

### **WHY YOUR SINUS HEADACHE IS ALMOST DEFINITELY A MIGRAINE**

If you've tried several over the counter sinus medications to relieve your sinus headaches with no luck there may be a good reason.

Nine in 10 people with "sinus headache" are actually suffering from migraine according to a Sinus Allergy & Migraine Study (SAMS) shown at the 46th Annual Scientific Meeting held by the American Headache Society. (1)

Lead investigator Dr Eric Eross, associate consultant in Neurology at the Mayo Clinic explains "it's not surprising people are convinced they have sinus headaches, because they often have nasal congestion, pressure or pain in the forehead or just below the eyes, and red or puffy eyes".

### **WHAT ARE SINUS HEADACHES?**

'Real' sinus headaches are almost always from a sinus infection. Sinus infections are common with 10% to 30% of the population experiencing at least one sinus infection each year. (2)

Sinus infections are also known as sinusitis or rhinosinusitis. This occurs when the sinus becomes inflamed. Common symptoms include thick nasal mucous, blocked nose and facial pain. (2) Sinus infections may be caused by an infection, allergy or air pollution. Most cases are due to viral infection. (3) Infections are often transmitted through coughing, sneezing, kissing, contact with contaminated surfaces, food or water or contact with infected animals or pets.

To understand how sinus headaches are confused with migraine it's important to know what migraine is.

### **WHAT IS A MIGRAINE ATTACK?**

Migraine is a common primary headache disorder (4). In essence they are the result of a neurological malfunction that is thought to originate in the brain stem. Medical scientists and researchers still aren't exactly sure what causes a migraine attack.

Leading theories relate to hyperexcitability within certain areas of the brain or a disorder from the brain stem which triggers the migraine.

The brain stem is a small but extremely important part of the brain. It allows the nerve connections of the motor and sensory system to pass from the brain to the body. This controls bodily sensations and movement.

At the start of an attack, chemical changes are thought to develop in the brainstem which triggers a series of reactions causing the brain to respond abnormally to otherwise normal signals. The result from this hypersensitive response could be migraine. (5)

Interestingly, at least 50% of people who experience migraine still have not been diagnosed. (6)

### **THE MOST COMMON MISDIAGNOSIS FOR MIGRAINE IS THIS**

You guessed it, sinus headache!

According to recently published research, over half of all those with migraine who participated in their study were misdiagnosed. (7) The authors concluded that the “under-recognition of migraine constitutes a significant public health problem”.

Why are so many people not diagnosed?

There are a number of reasons why an individual with symptoms of migraine report that they haven't been diagnosed by a health professional. These include:

1. Migraine patients may not seek medical care for their headaches
2. They may seek care but not receive a diagnosis
3. They may be diagnosed but forget their diagnosis
4. Not seeing a doctor for what they believe to be “just a headache”
5. Poor patient-physician communication may be a barrier to appropriate care. Diagnosis is complicated as physicians rarely see a patient during a migraine so they must rely on a patient's retrospective description of prior symptoms.
6. Consultation lengths may also be a factor which recent research showing consultation lengths may last around 11 minutes on average. This provides little opportunity for patients to communicate the information required to diagnose migraine and initiate appropriate treatment. (8)
7. Symptom response to over the counter medications usually used for problems other than migraine headache can reinforce a patient's impression that they have identified the cause of their headache. In the case of sinus headache common decongestants used for congestion may be taken, but they are also effective in reducing sinus headache pain. Patients may think they are treating their sinuses but are actually treating underlying migraine that they feel in the sinuses.

**ARE SINUS HEADACHE AND MIGRAINE EASILY CONFUSED?**

Yes, they are according to the research. (1) The pattern of migraine pain is different for individual patients. While the most easily recognized migraine headaches are localized to one side of the head, many patients feel their pain or pressure on both sides, or in the neck or sinuses. This is because all of these areas are innervated by branches of the nerve that is most involved in migraine. For patients with sinus symptoms the most frequent patterns of pain and pressure are across the forehead and behind the eyes, but any sinus area or combination is possible.

A study called 'SAMS' recruited the first 100 people to respond to their local ad. The ad asked those to come forward who believed they had sinus headache. Each participant was carefully examined in a 90-minute evaluation and imaging tests were conducted.

The findings showed that most of them had been wrongly diagnosed and in fact had a diagnosis of migraine.

**ARE THESE YOUR SYMPTOMS?**

From those patients confirmed with a migraine diagnosis in the study:

- 83% noticed the weather affected their headaches
- 73% noticed seasonal variations in their headaches
- 62% said their headaches were triggered by allergies
- 56% had nasal congestion
- 38% noticed altitude had an effect on their headaches
- 37% had eyelid puffiness
- 25% had a runny nose
- 22% had red eyes
- 19% had watery eyes

You could be forgiven for thinking these symptoms are sinus related. They look a lot like the symptoms you might expect from a sinus infection so it's no surprise that there is a significant amount of confusion between sinus headache and migraine.

Results found that 9 out of 10 patients in the study had migraine, not sinus headache.

Furthermore, the 100 patients from the study had seen an average of 4 physicians each and had gone on average 25 years without the correct diagnosis or significant relief.

That's 25 years without significant relief and 4 physicians who had gotten the diagnosis wrong!

The lead investigator of the SAMS study Dr Eross says "It was hard to convince some of them that they actually suffered from migraine headaches," said Dr. Eross. "Many were shocked."

One in ten people from the study knew they had migraine, but thought they had sinus headaches in addition. In reality they actually suffered two different types of migraine, one with sinus symptoms and one without, Dr Eross noted.

"Much of the pain or pressure is in the face, on both sides, so it doesn't occur to them that this might be a migraine." – Dr Eross

### **HOW DO YOU KNOW IF YOU HAVE SINUS HEADACHE OR MIGRAINE?**

Listing all the symptoms separately can be confusing and is perhaps why so many sinus headache sufferers have not been correctly diagnosed.

Symptom	Sinus	Migraine
Sinus pressure	✓	✓
Nasal congestion	✓	✓
Facial pain	✓	✓
Runny nose	✓	✓
Teary eyes	✓	✓
Head pain triggered by weather changes	✓	✓
Pulsating pain	✓	✓
Puffy eyelid	✓	✓
Persistent, yellow or green nasal discharge	✓	✗
Swollen lymph nodes	✓	✗
Fever	✓	✗
Nausea and/or vomiting	✗	✓
Light sensitivity, photophobia	✗	✓

Instead, below are the key symptoms side by side, Sinus Headache vs Migraine, in an easy to follow checklist so you can quickly find out the truth.

If you're not experiencing fever, swollen lymph nodes, and a persistent green or yellow nasal discharge and you have a headache in the sinus area, then you likely have migraine. (1) It is difficult for doctors of patients with migraine and sinus symptoms to acknowledge that a CT scan of their sinuses looks normal and does not show the inflammation, fluid or swelling they would expect after years of rhinosinusitis. Patients and their doctors often fall into the trap of

believing that they are nipping sinus infections in the bud with frequent antibiotics and that is why they never get infected drainage.

Take a moment to digest. Most people from the study who were told this rejected the finding at first. They had been told by on average by 4 doctors that it was their sinus. They had also been wrongly diagnosed for an average of 25 years...

### **I KNOW WHAT IT IS... NOW WHAT?**

Once you understand the checklist you'll have a much better idea of which category you fall into. Of course, you'll want to confirm this with your doctor for an official diagnosis. If you think that you are one of the majority and that your sinus headaches are actually migraine then it's time to see a headache specialist. The good news is that with good treatment and support from a specialist you can significantly improve your condition.

Many people with headaches and sinus complaints self-treat with over the counter medications like ibuprofen or acetaminophen/paracetamol. In most cases, migraine-specific medication and personalized strategies are far more effective.

A range of treatment options are available depending on the severity and frequency of your headaches.

One of the most effective types of medicinal migraine treatments are called the [triptans](#). Ninety two percent of people from the SAMS study were candidates for triptans, but only 12% were using them.

Triptans require a doctor's prescription and can be very useful if headaches are not very frequent. For more severe and frequently recurring cases there are preventative treatment options which help prevent attacks before they occur. There are medicinal and non medicinal preventatives which you should explore with your doctor.

To start, keep a migraine diary which keeps an accurate record for you and your doctor of your attacks, potential triggers, and symptoms. This is a good starting point to inform which treatment strategy will likely deliver the best results for you.

A word of caution: migraine overall is poorly managed.

Many people still haven't been diagnosed. Fewer receive quality treatment. There common pitfalls and hurdles where people often get stuck. Watch out for these.

Do you have sinus headaches which fit the criteria for migraine?

**ARTICLE SOURCES**

1) Eross, Eric, David Dodick, and Michael Eross. "The sinus, allergy and migraine study (SAMS)." *Headache: The Journal of Head and Face Pain* 47.2 (2007): 213-224.

2) Rosenfeld, RM; Piccirillo, JF; Chandrasekhar, SS; Brook, I; Ashok Kumar, K; Kramper, M; Orlandi, RR; Palmer, JN; Patel, ZM; Peters, A; Walsh, SA; Corrigan, MD (April 2015). "Clinical practice guideline (update): adult sinusitis executive summary." *Otolaryngology–head and neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery* 152 (4): 598–609.doi:10.1177/0194599815574247. PMID 25833927.

3) "Sinus Infection (Sinusitis)". cdc.gov. September 30, 2013. Retrieved 6 April 2015.

4) World Health Organisation & Lifting the Burden. "ATLAS of Headache Disorders And Resources in the World 2011". Report, 2011.

5) Akerman, S. Holland PR. Goadsby PJ. "Diencephalic And Brainstem Mechanism In Migraine". *Neuroscience*, Sept 2011.

6) Pavone E. et.al. "Patterns Of Triptans Use: A Study Based On The Records Of A Community Pharmaceutical Department". *Cephalalgia*, Sept 2007.

7) Lipton, Richard B., et al. "Migraine diagnosis and treatment: results from the American Migraine Study II." *Headache: The Journal of Head and Face Pain* 41.7 (2001): 638-645.

8) Lipton, R., et al. "Communication patterns in physician and chronic migraine patient dialogues during routine office visits." *Cephalalgia*. 2015.