Outpatient Headache Care Guideline

CHOC Children's

Inclusion criteria: children ≥ 3 yrs with headaches

Is urgent emergency department, neuroimaging, or Neurology consultation indicated?

Referral to ED if:

- New severe headache of acute onset ("thunderclap" headache)
- Headache with acute focal neurologic deficit
- Papilledema
- Suspicion of VP shunt obstruction/ infection

Consider imaging and Neurology consultation if:

- Dx of neurofibromatiosis or tuberuous sclerosis
- Immunosuppressed child
- Multiple awakening from sleep with headache or vomiting
- Headaches beginning shortly after arising from bed in the morning (i.e. positional headache)
- Syncope
- Chronic progressive headaches
- Persistently posterior headaches
- Chronic headaches in patients < 3-5 yrs old

- MRI of brain w/wo contrast is preferred study (pefer MRI obtained at CHOC Children's). If hx of concussion, SWI sequence should be included in MRI study
- Urgent referral to Neurology (requires phone call to neurologist of the day)

History of the following during headache but not on exam currently:

- Double vision
- Abnormal eye movements and/or nystagmus
- Unilateral ptosis or complete 3rd nerve palsy
- Motor or gait dysfunction or hemiplegia
- Hemisensory disturbance
- Confusion
- Vertigo

If currently present, send to ED

Characterize Headache Types

See page 2

Recommendations for All Headaches

Headache hygiene

- Regular bedtime and awakening time
- Regular daily exercise
- Good hydration
- Avoid known triggers

Non-medical interventions

- Ice pack
- Warm bath
- Nap in a cool, dark room
- Neck and back massage
- Take a walk

- If fails headache hygiene and at least one preventative treatment (min. 4 week trial), refer to Neurology.
- If responds to preventative treatment, continue for at least 3 months and re-evaluate

Approved Evidence Based Medicine Committee 5-18-16

Characterizing Headache Types

Migraine Headache

1. At least 5 attacks fulfilling features # 2-4
2. Headache attack lasting 1 to 72 hrs
3. Headache has at least 2 of the following features:
   - either bilateral or unilateral (frontal/ temporal) location
   - pulsating quality
   - moderate to severe intensity
   - aggravated by routine physical activities
4. At least 1 of the following accompanies headache:
   - nausea and/or vomiting
   - photophobia and/or phonophobia (may be inferred from their behavior)

See page 3 for interventions

Tension Headache

1. Headache lasting from 30 mins to 7 days
2. Headache has at least 2 of the following characteristics:
   - bilateral location
   - pressing/tightening (non-pulsating quality)
   - mild or moderate intensity
   -not aggravated by routine physical activity such as walking or climbing stairs
3. Both of the following:
   - no nausea or vomiting (anorexia may occur)
   - no more than one of photophobia or phonophobia

See page 4 for interventions

Cluster Headache

1. At least 5 attacks fulfilling criteria # 2-4
2. Severe or very severe unilateral orbital, supraorbital and/or temporal pain lasting 15-180 minutes if untreated
3. Headache is accompanied by at least one of the following:
   - Ipsilateral conjunctival injection and/or lacrimation
   - Ipsilateral nasal congestion and/or rhinorrhea
   - Ipsilateral eyelid edema
   - Ipsilateral forehead and facial sweating
   - Ipsilateral miosis and/or ptosis
   - A sense of restlessness or agitation

See page 4 for interventions

Analgesic Medication Overuse

1. Headache present on ≥15 days/ month
2. Use of one or more drugs that can be taken for acute and/or symptomatic treatment of headache, >3 times per week over a 3 month period
3. Headache has developed or markedly worsened during medication overuse
4. Headache resolves or reverts to its previous pattern within 2 months after discontinuation of overused medication

See page 4 for interventions

Sleep Apnea Related Headache

1. Typically a morning headache, bilateral, lasting < 4 hrs and not accompanied with nausea, photophobia, or phonophobia

See page 4 for interventions

Headache Treatment by Type

Migraine Headache

Abortive

Common OTC Analgesics

- Indicated for mild-moderate headache.
- NSAIDS tend to be the most effective. NSAIDS dosed at 10-15 mg/kg/dose and acetaminophen at 15-20 mg/kg/dose.
- Should not be used more than twice a week to prevent possible medication overuse headache and toxicity from the analgesic.

Sumatriptans

- Indicated for moderate-severe headache. Triptans are **contraindicated** in patients with cardiovascular disease, uncontrolled HTN, basilar migraine, and hemiplegic migraine.
- SUMAtriptan single dose for 6-11 years old is 25 mg. Single dose for ≥12 years old is 50 mg; can increase to 100 mg if needed. Max dose is 200 mg/24 hours.
- Typically third party payers require SUMAtriptan prior to using any other triptans
- Nasal SUMAtriptan can be used if patient has extreme nausea at onset of headache and inability to tolerate PO. Also useful if not responding well to SUMAtriptan tablets. Dosing guideline 6-12 years old 5-10 mg/ dose; >12 years old 10-20 mg/dose. No repeat dose.

Other Triptans

- Rizatriptan dosing is 5 mg < 40kg and 10 mg if > 40 kg

Preventive

Indications: frequent headaches)> 4x/month, , prolonged, severe or debilitating headaches, failure of abortive therapy, and high risk for medication overuse headaches

Amitriptyline

- should have a normal QT interval prior to use
- Gradually increase dose q 2 wks as tolerated to effect, up to 50 mg/day
- Paitents with depression may experience worsening of depression and/or emergence of suicidal ideation

Cyproheptadine

- Generally does not work for >= 10 yrs old. May be associated with appetite stimulation and weight gain

Topiramate

- Can casue workd finding difficulty and cognitive slowing, may be useful in patients with epilepsy

Verapamil

- May be useful in patients with hypertension. Monitor BP when initiating and with each dose increase.
- Use in patients > 30kg. Start on 40 mg tid and titrate to effect. Once on effective dose, switch to extended release formulation if available.

Menstrual migraine

- For female patients with migraines on oral contraceptives, a low dose (35 microgram ethinyl-estradiol or less) monophasic oral contraceptive should be used as there is increase risk in venous thromboembolism and ischemic stroke.
- The use of oral contraceptives to prevent migraine is not clearly supported in studies or in the medical literature.
- Triptans are contraindicated in patients with cardiovascular disease, uncontrolled HTN, basilar migraine, and hemiplegic migraine.

Non-Prescription Preventive Supplements

- Butterbur has good evidence in adult populations for headache prevention and is promising in the pediatric populations with open label studies. There is risk for hepatotoxicity if improperly prepared. Two widely used preparations that appear to be safe include Petadolex (manufacturer Weber & Weber) and Swanson Superior Herbs Butterbur Extract. May be useful in patients with allergic rhinitis/conjunctivitis. **Dosing: 75 mg oral daily**
- Riboflavin has moderate evidence in adult populations for headache prevention and is potentially effective in the pediatric population. **Dosing: 400 mg oral daily**

For all medication dosing, see order sets

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Analgesic Medication Overuse

- Enforce/reinforce headache hygiene
- Systematically wean off abortive medications. Prepare to feel worse in a couple of weeks
- reinforce non-medical interventions
- Keep a headache diary
- **Continue preventive therapy** if indicated as in Tension Headache Algorithm

Sleep Apnea Related Headache

- Polysomnography
- Refer to Pulmonary

Post Concussive Headache

- OTC Analgesics
- Non-prescription preventive supplements
- For isolated, persistent post-concussive headaches for more than 3 months, an MRI of the brain without contrast and with SWI sequence is the preferred neuroimaging study (prefer MRI obtained at CHOC Children's)
- Consider Neurology referral

References
Outpatient Headache Care Guideline

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