

## Migraine in children and teenagers: Can taking medications or herbal products prevent attacks?



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Some people have occasional migraines which can cause a lot of pain and make them feel ill. Migraine attacks last at least four hours in adults and teenagers, and at least two hours in children. It is not known what causes them. You can read about the symptoms of a migraine here (URL: <http://www.informedhealthonline.org/index.480.en.html>) . Most children and teenagers manage their migraines with changes to their lifestyle and medications for pain relief when they need them. However, if the migraines happen so often that they interfere with daily life, or if medications for attacks do not help, then young people and their parents often try to find ways to prevent migraines.

Children and teenagers may be able to reduce migraine attacks through lifestyle changes and by learning ways to relax and manage migraines. You can read more about that here (URL: <http://www.informedhealthonline.org/index.481.en.html>) .

These approaches are not always easy, though, and they do not always work. Some children and teenagers still have more than 4 migraines a month. The symptoms may be very severe, preventing them from going to school and doing other activities. If that happens, they might be particularly interested in trying to prevent migraines with medications or herbal products, even if they have to take them every day.

There are several medications that adults use to prevent migraines, but this does not automatically mean that they will work for children too. Drugs can affect children's bodies differently and children's migraines are different. This means that the results of research on migraine drugs in adults do not necessarily apply to children and teenagers.

There have not been enough trials in young people for the regulatory agencies like the European Medicines Agency (EMA) and the US Food and Drug Administration (FDA) to approve any drugs for the prevention of migraines in children and teenagers. Some countries have approved one or another drug on their own, but most countries have not.

No medication has been approved in Germany as safe and effective for migraine prevention in children and teenagers. If a drug has not been approved for use in children and

teenagers, it can only be used "off-label". Off-label use is when a drug is used in a group of patients or for a medical condition despite not being approved for this kind of use. If your doctor prescribes a medication for off-label use, then he or she will need to warn you about this and explain what it means. You can read a little more about what off-label use means here (URL: <http://www.informedhealthonline.org/index.151.en.html>) .

## **Types of medications and herbal products**

There are several types of medications that are used off-label for migraine prevention in adults and sometimes in children and teenagers too. The main options that have been studied include:

- **Antihypertensive (blood-pressure-lowering) drugs:** These include medications that block calcium (called calcium-channel blockers), such as magnesium and flunarizine. Another antihypertensive drug that has been used is propranolol (called a beta-blocker). These drugs can cause a variety of adverse effects, including drowsiness, fatigue, gastrointestinal problems and nausea.
- **Herbal products:** These include feverfew and butterbur root, as well as herbal products (sometimes dietary supplements) with magnesium and vitamin B2 (riboflavin) in them. These can also cause adverse effects. You can read more about things to consider if you are self-medicating with herbal products and dietary supplements here.
- **Antihistamines:** These are drugs that block allergic reactions in various ways. An antihistamine called pizotifen is used to treat migraines in some countries, but it is not available in Germany.

## **Mixed research results on medications to prevent migraines in children and teenagers**

In order to find out whether medication can help to prevent migraines in children and teenagers, a group of researchers from the Netherlands looked for trials on all drugs, whether or not they were licensed for use in young people. Trials for migraine treatment in children and teenagers usually involve comparing a group of people taking a drug with another group taking a placebo (a fake tablet). This is because for many children and teenagers,

migraines will get better over time. So the only way to be sure that an improvement in migraines is really caused by a medication is to compare the medication with a placebo.

The researchers found 20 trials that had compared 13 different medications either with a placebo or with one another. Altogether, the trials included nearly 900 children and teenagers between the ages of 3 and 18. The researchers concluded that there was not enough data on any drug to be sure that its benefits outweigh its adverse effects in people of this age.

Out of the different prescription medications, there are some early signs that flunarizine might be able to reduce migraine severity and frequency, but only just over 230 people took part in 5 trials of this drug. Flunarizine did not seem to have any adverse effects in these trials. But it is still not clear what adverse effects these medications could have if used for a long time, because the trials only lasted between 2 and 6 months. Trials need to be larger and go on for longer to answer questions about the medication's preventive effect and less common adverse effects.

The only other prescription medication for which there is some evidence that it might be able to help was propranolol. However, the results of the trials here were contradictory, and there were fewer trials with fewer children and teenagers than there were for flunarizine. All the other prescription medicines did not appear to help prevent migraines.

As with the prescription medications, there has been too little research on herbal medicines to know whether or not they can prevent migraines.

If you do try a medication off-label for preventing migraine, then it is important to review this every few months. Because so many children and teenagers grow out of their migraines, the problem may have lessened or gone away on its own and not because of the medication. You can read more about migraines in children and teenagers in our feature (URL: <http://www.gesundheitsinformation.de/a-z-list.583.56.en.html>)

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## Glossary

### calcium

Calcium is an important mineral for human health. It is one of the building blocks for bones and teeth, and it is necessary for blood clotting, the muscles and the nerves. Calcium occurs in milk and milk products, as well as in green leafy vegetables. People can get a calcium deficiency if they have a chronic inflammatory bowel disease, as well as in pregnancy or during breastfeeding.

### evidence

Evidence is what we call scientific proof from well-conducted, good-quality scientific trials that have been carefully designed to answer specific questions. Depending on the types of questions, different scientific research methods (types of study) are most appropriate to find reliable answers to these questions. Randomized controlled trials (RCTs), for example, are the best way to get reliable evidence on the effectiveness of medical treatments (interventions). This type of study, however, is not the best form of evidence for all possible questions, and does not provide the best answers to all kinds of questions, either. Epidemiological studies, for example, are very suitable for establishing well-founded proof for the spreading of a disease in the population.

### off-label use

Off-label use is non-approved use, which means that a drug is used for an illness or disease for which it has not been licensed by the country's medicine authorities – for example, a drug that has been tested and licensed for treating people with blood cancer is also used for treating people with stomach cancer. When a doctor prescribes a drug off-label, the question arises of who is liable for possible adverse effects. Usually, liability lies with the manufacturer of the medication. Patients need to be informed about possible consequences. In Germany, health insurances cover the costs for an off-label use of a drug only in exceptional cases. Find out more: [What is "off-label use"?](#)

### dietary supplement

Dietary supplements (also known as food supplements or nutritional supplements) are concentrated vitamins, minerals, trace elements, fibers and/or other substances that are intended to supplement the diet. Advocates of dietary

supplements claim that they have a certain, often preventive or strengthening effect on the body. They are available as capsules, pills, powder or ampules, for example. From a legal point of view, dietary supplements rank among foods and therefore – as opposed to medications – do not need official approval. More information is available on the website of the German Federal Institute for Risk Assessment (Bundesinstitut für Risikobewertung, BfR): [To the BfR website \(in English\)](#)

## Sources

Damen L, Bruijn J, Koes BW, Berger MY et al. Prophylactic treatment of migraine in children. Part 1. A systematic review of non-pharmacological trials. *Cephalalgia* 2006; 26: 373-383. [PubMed summary (URL: <http://www.ncbi.nlm.nih.gov/pubmed/16556238?dopt=Abstract>) ] [Informed Health Online summary (URL: <http://www.informedhealthonline.org/index.481.en.html>) ]

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## **Evidence basis of our health information**

Our information is based primarily on systematic reviews of the effects of health care. Systematic reviews are necessary to gain an objective picture of health care. In order to do this, a clear question is formulated. Researchers then find all the relevant studies that could answer this question. They then evaluate those studies.

You can find a list of the evidence and other scientific literature on which this information is based at **[www.informedhealthonline.org](http://www.informedhealthonline.org)**

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