

Non-pharmacological therapy:

Supplements for prevention of migraine

Nutraceuticals for migraine (Start with one of these and take for 1 month before adding on others. A good trial is 3 months):

1. Magnesium Citrate (oxide) 200-600mg, side effect is diarrhea if taking too much. Usually sold as 250mg tablets (consider taking 1 tablet each day for 3-4 days, if tolerating, then you can increase to 2 tablets each day)
2. Riboflavin (vitamin B2) 400mg daily (may turn urine slightly orange).
3. CoEnzyme Q10 - 300mg daily.
4. Feverfew 100-300mg daily

Or try Combination supplement called Migrelief (has Magnesium, B2, and feverfew)

Supplements for Migraine Prevention

Magnesium: Magnesium (400mg at bed) has a relaxant effect on smooth muscles such as blood vessels. We often give intravenous magnesium to patients who come into the emergency department for migraine because it helps to break the migraine. Three trials found 40-90% average headache reduction when used as a preventative. Magnesium also demonstrated the benefit in menstrual related migraine. Magnesium is part of the messenger system in the serotonin cascade and it is a good muscle relaxant. It is also useful for constipation which can be a side effect of other medications used to treat migraine. Good sources include nuts, whole grains, and tomatoes.

The best forms of magnesium

Magnesium citrate -- Magnesium citrate is the most popular magnesium supplement, probably because it is inexpensive and easily absorbed. Since citric acid is a mild laxative, magnesium citrate functions as a constipation aid as well as a magnesium source. It is a great choice for individuals with rectal or colon problems but is unsuitable for those with loose bowel movements.

Magnesium taurate -- Magnesium taurate is the best choice of magnesium supplement for people with cardiovascular issues, since it is known to prevent arrhythmias and guard the heart from damage caused by heart attacks. Magnesium taurate is easily absorbed (magnesium and taurine stabilize cell membranes together), and it contains no laxative properties.

Magnesium malate -- Magnesium malate is a fantastic choice for people suffering from fatigue, since malic acid -- a natural fruit acid present in most cells in the body -- is a vital component of enzymes that play a key role in ATP synthesis and energy production. Since the ionic bonds of magnesium and malic acid are easily broken, magnesium malate is also highly soluble.

Magnesium glycinate -- Magnesium glycinate (magnesium bound with glycine, a non-essential amino acid) is one of the most bioavailable and absorbable forms of magnesium, and also the least likely to induce diarrhea. It is the safest option for correcting a long-term deficiency.

Magnesium chloride -- Though magnesium chloride only contains around 12 percent elemental magnesium, it has an impressive absorption rate and is the best form of magnesium to take for detoxing the cells and tissues. Moreover, chloride (not to be confused with chlorine, the toxic gas) aids kidney function and can boost a sluggish metabolism.

Magnesium carbonate -- Magnesium carbonate is another popular, bioavailable form of magnesium that actually turns into magnesium chloride when it mixes with the hydrochloric acid in our stomachs. It is a good choice for people suffering from indigestion and acid reflux, since it contains antacid properties.

The worst forms of magnesium

Magnesium oxide -- Magnesium oxide is the most common form of magnesium sold in pharmacies, but it is non-chelated and possesses a poor absorption rate compared to those listed above.

Magnesium sulfate -- Magnesium sulfate, also called Epsom salt, is a fantastic constipation aid but an unsafe source of dietary magnesium, since overdosing on it is easy.

Magnesium glutamate and aspartate -- Avoid these two forms of magnesium completely. Glutamic acid and aspartic acid are components of the dangerous artificial sweetener aspartame, and both of them become neurotoxic when unbound to other amino acids.

Riboflavin (Vitamin B2): 200 mg twice a day (or 400 mg daily).

- This vitamin assists nerve cells in the production of ATP, a principal energy storing molecule. It is necessary for many chemical reactions in the body. There have been at least 3 clinical trials of riboflavin using 400 mg per day all of which suggested that migraine frequency can be decreased. All 3 trials showed significant improvement in over half of migraine sufferers.

Coenzyme Q10:

- This is present in almost all cells in the body and is a critical component for the conversion of energy. Studies have shown that a nutritional supplement of CoQ10 can reduce the frequency of migraine attacks by improving the energy production of cells as with riboflavin. Doses of 100-300 mg (or 150 mg) been shown to be effective.

Feverfew:

- Feverfew is a common garden herb native to Europe and popular in Great Britain as a treatment for disorders typically controlled by aspirin. The mechanism of action is unknown but is believed to be related to a chemical called parthenolide which helps the body use serotonin more effectively. Serotonin helps prevent migraine and assists with resolution when it occurs. Parthenolide also inhibits the release of histamine which is linked to pain and inflammation. Consistency of active ingredients in different products can be a problem. Some formulations don't have the active ingredient (parthenolide) that prevents migraine. **A parthenolide content of 0.2% is generally recommended.** Typical dosage is one capsule 3 times a day.

Melatonin:

- Increasing evidence shows correlation between melatonin secretion and headache conditions. Melatonin supplementation has shown decreased headache intensity and duration. It is widely used as a sleep aid. Sleep is nature's way of dealing with migraine. A dose of 3 mg is recommended to start for headaches including cluster headache. Higher doses up to 15 mg has been reviewed for use in Cluster headache and have been used. The rationale behind using melatonin for cluster is that many theories regarding the cause of Cluster headache center around the disruption of the normal circadian rhythm in the brain. This helps restore the normal circadian rhythm. It should be taken at least 2 hours before bedtime.

Ginger:

- Ginger has a small amount of antihistamine and anti-inflammatory action which may help headache. It is primarily used for nausea and may aid in the absorption of other medications.

Mindfulness based stress reduction

Adopting Mindfulness or Beginning a Mindfulness Meditation Practice

You have learned about the benefits of being mindful and building your capacity for this in daily life through mindfulness meditation and wonder how you can adopt this into your life. Please see resources below of implementing practices into your life in whatever amount of time you have: few seconds, minutes, hours, or weeks. Here you will find information on simple practices, mobile apps, guided meditations online, online and local courses, retreats, books, audiobooks, and more

Mindfulness Practices in 1 minute or Less

Washing your Hands

- Next time you are washing your hands, take a deep intentional breath.
- As you turn on the water, continue to focus on your breath and feel the sensation of the water and soap.

- Notice the temperature of the water, the sensation of one hand washing the other.
- If you want, think about how the encounter you are about to have (or just had) will positively impact you and the person with whom you are speaking. Think about this as a gift or opportunity
- Bring your awareness fully to the task, guiding your attention back if it wanders.
- Mindful Observation

This exercise is simple but incredibly powerful. It is designed to connect us with the beauty of the natural environment, something that is easily missed when we are rushing around in the car or hopping on and off trains on the way to work.

Looking at an object

Choose a natural object from within your immediate environment and focus on watching it for a minute or two. This could be a flower or an insect, or even the clouds or the moon.

Don't do anything except notice the thing you are looking at. Simply relax into a harmony for as long as your concentration allows. Look at it as if you are seeing it for the first time. Visually explore every aspect of its formation. Allow yourself to be consumed by its presence. Allow yourself to connect with its energy and its role and purpose in the natural world.

Opening the Door

This exercise is designed to cultivate a heightened awareness and appreciation of simple daily tasks and the results they achieve. It can be something other than opening the door, but we do this often in health care. Doing this exercise before each patient encounter can set a nice tone and help us leave any chaos outside the room behind. At the very moment you touch the doorknob to open the door, stop for a moment and be mindful of where you are, how you feel in that moment and where the door will lead you. Similarly, the moment you open your computer to start work, take a moment to appreciate the hands that enable this process and the brain that facilitates your understanding of how to use the computer. These touch point cues don't have to be physical ones. For example: each time you think a negative thought you might choose to take a moment to stop, label the thought as unhelpful and release the negativity. Or, perhaps each time you smell food, you take a moment to stop and appreciate how lucky you are to have good food to eat and share with your family and friends. Choose a touch point that resonates with you today. Instead of going through your daily motions on autopilot, take occasional moments to stop and cultivate purposeful awareness of what you are doing and the blessings it brings your life.

The 4-7-8 (or Relaxing Breath) Exercise

Although you can do the exercise in any position, sit with your back straight while learning the exercise. Place the tip of your tongue against the ridge of tissue just behind your upper front teeth and keep it there through the entire exercise. You will be exhaling through your mouth around your tongue; try pursing your lips slightly if this seems awkward.

- Exhale completely through your mouth, making a whoosh sound.
- Close your mouth and inhale quietly through your nose to a mental count of four.
- Hold your breath for a count of seven.
- Exhale completely through your mouth, making a whoosh sound to a count of eight.
- This is one breath. Now inhale again and repeat the cycle three more times for a total of four breaths.

Note that you always inhale quietly through your nose and exhale audibly through your mouth. The tip of your tongue stays in position the whole time. Exhalation takes twice as long as inhalation. The absolute time you spend on each phase is not important; the ratio of 4:7:8 is important. If you have trouble holding your breath, speed the exercise up but keep to the ratio of 4:7:8 for the three phases. With practice you can slow it all down and get used to inhaling and exhaling more and more deeply.

This exercise is a natural tranquilizer for the nervous system. Do not do more than four breaths at one time for the first month of practice. Later, if you wish, you can extend it to eight breaths. If you feel a little lightheaded when you first breathe this way, do not be concerned; it will pass.

Breath Counting

Sit in a comfortable position with the spine straight and head inclined slightly forward. Gently close your eyes and take a few deep breaths. Then let the breath come naturally without trying to influence it. Ideally it will be quiet and slow, but depth and rhythm may vary.

- To begin the exercise, count "one" to yourself as you exhale.
- The next time you exhale, count "two," and so on up to "five."
- Then begin a new cycle, counting "one" on the next exhalation.

Never count higher than "five," and count only when you exhale. You will know your attention has wandered when you find yourself up to "eight," "12," even "19."

Try to do 10 minutes of this form of meditation. (Start with one minute)

Noticing the Breath – Mindful Breathing for One Minute

This exercise can be done standing up or sitting down, and pretty much anywhere at any time. Breathe in through your nose and out through your mouth, letting your breath flow effortlessly in and out of your body. Let go of your thoughts for a minute. Let go of things you have to do later today or pending projects that need your attention. Simply let yourself be still for one minute. Purposefully watch your breath, focusing your senses on its pathway as it enters your body and fills you with life, and then watch it work its way up and out of your mouth as its energy dissipates into the world.

Mindfulness Mobile Apps with Guided Meditations

Headspace (10 days free, monthly subscription)
Guided meditation, great for on-the-go. Choose between 10-20 min meditation length
<https://www.headspace.com/>

Whil (\$15/month)
Guided meditations paired with leadership training
www.whil.com

Smiling Mind (Free)
Mindfulness programs for ages 7 - adulthood
<http://smilingmind.com.au/>

Buddhify (\$2.99)

80 short meditations for activities of daily life. Education and tracking tools
www.buddhify.com

Calm (basic is free with various purchase upgrades)
Background nature sights/sound. Daily learn to meditate followed by multiple meditations
www.calm.com

10% Happier: Mindfulness for Skeptics (\$19.99)
14-day program; Daily video information and audio guided meditations. Personal coach
<http://www.changecollective.com/10-percent-happier/>

Insight Timer (free) - more advanced
Community forums; personal stats and journal
<https://insighttimer.com>

The Mindfulness App (\$2.99)
Guided and silent meditations that last between 3-30 minutes
<http://www.mindapps.se/themindfulnessapp/>
Guided Meditations online
UCLA's Mindfulness Awareness Research Center
Free guided mindful meditations
<http://marc.ucla.edu/body.cfm?id=22>

Biofeedback:

Biofeedback training can be particularly useful for someone with longstanding tendency toward anxiety, who may have a high level of sympathetic nervous system activation at baseline. Biofeedback training can help shed greater light on that baseline level of physiologic arousal, as well as, how this shift when a person is exposed to stressful circumstances. Furthermore, biofeedback training can help a person learn how to decrease this reactivity at baseline and how to return to a healthier baseline when stressors are introduced into his or her life. A decrease in nervous system reactivity, (for example, a decrease in muscle tension) may help reduce the intensity, frequency and/or duration of pain.

Acupuncture for Headache

Acupuncture can be effective for prevention, as well as, acute treatment of headaches. Recommended frequency is 1-2 sessions each week for a total of 10 sessions. Acupuncture may not be as effective if the sessions are more spread out in time.

Chiropractor for Headache

Some of the adjustments and maneuvers they perform on the neck can injure blood vessels inside of your neck. A tear in the blood vessel wall can lead to the formation of a clot, and if that clot dislodges, it can go up to your brain and cause a stroke.

Neck stretching exercise:

1. PT videos online are helpful for neck relaxation:
<https://www.youtube.com/watch?v=CaPRFm3EZWY>
2. Heating pad is helpful for muscle relaxation

3. Obtain referral from a family doctor for physical therapy with the following instructions:
“Patient has myofascial muscle pain in the neck, bilateral shoulders, and upper back which is a significant trigger of migraine. Please evaluate and help with relaxation and stretching exercises of the neck, shoulders, and upper back.”

Other methods:

Epsom salt bath (epsom salt is Magnesium sulfate). Helps with muscle tension/pain, and the magnesium that gets absorbed into the system (through the skin) can be helpful for headaches and sleep. Pour 2 cups of the epsom salt in a bathtub filled with warm water. Then soak in it for 15 minutes.

Yoga:

Please view this web link for gentle yoga movements.
https://www.youtube.com/watch?v=X9LtHyR__OQ

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