

**Inclusion Criteria:** Patients age  $\geq 6$  years presenting with headache (HA) lasting 2-72 hours and HA pain score  $\geq 6$  with *at least one* of the following characteristics:

- (1) non-occipital location; (2) pulsating quality; or (3) aggravated by or causing avoidance of routine physical activity  
**AND at least one** of the following: nausea, vomiting, photophobia, phonophobia.

Patients must have a previous similarly described headache with relief from comparable medications [normal saline bolus, non-steroidal anti-inflammatory drug (NSAID), and/or anti-dopaminergic agent]

**Exclusion Criteria:** Age  $< 6$  years, abnormal neurologic exam, pregnancy, cardiovascular disease, uncontrolled hypertension, intracranial shunt, fever, malignancy, closed head injury/trauma within 24 hours, concussion within 2 months, seizure, concern for increased intracranial pressure/Cushing Triad, sudden-onset headache reaching maximum intensity within 5 minutes.

#### Initial Evaluation

##### Nursing Interventions to occur immediately upon rooming patient:

- Determine headache (HA) pain score using Wong-Baker FACES Pain Rating Scale or Numeric Pain Rating Scale<sup>1</sup>
- Lights and TV off; encourage not using electronic devices
- Determine and document last dose of NSAID and acetaminophen
- Determine and document last dose of any other medications given to abort headache
- Obtain POCT urine b-HCG for all females age 11 or greater

#### Initial Management

##### Medications:

- If  $\geq 12$  years old **and** not administered in past 2 hours **and** no contraindications ([Appendix A](#)):  
**Sumatriptan IN** 20 mg x1
- If dose appropriate NSAID has not been given with the last 6 hours:
  - Add **Ibuprofen PO** 10 mg/kg, max 600 mg, if able to tolerate PO
  - May defer if patient reports headache refractory to appropriate dosed NSAID at home during this headache episode

##### Other Considerations:

- Oral rehydration

##### Assessment:

- Reassess headache score<sup>1</sup> 45 minutes after completion of above interventions

#### <sup>1</sup> Headache Pain Score

- Use Wong-Baker FACES Pain Rating Scale or Numeric Pain Rating Scale
- Evaluate HA pain score 45 mins after completion of each intervention
- Discharge goal: repeat HA pain score is  $\leq 50\%$  of the initial pain score

HA score  $\leq 50\%$   
of the initial headache  
score?

NO

YES

Prior to PIV placement, consider bedside sphenopalatine block with lidocaine via nasal atomizer; based on patient and care team comfort level. Administer a max of 1 mL of **4% lidocaine without epinephrine via nasal atomizer**: if unilateral headache, full 1 mL to the ipsilateral nare; if headache is bilateral, 0.5 mL to each nare

- Access: Place PIV
- Medications/Hydration:
  - NS bolus IV 20 mL/kg (max 1 L) x1
  - Prochlorperazine IV 0.15 mg/kg (max 10 mg) x1
    - Consider diphenhydramine PO 1 mg/kg (max 50 mg/dose) to prevent extrapyramidal symptoms (dystonia, akathisia, tardive dyskinesia, slurred speech)
    - If patient develops extrapyramidal symptoms, administer diphenhydramine IV 1 mg/kg (max 50 mg/dose)
  - 6 hours after last NSAID: **Ketorolac IV** 0.5 mg/kg (max 15-30 mg) x1
- Assessment: Reassess headache score<sup>1</sup> 45 minutes post above interventions

HA score  $\leq 50\%$   
of the initial headache  
score?

YES

Proceed to  
discharge<sup>2</sup>

NO

##### Medication/Hydration:

- Repeat NS bolus 20 mL/kg IV x1 (max 1L)
- Magnesium sulfate IV 30 mg/kg (max 2g)

##### Assessment:

- Reassess headache score<sup>1</sup> 45 minutes after completion of above interventions

HA score  $\leq 50\%$   
of the initial headache  
score?

YES

Proceed to  
discharge<sup>2</sup>

NO

Admit to Med-Surg Unit

Consult Neurology to determine to which service patient should be admitted

#### <sup>2</sup>DISCHARGE:

##### Discharge Criteria:

- Pain from headache  $\leq 50\%$  of the initial HA pain score
- Tolerating PO

##### Discharge Instructions:

- For  $\geq 12$  years old: If patient improved with IN sumatriptan, consider discharging with 3 doses of oral sumatriptan: 50 mg/dose (may be repeated once during a 24 hour period, 2 hrs after initial dose).
- Establish plan for patient to follow-up with PCP within 48 hrs
- Referral to Psychology if:
  - Symptoms ongoing for 3 or more months
  - Symptoms consistently preventing participation in usual life activities (such as school)
- Referral to Neurology if:
  - Symptoms ongoing for 3 or more months despite pediatrician follow-up
  - Concern for alternative diagnosis
  - Suspected migraine with focal findings
  - Suspected/established coexisting primary neurologic issue (i.e. epilepsy)
- Referral to Pain Team Headache Clinic if:
  - Symptoms ongoing for 3 or more months, particularly if patient has history of chronic pain or if patient would like to discuss the possibility of nerve blocks, trigger point injections, and/or onabotulinumtoxin A injections as part of their management plan (however, not all patients are eligible for this)
- If patient is 22 years or older:
  - Advise PCP referral to Adult Headache Center at Hartford Healthcare or Uconn Neurology

**CLINICAL PATHWAY:****Acute Management of Migraine and Migraine-Like Headache****Appendix A: Contraindications to Sumatriptan**

THIS PATHWAY  
SERVES AS A GUIDE  
AND DOES NOT  
REPLACE CLINICAL  
JUDGMENT.

**Appendix A: Contraindications to Sumatriptan**

- Sumatriptan administered < 2 hours prior
- Already received max daily dose of sumatriptan

Weight (kg)	Max Dose of IN Sumatriptan per 24 hours (mg)
<Less than 30 kg	10 mg
30-39.9 kg	20 mg
40 kg and above	40 mg

- Any triptan received within 2 hours or they have already received the max 24 hour dosage of any triptan
- Use of ergotamine derivatives within the last 24 hours
- Ischemic heart disease
- Prinzmetal's angina
- Peripheral vascular disease
- Uncontrolled HTN
- Stroke
- Severe hepatic impairment
- Pregnancy
- History of organ transplant
- Use of MOA-I in past 2 weeks

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