• What features should worry you for a secondary headache? Red flags:
  – Systemic symptoms (fevers, chills, weight loss, HIV, cancer)
  – New headache in an older patient >50 y.o.
  – Abrupt onset reaching maximum intensity in < 1 minute (thunderclap)
  – Exacerbated by positioning or Valsalva
  – Abnormal neuro/fundoscopic exam

• When to perform Brain MRI:
  – Red Flags
  – Trigeminal Autonomic Cephalalgias [special attention to the pituitary gland]
  – Facial pain (Trigeminal Neuralgia) [perform with Gadolinium with fine cuts through trigeminal nerves]

• ICHD-III Criteria of commonly seen primary headache disorders:
  – Migraine without aura
  – Tension type headache
  – Cluster headache

• Counseling is an essential part of the Management Plan, of which medications are only part
  – Optimize self-care: Sleep ~same # hours each night, avoid excess caffeine, hydrate, don’t skip meals, stress reduction techniques, exercise
  – Biobehavioral therapy
  – Relaxation training
  – Trigger awareness and avoidance
  – Take an abortive medication early in the attack (evidence for better efficacy at onset of head pain rather than during aura if present).
  – Use acute treatments < 9 days/month

• Guidelines on how to treat an acute migraine attack

-For mild attacks, give a nonspecific analgesic such as acetaminophen, ASA, or another NSAID.
- For moderate-severe migraine attacks, a migraine-specific medication Triptan is recommended.

DHE also an option but older drug, less-well tolerated (nausea), and non-oral formulations only.

Combination of Acetaminophen/ASA/ Caffeine also effective [but careful with caffeine].

| Drug                | Usual Dose (mg) | Dosage Interval (If Repeated for Headache Recurrence) and Maximum Daily Dose
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Almotriptan Oral</td>
<td>12.5</td>
<td>2 hours; Max daily dose 25 mg</td>
</tr>
<tr>
<td>Eletriptan Oral</td>
<td>40</td>
<td>2 hours; Max daily dose 40 to 80 mg</td>
</tr>
<tr>
<td>Frovatriptan Oral</td>
<td>2.5</td>
<td>4 hours; Max daily dose 5 mg</td>
</tr>
<tr>
<td>Naratriptan Oral</td>
<td>2.5</td>
<td>4 hours; Max daily dose 5 mg</td>
</tr>
<tr>
<td>Rizatriptan Oral</td>
<td>10</td>
<td>2 hours; Max daily dose 20 mg</td>
</tr>
<tr>
<td>Sumatriptan Subcut,</td>
<td>6</td>
<td>2 hours; Max daily dose 12 mg</td>
</tr>
<tr>
<td>Sumatriptan Nasal</td>
<td>20</td>
<td>2 hours; Max daily dose 40 mg</td>
</tr>
<tr>
<td>Sumatriptan Oral</td>
<td>50</td>
<td>2 hours; Max daily dose 200 mg</td>
</tr>
<tr>
<td>Sumatriptan Oral</td>
<td>100</td>
<td>2 hours; Max daily dose 200 mg</td>
</tr>
<tr>
<td>Zolmitriptan Nasal</td>
<td>5</td>
<td>2 hours; Max daily dose 10 mg</td>
</tr>
<tr>
<td>Zolmitriptan Oral</td>
<td>2.5</td>
<td>2 hours; Max daily dose 10 mg</td>
</tr>
</tbody>
</table>

- Contraindications to be aware of
  - Do not use Triptans or DHE in patients with:
    - coronary artery disease
    - history of stroke
    - peripheral vascular disease
    - uncontrolled HTN
    - hemiplegic migraine
    - migraine with brainstem aura
    - concurrent use of MAOIs (avoid triptans within 14 days of MAOI)
  - Do not use both Triptan and DHE within 24 hours
  - caution if Triptan prescribed in combination with SSRI or SNRI (risk for serotonin syndrome)

- Do not use NSAIDs in patients with:
  - peptic ulcer disease
  - history of GI bleeding
  - renal disease
  - concurrent use of anticoagulants
  - cardiovascular disease (may increase the risk of cardiovascular events)

- Medication Overuse and Chronic Migraine are hard to distinguish
  - High headache frequency with overuse of acute medications leads to medication overuse headache and chronic (“transformed”) migraine. **It is important to discontinue overused medications (use acute treatments no more than 9 days per month) and initiate preventive medication.**
  - Avoid Opioids and Barbiturate-containing agents (Fiorinal, Fioricet) which very frequently lead to medication overuse headache/chronic migraine!
- Every headache patient should keep a headache diary.
- Whether to prescribe a preventive treatment is based both on the **# headache days** per month AND the **degree of disability** it causes the patient.
- AAN suggests offering preventive treatment when an individual reports 1+ of the following:
  - >6 headache days/month
  - >4 headache days with at least some impairment
  - ≥3 headache days with severe impairment or requiring bed rest

**Recommended Dosages of preventive therapies:**
- Depakote 500-1500 mg/day
- Topiramate 50 mg BID
- Metoprolol 50-200 mg/day
- Propranolol 60-240 mg/day
- Amitriptyline 20-150 mg/day
- Nortriptyline 20-100 mg/day

**Nutraceuticals (complementary and alternative medicines classified as supplements):**
- Riboflavin (vitamin B2) – 400 mg daily (level B)
- Magnesium – 400-600 mg daily (level B)
- Coenzyme Q10 (CoQ10) – 100 mg TID (level C)
- Feverfew – 100 mg daily (level B)

- OnabotulinumtoxinA injection every 3 months (Botox) has level A evidence for prevention of chronic migraine

**References:**


Lipton RB, Silberstein SD.  Episodic and chronic migraine headache: breaking down barriers to optimal treatment and prevention.  Neurology 2015;55;S2:102-122


