Evaluation and Treatment of Children with a Migraine Headache in the ED

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Medication	Dose	Route	Max
Ketorolac	0.5 mg/kg	IV	30 mg
Ibuprofen	10 mg/kg	PO	600 mg
Benadryl	1 mg/kg	PO or IV	25 mg
Prochlorperazine	0.2 mg/kg	PO or IV	10 mg
Valproic Acid	15 mg/kg	IV	1000 mg
Magnesium	50 mg/kg	IV	2000 mg
Methylprednisolone	2 mg/kg	IV	200 mg

Discharge[3]
- Consider home medication regimen
- Provide education on SMART habits
- Counsel about risk of medication overuse
- Arrange follow up with neurology & PMD

Child >5 yo with Migraine Headache

First-Line Treatment Bundle (use order set - step 1 - under complaint based panels):

1. **PO Ibuprofen or IV Ketorolac***
*Ketorolac may be given 1 hour after last NSAID dose if no history of renal insufficiency

2. PO or IV Prochlorperazine - pretreat with PO or IV Benadryl

3. PO fluids or IV NS Bolus

Reassess in 45 min[1]

Sufficient Improvement[2]?

yes → Discharge[3]

no → Second-Line Treatment (use order set - step 2):
IV Magnesium - infused over 30 minutes

Reassess in 45 min[1]

Sufficient Improvement[2]?

yes → Discharge[3]

no →
1. Consult Neurology

2. Consider Third-Line Treatment (use order set - step 3):
IV Valproic Acid *Avoid in liver disease
IV Methylprednisolone

3. Disposition - Admit[4] vs Discharge[3]

Inclusion Criteria:
- Child ≥ 5 years old
- Migraine as defined by International Classification of Headache Disorders – Third Edition

Exclusion Criteria:
- Child <5 years old
- Pregnancy
- Altered mental status
- Focal neurological findings
- Systemic symptoms (fever, vomiting, weight loss)
- Other red flag symptoms (occipital, sudden onset, onset in sleep/ early morning, headache triggered by Valsalva, progressive or new headache)
- High risk populations (sickle cell, coagulopathy, immunocompromised)

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Resources:

1. Reassess in 45 minutes after each intervention – check vital signs, neurological exam, pain scale, resolution of most bothersome symptoms.
2. Sufficient improvement can be defined as: improvement in pain score by 1-point, functional improvement, patient reported subjective improvement, complete resolution of pain, and/or return to baseline pain level.
3. Discharge Plan
    a. Medications:
        i. If the patient is followed by pediatric neurology and has a home headache plan, then follow home headache plan.
        ii. If the patient is not followed by pediatric neurology, then consider home medication regimen:
            1. Naproxen 8-10 mg/kg/dose (max 500mg) PO BID for 3-5 days
            2. Metoclopramide 0.2mg/kg/dose (max 10 mg) PO Q8H PRN for nausea/ vomiting
            3. Steroid taper starting at 2 mg/kg/day for 5 days to prevent recurrence
    b. Provide education on SMART habits: Sleep, Meals, Activity, Relaxation, Triggers.
    c. Limit use of Tylenol and Ibuprofen to ≤14 days per month.
    d. Arrange follow up with Neurology and PMD.
4. Admission criteria: failing to respond to standard ED treatment, atypical or red flag symptoms, and/or associated seizures.

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