

“MY HEAD HURTS”

INFORMATION ON HEADACHES IN CHILDREN



If you are reading this, you or someone in your family has headaches. If you are a parent, we understand it may be difficult to see your child uncomfortable or in pain. If you are a child it may be frustrating or even scary having headaches. What can you and/or your child do to minimize headaches and control the severity of headaches that do occur? How can you comfort your child when he or she is in pain? We would like to help you feel part of the solution. Together we will explore ways to prevent and manage your child’s headaches and ultimately improve quality of life for all family members.



The information in this pamphlet is intended to educate you about headaches, what to look for and what to do when headaches are of concern. Remember, many strategies can be used to control headaches. However, what works best for your child needs to be balanced and flexible. Please contact your health care provider if you have any questions or concerns about your child’s health or the information presented in this booklet.

SOME FACTS ABOUT HEADACHES...



Children get headaches.



Almost half of all children have experienced a headache by the age of 7.



About 75% of children complain of a significant headache by the age of 15.



It may be hard for a child to describe what the headache feels like. Many children may simply say: "My head hurts".



Both boys and girls can get migraines.



It is estimated that approximately 10% of migraine sufferers are children under the age of 15.



Migraine headaches tend to run in families.

ARE THERE DIFFERENT TYPES OF HEADACHES?

Yes, there are different types of headaches. With that in mind, the most common types of headaches in children are migraines and tension-type headaches. Actually some children may even have both.

PRIMARY HEADACHES –These are headaches that occur on their own and not as the result of some other health problem.

1) MIGRAINE – Migraines are typically a severe headache and may occur with or without an 'aura'. An aura is an awareness or symptom that comes before or during the onset of the migraine. Descriptions may include seeing spots, colors, dots or lights.

Migraine headaches are often described as **pounding or throbbing**. The headache may occur on both sides of the head (bilateral), but more commonly on just one side (unilateral). A migraine headache can last from one hour to 48 hours. Your child may have nausea, vomiting, and loss of appetite or stomach pain with the headache. Some children are more sensitive to light (photophobia) or sound (phonophobia) when they have a migraine. Also, the migraine may get worse with increased activity during the headache period. There is often a family history of migraines when a child has this type of headache.

COMPLICATED MIGRAINE – This is a migraine headache that involves neurologic signs before, during or after the headache. Some examples of these signs may include arm and/or leg weakness, double vision due to weakness in eye movement, and unsteadiness in walking. Complicated migraines may or may not be experienced with an aura.



2) TENSION – Having a tension headache feels like a dull tightening or pressing on the head. There is no nausea associated with this type of headache and often children can still participate in regular activity even while they have a tension headache. Children with tension headaches may have chronic (daily) or episodic (several times a month) headaches.

Chronic daily headaches (CDH) may be associated with other symptoms, such as dizziness, sleep disturbances, fatigue, increased anxiety, difficulty concentrating and a sad mood. Sometimes chronic headaches may be a symptom of other medical and/or psychiatric conditions such as depression, severe anxiety or panic disorders. Treatment for CDH is similar to that for tension headaches.

SECONDARY HEADACHES – There are many different causes for these types of headaches ranging from rare serious diseases to easily treated conditions, such as Medication overuse headaches. Many patients with frequent or severe headaches are concerned they have a brain tumor. Fortunately, brain tumors are an uncommon cause of headaches. Members of the health care team will assess your child carefully to identify if he or she has secondary headaches.

As you can see various types of headaches exist. Your health care provider will most likely use the **International Classification of Headache Disorders** to provide you with the most appropriate diagnosis for your child's headaches.

WHAT CAUSES HEADACHES?

The cause of the headache will vary depending on its type.



There are **different theories** about the cause of **migraines**. The exact cause may be a combination of reasons.

Possible causes may include:

- a) Changes in the head (cranial) blood vessels, such as widening (vasodilatation) or narrowing (vasoconstriction). These changes may be linked to the aura before the migraine. Also an increased release of chemicals that affect blood vessel size or these chemical's abilities to cause inflammation and trigger a nervous system pain pathway may cause migraines.
- b) Brain chemical imbalances rather than blood vessel changes may be the cause of migraines.
- c) A genetic cause for migraines since there is a trend for them to occur in families.

The cause of **tension type headaches** is not clearly understood.

Both **migraine and tension headaches** are often triggered by stress in a child's life. Sometimes it is difficult to determine what the actual stress is.

WHAT IS A TRIGGER?



Only a small amount of headaches seem to be associated with an **identified** 'trigger'. Triggers do not cause the headache, but may "turn on" the process that is linked to the headache. By knowing your child's headache triggers, it may be possible to avoid them and prevent the headache or reduce its severity.

Triggers at **school** may be related to schoolwork or conflicts with others.

At **home**, triggers may include parental separation, illness or sibling relations. Other triggers may include missing meals and being overtired.

Certain types of **food** provoke only 10% of migraines. These foods may include cheese, yogurt, chocolate, caffeine, citrus fruits, processed meats, fast foods, monosodium glutamate (MSG) or alcoholic beverages.

Some children get headaches after **exposure** to sunlight, perfumes or rainy weather. Travel and seasonal changes may trigger headaches

Even **hormonal changes** can be triggers, such as during the female menstrual cycle.

Keeping a **headache diary** to help you identify what seems to trigger your child's headaches and then eliminating such foods or exposures will help to reduce or even prevent migraines.

SHOULD WE KEEP TRACK OF HEADACHES?

It is very important to keep a diary or log of your child's headaches to try and identify the pattern. This log should include the date and time of each headache, the duration of the headache, any triggers (food, activity, environment, etc.), as well as treatment used for the headache. Try to record information about what happened 24 hours before the headache began. You may find it helpful to keep track on a calendar.

By keeping track, you may notice patterns and may find that certain activities, stressors or foods seem to cause your child's headache. Being more aware will allow your child, you and the health care team to better prevent your child's headaches and manage the headache symptoms.

Ask yourself these questions when filling in the diary...

1. What time did the headache start? How long did it last?
 2. How often do I get headaches? When do they occur?
 3. How does the headache feel? Is there pain on one side or all over my head? Describe the pain (e.g. throbbing, pounding, squeezing). Use a scale (see diary) to rate the pain.
 4. Was there anything that I think may have caused the headache?
 5. Was there a warning before the headache started? If so, what was the warning?
 6. What medication was taken for treatment? Did it help?
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EXAMPLE OF A HEADACHE DIARY						
DATE	TIME START/ FINISH	HOW SEVERE WAS IT? SCALE 1-10 (most severe 10)	TRIGGERS/PRIOR EVENTS (e.g. stressful events - good or bad, missed meals, missed sleep)	PRIOR SYMPTOMS	MEDICATION & DOSAGE	WHAT ELSE WAS DONE FOR RELIEF
May 1 st	4pm-5pm	Pain on left side near ear, throbbing, 8/10, sensitive to light	Attended birthday party with loud music, ate lots of chocolate cake & pizza with salami; had a good night sleep night before	Felt stomach upset and queasy 2 hours before headache started but I thought it was related to what my child ate	Ibuprofen @ 400mg @ 4pm	Laid down for a nap in a quiet, dark room with cold cloth to head

WHAT INVESTIGATIONS MIGHT BE NEEDED?



Your child's detailed **medical history** and **neurologic exam** will be most valuable in making a headache diagnosis. Further tests are usually unlikely. However, the following diagnostic tests may be done to investigate in greater detail the reason your child is having headaches. These tests can be done as an outpatient visit.

- ✓ **CT or CAT SCAN** (computerized axial tomography) - is a test that uses x-rays (radiation) and sophisticated computers to generate pictures of the inside of the head or the body. The CT machine is shaped like a giant donut standing on its side. It is a painless procedure and usually takes less than 15 minutes. Sometimes a special dye needs to be used.
- ✓ **MRI** (magnetic resonance imaging scan) – is a test that uses a large magnet, magnetic pulses, and a computer to collect data of the inside of the brain (no radiation). The machine is shaped like a tube and your child will slide into it on a special sliding table. It also is a painless procedure.
- ✓ **Lumbar Puncture** – also called a spinal tap. A lumbar puncture is not commonly done, except in a few instances to exclude specific rare causes of headaches. This procedure removes a small amount of the cerebrospinal fluid (the liquid that bathes the brain and spinal cord) from a tube inserted in your child's back. The fluid is then tested to determine if further investigations are needed.



HOW CAN WE TREAT THE HEADACHES?

There are **several options** available for treating your child's headaches. Many medications are available for headaches that not only reduce the pain but also control nausea and vomiting and can calm your child. Often, medications and non-medication treatments are used in combination in the management of children's headaches.



WHAT MEDICATIONS ARE COMMONLY USED TO TREAT HEADACHES?

Several medications are available to **treat** your child's headaches. These come in a variety of formulations such as tablets, liquid, nasal sprays and injections. Discuss with your Neurologist or Neurology Nurse Practitioner which drug and formulation may be best for your child.

It is important to let members of the Neurology team know of any medication your child is currently taking. Some medications may not be able to be taken together since they may interfere with each other.

All medications should be stored out of reach of children. The prescription is for your child only and should be taken as directed. It is important to be aware of your child's headache symptoms early. Giving the prescribed treatment promptly has been shown to reduce the intensity and duration of the headache. You are encouraged to ask questions or share any concerns you have about your child's medication.

PAIN-RELIEVERS (Analgesics)

Analgesics are quite effective for treating mild to moderate migraine and tension type headaches. Analgesics work to increase your child's pain threshold. As a result, the headache is no longer felt. These medications are available in child formulas.

Acetaminophen (Tylenol™) – This is one of the most commonly used medications for treating children's headaches. Side effects are uncommon with this medication.

Ibuprofen – (Advil™, Motrin™) – Side effects may include rash, nausea and vomiting, diarrhea or constipation. It is important for the child to eat a small snack when they have this medication to reduce the chance of upset stomach.

Naproxen (Naprosyn™)

This medication is known as a “non-steroidal anti-inflammatory agent” or “NSAID”. It is helpful for the short-term treatment of headaches but due to its side effect of stomach discomfort is recommended for not longer than two-month intervals at a time.

It is important to be aware that medication-overuse headaches may occur with prolonged use of pain-relievers (taking analgesics more than 8 days per month). This is something you should discuss with your health care provider.



ANTI-MIGRAINE MEDICATIONS

TRIPTANS

These medications are thought to work by stopping brain (cerebral) blood vessels from expanding, by stopping the release of chemicals that cause inflammation, and blocking specific pain message pathways in the brain.

This medication is to only be taken as needed, not on a regular basis. Therefore it is important to clearly understand when to give your child this medication to ensure that the medication can be most useful.

Rizatriptan (Maxalt™) - Side effects may include nausea, vomiting, muscle weakness and dizziness. This medication is available as a wafer that dissolves in the mouth.

Sumatriptan (Imitrex™) – This medication also relieves nausea and vomiting that may occur with the migraine. Side

effects may include throat discomfort, abdominal pain and muscle weakness. Available in tablets or as a nasal spray.

Zolmitriptan (Zomig™) – This medication is available in a tablet that dissolves on the tongue. Side effects may include nausea, dry mouth, sleepiness, funny sensations (head/face/arms), muscle weakness and dizziness.

It is important to note that if your child has very high blood pressure, is taking MAO inhibitors (antidepressant drugs) or has hemiplegic or basilar migraines this medication should not be used.



ERGOT ALKALOIDS

Ergotamine Tartrate (Cafergot™)

Dihydroergotamine (DHE) Mesylate (injectable)

Both these medications work by blocking brain chemicals that cause blood vessels to narrow. This medication is taken for the immediate (acute) treatment of migraine with or without aura only and **never** for prevention of the headache. Although it is rarely used in child migraines, this medication may be used in an **emergency** and in **older** children. Side effects may include nausea and vomiting, weakness and funny sensations.

You need to let your family doctor know your child is taking this medication since certain antibiotics need to be avoided while taking the medication.

ARE THERE MEDICATIONS THAT CAN BE TAKEN TO PREVENT HEADACHES?

Sometimes your child may be given medication to prevent a migraine headache. This is also known as **headache prophylaxis**. However, many of these medications can both prevent and treat headaches. A brief description of these drugs is outlined here. Your doctor or nurse practitioner will discuss them in greater detail with you so you clearly understand when this medication is most useful. Your child may be prescribed this type of daily medication if the headaches are often or severe enough. It is also important to let your health care provider know if your child has other medical conditions (e.g. depression, anxiety, seizures) since several of these medications are useful in treating other conditions.



BETA-BLOCKERS

Beta-blockers (Propranolol, Metoprolol, Nadolol) are agents that **block** chemicals that would normally over stimulate nerves within the brain. This over stimulation causes cerebral blood vessels to spasm which results in a migraine. Some reported side effects of this type of medication are nausea, vomiting, diarrhea, loss of appetite and abdominal pain. These medications are not for patients with asthma or a history of wheezing.

ANTIDEPRESSANTS

These medications block the brain from using certain chemicals that the brain's nerve cells release, making these chemicals more available within the brain. This is thought to prevent or reduce the intensity of headache.

Amitriptyline (Apo-Amitriptyline™, Elavil™), **Nortriptyline** – Side effects may include upset stomach such as nausea and vomiting, so encourage your child to eat a small snack when taking this medication. Other side effects may include dry mouth, dizziness with change in posture, sweating/flushing of the skin, sleepiness and abrupt weight gain.



ANTICONVULSANTS

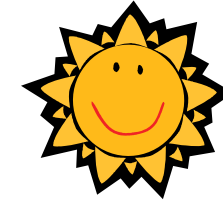
Commonly used in the treatment of epilepsy, these medications have also been found to be effective in treating migraines. The way these drugs work is still not clearly understood.

Topiramate (Topamax™) – This drug is fairly new in the treatment of migraines. Side effects may include reduced ability to concentrate, tiredness, changes in mood, loss of appetite, kidney stones, decreased ability to sweat and initial weight loss.

Valproic Acid (Epival™) – Side effects from this medication may include stomach upset, fatigue, hair loss, bruising and weight gain. Give your child a small snack when taking this medication to reduce stomach upset.

Gabapentin – This medication has very few side effects. More commonly reported ones are dizziness, stumbling, tremors and double vision.

Leviteracetam – This new medication has been found recently to help treat migraines. More common side effects include sleepiness, dizziness and irritability.



OTHER

Flunarizine – This medicine is a calcium channel blocker. It is thought to work by altering the way the cerebral blood vessels react before and during a migraine and also by blocking certain chemicals that may cause headaches. It has been well studied in children and found to be effective in preventing migraines. Side effects are not very common but may include sleepiness, depression, and weight gain.

Pizotifen (Sandomigran™) – Although not commonly prescribed for children under the age of 12, it can be effective with this age group. Some of the side effects may include increased appetite and weight gain, as well as drowsiness and fatigue.

ANTI-EMETICS

These medications are prescribed to prevent nausea and vomiting.

Dimenhydrinate (Gravol™) – If your child experiences stomach upset during his or her migraines this medication may be helpful. Side effects may include drowsiness, dry mouth or blurred vision.

Metoclopramide (Maxeran™) – This medication is another medication prescribed to prevent nausea and vomiting. Side effects are rare, but may include muscle spasms, fatigue or drowsiness in children.

It is important to speak with members of the health care team involved in your child's care if you have any questions or concerns about medications. Sometimes the type of medication your child is prescribed may need to be adjusted or changed in order to best prevent and manage your child's headaches. As all children are different it may take some time for your doctor or nurse practitioner to find the best medication 'match' for your child.



WHAT ARE SOME WAYS TO TREAT HEADACHES WITHOUT MEDICATION?



Medication therapy works best when used with other methods. Helping you and your child control his/her headaches may require a combination of medication with alternative options, such as lifestyle and dietary changes.

Some treatment options include...

- Stopping the activity to rest or nap in a cool, quiet environment
- Stress management or counseling to look at emotional upset and mood swings
- Avoiding known triggers, such as certain exposures or foods
- Keeping a regular sleeping schedule and avoiding lack of sleep (sleep deprivation)
- Regular aerobic exercise (walking, running, swimming or biking)
- Eating regular meals and drinking plenty of water

WHAT ABOUT TREATMENTS THAT DON'T INCLUDE MEDICATION?

Some children may try **non-pharmacological strategies** (treatments that don't include medication) to control headaches. In addition to those previously listed, bio-behavioral and complementary methods such as guided imagery; relaxation therapy; chiropractics, massage therapy, aromatherapy, acupuncture and the use of certain herbs, minerals and vitamins may be beneficial. **Research** about the effectiveness of non-pharmacological therapies in managing headaches is still fairly new, but if this is something you would like to try, it is important to speak with your health care provider(s) to discuss all options available. Health professionals such as social workers or psychologists may also help your child identify stressors that contribute to his or her headaches. They can help your child and/or your family develop strategies to reduce or eliminate these stressors.



Speak with your health care providers to develop a headache management plan. Be sure to include your child, when appropriate, in creating this plan. It is important for your child to develop a sense of control over his or her headaches. Encourage your child to ask questions about his or her headaches and the management of these headaches.

WHAT ARE SOME HELPFUL WEBSITES?



Children's Hospital, London Health Science Centre,
Pediatric Neurology Website

www.lhsc.on.ca/childneuro

American Academy of Neurology Foundation

www.thebrainmatters.org

National Headache Foundation

www.headaches.org

The International Headache Society

<http://www.i-h-s.org/>

The Psychology Foundation of Canada

www.kidshavestresstoo.org



NOTES OR QUESTIONS?





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