

# Migraine

## FAST FACTS

**10% of children and 26% of teenagers experience migraine**

**HA is one of the most common disorders in childhood**

## WHEN TO REFER

**If one or more red flags are present**, refer to ED and consider urgent imaging.

**If yellow flags are present**, refer for non-urgent imaging and further evaluation soon in the Neurology/Headache Center.

**If no flags are present but child meets ICHD criteria for migraine**, management and referral guidance varies. See page 2 algorithm for full details.

**For more information or to make a referral, call the Neurology referral line at 513-636-4222. For urgent issues, call Physician Priority Link® at 513-987-7997.**

**Migraine is a primary headache (HA) disorder characterized by recurrent moderate to severe head pain that is aggravated by routine activity.**

## ASSESSMENT

Perform thorough history, neurological and physical exam (HNPE). Discuss:

- Age of onset
- Pain location and description
- Severity, intensity (0–10 pain scale)
- Time of day, frequency
- Associated symptoms
- Presence of auras
- Triggers
- Impact of HA on functioning (e.g., missed school, activities)
- Frequency of pain medication use

### Diagnostic Criteria for Migraine:

At least five attacks fulfilling the following:

- HA attacks lasting 2–72 hours (untreated or unsuccessfully treated).
- HA has at least two of the following four characteristics:
  - Unilateral location (can be bilateral in children; usually frontotemporal)
  - Pulsating quality
  - Moderate or severe pain intensity
  - Aggravation by or causing avoidance of routine physical activity (e.g., walking or climbing stairs)
- During HA at least one of the following:
  - Nausea and/or vomiting
  - Photophobia and phonophobia

Consider whether symptoms are better understood as a primary HA (e.g., migraine with aura, chronic migraine, analgesic-overuse headache). The International Classification of Headache Disorders (ICHD) is available free online at ICHD.org and contains diagnostic criteria for primary and secondary HA disorders.

## HNPE (HISTORY, NEUROLOGICAL, PHYSICAL EXAM)

### RED FLAGS

**If one or more is present, refer to ED to rule out secondary HA and consider urgent imaging if:**

- Patient describes HA as “worst ever”
- Aura persists for more than an hour and new features (visual, motor, sensory)
- New-onset intractable vomiting upon awakening
- Abnormal neurological exam
- Provider concerns: e.g., fever with neck pain, fever in immune-deficient patient

### YELLOW FLAGS

**If one or more is present, refer for non-urgent imaging. Further evaluation will depend on imaging results.**

- Patient is younger than 6
- New onset HA
- HA frequently waking patient up from sleep
- No family history
- Severe headache induced by strenuous exercise
- Possibility of exercise-induced HA

## MANAGEMENT/TREATMENT

Refer to the algorithm on page 2 for management/treatment guidance.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children's.

# Migraine

## Patient Presents

### Assessment

Perform thorough history, physical and neurological examination. Discuss:

- Age of onset
- Pain description
- Location
- Severity
- Intensity (0–10 pain scale)
- Frequency
- Time of day
- Age of onset
- Associated symptoms
- Presence of auras
- Triggers
- Impact of HA on functioning (e.g., missed school, activities)
- Frequency of pain medication use

### History, Neurological and Physical Exam (HNPE) Red Flags

Refer to ED to rule out secondary HA if one or more red flags are present:

- Patient describes HA as “worst ever”
- Aura persists for more than an hour and new features (visual, motor, sensory)
- New-onset intractable vomiting upon awakening
- Abnormal neurological exam
- Provider concerns: e.g., fever with neck pain, fever in immune-deficient patient

Yes

Refer to ED; consider urgent imaging

No

But meets ICHD criteria for migraine (see reverse side for criteria)

### History, Neurological and Physical Exam (HNPE) Yellow Flags

Refer for non-urgent imaging if one or more is present. Further evaluation will depend on imaging results.

- Patient is younger than 6
- New onset HA
- HA constantly waking patient up from sleep
- No family history
- Severe headache induced by strenuous exercise

Yes

- Imaging within 2 weeks
- Contact neurologist on call via PPL with questions/concerns

### Less than 15 HA/month

Develop Acute Treatment Plan. Consider preventive treatment if high disability or more than 1 severe HA/week.

### More than 15 HA/month

Ensure patient is not in analgesic-overuse headache (using pain medication more than three times a week).

Develop Acute Treatment Plan and Preventive Treatment Plan (see below). If patient is not responding to recommended initial treatment by follow up appointment, refer to Neurology/Headache Center for further evaluation and management.

### Preventive Treatment Plan

- Consider referral to Behavioral Medicine and Clinical Psychology for CBT pain management skills training
- Consider starting amitriptyline, topiramate or nutraceuticals for HA prevention
- Follow up in 6–8 weeks to evaluate response to treatment
- Consider referral to Neurology/Headache Center if headaches are not improving or headaches disabling

Reinforce healthy habits:

- Hydrate: 64 oz/day; avoid caffeine; take water to school
- Exercise: 3–4 days/week for at least 30 minutes
- Meals: avoid skipping meals and eat healthy diet
- Sleep: 8–10 hours. Keep consistent sleep schedule
- Identify and manage stressors that can trigger headaches
- Instruct child to treat HA early before pain becomes severe

### Acute Treatment Plan

- Early HA treatment with NSAID/rehydrating fluids
- Limit acute pain medication use to 3 days/week to prevent medication overuse headache
- Treat all headaches with rehydrating fluids
- Track headaches (calendar or headache app)
- Reassure child/family importance of continuing to function (e.g., stay at school) when has headache
- Consider ED referral if not headache free after 2 doses of acute treatment

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.