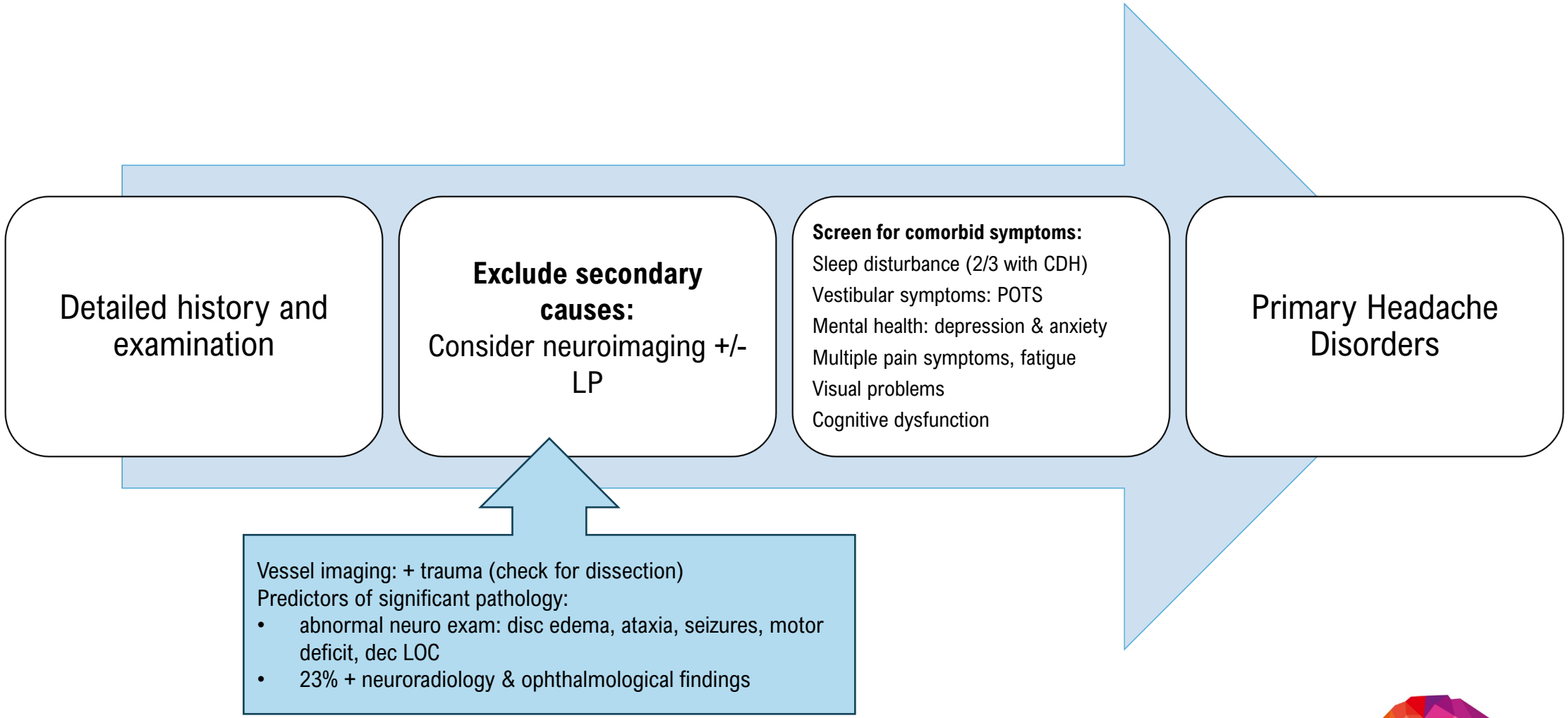
CASE: Ava

- 13 y/o young girl presenting with daily headaches

Evaluation of Chronic Daily Headache in Children



Kalika P, Monteith TS. Life.2024;14(6):724
Mack K. An approach to children with CDH. Dev Med Child Neurology. 2006;48:997-1000
Baron EP, Rothner AD. New daily persistent headache in children and adolescents. CNNR, 2010;10:127-132

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CASE: Aileen

13 yo previously healthy young girl with chronic daily and constant headache

Onset: Jan 22, 2024

Daily and constant
Mild pressure pain, bilateral frontal and maxillary

Associated symptoms: feeling unwell, nasal congestion

No migraine or autonomic features or fever

No missed school days or impact on daily function

Failed Medications:

Treated as sinusitis: referred to ENT, antibiotics, anti-histamine

Mg, B2, CoQ10

Current medications: no significant response

Acetaminophen & Ibuprofen (taken 1-2 times a month, helps decrease pain intensity)

Topiramate 50 mg BID

Investigations:

ENT work up (endoscopy): negative

Blood work: negative

Cranial CT (Jun 6, 2024): ethmoid & maxillary sinusitis (R?L)

Repeat cranial CT (Aug 30, 2024): minimal bilateral maxillary mucosal thickening

Cranial MRI & MRV: recommended

Examination:

unremarkable (including fundoscopy)

What is your differential diagnosis?

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Differential Diagnosis of Chronic Daily Headache in Children?

Chronic daily headache in children (1%)

SECONDARY

Medication overuse headache

Post-traumatic headache

Cerebral sinus venous thrombosis

Infection/Inflammatory

Intracranial hyper-/hypotension

Tumor vs vascular malformation

Chiari 1 malformation

Metabolic

Toxins

PRIMARY

Chronic tension type headache (CTTH): 5%[1]
Chronic migraine (CM): 1.75% (69% in specialty clinics)[2]

New daily persistent headaches (NDPH): 13.35%[3]

Hemicrania continua: case reports

Chronic cluster headache: rare

Chronic paroxysmal hemicrania: 9 cases

Nummular headache: case reports

Antonaci F, et al,J Headache and Pain.2014;15:15
Powers S, et al. JAMA, 2013;310(24):2622-2630
Baron EP, Rothner AD. Curr Neurol Neuroscience Report, 2010;10:127-132

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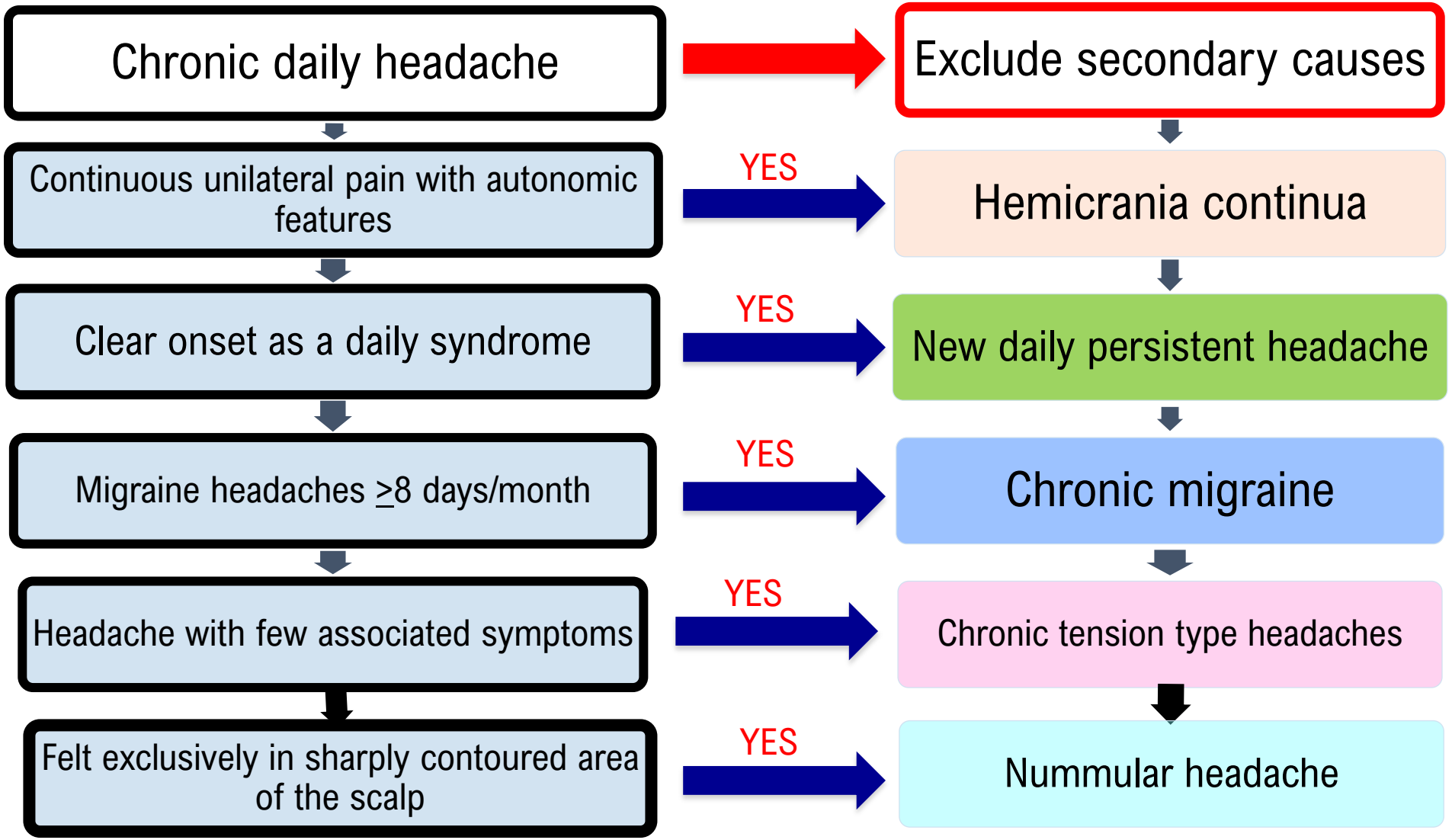
Approach to Chronic Daily Headache in Children



Overlap in children

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New Daily Persistent Headache (NDPH)

Focus on onset and duration

ICHD-3 diagnostic criteria	Aileen
A. Persistent headache fulfilling criteria B and C	✓
B. Distinct and clearly remembered onset, with pain becoming continuous and unremitting within 24 hours	✓
C. Present for > 3 months	✓
D. Not better accounted for by another ICHD-3 diagnosis.	✓

ICHD-3 Diagnostic Criteria, Cephalalgia, 2018

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Key Points: Pediatric NDPH

- Sudden, continuous and unremitting headache
- Very common in adolescents but underrecognized and unde
- **Recall and accurately describe onset**
- **Pain lacks characteristic features** (migraine-like or TTH-like)
- + previous headache history
- + precipitating event: 88%

If **NOT**, consider other diagnosis

Moderate-severe: 82-100%)
Bilateral: 53-89%
Pulsating: 41-90%
Migraine features: 73%

Should **NOT** worsen prior to onset of daily headache

febrile illness 43%; head injury 23%, cranial or extracranial surgery 10%)

Kalika P, Monteith TS. Life.2024;14(6):724
Peng KP, et al., Oxford textbook of headache disorders, 2020
ICHD-3, Cephalalgia, 2018

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NDPH in Children vs Adults

	PEDIATRIC	ADULT
Prevalence	0.9-35%	1.7-10.8%
Gender: F:M Earlier onset in females (10-35 yo) > males (30-50 yo)	1.8:1	2.5:1
Prior episodic headache history	80%	50%
Onset	Seasonal pattern (39% in Sept or Jan): link to return to school	Seasonal pattern (less common; September & March)
Significant overlap with chronic migraine	>>>>> 85-100%	>>

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Peng KP, et al., Oxford textbook of headache disorders, 2020

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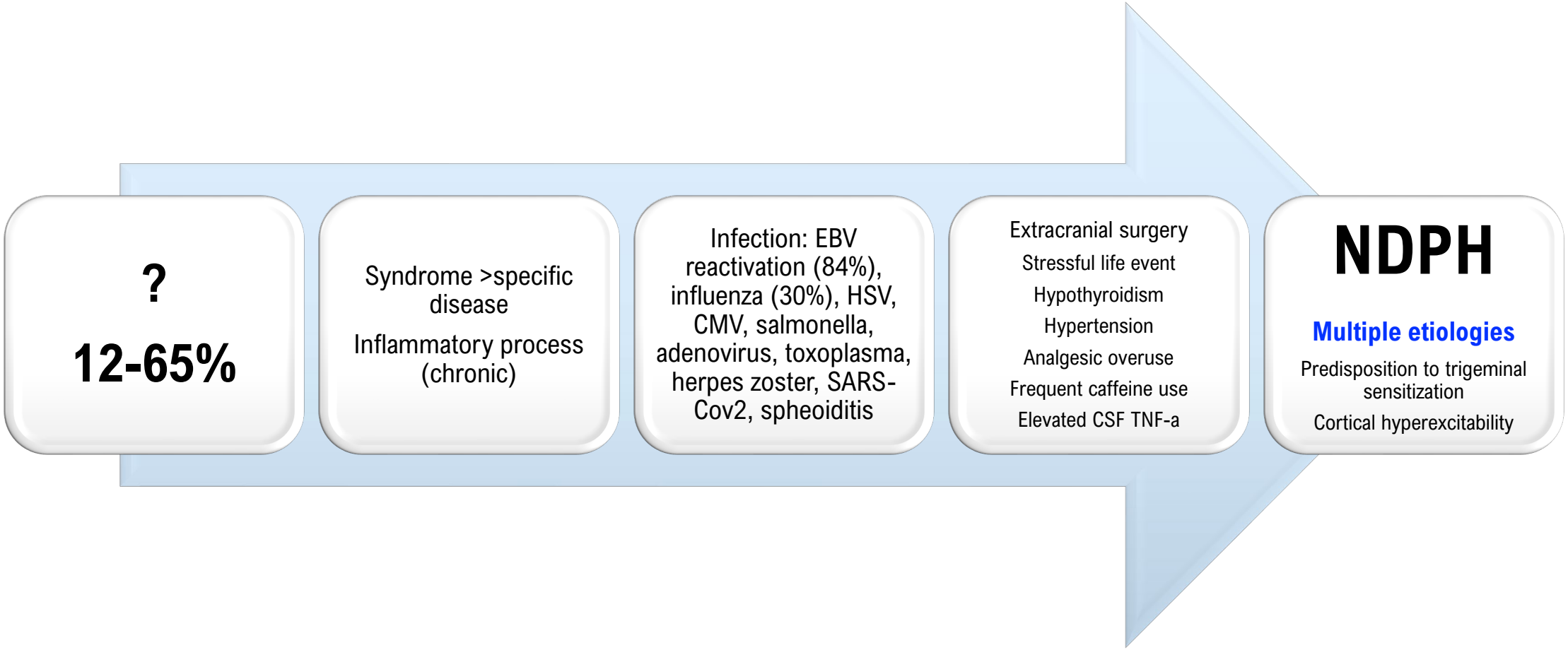
What Causes NDPH?



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How would you manage this patient?

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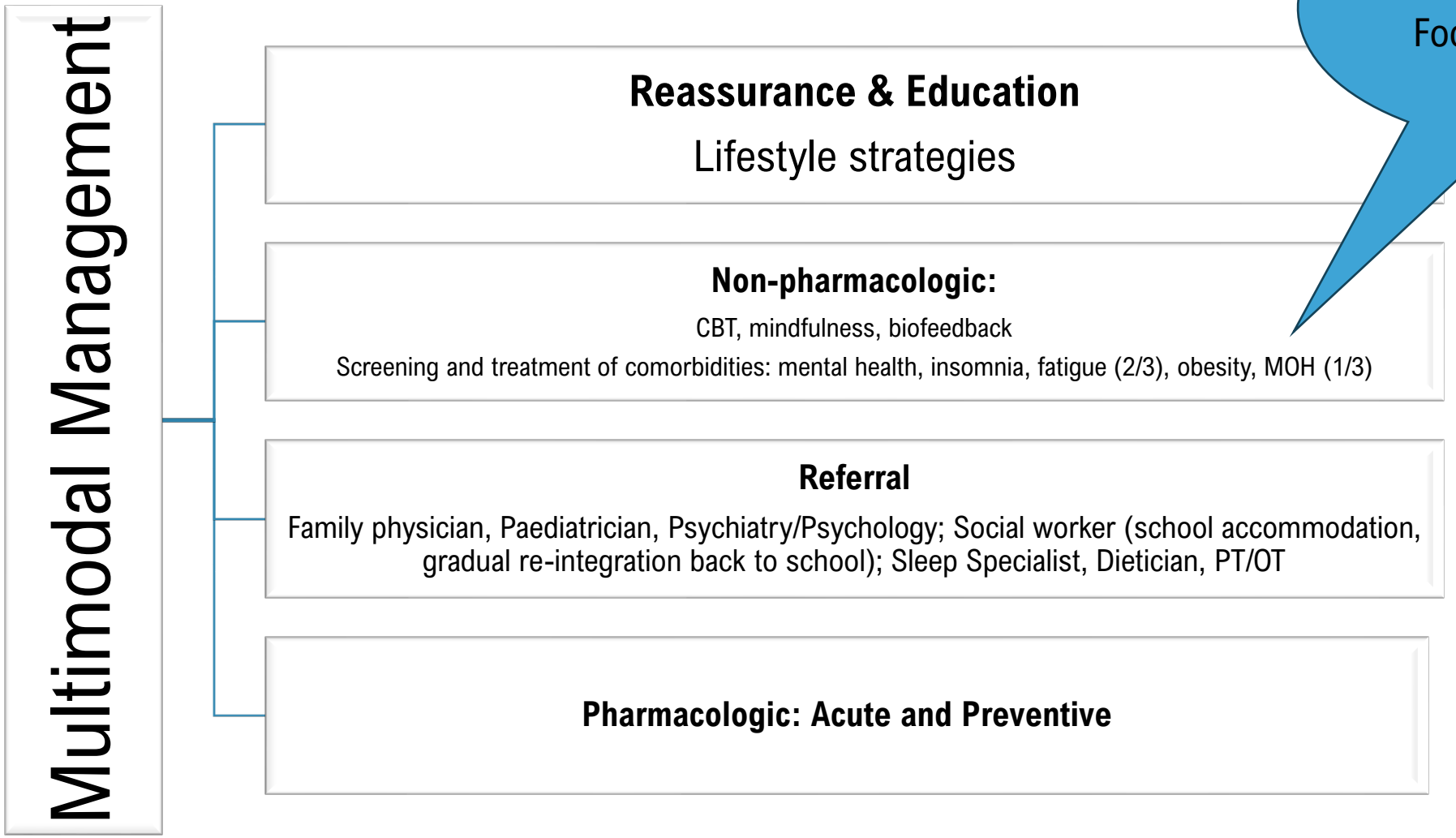
NDPH: Management



Discuss the goal/s of treatment: Focus on function not on pain

Baron EP, Rothner AD. CNNR, 2010;10:127-132
Kung E, et al, Cephalalgia, 2008;29:17-22

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NDPH: Pharmacologic Management (Children)

ACUTE

- Analgesics: Acetaminophen
- NSAIDs: Ibuprofen, Naproxen (avoid MOH)
- Tizanidine
- Anti-emetics: Ondansetron, Prochlorperazine, Promethazine
- Triptans: Rizatriptan, Sumatriptan+Naproxen
- Occipital nerve blocks (Lidocaine + Dexamethasone)
- IV DHE, Valproate
- Short term steroids (oral or IV)

PREVENTIVE

1. Established efficacy in pediatrics
2. Probable efficacy
3. Limited evidence

- Anti-depressant: Amitriptyline[1], Venlafaxine
- AEDs: Topiramate[2], Valproate, Gabapentin, Lamotrigine, Zonisamide
- Anit-HTN: Propranolol[2], Verapamil
- Anti-histamine: Cyproheptadine
- Onabotulinum toxin A (no studies in children)
- Anti-CGRP: Erenumab, Galcanezumab, Fremanezumab, Eptinezumab
- Doxycycline (high CSF TNF-a)

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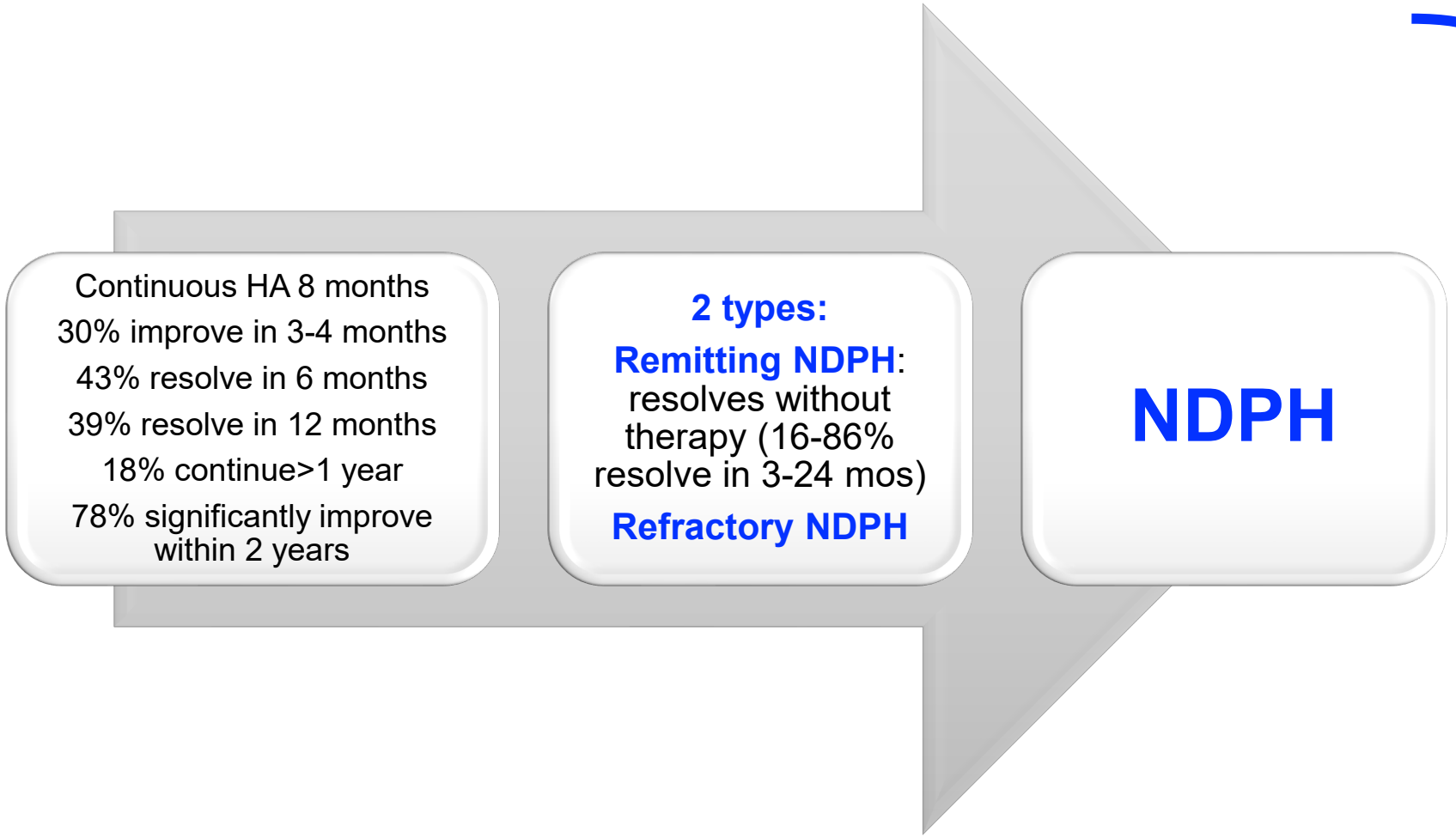
Will My Daughter's Headache Go Away?



Risk factors for longer duration:

- Migraine phenotype
- Lack of precipitating event
- Lack of prophylactic therapy

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Key Messages

- Chronic daily headache is relatively uncommon in youth causing significant disability and impact to the quality of life of these young patients.
- Evaluation includes a detailed history and examination to rule out secondary causes and may require neuroimaging and other investigations.
- NDPH is one of the most refractory primary headache disorders in the young but etiology remains unclear.
- Management of NDPH involves a multidisciplinary approach.

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THANK YOU