A Guide to Living Well With Migraine

Developed in collaboration

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What is migraine?

Points to emphasize:

- Migraine is a neurologic condition characterized by headaches with throbbing pain that can last anywhere from 4 to 72 hours and is usually worse on one side of the head near the temples, forehead, and eyes.

- The pain from migraine can be disabling; most people with migraine find it difficult to function normally during a migraine attack and are unable to perform routine daily activities.

- Migraine can also affect other parts of the body and include other symptoms (e.g., nausea, vomiting, vision changes, mental exertion, or sensitivity to light, smell, or sound).

- Symptoms can vary from person to person, from migraine to migraine, and even from episode to episode.

- Migraine differs from other common types of headaches:
  - **Tension headaches**: Unlike migraine, pain with tension headaches is usually less severe, not debilitating, present on both sides of the head, and not accompanied by other symptoms.
  - **“Sinus” headaches**: Headaches over the sinus area are often mislabeled as sinus headaches; however, a true sinus headache is rare and is associated with a sinus infection, which is characterized by fever and thick nasal secretions. A sinus headache usually resolves when the infection is treated.

Additional information:

- Migraine ranks as the seventh highest cause of disability worldwide and is 3 times more common in women than in men.
What is migraine?

Migraine is NOT just a “very bad headache.”

- Migraine is a disorder of the nervous system (also known as a neurologic condition) that affects your brain, blood vessels, and nerves
- Migraine causes a specific type of pain that is different from other kinds of headaches
- Migraine symptoms are different for each person, but usually include:
  - Visual changes (such as bright lights, distortions, or temporary loss of sight)
  - Moderate to severe throbbing on one side of the head
  - Pain that worsens with activity
  - Nausea and/or vomiting
  - Sensitivity to light, smells, or sounds
- Migraine symptoms can affect daily activities

Phases of migraine

<table>
<thead>
<tr>
<th>TYPE OF HEADACHE</th>
<th>PRE-HEADACHE (PRODROME)</th>
<th>AURA</th>
<th>MIGRAINE</th>
<th>POST-HEADACHE (POSTDROME)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMON SYMPTOMS</td>
<td>Irritability, yawning, problems concentrating, fatigue, muscle stiffness</td>
<td>Visual changes, temporary loss of sight, numbness and tingling on part of the body</td>
<td>Throbbing, drilling, nausea, vomiting, neck pain/stiffness, sensitivity to light, smells, or sounds</td>
<td>Inability to concentrate, fatigue, changes in mood</td>
</tr>
</tbody>
</table>
Types of migraine

Points to emphasize:

- Migraine can be either episodic or chronic, depending on the number of headaches a person experiences per month:
  - Episodic = 14 or fewer headache days per month
  - Chronic = 15 or more headache days, of which more than 8 are migraines
- Review the patient’s migraine type; if episodic, explain the importance of managing migraine pain effectively to prevent worsening of the migraine over time (ie, to keep episodic migraine from progressing to chronic migraine)
- Migraine is also classified according to whether aura develops before the headache
- Explain that aura is a physiologic warning sign that develops gradually and is typically characterized by:
  - Visual changes (eg, bright lights, distortions, or temporary loss of sight)—most common
  - Sensations such as tingling, “pins and needles,” and numbness
  - Speech impediments
  - Issues with balance
- Aura symptoms usually subside within 30 minutes and are often followed by a headache, but not always; in addition, aura symptoms are not always the same for each episode of migraine

Additional information:

- Many patients who experience migraine with aura also have attacks without aura; in addition, aura may occur without a headache

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Types of migraine

Migraine is classified by how often it happens...

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPISODIC</td>
<td>14 or fewer headache days per month</td>
</tr>
<tr>
<td>CHRONIC</td>
<td>15 or more headache days per month</td>
</tr>
</tbody>
</table>

...and its features

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIGRAINE SYMPTOMS</td>
<td>Severe, throbbing pain that is usually on one side and often accompanied by</td>
</tr>
<tr>
<td></td>
<td>nausea, vomiting, blurred vision, or sensitivity to light, smells, or sounds</td>
</tr>
<tr>
<td>AURA SYMPTOMS THAT CAN ACCE</td>
<td>Visual symptoms (such as bright or flashing lights or temporary loss of sight), tingling sensations, or speech or balance issues that are followed by migraine pain</td>
</tr>
</tbody>
</table>

Your headache pattern, physical examination findings, and family history can help determine your migraine type. This can help your healthcare provider create your treatment plan.

Example of aura
What causes migraine?

Points to emphasize:

- Migraine pain occurs when a change in the brain sets off a cascade of events; this leads to changes in blood vessels that stimulate nerves in the brain to release certain chemicals, triggering inflammation.
- This, in turn, irritates the trigeminal nerve and results in intense and throbbing pain.
- Approximately 4 out of every 5 people with migraine have a family member with the condition, so genes are believed to play a role.
- Some people have migraine “triggers,” which can increase the frequency of migraine attacks.

Additional information:

- Attacks are believed to be triggered by neuronal hyperexcitability and a transition to cortical spreading depression (wave of impulses that spread across the cortical region).
What causes migraine?

- Migraine occurs when blood vessels widen, which sets off the release of chemicals in the nervous system.
- In some people, the nervous system gets irritated by certain events, known as “triggers.”
- We don’t know why some people experience migraine and others do not, but we know that migraine can run in families.

Adapted with permission from the National Headache Foundation.

INTRODUCTION
Managing migraine

Points to emphasize:

- Although no cure is currently available for migraine, the condition can be successfully managed.
- Use the illustration on the corresponding patient page to explain why a combination approach is best for managing migraine; explain the various components:
  - Identifying, avoiding, and minimizing known triggers
  - Improving lifestyle habits for better health
  - Taking medications to prevent migraine
  - Taking rescue medications at the first sign of migraine
  - Being open to other nonpharmacologic treatments that have been shown to be effective (e.g., biofeedback)
- No “one-size-fits-all” approach exists for migraine management; migraine varies widely in its severity and frequency as well as its effects on daily activities
- Encourage patients to share information with you and take an active role in their care

Managing migraine

Following a migraine plan can help you have fewer, less painful headaches and feel better.

A successful plan may include:

- Knowing and avoiding potential triggers
- Living a healthy lifestyle
- Taking medicines to prevent migraine
- Taking “rescue” medicines to stop migraine when it happens
- Exploring other treatment options

Your migraine plan may include a combination of these steps to manage migraine.
Managing migraine

Following a migraine plan can help you have fewer, less painful headaches and feel better.

A successful plan may include:

- Knowing and avoiding potential triggers
- Living a healthy lifestyle
- Taking medicines to prevent migraine
- Taking “rescue” medicines to stop migraine when it happens
- Exploring other treatment options

Your migraine plan may include a combination of these steps to manage migraine.

Keys for managing migraine

INTRODUCTION
Migraine triggers

Points to emphasize:

- Certain triggers or changes in habits can increase the frequency of migraine attacks in some patients; avoiding or minimizing known triggers can help reduce migraine frequency.

- Review the different types of triggers listed on the corresponding patient page; explain that migraine can occur for no particular reason, but some attacks are caused by triggers, which are different for everyone.

- Ask patients whether they are aware of any possible triggers for their migraine.

- Discuss specific strategies for avoiding certain triggers and sustaining a healthy lifestyle (e.g., going to bed and waking up at the same time each day).

- Patients may ask why caffeine can be a trigger if it is included in migraine medicines; explain that:
  - Caffeine is a vasoconstrictor and can provide relief when taken in combination with some pain medicines during a migraine attack.
  - Caffeine can be a trigger because it is a stimulant; it can lead to headaches when its effects subside.

Additional information:

- In a study of 1,207 patients, trigger frequencies were:
  - Stress (79.7%)
  - Hormone changes in women (65.1%)
  - Not eating (57.3%)
  - Weather (53.2%)
  - Sleep disturbances (49.8%)
  - Perfume or odor (43.7%)
  - Neck pain (38.4%)
  - Light(s) (38.1%)
  - Smoke (35.7%)
  - Sleeping late (32.0%)
  - Heat (30.3%)
  - Food (26.9%)
  - Exercise (22.1%)
  - Sexual activity (5.2%)

Migraine triggers

- Migraine can occur for no particular reason, but some people have migraine triggers, which can cause migraine attacks.
- Migraine triggers are different for everyone.
- Avoiding or minimizing known triggers can help lower the number of migraine attacks.

Common triggers

<table>
<thead>
<tr>
<th>FOOD/DRINKS</th>
<th>LIFESTYLE</th>
<th>ENVIRONMENT</th>
<th>HEALTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Stress</td>
<td>Bright light</td>
<td>Hormone changes (puberty, menstrual cycle, menopause, medication)</td>
</tr>
<tr>
<td>Caffeine</td>
<td>Skipped meals</td>
<td>Weather changes</td>
<td>Pain or injury</td>
</tr>
<tr>
<td>Artificial sweeteners</td>
<td>Changes in sleep patterns</td>
<td>Loud noise</td>
<td>Other medical conditions</td>
</tr>
<tr>
<td>Dairy products</td>
<td>Being physically overactive</td>
<td>Certain smells Heat</td>
<td></td>
</tr>
<tr>
<td>Processed foods</td>
<td>Not drinking enough water (which leads to dehydration)</td>
<td>Heat</td>
<td></td>
</tr>
</tbody>
</table>
Using a headache diary

Points to emphasize:

• Recording details in a headache diary (e.g., a plain journal, a printed or online diary, or a smartphone app) can help patients recognize patterns, triggers, and/or warning signs as well as guide diagnostic differentiation and treatment selection.

• Ask patients to record as many migraine symptom details as they can and list any medications taken.

• Review the items they should write down:
  – A description of the headache
  – The time and duration of the migraine
  – The pain severity
  – Symptoms of the migraine
  – Any possible triggers that may have caused headache (ask women to note each day of their menstrual cycle—not just the first day)
  – Any prescription and over-the-counter medicines used
  – Any missed activities

• Encourage the patient to share this information with you or another healthcare provider; it can help with finding the right treatment.

Additional information:

• Consider showing the patient a sample of a headache diary.

• If the patient uses a smartphone, consider checking iTunes or Google Play for helpful apps.
Using a headache diary

A headache diary can help you learn about your migraine patterns, identify migraine triggers, and find treatments that work best.

Write down details about your migraine such as:

- A description of your headache
- The time it started and how long it lasted
- The symptoms you experienced
- Any medications you used
- How your pain felt on a scale from 0 to 10
- Any possible trigger(s) that may have caused your headache (for example, missing a meal, experiencing a stressful event, or not drinking enough water)
- Any activities you may have missed, such as work or social activities

Many diaries and apps are available online that can help you record your headache details.

Example of a monthly headache diary

<table>
<thead>
<tr>
<th>Day of month</th>
<th>Description of headache/ time it started</th>
<th>Pain, 0-10</th>
<th>Length of headache</th>
<th>Other symptoms</th>
<th>Rescue medication or other treatment</th>
<th>Possible triggers</th>
<th>Missed activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>Stabbing pain behind left eye/ 2 PM</td>
<td>7</td>
<td>6 hours</td>
<td>Nausea</td>
<td>Prescription and over-the-counter medications</td>
<td>Stress</td>
<td>✓</td>
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<tr>
<td>1</td>
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</tbody>
</table>
Lifestyle changes
Points to emphasize:

- Studies have shown that lifestyle modifications can help reduce the frequency of migraine attacks
- Encourage patients to:
  - Avoid or limit triggers
  - Learn ways to reduce and manage stress
  - Take part in regular aerobic exercise
  - Establish regular sleep times
  - Eat at regular times and avoid skipping meals, which can result in low blood sugar
  - Stay well hydrated by drinking water throughout the day, which is also good for overall health
  - Limit alcohol and caffeine intake
  - Take care of their overall health and other medical conditions
- Migraine is associated with several comorbidities
- Ask patients about their overall health and whether they have other health conditions (eg, hypertension or diabetes) because other conditions can sometimes trigger or worsen migraine; thus, it is important to appropriately manage comorbidities to control migraine
Lifestyle changes

Following these lifestyle habits can help lower the number of migraine attacks you get:

- Avoid or limit triggers (for example, wear sunglasses or hats and reduce the glare on your computer screen)
- Explore different ways to lower and cope with stress
- Exercise regularly
- Go to bed and get up at the same time each day
- Do not skip meals
- Drink enough water
- Limit alcohol and caffeine
- Take care of your overall health and other medical conditions
Managing stress

Points to emphasize:

- Stress, including stress build-up and stress let-down, is an important factor in causing migraine
- Ask your patients about their stress levels:
  - What is causing them the most stress?
  - Are they finding relief? How?
- Review the items on the corresponding patient page; studies have found that many of these have a positive effect on people with migraine:
  - Counseling
  - Meditation
  - Yoga
  - Massage
  - Guided breathing
  - Time away from technology
  - Quiet time
  - Aerobic exercise
- Yoga and meditation classes are typically widely available

Managing stress

Stress is a big contributor to migraine. The following can help lower your stress level:

- Counseling
- Meditation
- Yoga
- Massage
- Guided breathing
- Time away from technology (such as cell phones and TV)
- Quiet time
- Aerobic exercise
Exercise tips

Points to emphasize:

- Physical activity during a migraine attack can worsen migraine pain; however, aerobic exercise 3 to 5 days per week when the patient is not experiencing migraine can help reduce the frequency of migraine attacks.

- Ask patients about their current exercise levels:
  - What kinds of sports and activities do they participate in? How often?
  - Do they face any barriers to exercising (eg, physical problems, injuries, or time constraints)?

- Help patients identify appropriate goals based on their interests and general health.

- Share tips for exercising properly:
  - Be sure to warm up and cool down properly before and after exercise.
  - Eat protein to stabilize metabolism.
  - Hydrate well before and after a workout.

Additional information:

- Evidence shows that:
  - A lack of physical activity correlates with an increased likelihood of migraine.
  - Aerobic exercise combined with behavioral migraine management can improve outcomes.
Exercise tips

Regular exercise—when you aren’t experiencing migraine—can lower the number of migraine attacks. Set goals for getting more exercise.

When you exercise, be sure to:

• Warm up and cool down properly
• Eat a high-protein snack afterward to boost your metabolism
• Drink plenty of water before and after a workout
Help for better sleep

Points to emphasize:

• Poor sleep habits are associated with migraine

• Ask patients about the quality of their sleep:
  – Are they excessively tired during the day?
  – Do they have other conditions that interfere with sleep (eg, restless leg syndrome or sleep apnea)?
  – Do they wake frequently due to a partner’s snoring?

• Provide specific tips for getting regular and adequate sleep, such as:
  – Keeping the room dark, quiet, and cool
  – Turning off the TV, computers, and electronic devices 30 minutes before going to bed
  – Trying to sleep and wake up at the same time every day
  – Avoiding daytime naps
  – Not exercising within 3 hours of going to bed
  – Not using your bed for purposes other than sleep (eg, work or watching TV)

Additional information:

• If patients are told that they snore loudly, gasp, stop breathing in their sleep, and/or have significant daytime fatigue or awake with headache routinely, they should be evaluated for sleep apnea
Help for better sleep

Poor sleep habits have been linked to migraine. You can improve your sleep quality by:
- Keeping your room dark, quiet, and cool
- Turning off your TV, computers, and other electronic devices 30 minutes before going to bed
- Trying to go to bed and wake up at the same time every day

Avoid:
- Naps
- Exercising within 3 hours of going to bed
- Using your bed for purposes other than sleep (such as work or watching TV)

Let your healthcare provider know if you snore loudly and/or stop breathing while you sleep.
Medical treatments for migraine

Points to emphasize:

- Migraine management involves both the prevention of future attacks and the treatment of acute attacks; most patients with migraine use both forms of treatment
- Suboptimal management of migraine can lead to long-term negative effects
- Explain the difference between preventive and rescue treatments:
  - **Preventive treatments** (also called “prophylactic”): treatments to keep migraine from recurring that are taken on a regular basis—usually daily
  - **Rescue treatments** (also called “acute” or “abortive”): treatments to relieve headache pain and other symptoms as they are occurring
- Mention that you will review both pharmacologic and nonpharmacologic treatments
- Discuss possible adverse effects associated with any pharmacologic medication

<table>
<thead>
<tr>
<th>PREVENTIVE</th>
<th>RESCUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Medication used on a regular basis to keep headaches from happening</td>
<td>- Medications to relieve pain and other symptoms when a headache is happening</td>
</tr>
<tr>
<td>- Also called “prophylactic” treatment</td>
<td>- Also called “acute” treatment</td>
</tr>
<tr>
<td>Note: It is important to take your medications as prescribed</td>
<td>Note: It is important to take medications as early as possible when symptoms start</td>
</tr>
</tbody>
</table>

Many people with migraine use both forms of medications, which include over-the-counter and prescription options.
Medical treatments for migraine

| PREVENTIVE | • Medication used on a regular basis to keep headaches from happening  
• Also called “prophylactic” treatment |
| Note: *It is important to take your medications as prescribed* |

| RESCUE | • Medications to relieve pain and other symptoms when a headache is happening  
• Also called “acute” treatment |
| Note: *It is important to take medications as early as possible when symptoms start* |

Many people with migraine use both forms of medications, which include over-the-counter and prescription options.
Medications to prevent migraine

Points to emphasize:

• If migraine attacks are frequent or severe, drugs that are typically used to treat other conditions have been found to be beneficial in preventing migraine

• Review the table of preventive medications on the corresponding patient page

Additional information:

• Tricyclic antidepressants have been shown to be more helpful than other commonly prescribed selective serotonin reuptake inhibitors, which have little evidence to support their use

• Studies show that beta-blockers and topiramate are most effective for preventing migraine

• OnabotulinumtoxinA is a series of injections administered by trained professionals every 12 weeks; although it is indicated for chronic migraine, it is used in combination with medications used to manage episodic migraine

• Discuss possible side effects of medications

• Key guideline recommendations for starting preventive treatment for migraine include:
  – Start with a low dose and increase slowly until you see a therapeutic effect, reach the ceiling dose, or observe intolerable adverse effects
  – Consider comorbid conditions or coexisting illness before prescribing treatment
  – Give each treatment an adequate trial period, which could take 2 to 6 months
  – Set achievable goals; consider success as a 50% reduction in attack frequency or headache days, a significant decrease in the duration of attacks, or a better response to rescue medication
  – Ensure that women of childbearing age are aware of possible risks; consider avoiding preventive drugs if the patient is pregnant or anticipating pregnancy

PREVENTING EPISODIC MIGRAINE

<table>
<thead>
<tr>
<th>CLASS</th>
<th>AGENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antidepressants</td>
<td>Amitriptyline, venlafaxine</td>
</tr>
<tr>
<td>Antiseizure drugs</td>
<td>Divalproex sodium, topiramate</td>
</tr>
<tr>
<td>Antihypertensive drugs</td>
<td>Atenolol, metoprolol, nadolol, propranolol, timolol</td>
</tr>
</tbody>
</table>

PREVENTING CHRONIC MIGRAINE

<table>
<thead>
<tr>
<th>CLASS</th>
<th>AGENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botulinum toxin</td>
<td>OnabotulinumtoxinA</td>
</tr>
</tbody>
</table>

*Includes agents rated as level A (established efficacy) and level B (probably effective) according to 2012 US Headache Consortium guidelines.

Medications to prevent migraine

Medicines for other conditions can be useful for preventing migraine.

<table>
<thead>
<tr>
<th>PREVENTING EPISODIC MIGRAINE</th>
<th>TYPE OF MEDICINE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Antidepressants</td>
</tr>
<tr>
<td></td>
<td>Antiseizure drugs</td>
</tr>
<tr>
<td></td>
<td>Antihypertensive drugs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PREVENTING CHRONIC MIGRAINE</th>
<th>TYPE OF MEDICINE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Botulinum toxin</td>
</tr>
</tbody>
</table>

New types of migraine medications are being developed and may be available soon.
Supplements for migraine prevention

Points to emphasize:

Note: Supplements are used off-label for the prevention of migraine.

- Some evidence suggests that these supplements may prevent migraine attacks or reduce their severity; study results are inconclusive, although level B evidence\(^a\) exists for using feverfew, magnesium, or riboflavin for migraine prevention in adults.

- Some people have found these supplements to be useful as part of their migraine treatment plan:
  - Coenzyme Q10 300 mg once daily (level C\(^b\))
  - Feverfew 50-300 mg twice daily (level B\(^a\))
  - Magnesium 600 mg once daily (level B\(^a\))
  - MIG-99 (feverfew extract) 2.08-18.75 mg 3 times daily (level B\(^a\))
  - Riboflavin (vitamin B2) 400 mg once daily (level B\(^a\))

- Butterbur (\textit{Petasites hybridus}), which was once used for migraine prevention, is no longer recommended due to long-term safety concerns.

Additional information:

- Up to 82\% of patients with migraine use alternative or complementary medicines, often without telling their healthcare provider.

\(^a\)Probably effective.
\(^b\)Possibly effective.

Supplements for migraine prevention

Research shows that taking these supplements—in the right daily doses—may be useful as part of a migraine treatment plan.

- Feverfew
- Coenzyme Q10
- Magnesium
- MIG-99 (feverfew extract)
- Riboflavin (vitamin B2)
Rescue medications

Points to emphasize:

- Choosing a rescue medication depends on individual patient factors and preferences
- Treatment is most likely to work if it is taken at the first sign of migraine when pain or aura begin (if patients experience aura)
- Discuss possible side effects of medications
- Different formulations are available: oral, nasal spray, or injection
- Some people have gastric symptoms (eg, nausea and vomiting) with migraine and cannot take oral medicines; consider treating these patients with non-oral rescue medication and/or antiemetic medication
- Mention that you will later explain how overusing rescue medicines can lead to medication-overuse headache

Additional information:

- Despite the availability of new therapies and formulations, about one-half of patients with migraine continue to use over-the-counter products for acute attacks
- In general, for most patients with mild to moderate migraine, simple oral analgesics (eg, acetaminophen or nonsteroidal anti-inflammatory drugs [NSAIDs]) are appropriate
- For patients with moderate to severe attacks and those who do not respond to over-the-counter analgesics, it may be best to initiate triptans if no contraindications are present

Rescue medications

Many rescue medications are available. They can be taken in many different ways—by mouth, with nose sprays, or by injection. Listed below are types of rescue medicines and when to use them.

<table>
<thead>
<tr>
<th>TYPE OF MEDICINE</th>
<th>WHEN TO USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAIN RELIEVERS</td>
<td>Mild to moderate pain</td>
</tr>
<tr>
<td>TRIPRTANS</td>
<td>Moderate to severe pain</td>
</tr>
<tr>
<td>ERGOTAMINES</td>
<td>Frequent moderate pain or infrequent severe pain</td>
</tr>
<tr>
<td>ANTI-NAUSEA MEDICINES</td>
<td>Nausea and/or vomiting</td>
</tr>
</tbody>
</table>

- Take your medicine at the first sign of migraine to improve your chances of feeling better
- Do not use rescue medications for more than 10 days a month to prevent overusing medication, which can lead to another type of headache (medication-overuse headache)
- Contact your healthcare provider if you find that you need to take medication for more than 10 days a month
Pain relievers

Points to emphasize:

- Over-the-counter pain relievers are usually the first medicines recommended for mild to moderate migraine attacks.
- If the patient is responding to a pain reliever, he or she can continue taking it with each attack but must limit its use to 10 days a month due to the potential for medication overuse (pain relievers combined with other migraine medicines should be limited to 10 days a month as well).
- Remember to ask your patients during each visit about the number of days a month they are taking pain relievers.

Additional information:

- Drugs containing butalbital (which are commonly prescribed) should not be used to treat migraine because they do not contain appropriate ingredients for migraine, are addictive, and are highly associated with medication-overuse headache; butalbital is not approved by the Food and Drug Administration (FDA) for migraine.
- Narcotic analgesics such as opioids are not indicated for migraine; they can increase the risk of episodic migraine transitioning to chronic migraine, can worsen migraine pain, and can lead to medication-overuse headache.
- Refer patients to a pain specialist for medication management if migraine pain is not adequately controlled with NSAIDs and triptans.
- Although butorphanol nasal spray is FDA approved for the treatment of acute migraine, its use is often avoided due to concerns about dependency and addiction.


<table>
<thead>
<tr>
<th>AGENTS</th>
<th>ADVERSE EFFECTS</th>
<th>ADVANTAGES</th>
<th>DIS-ADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>Allergic reaction,</td>
<td>Few side effects;</td>
<td>Generally not effective as</td>
</tr>
<tr>
<td></td>
<td>gastrointestinal issues;</td>
<td>availability;</td>
<td>monotherapy for moderate</td>
</tr>
<tr>
<td></td>
<td>overdoses can cause</td>
<td>low cost; can be</td>
<td>to severe attacks</td>
</tr>
<tr>
<td></td>
<td>serious liver problems</td>
<td>combined with</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>triptans for better</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>efficacy</td>
<td></td>
</tr>
<tr>
<td>Diclofenac potassium powder</td>
<td>Gastrointestinal issues,</td>
<td>Can be combined with</td>
<td>Usually not useful as</td>
</tr>
<tr>
<td>(RX)</td>
<td>bleeding</td>
<td>triptans for better</td>
<td>monotherapy for severe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>efficacy</td>
<td>attacks; should be avoided</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>in people with stomach</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>problems, ulcers, kidney</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>disease, or bleeding</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naproxen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetaminophen/aspirin/caffeine</td>
<td>Cardiovascular issues,</td>
<td>Convenient; may have</td>
<td>Stomach irritation,</td>
</tr>
<tr>
<td></td>
<td>gastrointestinal issues,</td>
<td>better efficacy than</td>
<td>wakefulness</td>
</tr>
<tr>
<td></td>
<td>bleeding</td>
<td>individual components</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>alone</td>
<td></td>
</tr>
</tbody>
</table>
# Pain relievers

<table>
<thead>
<tr>
<th>TYPE OF MEDICINE</th>
<th>WHEN TO USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>Mild pain</td>
</tr>
<tr>
<td>Nonsteroidal anti-inflammatory drugs (NSAIDs)</td>
<td>Mild to moderate pain</td>
</tr>
<tr>
<td>- Diclofenac potassium powder (requires a prescription)</td>
<td>Can combine with triptans</td>
</tr>
<tr>
<td>- Ibuprofen</td>
<td></td>
</tr>
<tr>
<td>- Naproxen</td>
<td></td>
</tr>
</tbody>
</table>

When taking pain relievers:

- Do not use NSAIDs for more than 10 days a month
- Do not take NSAIDs if you have stomach problems, ulcers, kidney disease, or bleeding conditions

*Narcotics such as opioids and medications containing butalbital may increase the number of headaches you have and worsen your migraine pain. Therefore, these medications should not be used for migraine.*

*If you are taking NSAIDs for more than 10 days a month, tell your healthcare provider so he or she can help you find another treatment to help you feel better.*
# Triptans

**Points to emphasize:**

- Triptans are the most commonly prescribed acute medication for migraine; they are most effective when taken early in the course of an attack

**Triptans**

Many dosage forms are available, each with different instructions for how often doses can be repeated

- Patients must limit the use of triptans to fewer than 10 days per month due to the potential for medication overuse

- Triptans are not interchangeable and should not be mixed; for example, if one did not work, patients should not take a different kind 2 hours later

- Patients should let their prescriber know about other medications they are taking; serious drug interactions can occur when using triptans in combination with antidepressants or antiseizure drugs

- Triptans should not be taken within 24 hours of ergotamines because of concomitant effects and a risk of cardiovascular events

- Patients should be reminded that if headache recurs after initial relief using a triptan, a second dose can follow 2 hours or more after the first dose

**Additional information:**

- Patients may have a better response to one triptan than another

- Triptans are contraindicated in patients with migraine who experience aura that mimics stroke-like symptoms (e.g., unilateral limb numbness, tingling, weakness, speech difficulty, or ataxia) or seizure symptoms; any patient with neurologic symptoms associated with migraine should be referred immediately for appropriate neurodiagnostics and neurologic evaluation

## AGENTS/FORMULATIONS

<table>
<thead>
<tr>
<th>Agents/Formulations</th>
<th>Clinical Use</th>
<th>Adverse Effects</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almotriptan: tablets</td>
<td>Moderate to severe migraine pain; nonresponse to analgesics; non-oral formulations for nausea/vomiting symptoms during migraine</td>
<td>Nausea, paresthesia, chest discomfort, flushing, unpleasant taste (with nasal spray)</td>
<td>Highest efficacy; relief of severe attacks and associated symptoms; can be combined with NSAIDs and acetylsalicylic acid; variety of non-oral routes</td>
<td>Cost; not recommended in patients with high cardiovascular risks; pregnancy category C</td>
</tr>
<tr>
<td>Eletriptan: tablets</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Frovatriptan: tablets</td>
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<tr>
<td>Naratriptan: tablets</td>
<td></td>
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</tr>
<tr>
<td>Rizatriptan: tablets, oral dispersible</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Sumatriptan: tablets, nasal spray, subcutaneous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zolmitriptan: tablets, oral dispersible, nasal spray</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sumatriptan/naproxen: tablets</td>
<td>Moderate to severe migraine pain; nonresponse to analgesics alone</td>
<td>Nausea, paresthesia, chest discomfort, gastrointestinal issues, bleeding</td>
<td>Convenient; may have better efficacy than individual components alone</td>
<td>Stomach irritation, wakefulness</td>
</tr>
</tbody>
</table>

Triptans

WHAT IS A TRIPTAN?

• A prescription rescue medication that can stop a series of events that cause migraine

DELIVERY FORMS

• By mouth • By injection • Nose spray

WHEN TO USE

• Moderate to severe migraine pain
• As soon as symptoms begin

When taking triptans:

• Take them as soon as your migraine pain starts
• Follow the instructions for how many doses you can take each day and each month
• Do not mix or switch your triptan medication within 24 hours of taking it

Do NOT take triptans:

• Within 24 hours of taking ergotamines
• If you have aura with numbness, tingling symptoms, or difficulty speaking
• If you are pregnant

If you are planning to get pregnant or are pregnant, let your healthcare provider know because some of these medications are not safe to take during pregnancy.

Before starting this medication, talk to your healthcare provider if you have certain heart, kidney, or liver diseases.

If you are taking this medication for more than 10 days a month, tell your healthcare provider so he or she can help you find another medication to help you feel better.
Ergotamines

Points to emphasize:

- Ergotamines (or ergots) may not be as effective as triptans and are more likely to cause side effects and interact with other drugs

- They can be used in patients who do not respond to triptans or those with migraine attacks of a long duration (> 48 hours) or that frequently recur

- Ergotamines are often combined with caffeine and administered by nasal spray for mild or moderate migraine attacks or by injection for severe attacks

- Patients must limit the use of ergotamines to fewer than 10 days per month due to the potential for medication overuse

- Ergotamines should not be taken within 24 hours of triptans because of concomitant effects and a risk of cardiovascular events

Additional information:

- Ergotamines can be effective for some patients, although they have largely been replaced by triptans

- Ergotamines are contraindicated in patients with migraine who experience aura that mimics stroke-like symptoms (e.g., unilateral limb numbness, tingling, weakness, speech difficulty, or ataxia) or seizure symptoms; any patient with neurologic symptoms associated with migraine should be referred for appropriate neurodiagnostics and neurologic evaluations

- Ergotamines are also contraindicated in patients taking CYP3A4 inhibitors, including protease inhibitors and macrolide antibiotics

<table>
<thead>
<tr>
<th>AGENTS/FORMULATIONS</th>
<th>CLINICAL USE</th>
<th>ADVERSE EFFECTS</th>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dihydroergotamine: nasal spray, injection</td>
<td>Frequent moderate or infrequent severe migraine pain; nonresponse to oral agents; headache recurrence</td>
<td>Nausea, paresthesia, chest discomfort, nasal congestion (with nasal spray)</td>
<td>Low cost; moderate efficacy; can be combined with antiemetics</td>
<td>Increased risk of overuse; can increase nausea and vomiting; injected, oral, and nasal spray formulations are inferior to triptans; teratogenic effects (category X)</td>
</tr>
<tr>
<td>Ergotamine tartrate: sublingual tablet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ergotamines

WHAT IS AN ERGOTAMINE?
• A prescription rescue medication that can stop a series of events that cause migraine

DELIVERY FORMS
• By mouth • By injection • Nose spray

WHEN TO USE
• Moderate to severe migraine pain
• When other types of medication are not working
• Sometimes for migraine attacks that last a long time or happen often
• As soon as symptoms begin

Ergotamines:
• Should be taken as soon as possible after migraine starts
• Do not usually work as well as triptans
• Are often combined with caffeine

Do NOT take ergotamines:
• Within 24 hours of taking a triptan
• If you have aura with numbness, tingling symptoms, or difficulty speaking
• If you are pregnant

If you are planning to get pregnant or are pregnant, let your healthcare provider know because some of these medications are not safe to take during pregnancy.

Before starting this medication, talk to your healthcare provider if you have certain heart, kidney, or liver diseases.

If you are taking this medication for more than 10 days a month, tell your healthcare provider so he or she can help you find another medication to help you feel better.
Medication-overuse headache

Points to emphasize:

- Overusing rescue headache medications can cause more headaches
- Explain the cycle of medication overuse:
  - As the effect of a rescue medicine subsides and pain returns, one may wish to take more of the medicine
  - This can cause a secondary chronic headache: a dull constant pain that is often worse in the morning and felt on most days
- Medication-overuse headache can occur with any of the rescue medicines (both over-the-counter and prescription); it can also occur after taking rescue medicines for other types of pain
- A patient can get medication-overuse headache if he or she takes the following medications for 10 days a month or more:
  - NSAIDs (remind patients that ibuprofen and aspirin are in the same class)
  - Triptans and ergotamines
  - Analgesic combinations
- Remember to ask patients at subsequent visits about the number of days per month they are using pain relievers, triptans, and/or ergotamines; if use exceeds 10 days per month, consider modifying their preventive treatment plan
- Narcotics (such as opioids or butalbital-containing medications) should not be used to treat migraine; using them for even a short time can lead to chronic headaches and may heighten sensitivity to pain
- Medication-overuse headache is difficult to treat
  - Stopping the medicine is the only way to stop the overuse headache; this should be performed under the supervision of a healthcare provider
  - Headaches may worsen during this time, which may last several weeks
  - Patients may experience a long-term reduction in headache frequency
  - Preventive medications may become more effective
- Focus the discussion on the importance of trying to prevent headaches to reduce the need for medications

Additional information:

<table>
<thead>
<tr>
<th>DIAGNOSTIC CRITERIA FOR MEDICATION-OVERUSE HEADACHE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Headache occurring on at least 15 days per month in a patient with a preexisting headache disorder</td>
</tr>
<tr>
<td>B. Regular overuse for more than 3 months of one or more drugs that can be taken for acute and/or symptomatic treatment of headache</td>
</tr>
<tr>
<td>C. Not better accounted for by another ICHD-3 beta diagnosis</td>
</tr>
</tbody>
</table>
Medication-overuse headache

Overusing medications can sometimes lead to more headaches. Medication-overuse headache is hard to treat—stopping the medicine as directed by your healthcare provider is the only way to stop it.

You can get medication-overuse headache if you take the following medications for 10 days a month or more:

| Nonsteroidal anti-inflammatory drugs (NSAIDs) |
| Combinations of caffeine, aspirin, and/or acetaminophen |
| Triptans |
| Ergotamins |

Talk to your healthcare provider if you are using NSAIDs, triptans, and/or ergotamines for more than 10 days a month so he or she can help find another medication that may help you feel better.
Medicines for nausea

Points to emphasize:

- Patients who experience nausea or vomiting with migraine may find relief by taking certain anti-nausea medications.
- Diphenhydramine may be used to treat nausea associated with vertigo or dizziness; note that it may not be as effective as prescription medicines for nausea.
- Ask the patient if he or she is taking prescription anti-nausea medications and review the table below.

Additional information:

- Compared with other prescription anti-nausea medications, metoclopramide has been evaluated in more trials; although it is associated with a risk of extrapyramidal side effects, these are not common given the intermittent dosing that is used for treating migraine.
- Many patients try dimenhydrinate because it is easily available over-the-counter; however:
  - This drug contains both an antihistamine and a stimulant and has potential for abuse.
  - Its efficacy for migraine-related nausea is not supported by evidence.
- Metoclopramide, promethazine, prochlorperazine, and diphenhydramine can be used in combination to manage pain and nausea associated with migraine.

<table>
<thead>
<tr>
<th>PRESCRIPTION DRUGS FOR NAUSEA</th>
<th>ADVANTAGES/DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metoclopramide</td>
<td>• Effective</td>
</tr>
<tr>
<td></td>
<td>• Risk of extrapyramidal symptoms</td>
</tr>
<tr>
<td>Prochlorperazine</td>
<td>• Effective</td>
</tr>
<tr>
<td></td>
<td>• Can cause drowsiness</td>
</tr>
<tr>
<td></td>
<td>• Risk of extrapyramidal symptoms</td>
</tr>
<tr>
<td>Promethazine</td>
<td>• Effective</td>
</tr>
<tr>
<td></td>
<td>• Can cause drowsiness</td>
</tr>
<tr>
<td>Ondansetron</td>
<td>• Can be used for migraine, but it is not FDA approved</td>
</tr>
<tr>
<td></td>
<td>• Risk of arrhythmias</td>
</tr>
</tbody>
</table>
Medicines for nausea

Prescription medications, including some antihistamines and anti-nausea medications, can treat symptoms related to migraine, including nausea. Talk to your healthcare provider if you experience nausea and/or vomiting during migraine attacks so that you can find a medicine that can help.
Other treatments for migraine

Points to emphasize:

- Medication is only part of an overall treatment plan for many patients; managing triggers and/or implementing lifestyle modifications are important as well
- Nonpharmacologic migraine treatments can be used as preventive therapy and in conjunction with rescue medications
- Discuss available nonpharmacologic options to manage migraine pain (see table to the right); explain that many of these approaches have been shown to be effective, but not all of these options may be appropriate for everyone

Additional information:

- Level A evidence* supports the use of relaxation training, thermal biofeedback combined with relaxation training, electromyography biofeedback, and cognitive behavioral therapy
- Biobehavioral treatments are recommended for most patients, particularly those who prefer nonpharmacologic treatments, are not tolerating or responding to other treatments, or are pregnant or lactating
- Make sure to have references and referrals on hand if your patient wants to pursue any of these options

<table>
<thead>
<tr>
<th>NEUROMODULATION</th>
<th>Devices that modulate pain by emitting a low-dose electromagnetic pulse to prevent or stop migraine and other kinds of headache. They are FDA approved for treating migraine.</th>
</tr>
</thead>
<tbody>
<tr>
<td>COGNITIVE BEHAVIORAL THERAPY</td>
<td>This type of psychotherapy provides patients with strategies to change mindset or behavior, resulting in better pain control.</td>
</tr>
<tr>
<td>BIOFEEDBACK</td>
<td>Using computer software and devices that measure biometrics (eg, heart rate, skin temperature, muscle tension, and respiration), biofeedback coaching teaches patients strategies to control aspects of their autonomic nervous system that, in turn, can reduce pain.</td>
</tr>
<tr>
<td>ACUPUNCTURE</td>
<td>In this treatment, a practitioner inserts many thin, disposable needles into several areas of the skin at defined points. This can improve blood flow, which can reduce and control migraine pain.</td>
</tr>
<tr>
<td>PHYSICAL THERAPY, MASSAGE, AND CRANIOSACRAL THERAPY</td>
<td>These “hands on” techniques are generally used to treat headaches caused by musculoskeletal issues. However, not all people with migraine may find them helpful.</td>
</tr>
<tr>
<td>NERVE BLOCKS</td>
<td>Occipital nerve blocks and sphenopalatine ganglion blocks are injections to the nerves that block them from sending pain signals to the brain.</td>
</tr>
<tr>
<td>EMERGING PHARMACOTHERAPIES</td>
<td>A promising new class of agents called calcitonin gene-related peptide (CGRP) receptor antagonists are in clinical development for migraine prevention. CGRP plays a key role in the pathophysiology of migraine. The novel monoclonal antibodies block the CGRP receptor, thereby reducing CGRP levels, which reduces or prevents pain.</td>
</tr>
</tbody>
</table>

*Established efficacy.

Other treatments for migraine

- Nerve blocks
- Neuromodulation devices
- Supplements
- Massage
- Biofeedback
- Cognitive behavioral therapy
- Acupuncture
- Physical therapy
- Craniosacral therapy
- Upcoming treatments