

# Understanding Barometric Pressure Headaches: How Does Weather Affect Your Headaches?

Medically reviewed by [Alana Biggers, MD](#) on May 8, 2017 — Written by Carrie Madormo, RN, MPH

[Symptoms](#) | [Causes](#) | [See a doctor](#) | [Diagnosis](#) | [Treatment](#) | [Prevention](#) | [Takeaway](#)

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## Overview

If you have ever had a severe headache or migraine, you know how debilitating it can be. Not knowing when the next headache is coming can make it hard to make plans or, in some cases, to fully enjoy life.

If it seems like your headaches come on during or after changes in the weather, start paying closer attention. Changes in barometric pressure can induce headaches, so it's important to be aware of upcoming weather changes if barometric pressure is a factor for you.

Barometric pressure refers to the pressure in the air or the amount of force that is being applied to your body from the air. Because our sinuses are filled with air, any change in that pressure can affect headaches.

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## Symptoms

Barometric pressure headaches occur after a drop in barometric pressure. They feel like your typical headache or migraine, but you may have some additional symptoms, including:


- nausea and vomiting
- increased sensitivity to light
- numbness in the face and neck
- pain in one or both temples

You may have barometric headaches if you regularly experience these symptoms with headache when it's rainy or humid.

## Causes

When the outside barometric pressure lowers, it creates a difference between the pressure in the outside air and the air in your sinuses. That can result in pain. The same thing happens when you are on a plane. As the pressure changes with the altitude on takeoff, you might experience ear popping or pain from that change.

A [study](#) in Japan looked at the sales of loxoprofen, a headache medicine. Researchers saw a connection between an increase in medication sales and changes to barometric pressure. From this, the researchers concluded that a decrease in barometric pressure causes an increase in the incidence of headaches.

The barometric pressure doesn't have to change drastically to cause headaches, either. In a [study](#)  published in 2015, researchers looked at the effects of barometric pressure on people with chronic migraines. The

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Another [study](#) out of Japan saw similar results. In that study, 28 people with a history of migraine kept a headache journal for one year. Migraine frequency increased on days when the barometric pressure was lower by 5 hectopascals (hPa) than the previous day. Migraine frequency also decreased on days when the barometric pressure was 5 hPa or higher than the previous day.

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## When to see a doctor

See your doctor if your headaches are affecting your quality of life. If you suspect that your headaches are related to the weather changes, let your doctor know about this pattern.

In an older migraine [study](#) from 2004, 39 out of 77 participants were sensitive to weather changes, such as barometric pressure. But 48 of the participants reported that they believed their headaches were affected by the weather. That's why it's important to keep track of your symptoms and report any changes or patterns to your doctor. There may be another explanation, so it's best to review your symptoms together.

## How it's diagnosed

There's no specific test to diagnose barometric headaches, so it's important to give your doctor as much information as possible. Your

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- how long they last
- what makes them better or worse

Try keeping a headache journal for at least one month before reviewing it with your doctor. That can help you accurately answer their questions or see patterns you hadn't noticed.

If this is your first time seeing a doctor for your headaches, they will most likely perform a total headache workup. Your doctor will ask about your past medical history, as well as any family members who experience chronic headaches or migraines. They may also recommend running some tests to rule out other more serious causes of headaches. These tests may include:

- neurologic exam
- blood tests
- MRI
- CT scan
- lumbar puncture

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Treatment for barometric pressure headaches differs from person to person and depends on how severe the headaches have become. Some people can manage symptoms with over-the-counter (OTC) medications, like:

- [acetaminophen](#) (Tylenol)
- [ibuprofen](#) (Advil)
- [Excedrin](#), which is a combination drug that includes acetaminophen, caffeine, and aspirin

If OTC medications don't provide relief, your doctor may prescribe a medication. Prescription medications for headaches and migraines include:

- triptans
- antinausea medications
- ergotamines
- codeine and other opioids

Opioids can be addictive, so it's important to use them, and all other medications, as directed by your doctor.

In severe cases, Botox injections or nerve decompression surgery may be recommended.

[Learn more: Does Botox help treat chronic migraine? »](#)

## Tips to prevent barometric pressure headaches

The best way to prevent barometric pressure headaches is to be aware of your headache patterns. The sooner you recognize the headache coming on, the faster you can treat or prevent it.

If your doctor has prescribed medication for your headaches, be sure to take it at the first sign of the headache to prevent a severe migraine. You



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Take care of your body in other ways, too. Try these:

- Get 7 to 8 hours of sleep each night.
- Drink a minimum of eight glasses of water per day.
- Exercise most days of the week.
- Eat a balanced diet and avoid skipping meals.
- Practice relaxation techniques if you're experiencing stress.

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## Bottom line

You can't control the weather. By being aware of your headache patterns and working closely with your doctor, you may be able to manage your headaches effectively and reduce their impact on your daily life.

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