

# Placebos Are as Effective as Drugs for Migraines

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## STORY AT-A-GLANCE

- › Migraines affect up to 10% of children each year, impacting their school work and athletics, and affecting their relationships
- › Research demonstrates that placebos are as effective as medications to prevent migraines without the adverse side effects of the drugs
- › Simple lifestyle strategies may help to prevent migraines, and drug-free techniques can help to ease the pain of a migraine

***Editor's Note: This article is a reprint. It was originally published November 16, 2016.***

Migraines affect 38 million men, women and children in the U.S. every year.<sup>1</sup> They are much more than simply bad headaches, but rather are a neurological disorder, considered to be one of the more common disorders of the nervous system.<sup>2</sup>

Migraine headaches in children may also include abdominal pain and mood changes.<sup>3</sup> Concurrent symptoms of migraines that are common to both adults and children include visual disturbances, nausea, vomiting, dizziness and sensitivity to sound, light, touch and smell.

**Migraine headaches** are considered a vascular event as the migraine triggers changes to the size of the arteries both inside and outside the skull.<sup>4</sup> Eighty percent of people who suffer from migraines have a family history of them.

While the exact cause of migraines is unknown, researchers have identified specific chemical compounds that may trigger migraines, and others that may help prevent them.

## Childhood Migraines

Between 5% and 10% of children who have chronic headaches will experience a migraine headache.<sup>5,6</sup> Half of those will experience their first migraine before age 12; some physicians have reported migraines in children as young as age 2.<sup>7</sup>

Symptoms of migraines in children and teenagers may be slightly different from those in adults, but the headache is just as disabling. Symptoms that differ include:<sup>8</sup>

Abdominal pain only and no headache symptoms, also called an abdominal migraine

Pain is often shorter in duration, sometimes lasting less than an hour

Children sometimes feel more sick as the migraine begins to resolve; these symptoms may be worse than the migraine

A headache will affect the whole head and not just one side

Car sickness may be an indicator of a migraine in young children

Headaches can come on very suddenly and the child may experience severe pain in less than 15 minutes

Children may also exhibit behaviors that predict the onset of migraine headaches in later years, such as vomiting every few months without a gastrointestinal virus, episodes of dizziness and colic as a baby. While many parents ask if their child will outgrow the condition, there is no simple answer.

Up to 40% may outgrow migraine headaches by the time they are 22 years old, and some studies suggest that managing migraines effectively in childhood may reduce the

potential the headaches will become recurrent in adulthood.<sup>9</sup>

In early childhood, boys suffer more migraines than girls do. However, once children reach puberty, girls have more than twice the number of migraine headaches as boys.<sup>10</sup> As adults, women are three times more likely to experience migraines than men, related to their hormonal fluctuations.

## **Placebos Work as Well as Drugs to Prevent Migraines in Children**

In a 2016 research published in The New England Journal of Medicine (NEJM), scientists discovered that children responded well to [placebos in migraine prevention](#).<sup>11</sup> The researchers compared the effectiveness of two commonly used medications to prevent migraine headaches used in children and adults, against a placebo.

The results showed that neither of the medications used in the experiment were more effective than the placebo, and the adverse side effects from the drug gave it a less favorable risk-benefit profile in a pediatric population.<sup>12</sup>

Scott Powers, Ph.D., lead author and pediatric psychologist in the department of pediatrics, University of Cincinnati School of Medicine, said:<sup>13</sup>

*"Our purpose was to create a 'real world' study that would enroll the type of patients that practitioners see every day.*

*Our hypothesis was that we would find one of these medicines to be the most effective with the least amount of side effects so that pediatricians and family medicine doctors would have sort of a first-line prevention approach for such a chronic, common illness as migraine."*

This was the first rigorous study to evaluate generic prescription drugs in a pediatric population. The goal was to see if one of them could reduce the number of days the children experienced migraines by half over a month. Dr. Leon Epstein, neurology chief at Ann and Robert H. Lurie Children's Hospital of Chicago, commented on the results, saying:<sup>14</sup>

*"The fact that it shows that two of the most commonly used medications are no more effective than a placebo and have adverse effects makes a very clear statement."*

He went on to encourage other neurologists to rely on lifestyle changes and other preventive strategies, rather than medications that carry risks and side effects for children. The study enrolled over 350 children between 8 and 17 years who were registered at 31 different medical centers. In order to qualify they had on average 11 migraines a month.

## **Childhood Migraine Triggers**

Reducing the number of migraines in adults and children begins with reducing your exposure to known triggers, or environmental factors that increase your risk of experiencing a migraine headache. There are known triggers for the pediatric population that may be slightly different than those for adults.

Although the exact causes of migraines are not known, these are the most common culprits known to trigger a headache in many children who experience migraines:<sup>15,16,17,18</sup>

**Caffeine** – While it can help alleviate a headache once begun, eating or drinking caffeine is a known trigger as well.

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**Certain foods** – Common foods that trigger migraines include nuts, chocolate, alcohol, aged cheese, shellfish, hot dogs, lunch meats, foods with nitrates and anything with MSG. Remove these foods from your child's diet to prevent headaches. You may try reintroducing one every two months to see if it triggers a migraine.

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**Changes in the weather or barometric pressure changes.**

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**Stress** – Events that cause any stress, both good and bad in your life. Using strategies to relax and stay calm can help to reduce the potential for a migraine headache.

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**Depression** – Commonly experienced in the teen years, depression may be triggered by hormonal changes or situational stress, or may run in the family. It's important to seek help for your child to prevent permanent damage and improve their life.

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**Hormonal changes** – Monthly changes with menstruation, ovulation or pregnancy. If this is one of your triggers, you can reduce the effect of a migraine by reducing or eliminating other known triggers during these days of the month.

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**Eating** – Either eating too much food in one sitting or skipping a meal can trigger a migraine in a child or adolescent.

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**Sleep** – Either lack of sleep or too much sleep may disrupt hormonal patterns and trigger a migraine. Seek to get eight hours of quality sleep each night.

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**Dehydration** – Especially highly active children and during warm months of year. Drink until your urine is a light straw color. You may need to drink water during and/or between all classes to maintain hydration.

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**Computer lights** – Computer screens and mobile devices may trigger headaches. Reduce your time in front of digital devices and look up from the screen every couple of minutes to relax your eyes.

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**Traveling** – This disrupts sleep, eating and drinking habits. Seek to maintain your normal habits as much as possible.

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**Sudden physical exercise** – Although it can trigger a migraine, consistent exercise will help to reduce the number of migraines and improve your fitness.

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## **Treating Children Not the Same as Treating Adults**

In the study published in NEJM, the researchers' primary outcome was to affect a 50% reduction in headache days over the month. Both medications and the placebo achieved

this goal – 55% of the topiramate group, 52% of the amitriptyline group and 61% of the placebo group.<sup>19</sup>

These results were significantly more than seen in adult studies, which often accept much lower differences between the drug and placebo to have a positive result. However, the side effects in the children were also significant. Cognitive Behavioral Therapy (CBT) is a nonpharmacological approach that also demonstrates better results than medication in children, and has better long-term results.<sup>20</sup> Powers, also involved in the CBT study, commented:<sup>21</sup>

*"The group that got CBT got better and stayed better. We need to make CBT more accessible and more of a first-line treatment."*

Researchers theorized that children appeared to demonstrate good results with CBT as they were used to learning new strategies and doing homework. In order for CBT to be successful the participant must not only learn how to use it, but also practice the techniques consistently. Children were also more open-minded about using a technique that didn't involve medication.

## **Consider Nutritional Deficiencies and Oral Bacteria**

In a study published in the American Society for Microbiology,<sup>22,23</sup> researchers found people who suffer from migraines have a higher growth of oral bacteria that reduces nitrates into nitrites. Your body then converts the nitrites into nitric oxide. This may explain the connection between eating hot dogs, processed meats and other foods rich in nitrates with migraine headaches.

In separate research, scientists linked an increased amount of nitric oxide with a higher potential for suffering from migraines.<sup>24</sup> Further research from Cincinnati Children's Medical Center found a link between migraine headaches and below average levels of coenzyme Q10 (CoQ10) and riboflavin.<sup>25,26</sup>

The study confirmed a previous work identifying deficiencies in CoQ10 and the potential for supplementation to reduce migraines. Studies have demonstrated the effectiveness

of using CoQ10 as a prophylaxis for migraines,<sup>27</sup> finding it is well tolerated and reduces the number and frequency of headaches.<sup>28</sup>

A magnesium deficiency may trigger a number of different health conditions, including depression, platelet aggression, serotonin receptor function and influence production and use of neurotransmitters.<sup>29</sup>

Researchers have theorized that migraine sufferers may develop magnesium deficiency from a variety of reasons, including poor absorption, renal wasting, increased excretion due to stress or low nutritional intake. No matter what the reason, past research has demonstrated migraine sufferers are likely to suffer from **magnesium deficiency**.

## **Easing a Migraine Without Drugs**

Migraine headaches are painful, debilitating and recurring. By knowing your particular triggers and environmental factors that may worsen your symptoms, you can develop a plan of natural interventions to help prevent future attacks and lessen the pain when you do have a migraine.<sup>30</sup>

**Turn down the blue light** – Within full spectrum light is a blue wavelength. Many digital devices and **LED light sources** emit mostly blue light. Research has found that this light increases your migraine pain and activates your trigeminal nerve, associated with the pain of migraines.<sup>31</sup>

A study published in the journal *Brain* from Harvard Medical School found individuals suffering from migraine pain would experience a reduction in pain and photosensitivity when exposed to pure green light.<sup>32</sup>

Blue blocking sunglasses will block light linked to increasing your migraine pain. You may also consider eliminating your exposure to your digital devices while you're in the middle of a migraine.

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**Eliminate processed foods high in nitrates** – Dr. Brendan Davies, a consultant neurologist at the University Hospitals of North Midlands (U.K.) commented on the

study linking your oral microbiome with migraines, saying:<sup>33</sup> "There's something called a hot dog headache, where nitrates are suspected to be involved."

Foods high in nitrates include cured and processed meats, which may contain added nitrates used as a preservative.<sup>34,35</sup>

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**Reduce your intake of foods that trigger your migraines** – Other known migraine triggers include [processed sugar](#), aged cheeses, refined grain products, products with gluten or yeast, red wine, MSG and pickled or cured fish.<sup>36</sup>

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**Develop a strong intestinal microbiome** – By significantly reducing nutrients needed by bad bacteria in your gut (processed sugar) and increasing nutrients good bacteria use to grow (fiber), you can make a positive impact on your gut microbiome. Fermented foods or a high-quality probiotic can also help to strengthen your immune system.

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**Use essential oils to soothe tension and reduce stress** – Stress reduction may help prevent migraine or tension headaches. Essential oils may be applied to the side of your head or neck to help reduce tension and stress. Several drops of oil to a heated towel and applied directly to your head may also stop the pain. Oils that are effective include peppermint, lavender, eucalyptus, frankincense and rosemary.

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**Get enough high-quality sleep each night** – Adequate amounts of quality sleep are essential for stress reduction and optimal health. If you have trouble getting to sleep or staying asleep, my previous article, "[Top 33 Tips to Optimize Your Sleep Routine](#)," shares over 30 suggestions to improve the quality of your nighttime routine and your sleep.

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**Use relaxation techniques to reduce pain** – Practices that help you develop a strong mind-body connection and both identify when you're stressed and help reduce your stress, include the Emotional Freedom Techniques (EFT), meditation, yoga, biofeedback, deep breathing and guided imagery.

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## Sources and References

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