UCSF Benioff Children's Hospitals
Oakland | San Francisco

Headaches in Children and Teenagers

Treatments

Preventative Treatment

- It is important to encourage regularity of schedule: meals, hydration, regular sleep, and regular exercise.
- In those experiencing 4 or more headache days per month, preventive therapy may be indicated.
- Cognitive behavioral therapy combined with amitriptyline has been shown to decrease headache frequency in 10-17 year-olds with chronic migraine. Propranolol and topiramate may also decrease migraine frequency in these age groups.
- Placebo response rates in peds migraine prevention trials have been high, and active interventions have not always separated from placebo. Therefore, supplements with evidence of efficacy and a favorable side effect profile are reasonable to try before advancing to prescription medications. See table below for options.
- Generally takes 6-8 weeks to be able to tell if a preventive strategy is working. Consider counseling families not to give up too soon on a treatment.

Drug	Dosing	Notes
Riboflavin	<40 kg: 100 mg BID ≥40 kg: 200 mg BID	Take with food for best absorption. Colors urine orange.
Melatonin	3 mg at bedtime	Immediate release formulation
CoQ10	100 mg BID	
Magnesium	9 mg/kg/day, divided BID	May cause loose stools

Acute Treatment

- A migraine is easier to treat when the pain is still mild. It is generally best to take acute treatments as early on as possible, however, they can still help even if pain has become moderate or severe.
- "Medication overuse headache", i.e. frequent use of acute medications leading to worsening of headache pattern, is somewhat controversial. However, guideline-based limits are provided in the chart below.
- While acute treatments may address all migraine symptoms, some patients may also require an anti-emetic (e.g. ondansetron) to help treat nausea or vomiting.
- Non-oral routes of administration may be needed when there is nausea, vomiting, or rapid peak in pain intensity, and in those under the age 8 who cannot yet swallow pills.

To refer your patient to the UCSF Pediatric Headache Center:

Phone: 415-502-1914
Fax: 415-353-4485

UCSF Pediatric Brain Center

Headaches in Children and Teenagers

Treatments

NSAIDS

- Ibuprofen 10 mg/kg is an evidence-based first-line treatment. If ibuprofen is insufficient, consider changing to naproxen 10 mg/kg (available as a liquid at 125mg/5ml).
- Guidelines recommend limiting NSAID use to no more than 14 days per month

Triptans

- Rizatriptan MLT has been studied and, although evidence is strongest in adolescents, the FDA labeled use is down to age 6. Sumatriptan nasal spray has also been studied in this age group.
- Contra-indications: uncontrolled hypertension, history of stroke, MI, peripheral vascular disease, unusual aura—such as motor aura (i.e. hemiplegic migraine).
- A common side effect within the first few uses includes feeling a sense of tightening or flushing in chest, neck or jaw.
- Guidelines recommend limiting triptan use to 9 days per month.
- Sumatriptan tablets are typically used first as available and generic. They are generally Tier 1 on most insurance plans.
- Adult data suggests that combining NSAID with a triptan may increase efficacy.

Commonly Used Triptans with Suggested Use and Dosing

Drug	Available sizes	Dosing	Notes
Sumatriptan tablets	25, 50, 100 mg	<40 kg: 25 mg ≥40 kg: 50 mg	For larger adolescents, ok to increase to 100 mg if needed
Sumatriptan nasal spray	5, 20 mg	<40 kg: 5 mg ≥40 kg: 50 mg	Option for those who can not yet swallow pills
Sumatriptan/naproxen combined product*	10/60 and 85/100 mg	as above	FDA-labeled for 12-17 year-olds
Rizatriptan MLT	5, 10 mg	<40 kg: 5 mg ≥40 kg: 10 mg	FDA-labeled for 6-17 year-olds
Zolmitriptan nasal spray	2.5, 5 mg	<40 kg: 2.5 mg ≥40 kg: 5 mg	FDA-labeled for 12-17 year-olds
Almotriptan tablets	6.25, 12.5 mg	<40 kg: 6.25 mg ≥40 kg: 12.5 mg	FDA-labeled for 12-17 year-olds

*Instead of marketed combined product, administering consumption of one sumatriptan tablet and one naproxen tablet simultaneously is adequate.

Refer to a Neurologist

- If there is concern for secondary cause of headache
- If NSAIDs and a triptan trial have been insufficient for acute treatment
- If first-line preventive therapy has failed

To refer your patient to the UCSF Pediatric Headache Center:

Phone: 415-502-1914

Fax: 415-353-4485

UCSF Pediatric Brain Center