Migraine in Children

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Pediatric Neurology
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Headaches in Children

• One of the most common concerns reported by children
  – 3% for children age 3-7 years
  – 4-11% for children age 7-11 years
  – 8-23% for children age 11-15 plus years

• After evaluation – most are left untreated/undertreated
Practice Parameter: Pharmacological Treatment of migraine headache in children and adolescents

Report of the Quality Standards Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society

D. Lewis, MD; S. Ashwal, MD; A. Hershey, MD; D. Hritz, MD; M. Yonker, MD; S. Silberstein, MD

Published in Neurology 2004;63:2215-2224
### Class I
Prospective, randomized, controlled clinical trial with masked outcome assessment, in a representative population. Where: primary outcome(s) is/are clearly defined, exclusion/inclusion criteria are clearly defined, adequate accounting for dropouts and crossovers with numbers sufficiently low to have minimal potential for bias relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences.

### Class II
Prospective matched group cohort study in a representative population with masked outcome assessment that meets criteria above OR a RCT in a representative population that lacks one of above criteria.

### Class III
All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome assessment is independent of patient treatment.

### Class IV
Evidence from uncontrolled studies, case series, case reports, or expert opinion.

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>Established as effective, ineffective or harmful for the given condition in the specified population.</td>
</tr>
<tr>
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Recommendations
Acute Management

- Ibuprofen is effective and should be considered for the acute treatment of migraine in children. (Class I, Level A)

- Acetaminophen is probably effective and should be considered for the acute treatment of migraine in children. (Class I, Level B)

- Sumatriptan nasal spray is effective and should be considered for the acute treatment of migraine in adolescents. (Class I, Level A)

- There is no supporting data for the use of any oral “triptan” preparations in children or adolescents. (Class IV, Level U)

- There is inadequate data to make a judgment on the efficacy of subcutaneous Sumatriptan. (Class IV, Level U)
Flunarizine is probably effective for preventive therapy and can be considered for this purpose but it is not available in the United States. (Class I, Level B)

There is insufficient evidence to make any recommendations concerning the use of: (Class IV, Level U)
  - Cyproheptadine
  - Amitriptyline
  - Divalproex sodium
  - Topiramate
  - Levetiracetam

Recommendations cannot be made concerning propranolol or trazodone for preventive therapy as the evidence is conflicting. (Class II, level U)

Pizotifen and nimodipine (Class I, Level B) and clonidine and timolol (Class II, Level B) did not show efficacy and are not recommended
Pearls for the primary care provider
## Evidence based medicine

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First order of business

- Primary Headaches
  - Tension Type
  - Migraines
  - * Chronic Daily
- Secondary Headaches
  - Brain Tumors
  - Strokes
  - Meningitis/Encephalitis
  - Increased ICP (Pseudotumor cerebri)
  - Analgesic Overuse
  - Head and neck trauma
  - General medical conditions
  - Intercurrent systemic illness
  - Psychiatric disorder
History pearls

• Ability to describe symptoms are limited by age

• Observe clues:
  – Child appears unwell
  – Pale
  – Vomits
  – Bangs or hold his or her head
  – Sleep helps
  – Dark and quiet environments helps
  – Stereotypical episodes

“PRIMARY GOAL IS TO ELIMINATE ANY REGS FLAGS”
History pearls – reassuring points

• Long-term history
• Possible triggers: caffeine intake, irregularity of meals, sleep habits, stressors, etc
• + Family history for migraines
• Benign overall neurological and developmental history

“PRIMARY GOAL IS TO ELIMINATE ANY REGS FLAGS”
History pearls – Red Flags

- Headaches that reach full intensity rapidly
- Abnormal neurological signs
- Known coexisting systemic and/or neurological disorders
- Worse upon standing (thinks about POTS)
- Intercurrent illness (febrile or not)
- “Clear progression in intensity and frequency”

“PRIMARY GOAL IS TO ELIMINATE ANY REGS FLAGS”
History pearls

• Brain tumor’s headaches:
  – Worse with Valsalva and exertion
  – May awake patient from sleep

• Migraine headaches:
  – Worse with Valsalva and exertion
  – May awake patient from sleep

“PRIMARY GOAL IS TO ELIMINATE ANY REGS FLAGS”
Neurological exam pearls

- Head circumference
- Neurocutaneous stigmata
- Meningeal signs
- Altered mental status
- Papilledema
- Ataxia; weakness; abnl DTRs;

“…not sure/concerned about the history and exam….neurological evaluation….outpatient versus inpatient…”
Prevalence of a brain tumor in patients with a normal neurological examination and a headache history of greater that 6 months:

0.01% to 0.4%

“PRIMARY GOAL IS TO ELIMINATE ANY REGS FLAGS”
Prevalence of a brain tumor in patients with a headache history of less than 6 months and either; sleep-related headache, vomiting, confusion, absence of visual aura, no family history of migraine, or abnormal neurologic exam:

4\% 

“PRIMARY GOAL IS TO ELIMINATE ANY REGS FLAGS”
Pearls – Imaging

- Key points to evaluate:
  - Younger than 6yo
  - “red flags” on history and exam

- Key points “MRI versus CT”:
  - Radiation exposure
  - Need for sedation
  - Need for contrast
  - Urgency

- Key points “what about”:
  - Head and neck films
  - CTA, MRA, MRV, MRS,
    …OMG what are those for?...

“…not sure/concerned about the history and exam….neurological evaluation….outpatient versus inpatient…”
Pearls – Further testing

Infectious
Autoimmune
Inflammatory
Vascular
Neoplastic
Increased ICP
Psychiatric

“…The sky is the limit”...

“…not sure/concerned about the history and exam….neurological evaluation….outpatient versus inpatient…”

Spinal Tap
...Lets talk about medications...
…acute medication management…
Over the Counter

- Ibuprofen
- Acetaminophen
- Mixed formulations

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| Acetaminophen | Chewable tablet: 80 mg  
Oral disintegrating tablet: 80 mg, 160 mg  
Tablet: 325 mg, 500 mg  
Liquid: 160 mg/5 mL, 500 mg/5 mL | 15 mg/kg/dose     | None            |
| Ibuprofen   | Chewable tablet: 100 mg  
Tablet: 100 mg, 200 mg, 400 mg, 600 mg, 800 mg  
Liquid: 100 mg/mL, 40 mg/mL | 10 mg/kg/dose     | 6 mo            |
| Ketorolac   | IV  
Table: 10 mg  
IV: 0.5 mg/kg/dose (maximum 15 mg)  
Oral: 1 mg/kg/dose (maximum 10 mg) | 2 y              |                 |
| Naproxen    | Tablet: 200 mg, 250 mg, 275 mg, 375 mg, 500 mg, 550 mg  
Liquid: 125 mg/5 mL | 5 mg/kg/dose to 10 mg/kg/dose | 2 y            |
| Metoclopramide | IV  
Orally disintegrating tablet: 5 mg, 10 mg  
Table: 5 mg, 10 mg  
Liquid: 5 mg/mL | 0.2 mg/kg/dose (maximum 10 mg) | 2 y            |
| Prochlorperazine | IV  
Table: 5 mg, 10 mg  
Suppository: 25 mg | 0.15 mg/kg/dose (maximum 10 mg) | 8 y for migraine, 2 y for other indications |
| Almotriptan | Tablet: 6.25 mg, 12.5 mg  
12.5 mg | 12.5 mg | 12 y           |
| Rizatriptan | Orally disintegrating tablet: 5 mg, 10 mg  
Table: 5 mg, 10 mg | Patients >40 kg: 5 mg  
Patients >40 kg: 10 mg | 6 y            |
| Sumatriptan | Tablet: 25 mg, 50 mg, 100 mg  
Nasal spray: 5 mg, 20 mg  
Subcutaneous injection: 4 mg, 6 mg | Oral: <12 y: 2.5 mg  
>12 y: 5 mg  
Oral: patients <20 kg to 29 kg  
20 kg to 29 kg  
patients <40 kg: 20 mg  
Subcutaneous: 0.06 mg/kg/dose | 8 y for migraine, 5 y for other indications |
| Zolmitriptan | Orally disintegrating tablet: 2.5 mg, 5 mg  
Table: 2.5 mg, 5 mg  
Nasal spray: 5 mg | <12 y: 2.5 mg  
>12 y: 5 mg | 6 y            |
| Dihydroergotamine | IV  
Nasal spray: 4 mg/mL (each spray = 0.5 mg)  
IM injection: 1 mg/mL | IV: Patients <9 y or <25 kg  
0.5 mg/dose; patients <9 y or <25 kg: 1 mg/dose  
Intranasal: Patients >12 y: 0.5 mg, repeat in 15 min every 8 h for 3 d; patients >12 y: 1 mg, repeat in 15 min every 8 h for 3 d | 6 y            |

  * Data from O’Brien HL, et al. Can Treat Options Head. 2006.  ** www.springerlink.com/content/9657848ud252xw07/7M56jWJF.
  * Data from Leo-Drugs. 2006.
- It’s an option
- Use it after the aura
- Observe contraindications
- Use in young kids OFF LABEL
- Dosage:
  - < 12yo: 25;50mg
  - > 12yo: 50;100mg
- Reassess in 2 hours
- May repeat once in a day
- Nasal spray is a good option
  - 20-40kg: 10mg
  - > 40kg: 20mg
Common Medication Choices for Childhood Headaches

Abortive: (Taken as needed to stop a headache)
- Advil or Motrin (Ibuprofen)
- Aleve (Naproxen)
- Tylenol (Acetaminophen)
- Excedrin (Aspirin, Acetaminophen, Aspirin)

Prescription:
- Maxalt (Zolmitriptan, Dihydroergotamine, Acetaminophen)
- Migranal Nasal Spray
- Palmenta Suppository (Permethazine)
- Serotonin Agonists (Tizanidine; use with caution prior to adolescence/insurance may not cover)
  - Amerge: Provo, Maxalt, Zomig
  - Axert: Index, Relpax

General Rules of Abortive Medications:
- Give the right dosage based on child’s weight
- Give as soon as possible after a headache begins
- Avoid daily use (no more than 3 times a week)
- Use with relaxation techniques

Preventive: (Taken daily to prevent a headache)

Prescription:
- Anti-Seizure Medications:
  - Depakote (Valproic Acid)
  - Topamax (Topiramate)
- Anti-Depressants:
  - Elavil (Amoxapine)
  - Pamelor (Nortriptyline)
- Anti-Hypertensive:
  - Lisinopril (Propranolol)

General Rules of Preventive Medications:
- Must take every day, usually at bedtime
- Must take at least 1 month to see benefit
- Usually given for many months (e.g. school year)
- Note caution regarding use in children
- Caution if “at risk” for pregnancy
- Do not take extra doses at time of headache

Good Websites About Childhood Headache:
www.headaches.org
www.ahead24.org

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<tr>
<td>Acetaminophen</td>
<td>Chewable tablet: 80 mg Oral disintegrating tablet: 80 mg, 160 mg Table: 325 mg, 500 mg Liquid: 160 mg/5 mL, 500 mg/5 mL</td>
<td>15 mg/kg/dose</td>
<td>None</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>Chewable tablet: 100 mg Table: 100 mg, 200 mg, 400 mg, 600 mg, 800 mg Liquid: 100 mg/mL, 40 mg/mL</td>
<td>10 mg/kg/dose</td>
<td>6 mo</td>
</tr>
<tr>
<td>Ketorolac</td>
<td>IV Table: 10 mg IV: 0.5 mg/kg/dose (maximum 15 mg) Oral: 1 mg/kg/dose (maximum 10 mg)</td>
<td></td>
<td>2 y</td>
</tr>
<tr>
<td>Naproxen</td>
<td>Tablet: 220 mg, 250 mg, 275 mg, 375 mg, 500 mg, 550 mg Liquid: 125 mg/5 mL</td>
<td>5 mg/kg/dose to 10 mg/kg/dose 2 y</td>
<td></td>
</tr>
<tr>
<td>Metoclopramide</td>
<td>IV Orally disintegrating tablet: 5 mg, 10 mg Table: 5 mg, 10 mg Liquid: 5 mg/5 mL</td>
<td>0.2 mg/kg/dose (maximum 10 mg) 2 y</td>
<td></td>
</tr>
<tr>
<td>Prochlorperazine</td>
<td>IV Table: 5 mg, 10 mg Suppository: 25 mg</td>
<td>0.15 mg/kg/dose (maximum 10 mg) 8 y for migraine, 2 y for other indications</td>
<td></td>
</tr>
<tr>
<td>Almotriptan</td>
<td>Tablet: 6.25 mg, 12.5 mg</td>
<td>12.5 mg 12 y</td>
<td></td>
</tr>
<tr>
<td>Rizatriptan</td>
<td>Orally disintegrating tablet: 5 mg, 10 mg Table: 5 mg, 10 mg</td>
<td>Patients &lt;40 kg: 5 mg Patients &gt;40 kg: 10 mg 6 y</td>
<td></td>
</tr>
<tr>
<td>Sumatriptan</td>
<td>Tablet: 25 mg, 50 mg, 100 mg Nasal spray: 5 mg, 20 mg Subcutaneous injection: 4 mg, 6 mg</td>
<td>Oral: &lt;12 y: 50 mg, &lt;12 y: 100 mg Intraoral: patients 20 kg to 39 kg: 10 mg patients &gt;40 kg: 20 mg Subcutaneous: 0.06 mg/kg/dose Oral: 8 y Intraoral: 5 y Subcutaneous: 6 y</td>
<td></td>
</tr>
<tr>
<td>Zolmitriptan</td>
<td>Orally disintegrating tablet: 2.5 mg, 5 mg Table: 2.5 mg, 5 mg Nasal spray: 5 mg</td>
<td>&lt;12 y: 2.5 mg &gt;12 y: 5 mg 6 y</td>
<td></td>
</tr>
<tr>
<td>Dihydroergotamine</td>
<td>Oral spray: 4 mg/mL (each spray = 0.5 mg) IM injection: 1 mg/mL</td>
<td>IV: Patients &lt;9 y or &lt;25 kg: 0.5 mg/kg/dose; patients &lt;9 y or &lt;25 kg: 1 mg/kg/dose Intraoral: Patients &lt;12 y: 0.5 mg, repeat in 15 min every 8 h for 3 d; patients &gt;12 y: 1 mg/kg/dose, repeat in 15 min every 8 h for 3 d 6 y</td>
<td></td>
</tr>
</tbody>
</table>

**N** = intravenous; **IV** = intramuscular.

* Data from O’Brien HL, et al, Cure Treat Options Neurol. **8** www.springerlink.com/content/t652dsoo502v0j07yldwmp.
* Data from Lexi-Drugs. **9**
- Toradol
- IVF
- Zofran; Phenergan
- There is a place for Benzodiazepines
- Avoid: Opioids
- In addition to medications:
  - …Dark and quiet room…
  - …Sleep and rest…
  - …Reassurance…
  - …Placebo…

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<td>15 mg/kg/dose</td>
<td>None</td>
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<td>Ibuprofen</td>
<td>Chewable tablet: 100 mg Tablet: 100 mg, 200 mg, 400 mg, 600 mg, 800 mg Liquid: 100 mg/mL, 40 mg/mL</td>
<td>10 mg/kg/dose</td>
<td>6 mo</td>
</tr>
<tr>
<td>Ketonolac</td>
<td>IV: Tablet: 10 mg IV: 0.5 mg/kg/dose (maximum 15 mg) Oral: 1 mg/kg/dose (maximum 10 mg)</td>
<td>0.2 mg/kg/dose (maximum 10 mg)</td>
<td>2 y</td>
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<tr>
<td>Metoclopramide</td>
<td>IV: orally disintegrating tablet: 5 mg, 10 mg Tablet: 5 mg, 10 mg Liquid: 5 mg/mL</td>
<td>0.15 mg/kg/dose (maximum 10 mg)</td>
<td>8 y for migraine, 2 y for other indications</td>
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<td>Prochlorperazine</td>
<td>IV: Tablet: 5 mg, 10 mg Tablet: 5 mg, 10 mg Suppository: 25 mg</td>
<td>0.15 mg/kg/dose (maximum 10 mg)</td>
<td>2 y</td>
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<td>Almotriptan</td>
<td>Table: 6.25 mg, 12.5 mg 12.5 mg</td>
<td>12.5 mg</td>
<td>12 y</td>
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<td>Rizatriptan</td>
<td>Orally disintegrating tablet: 5 mg, 10 mg Tablet: 5 mg, 10 mg</td>
<td>0.2 mg/kg/dose (maximum 10 mg)</td>
<td>8 y for migraine, 2 y for other indications</td>
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<tr>
<td>Sumatriptan</td>
<td>Oral: -12 y: 50 mg, &gt;12 y: 100 mg Oral: -12 y: 20 kg to 29 kg, 10 kg to 29 kg, &gt;10 kg to 29 kg Oral: -10 mg, patients &gt;10 kg to 20 mg Oral: subcutaneous: 0.06 mg/kg/dose</td>
<td>Oral: 8 y Intranasal: 5 y Subcutaneous: 6 y</td>
<td>6 y</td>
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<td>Zolmitriptan</td>
<td>Oral: disintegrating tablet: 2.5 mg, 5 mg Tablet: 2.5 mg, 5 mg Nasal spray: 5 mg</td>
<td>0.25 mg/kg/dose (maximum 10 mg)</td>
<td>8 y</td>
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<td>Dihydroergotamine</td>
<td>Oral: nasal spray: 4 mg/mL (each spray = 0.5 mg) IM injection: 1 mg/mL</td>
<td>0.5 mg/dose: patients &lt;9 y or &gt;25 kg</td>
<td>6 y</td>
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IV = intravenous; IM = intramuscular.

* Data from Hendry AD, Lancet Neurol. 100, 103: www.sciencemag.org/content/lancetneurol/11/1/50/DC1/4744622050100339
* Data from O’Brien ML, et al. Can Treat Options Neurol. 100, 103: www.sciencemag.org/content/lancetneurol/11/1/50/DC1/4744622050100339
* Data from Lev-Drugs, 100, 103
...preventive medication management...
Amitriptyline

- I use all the time
- Helps sleep
- Increase appetite
- EKG prior (specially in athletic kids)
- Black box warning
- Take usually at night
- May help mood
- Dosages:
  - 6 to 12yo: 5, 10, 12.5 mg - once a day (night)
  - 12 yo +: 12.5, 25mg - once a day (night)
  - Reassess in about 4 weeks
  - Adjustments: usually double the dose (max of 50 or 75 mg/day)
- I use mostly in younger kids (< 6 -10yo)
- Helps sleep
- Increase appetite – big time!!!
- May help allergies
- No black box warning
- Take usually at night
- Dosages:
  - 2 - 4mg- once a day (night)
  - Reassess in about 4 weeks
  - Adjustments: usually double the dose
  - Max of 12mg/day for <6yo; 16mg/day for 6 – 10yo)
– I don’t use much
– Avoid in asthma patients
– May decrease BP and HR
– I see a lot of FP using it
– No black box warning
– Dosages:
  – > 12yo: 20mg/day
  – Reassess weekly
  – Increase by 20mg/day up to TID
  – Consider ER for once a day dose
Flunarizine

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<tr>
<td>Antidepressant</td>
<td>Tablets: 10 mg, 25 mg, 50 mg, 75 mg, 100 mg</td>
<td>Starting dose: 5 mg, goal dose: 30 mg or 1 mg/kg/d in the evening</td>
<td>3 y</td>
<td>Can be used for bedwetting May be given at dinner time to avoid early-morning sleepiness</td>
</tr>
<tr>
<td>Ciproheptadine</td>
<td>Tablets: 4 mg, Lapsid: 2 mg/5 ml</td>
<td>Starting dose: 2 mg every night at bedtime Goal dose: 4 to 12 mg/d - 16 mg/night or 0.25 mg/kg/d to 1.5 mg/kg/d divided into two or three daily doses</td>
<td>3 y</td>
<td>Good for increasing appetite Avoid over age 10 because of dosing limits and appetite effects</td>
</tr>
<tr>
<td>Propranolol</td>
<td>Tablets: 10 mg, 20 mg, 40 mg, 80 mg, 120 mg, 160 mg Lapsid: 4 mg/mL, 8 mg/mL</td>
<td>Starting dose: 20 mg/day and increase to 3 times a day for 3 wk Goal dose: 12 to 130 mg/d - 12 to 240 mg/day or 0.25 mg/kg/d to 4 mg/kg/d once-daily formulation if possible, otherwise 3 times daily</td>
<td>In migraine 3 y (but for other indications in infancy)</td>
<td>Avoid in patients with asthma</td>
</tr>
<tr>
<td>Flunarizine</td>
<td>Tablets: 5 mg</td>
<td>Starting dose: 5 mg, goal dose: 5 mg to 10 mg</td>
<td>5 y</td>
<td>Not available in the United States Approved in Europe and Canada for the prevention of migraine</td>
</tr>
<tr>
<td>Topiramate</td>
<td>Tablets: 25 mg, 50 mg, 100 mg, 200 mg Sprinkle capsules: 15 mg, 25 mg</td>
<td>Starting dose: 115 mg, goal dose: 150 mg or 1 mg/kg/d to 3 mg/kg/d divided into two daily doses</td>
<td>8 y for migraine, 2 y for epilepsy (used for other indications in infancy)</td>
<td></td>
</tr>
<tr>
<td>Valproate</td>
<td>Tablets: 250 mg, 500 mg Tablet (extended release): 125 mg, 250 mg, 500 mg Tablet (extended release): 250 mg, 500 mg Sprinkle capsules: 125 mg Lapsid: 250 mg/mL</td>
<td>Starting dose: 250 mg to 10 mg/kg/d Goal dose: 20 mg/kg/d to 40 mg/kg/d or 0.25 mg/kg/d to 1.5 mg/kg/d Onedaily dosing with extended release, otherwise given 2 to 3 times daily</td>
<td>2 y</td>
<td>Increased risk of fatal hepatotoxicity in children younger than 2 y Avoid if any concern of a metabolic disease</td>
</tr>
<tr>
<td>Coenzyme Q10</td>
<td>Tablets: 100 mg, 180 mg, 300 mg</td>
<td>160 mg/kg/d</td>
<td>3 y</td>
<td></td>
</tr>
<tr>
<td>Magnesium (chelated)</td>
<td>Tablets: 250 mg, 400 mg</td>
<td>9 mg/kg/d divided into three daily doses (maximum of 500 mg)</td>
<td>3 y</td>
<td>Good if child is constipated</td>
</tr>
<tr>
<td>Riboflavin</td>
<td>Tablets: 50 mg, 100 mg</td>
<td>200 mg/kg/d to 400 mg/kg/d divided into two daily doses</td>
<td>8 y</td>
<td>Can turn urine yellow/orange Only 35 mg can be absorbed at a time</td>
</tr>
</tbody>
</table>

* Data from Harley, ND, Lecart Neurosurgery, Neurosurgical Focus, 2012, 2012. www.neurosurgicalfocus.com/content/3(1)/T147-42025/00970312
* Data from Lecart Neurosurgery, Neurosurgical Focus, 2012, 2012. www.neurosurgicalfocus.com/content/32/14/25/00970318

NOT AVAILABLE IN THE US
Topiramate

- I use a lot
- Suppress appetite
- Sleepiness
- Beware: kidney stones
- Paresthesias
- Black box warning
- Teratogenic potential: Cleft palate
- Dosages:
  - 12.5; 25; 50 mg once a day or BID
  - Reassess in 2-4 weeks
  - Adjustments in 12.5 or 25mg increments
Valproate

- Not one of my favorites
- Needs close monitoring of side effects
  - Major Teratogenic
  - Weight gain
  - Hepatotoxicity potential
  - Medication interactions
- Dosages:
  - > 2yo patients
  - 250mg Qday (start around 10mg/kg/day)
  - Goal (20-40mg/kg/day or 500-1000mg/day) / BID or TID
  - ER for Qday
- Using more and more
- Help suppress appetite
- Help stabilize mood
- Black box warning
- Dosage:
  - 14 yo +
  - 10mg in QAM
- Reassess in about 2-4 weeks
- Max out at 20mg QAM
Placebo

....Use it or loose it....

....but give hope with realistic expectations....
Behavioral modification

- Key points to evaluate (up-down – left to right)
  - Obesity
  - Analgesic overuse
  - Missing meals
  - Lack of Physical activities
  - Mood disorders
  - Sleep Disorders
  - Caffeine intake
  - Triggers in general
Behavioral modification

...personalized plan has a better impact...

Non-Medication Approaches to Childhood Headaches

Encourage good general health habits:
- Balanced diet
- Regular exercise
- Avoid caffeine
- Sufficient sleep
- Manage stress
- Stay well-hydrated

Avoidance of known triggers:
- Certain foods
- Excessive stress
- Erratic sleep patterns
- Becoming overheated
- Missing meals

Keep a headache diary:
- Be sure to bring diary to all doctor appointments
- Monitor foods eaten, activities, stressors and relationship to headaches

Insist on school attendance if at all possible:
- If headaches occur at school, make arrangements for the child to rest in private for a short time, take medications, and then to return to class after headache is improved.
- If child can not go to school, restrict activities at home to school work and quiet resting (no TV, computers, video games) If child improves, take to school.

Minimize attention given to the child’s headache:
- Try to limit complaining
- Limit school absences
- Help the child focus on other things
- Limit avoiding responsibilities
- Don’t ask the child if they have a headache
- Avoid letting the child’s headache disrupt family activities

Reward the child:
- When he or she maintains daily routines despite having headaches

Stress Management:
- Relaxation techniques (practice daily)
  - deep breathing exercises, mental imagery
  - progressive muscle relaxation (get audio tapes)
- Psychological counseling
- Recognize role of depression, stress and anxiety
Behavioral modification
Prognosis

- 1/3 remission (* migraine/tension type)
- ¼ relapse between 30-50yo
- Risk factors
  - Female gender
  - Maternal history of headaches
  - Psychiatric diagnosis
- 93% treated with a multidisciplinary approach describe significant headache improvement after 5year
Thank you!