



Effective Health Care Program

Treating Severe Migraine Headaches in the Emergency Room

A Review of the Research for Adults



Agency for Healthcare Research and Quality
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Is This Information Right for Me?

Yes, this information is right for you if:

- Your doctor* has told you that you have migraine headaches.
- You have had to go to the emergency room† (ER) for a severe migraine.
- You are age 18 or older. The information in this summary is from research on adults.

What will this summary cover?

This summary will cover:

- What migraine headaches are
- Medicines to treat severe migraines in the ER
- What researchers have found about how well the medicines work
- Possible side effects of the medicines
- Things to talk about with the ER doctor

Note: This summary does not cover what researchers found about treating migraines at home or ways to prevent migraines. It only covers what researchers found about treating migraines in the ER.

*In this summary, the term doctor refers to your health care professional, including your primary care physician, neurologist, emergency room doctor, nurse practitioner, or physician assistant.

†There are several terms for “emergency room” such as “emergency department,” “emergency care center,” or “urgent care center.”

Where does the information come from?

Researchers reviewed studies on medicines to treat migraines in the ER. These studies were published through January 2012. The researchers were funded by the Agency for Healthcare Research and Quality (AHRQ), a Federal Government research agency.

The researchers wrote a report on what they found, and this summary is based on that report. The report was reviewed by doctors, researchers, other experts, and the public. You can read the report at www.effectivehealthcare.ahrq.gov/migraine-emergency.cfm.



Understanding Your Condition

What are migraine headaches?

Migraine headaches are severe headaches that cause intense pain. They can start suddenly and get worse quickly. A migraine headache typically lasts from 4 hours to 3 days if not treated. Migraines are thought to run in families.

Symptoms of a migraine headache can include:

- A severe headache, often with throbbing on one side of the head
- Sensitivity to light or sound
- Nausea and vomiting
- Difficulty doing physical activities like walking or climbing stairs

What are additional symptoms of a migraine?

Some people have additional symptoms before or after a migraine starts. These symptoms are called “auras” and can include:

- Numbness or a feeling of “pins and needles” in your arms, legs, fingers, or face
- Problems with your vision (such as temporary loss of vision or seeing flashes of light, spots, or zigzag lines)
- Trouble speaking
- Weakness or difficulty moving your arms, legs, or face, although this is rare

How common are migraines?

- Out of every 100 people in the United States, about 12 have migraines.
- Migraines are three times more common in women than in men.
- Each year, one in seven people who have migraines goes to the ER because of a severe migraine.
- Some people may go to the ER for a severe migraine several times a year.

What can cause a migraine?

Doctors are not sure what exactly causes migraines. But, many things can trigger a migraine. Different people have different triggers, which can include:

- Stress or anxiety
- Changes in hormones (in women)
- Bright lights, loud sounds, and strong smells
- Smoking
- Drinking alcohol
- Certain foods, such as chocolate, cheese, salty foods, or processed foods
- Food additives such as MSG (sometimes added to Chinese food) or aspartame (an artificial sweetener)
- Not getting enough to eat
- Not getting enough sleep
- Intense physical activities
- Changes in the weather
- Some medicines



How are migraines treated?

Migraines can be treated at home with over-the-counter pain medicines such as acetaminophen (Tylenol®), ibuprofen (Advil® or Motrin®), or naproxen (Aleve®) or with prescription medicines from your doctor. When a migraine hits, it may also help to lie down in a dark room and try to sleep.

To prevent migraines, try to avoid things you know can trigger your migraines and try to get regular exercise. Your doctor may also give you medicines to help prevent migraines.

How do I know if I should go to the ER?

If your migraine is too severe and the treatments listed above do not work, you may choose to go to the ER. If you decide to go to the ER, be sure to have someone else drive you there.

The symptoms of a migraine can be confused with the symptoms of a stroke. You should go to the hospital right away if:

- You have an extremely severe headache (it could be a migraine, or it could be something more serious)
- You have speech, vision, movement, or balance problems that are new or different from symptoms you have had before with your migraines
- You have a stiff neck or fever with your headache
- The headache starts suddenly, like a “thunderclap,” especially if you are over age 50

Understanding Your Options

How are migraines treated in the ER?

Many medicines are used to treat severe migraine headache pain in the ER, including those listed on the next page. The ER doctor may also give you other medicines for nausea and may treat you for dehydration (a loss of fluids from your body).



Medicines for Pain Relief

Researchers found that the medicines listed below work to lessen or stop migraine pain. Nearly all of these medicines are given as a shot or through an intravenous (IV) tube in your arm. Some NSAIDs (nonsteroidal anti-inflammatory drugs) can also be taken by mouth.

Medicine	About the Medicine
Neuroleptics/Antiemetics <ul style="list-style-type: none"> ■ Chlorpromazine (Thorazine®) ■ Droperidol (Inapsine®) ■ Haloperidol (Haldol®) ■ Metoclopramide (Reglan®) ■ Prochlorperazine (Compazine®) 	Neuroleptics and antiemetics are medicines that change the way certain chemicals act in your brain. Some of these medicines may also treat nausea and vomiting.
Sumatriptan (Alsuma®, Imitrex®, Sumavel DosePro®)	Sumatriptan is a headache medicine that narrows the blood vessels in your brain. Note: People with heart problems, such as narrowing or hardening of blood vessels in the heart, should not take this medicine.
NSAIDs <ul style="list-style-type: none"> ■ Diclofenac (Cataflam®, Voltaren®, Zipsor®) ■ Ketorolac (Toradol®) 	NSAIDs are medicines that relieve pain.
Opioids <ul style="list-style-type: none"> ■ Meperidine (Demerol®) ■ Nalbuphine (Nubain®) ■ Tramadol (ConZip®, Ryzolt®, Ultram®) 	Opioids are medicines that relieve pain. But, these medicines are rarely used for migraines because of possible side effects and the fact that other medicines work well to relieve migraine pain. Note: Taking opioids repeatedly to relieve pain can lead to overuse. Opioids can be addictive.
Dihydroergotamine (D.H.E. 45®)	Dihydroergotamine is a headache medicine that narrows the blood vessels in your brain.

Medicines To Stop the Migraine From Coming Back

The doctor may also give you a medicine to help stop the migraine from coming back within the next day or two.

Medicine	About the Medicine	What does research say about how well it works?
Dexamethasone (Decadron®)	Dexamethasone is a steroid medicine used to treat swelling and inflammation. It can be given along with a pain-relief medicine to help stop a migraine from coming back within the next day or two. Note: Because of possible side effects, doctors may only give dexamethasone to people who have a greater chance of their migraine coming back.	People who take dexamethasone (Decadron®) along with a medicine for pain relief are less likely to have their migraine come back than people who just take a medicine for pain relief alone.
More research is needed to know how well other medicines work to stop a migraine from coming back.		

What are the possible side effects of medicines given in the ER to treat migraines?

Researchers found that the side effects from these medicines are usually minor and temporary. Some of the medicines can cause drowsiness, so you may not be able to drive right away. More information is listed below for each type of medicine when it is taken a single time in the ER for a severe migraine.

- **Neuroleptics/Antiemetics:** Restlessness in the legs or body is a common side effect. A possible serious side effect is uncontrollable muscle movements, such as tics and tremors.
- **Sumatriptan:** The most common side effect is pain or swelling at the place where the shot was given. Other side effects can include redness in the face and neck, a burning feeling, feelings of tightness (in the chest, neck, jaw, or other parts of the body)*, and drowsiness.
- **NSAIDs:** Side effects are not common with these medicines.
- **Opioids:** Tiredness and drowsiness are common side effects.
- **Dihydroergotamine:** The most common side effects include pain or swelling at the place where the shot was given or where the IV needle was put in, drowsiness, stomach problems, nausea and vomiting, and an irregular heartbeat.
- **Dexamethasone:** Side effects were not common with this medicine in the research studies. But, possible side effects can include nausea, headache, dizziness, and trouble sleeping.

* If you have feelings of tightness in your chest, neck, or jaw, contact your doctor right away. You may need to be checked for heart disease.

Note: There are other possible side effects of these medicines. The side effects listed here are the most common side effects when the medicines are taken a single time in the ER for a severe migraine.

Talking With the ER Doctor

You may want to talk with the ER doctor about:

- Your history of severe migraines and whether you have been to the ER for a severe migraine before
- Any medicines you have taken to treat a severe migraine in the past, how well they worked, and any side effects you experienced from them
- Which medicine might be best to treat your severe migraine
- The possible benefits and side effects of the medicine

Ask your doctor:

- Which medicine do you think might work best for me?
- How fast will it start working?
- How long will it work? Will it help stop my migraine from coming back within the next day or two?
- Are there any serious side effects I should watch for? If so, what are they?
- What should I do to follow up after I leave the ER?
- What can I do to keep from having another severe migraine in the future?

Note: Ask your ER doctor to write down which medicines you were given and how much of each you received. You can take a copy of this to your primary care physician or neurologist along with a list of any side effects you had from the medicines.

It might also be helpful to keep a copy of this information with you (along with a list of any other medicines you are taking) in case you go back to the ER with another migraine in the future.

Other questions:

Write the answers here:

Sources

The information in this summary comes from the report *Acute Migraine Treatment in Emergency Settings*, November 2012. The report was produced by the University of Alberta Evidence-based Practice Center through funding by the Agency for Healthcare Research and Quality (AHRQ).

For a copy of the report or for more information about AHRQ and the Effective Health Care Program, go to www.effectivehealthcare.ahrq.gov/migraine-emergency.cfm.

Additional information came from the MedlinePlus® Web site, a service of the National Library of Medicine and the National Institutes of Health. This site is available at www.nlm.nih.gov/medlineplus.

This summary was prepared by the John M. Eisenberg Center for Clinical Decisions and Communications Science at Baylor College of Medicine, Houston, TX. People who have severe migraines reviewed this summary.

