This newsletter is published by the New Mexico Medicaid Drug Utilization Review (DUR) Board to promote safe and cost-effective drug therapy in the New Mexico Fee-For-Service Program. It is our hope that this educational newsletter will be useful to your practice.

Introduction
There are an estimated 35 million Americans diagnosed with migraines.¹ Treatment includes establishing a comprehensive plan targeting identification and avoidance of triggers, extensive patient education, behavioral management strategies, and development of a pharmacological treatment plan for prevention and acute treatment.²

Diagnostic Imaging for Migraine
Evidence-based guidelines on the use of diagnostic imaging (CT/MRI) in patients presenting with migraine have been developed by a multispecialty group called the U.S. Headache Consortium.³ For migraine without aura, patients must have five attacks all meeting the following criteria: attack lasts 4-72 hours (untreated or unsuccessfully treated); meets two of the following characteristics (unilateral location, pulsating quality, moderate to severe intensity leading to disruption of daily activities, aggravated by walking stairs or similar physical activity); and results in nausea / vomiting or photophobia/phonophobia. Additionally patients meeting any of the following are candidates:

1. History and physical and neurologic examinations do not suggest another disorder.
2. History and physical and/or neurologic examination do suggest such disorder, but it is ruled out by appropriate investigations.
3. Such disorder is present, but migraine attacks do not occur for the first time in close temporal relation to the disorder.

For migraine with aura, patients must have two attacks meeting at least three of the following four characteristics: one of more fully reversible aura symptoms indicating focal cerebral, cortical and/or brainstem dysfunction; at least one aura symptom develops gradually over more than four minutes, or two or more symptoms occur in succession; no aura symptom lasts more than 60 minutes, with duration proportionally increased for more than one aura symptom; or headache follows aura with a free interval of less than 60 minutes (it can begin before or simultaneously with the aura). Additionally, patients meeting any of the above numbered 1-3 criteria listed for migraine without aura are candidates.
Most patients seek treatment for migraine through their primary care doctor. When migraines become severe, incapacitating, or resistant to treatment, patients may benefit from seeing a headache specialist. Patients should be referred to a specialist for issues that arise with medications such as adverse events, lack of tolerability, rebound headaches; before, during or after pregnancy; for headaches on 15 or more days per month; for any headache significantly different than previous headaches; and for any headache described as the worst headache of your life.

**Treatment for Migraine**
The goals of long-term migraine treatment include: reduction in attack frequency, severity and disability; improved quality of life; reduction on reliance of poorly tolerated, ineffective acute pharmacotherapies; and avoidance of acute headache medication escalation.2-6

The American Headache Society conducted a recent assessment of the evidence-based literature on acute treatment of migraine.2 This was an updated review of The American Academy of Neurology treatment guidelines published in 2000. The triptan class of agents and dihydroergotamine (nasal spray, inhaler), both specific treatment agents, received a Level A rating (effective). Ergotamine and injectable dihydroergotamine were Level B (probably effective). Effective nonspecific medications included acetaminophen, nonsteroidal anti-inflammatory drugs (aspirin, diclofenac, ibuprofen and naproxen), opioids (butorphanol nasal spray), sumatriptan/naproxen, and the combination of acetaminophen/aspirin/caffeine (Level A). Other findings from the evidence-based review included:

- Ketoprofen, intravenous and intramuscular ketorolac, flurbiprofen, intravenous magnesium (in migraine with aura), and the combination of isomethptene compounds, codeine/acetaminophen and tramadol/acetaminophen are probably effective (Level B).
- The antiemetics prochlorperazine, droperidol, chlorpromazine, and metoclopramide are probably effective (Level B).
- There is inadequate evidence for butalbital and butalbital combinations, phenazone, intravenous tramadol, methadone, butorphanol or meperidine injections, intranasal lidocaine, and corticosteroids, including dexamethasone (Level C).
- There is inadequate evidence to refute the efficacy of ketorolac nasal spray, intravenous acetaminophen, chlorpromazine injection, and intravenous granisetron (Level C).
- While opioids, such as butorphanol, codeine/acetaminophen, and tramadol/acetaminophen are probably effective (Level B), they are not recommended for regular use due to the risk for overdose, increased sedation, medication overuse headaches (MOH) and dependency.
- The American Academy of Neurology guidelines state that onabotulinumtoxinA (Botox®) is effective and should be offered to increase headache-free days (Level A) and is probably effective and should be considered to improve health-related quality of life (Level B) in chronic migraine.7
- The American Headache Society recommendations do not address acute migraine treatment in children or the elderly, as limited evidence is available.

Table 1 lists the migraine treatments mentioned above with a Level A recommendation2.
Table 1: Acute Specific Migraine Treatments

<table>
<thead>
<tr>
<th>Generic (Brand)</th>
<th>Route</th>
<th>Generic Available (Y/N)</th>
<th>Relative Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>almotriptan (Axert®)</td>
<td>Oral</td>
<td>Y</td>
<td>$$$</td>
</tr>
<tr>
<td>eletriptan (Relpax®)</td>
<td>Oral</td>
<td>N</td>
<td>$$$</td>
</tr>
<tr>
<td>frovatriptan (Frova®)</td>
<td>Oral</td>
<td>N</td>
<td>$$$</td>
</tr>
<tr>
<td>naratriptan Amerge®</td>
<td>Oral</td>
<td>Y</td>
<td>$$</td>
</tr>
<tr>
<td>rizatriptan (Maxalt® Table Maxalt-MLT®)</td>
<td>Oral and ODT</td>
<td>Y</td>
<td>$$</td>
</tr>
<tr>
<td>sumatriptan (Imitrex®)</td>
<td>Oral</td>
<td>Y</td>
<td>$</td>
</tr>
<tr>
<td>sumatriptan (Imitrex®)</td>
<td>Nasal Spray</td>
<td>Y</td>
<td>$$$</td>
</tr>
<tr>
<td>sumatriptan (Imitrex®)</td>
<td>SQ</td>
<td>Y</td>
<td>$$$</td>
</tr>
<tr>
<td>sumatriptan (Sumavel DosePro®)</td>
<td>SQ Needle-free</td>
<td>N</td>
<td>$$$$$</td>
</tr>
<tr>
<td>sumatriptan (Alsuma®)</td>
<td>SQ Auto-Injector</td>
<td>N</td>
<td>$$$$$</td>
</tr>
<tr>
<td>sumatriptan (Zecuity®)</td>
<td>Transdermal</td>
<td>N</td>
<td>$$$$$</td>
</tr>
<tr>
<td>sumatriptan and naproxen (Treximet®)</td>
<td>Oral</td>
<td>N</td>
<td>$$$</td>
</tr>
<tr>
<td>zolmitriptan (Zomig and Zomig-ZMT®)</td>
<td>Oral and ODT</td>
<td>Y</td>
<td>$$</td>
</tr>
<tr>
<td>Zolmitriptan (Zomig®)</td>
<td>Nasal Spray</td>
<td>N</td>
<td>$$</td>
</tr>
<tr>
<td>Dihydroergotamine (Migranal®)</td>
<td>Nasal Spray</td>
<td>Y</td>
<td>$$$$$</td>
</tr>
</tbody>
</table>

Other Migraine Topics - What You Need To Know:

**Botox**

Botox® (onabotulinumtoxinA) is indicated for use only in the prophylaxis of adults with chronic migraine, defined as an attack >15 days per month and lasting 4 hours a day or longer. According to the American Headache Society, onabotulinumtoxinA can be given in addition to other acute migraine treatments, and preventative therapies have been found to be complementary to onabotulinumtoxinA. Aggressive treatment of acute migraine in a manner that is used in an appropriate fashion and at a frequency that will not cause medication overuse headaches is ideal.

**New Mexico Fee-For-Service Migraine Treatment Statistics**

Analysis of FFS pharmacy claims for New Mexico provided a snapshot of medications being prescribed to treat migraine headaches. During a 12 month analysis period, there were 680 recipients on triptan agents, 83% were female. Utilization of triptans represented 0.4% of overall New Mexico FFS claims. Of the triptan users, 18 individuals (3% of users) met the criteria for overutilization (defined as triptan use exceeding treatment of 4 migraines per month based on FDA approved dosing).

In the same analysis, 152 recipients received treatment with butalbital products. These claims represented 0.1% of the overall volume of prescriptions for New Mexico. Review of the butalbital claims showed 14 recipients (9% of users) appeared to be over-utilizing (defined as 5 or more consecutive butalbital product fills in the 12 month period with a quantity of greater than or equal to one tablet per day) these products. In addition to MOH, butalbital products have been
associated with dependence and significant adverse events (e.g. CNS depression, potential for overdose, hypersensitivity reactions).

**Medication Overuse Headaches and Preventative Treatments**

Medication overuse headaches (MOH), also known as rebound headaches, are caused by frequent use of acute migraine treatments. Many experts recommend limiting acute therapy to two headache days per week on a regular basis to prevent MOH. Recipients exceeding this limit should be placed on preventative therapies.

**Unique Populations: Pediatric and Geriatric Principles**

Migraine management for children and older adults includes reliance on a comprehensive treatment approach, often involving family and care givers. Children should monitor dietary triggers, caffeine intake, BMI, proper sleep patterns, and avoid head trauma. Acute treatments should be initiated as soon as the migraine is identified. The American Academy of Neurology recommends ibuprofen and sumatriptan nasal spray as effective treatments, and acetaminophen is probably effective for acute treatment in adolescents. Acute treatments should not be used more than twice weekly, and use more than once weekly indicates a need for better preventative strategies.

Headache in the elderly may present more commonly with visual or sensory phenomena instead of headache. Hypnic headaches (i.e. awakening from sleep and short-lived) are more common as well. Acute treatments differ as triptans and dihydroergotamine should be used with caution in older adults due to risk of coronary artery disease. Naproxen, hydroxyzine, valproic acid or metoclopramide are alternative therapies. The recommended preventative therapies for older adults are divalproex sodium, topiramate, metoprolol and propranolol.

**Prevention**

The American Academy of Neurology (AAN) has established guidelines for migraine prevention. Preventive drug therapy should be considered for patients whose migraine has substantial impact on daily life and has not responded to acute care, or when the frequency of the migraine is such that reliance on acute care medications increases the risk for drug-induced rebound headache. The following medications have been established as effective with the highest quality of evidence (Level A) for migraine prevention:

- Antiepileptic drugs (AED); divalproex sodium, sodium valproate, topiramate
- Beta-blockers: metoprolol, propranolol, timolol
- Triptans: frovatriptan for menstrual migraine prophylaxis (not approved)

Other medications for migraine prophylaxis (Level B) include amitriptyline, venlafaxine, atenolol, nadolol, and naratriptan and zolmitriptan for menstrual migraine prophylaxis.

Each recipient’s treatment plan should also incorporate non-pharmacological treatments such as relaxation training, alone or with thermal biofeedback, electromyographic biofeedback and cognitive-behavioral therapy (stress management). Physical treatments include acupuncture, cervical manipulation, and mobilization therapy. Knowing migraine triggers can help patients reduce frequency of attacks. Emotional stress is the most common trigger of migraine headache. Certain food and beverages contain chemicals and preservatives like nitrates, caffeine and monosodium glutamate (MSG), and are responsible for triggering migraines. A headache diary should be recommended to help monitor efficacy with the designated treatment plan.
Conclusion
Effective migraine management can be achieved by establishing a partnership of care with optimized pharmacological therapy along with education and non-pharmacological treatments. An in-depth discussion of non-pharmacologic treatments for migraines is beyond the scope of this newsletter, but acupuncture has been found to be of benefit in some studies. Chiropractic and naprapathic techniques may also reduce headache frequency in some individuals.

References:

To report medical fraud, contact the Medicaid Quality Assurance Bureau at NMMedicaidFraud@state.nm.us or (505) 827-3100. We appreciate your continued support of our efforts to encourage quality care for our Medicaid clients.

Questions and/or comments about this newsletter may be directed to Diana Moya, R.Ph. at (505) 827-3174 or DianaJ_Moya@state.nm.us. DUR newsletters are posted on the New Mexico Human Services Department website: http://www.hsd.state.nm.us/providers/utilization-review.aspx.