

Headache Algorithm

Initial Eval, Pg 1; Follow Up, Pg 2

Are there **Red Flags** in the history or on examination? (see right)

No

Are headaches happening >15d per month and totaling 4+ hours each headache day?

Yes

Using analgesics more than 4 doses per week for more than 3 months?

Yes

- Urgent MRI scan brain +/- contrast
- Neurology referral, consider urgent or speak to on-call

NO

Episodic Headache
Tension vs Migraine

No

Chronic Headache
Tension vs Migraine

Yes

Probable Analgesic Overuse Headache

Either immediately stop all analgesics x3 weeks, OR Naproxen QAM x1 week, then stop all x3 weeks

- Non-medical interventions
- Enforce good HA hygiene,
- Strongly consider preventative (See Pg 2)

What type?

Migraine? At least 2 from A, 1 from B
A) Moderate to severe pain (6-10/10)

- Throbbing or pulsating character
- Worse with moving, causing activity avoidance
- B) Nausea (with or w/o vomiting) - Light AND Sound sensitivity

Tension? Usually mild to moderate pain, may have light OR sound sensitivity, not significantly exacerbated by movement, usually frontal or temporal location.

What type?

<- Initial Treatment ->

Abortive treatment (migraine OR tension headache):

Non-medical tx: nap, ice pack, warm bath, massage

- Ibuprofen 10 mg/kg (max 800)
- Acetaminophen 15 mg/kg (max 1000 mg)
- Excedrin 1-2 tablets - for patients 10 yrs and up

Do not exceed 15 doses/month for analgesics

(See additional abortives for migraine, Pg 2)

All Headache patients:

- Review and enforce good Headache Hygiene (Pg 2), Screen for anxiety/depression
- Review appropriate abortive dose and use.
- Keep Headache Log/Diary; include: HA type, date/time of onset, duration, likely provoking factor, intervention (med), severity, associated symptoms
- Consider preventative for >2 HA per week (See Pg 2 for recommended preventatives)

Definite Red Flags

(imaging is indicated)

- Any new or unexplained neurological exam abnormality -- may include persistent vertigo, diplopia, confusion, weakness, numbness, ataxia, optic nerve swelling, head tilt.
- Neurocutaneous Disorder, such as NF or Tuberous Scl.
- Immunosuppression
- Waking in night with a NEW headache MORE than HALF the time a headache occurs.
- Persistent posterior location without neck/shoulder muscle tenderness.
- Morning vomiting

Relative Red Flags

(consider imaging)

- Recurrent HA age 4 years or under
- VP shunt and new headaches
- Waking from sleep with NEW headache <50% of time
- Atypical presentation, such as confusion, ataxia, somnolence, diplopia

Review and apply recommendations on Pg 1,
Revisit in 4-8 weeks.
Review following:
Headache log, triggers, med use, hygiene, red flags

Other Migraine Abortives:

If Pg 1 analgesics are not effective to improve migraine pain 50% or more:

<10 yrs of age:

- Maxalt, 5 mg

>10 yrs of age:

- Sumatriptan, 25-50 mg tab or 5-20 mg nasal spray
- Maxalt, 5-10 mg
- Use triptans no more than 9x per month
- May combine triptan with Naproxen or Ibuprofen

Additional Symptomatic Tx:

For nausea:

Zofran

- 8-15 kg: 2 mg
- 15-30 kg: 4 mg
- >30 kg: 4-8 mg

Reglan ****

- <6 yrs: 0.1 mg/kg
- 6-14yrs: 2.5-5 mg
- 14+ yrs: 10 mg

More than 1-2 headaches per week despite good Headache Hygiene?

Yes

No

Continue routine care:

- Enforce HA hygiene
- Appropriate abortive med use/dose
- HA trigger identification, avoidance

Additional Resources

- AAN Guideline on HA in Children and Adolescents:
<https://n.neurology.org/content/59/4/490>
- Headache Podcasts:
<https://www.rchsd.org/programs-services/neurology/resources/>
- *The Optimal Management of Headaches in Children and Adolescents.* Kacperski et al:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4710107/>
- National Headache Foundation Headache Tools:
<https://headaches.org/resources/#headache-tools>

Review abortive med use Strongly consider Preventatives

- Use 1-2 months minimum to determine efficacy.
- Choose based on HA type and side-effect profile.

Tension Headache Preventatives:

- **Magnesium*** Supplementation
- **Amitriptyline**** 10 mg QHS
- May increase to 50 mg QHS as tolerated in children 10 or less, to 75-100 mg daily in adolescents
- Can help sleep onset/maintenance

Migraine Preventatives: Either of the above OR

- **Riboflavin** 100 mg BID for kids under 10y, 200 mg BID over 10
- **Topiramate** 25-75 mg BID; May reduce appetite
- **Periactin***** 1-4 mg BID; May increase appetite

F/U 1-3 months, reassess

If **improved**, continue preventative for 3-4 months, and then wean. Restart preventative if needed. Continue to enforce HA hygiene.

If **not improved**, try alternate medical and non-medical therapy x 1-3 months. If no improvement, routine Neurology referral.

Headache Hygiene

All patients need counseling on these:

Sleep - Regular, sufficient

Meals - Do not skip Hydration - Drink enough so you need to urinate 2-3x /day at school

Caffeine - Avoid regular use, or after 4 pm

Exercise - Regular exercise helps prevent headaches

Stress - Most common headache trigger

Posture - Looking down, neck/shoulder soreness can trigger headaches

Heat - May trigger HA

Sunlight - Use hat/sunglasses when necessary

Foods - Occasionally, specific foods may trigger headaches: MSG, nitrates, artificial colors, cheese

*Amitriptyline contraindicated in long-QT syndrome

**Magnesium may cause diarrhea, GI discomfort

***Periactin best for younger kids (under 8-9)

****Be aware poss dystonic reaction, treat w/ Benadryl