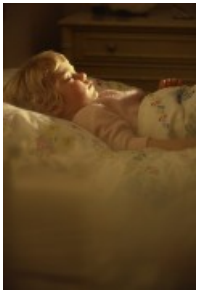


Migraine in children and teenagers: Which drugs can relieve the symptoms?



The painkillers ibuprofen and acetaminophen (paracetamol) can relieve migraine attacks in children and teenagers and only rarely cause adverse effects. Sumatriptan nasal spray is also effective for children over the age of 12, but it causes more adverse effects.

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Migraine is fairly common in children and teenagers. By the time they reach puberty, perhaps up to 1 in 10 young people have migraines every now and then. A migraine headache lasts at least four hours in adults and teenagers, and at least two hours in children. One typical symptom is a sudden, bad and pounding headache, usually on one side of the head. Migraines may also be associated with nausea and sensitivity to light or noise. Other symptoms, particularly in children, include paleness, vomiting and belly ache. Movement and activity usually make the headache worse. The cause of migraines is not known. You can read more about the different types of headache and how to tell if it is a migraine here (URL: <http://www.informedhealthonline.org/index.480.en.html>).

When children or teenagers have migraines, they usually need to lie down in a quiet and dark place until the pain goes away. Using a cold pack on the side of the head that is hurting could help. You can read about the research on different ways of trying to prevent migraines here (URL: <http://www.gesundheitsinformation.de/a-z-list.583.56.en.html>).

Medications that work in adults will not always work in exactly the same way in children and teenagers. Not only do children need smaller doses because they are physically smaller: the drugs might work differently, too. They may be more or less effective in relieving the symptoms of migraine, and they may cause different unwanted or adverse effects as well. For this reason, most of the medications that are commonly used for adults with migraine attacks have not been approved for use in children or teenagers. The only drugs which are approved for use in children and teenagers in Europe are:

- **Ibuprofen:** This is a non-steroidal anti-inflammatory drug (or NSAID) that is approved for use in children and teenagers for pain generally. It is the main ingredient in many common painkillers.
- **Acetaminophen (paracetamol):** This is another common painkiller that is approved for use in children and teenagers. It is either used alone or in combination with a nausea-relieving drug called metoclopramide,

specifically for migraine attacks. That combination treatment is only approved for use in children over the age of 12 years.

- **Sumatriptan:** A nasal spray with this migraine medication in it is approved for use over the age of 12 years. This involves a single spray dose in one nostril.

Other drugs for acute migraines have not been approved for use in children and young people. Doctors can prescribe non-approved drugs for what is called "off-label use". You can read more about what that means here (URL:

<http://www.gesundheitsinformation.de/what-is-off-label-use.300.1>. If a doctor prescribes off-label, then he or she should explain the reasons for doing this and the associated risks.

Research results: Ibuprofen and sumatriptan nasal spray are the most effective drugs in children and teenagers

A group of researchers from the Netherlands investigated which drugs for migraine attacks have already been tested in children and teenagers, and what can be expected of them. Studies called randomised controlled trials are the most suitable kind of research to test what effects a drug has. These are also often called clinical trials. It means that a group of volunteers agree to join the research and be randomly signed up either to receive a particular drug, another treatment or a fake treatment (placebo).

In trials on drugs for migraines, the second group of people usually took placebos. This is important, because migraines in children and young people can be over within a few hours, so taking a placebo might seem to be very effective when in actual fact the migraine got better by itself. These drugs were also often tested in so-called "crossover studies", in which participants first received the drug and then the placebo, or the other way round. They do not know whether they got the drug or the placebo first. That is determined by chance in the trial.

The researchers found 10 trials involving more than 1,500 children and teenagers between the ages of 4 and 18. Four of the trials compared the painkillers acetaminophen (paracetamol) or ibuprofen with either a fake pill (placebo) or with each other. The results show that both medications can relieve acute migraines in children and teenagers. One has not been definitely proven to be more effective than the other, although the relief from ibuprofen might last a little longer. Some of the people who took

ibuprofen had stomach ache (around 1%), but no serious adverse effects occurred in the trials. However, if these drugs are taken for a long time, they can cause stomach and bowel problems.

Five other trials looked at two treatments, sumatriptan and rizatriptan, which belong to a group of drugs called the triptans. These drugs aim to relieve pain as well as typical migraine symptoms such as nausea and light sensitivity. The trials showed that sumatriptan nasal spray is effective in children and teenagers with migraine, but adverse effects were common. About 1 out of 4 participants said that the spray lead to an unpleasant taste in their mouth. Other less common adverse effects included drowsiness and a stiff jaw. When taken as tablets, sumatriptan and rizatriptan were not shown to be better than a placebo in these trials.

The researchers also found two trials that tested three other drugs. But they were of too poor quality to be able to draw reliable conclusions about whether these drugs work and how well they work.

The researchers concluded that ibuprofen and acetaminophen (paracetamol) seem to be the most effective treatments with the least adverse effects for the treatment of migraine in children and teenagers.

This additional information has been provided by the U.S. National Library of Medicine:

The U.S. Food and Drug Administration (FDA) has not approved the use of sumatriptan in children or adolescents.

Author: German Institute for Quality and Efficiency in Health Care (IQWiG)

Glossary

NSAID

Abbreviation for non-steroidal anti-inflammatory drugs. These are a class of pain-relieving drugs that reduce inflammation and fever. They are also sometimes called non-steroidal arthritis drugs.

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"?](#)

Sources

Damen L, Bruijn JK, Verhagen AP, Berger MY et al. Symptomatic treatment of migraine in children: a systematic review of medication trials. *Pediatrics* 2005; 116: e295-e302. [PubMed summary (URL: http://www.ncbi.nlm.nih.gov/pubmed/16061583?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed)]

The German Institute for Quality and Efficiency in Health Care (IQWiG)

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You can find a list of the evidence and other scientific literature on which this information is based at **www.informedhealthonline.org**

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