

About Migraine

What Is Migraine?

Migraine is a distinct neurological disease.¹

The characteristics & symptoms are:



Moderate to severe headache pain that is typically pulsating²

Headache often focused on one side of the head²

Associated with nausea, vomiting²

Sensitivity to light, sound and odors²

Some people also experience visual, sensory and speech disturbances (called 'aura')^{3,4}

Migraine can have up to four distinct phases—premonitory (or prodrome), aura, headache and post-drome—and each of them has many potential symptoms.



The main headache phase of migraine typically lasts for 4-72 hours.³ Before this, some individuals experience pre-migraine warning signs, including fatigue and sleep issues, hours or even days before attacks.^{4,5} This is known as the 'prodromal phase'.⁴



Some people also experience aura—visual, sensory and speech disturbances.^{3,4}



Some individuals may also experience lingering effects of migraine following an attack.⁶



Symptoms include altered mood, nausea and fatigue. This is known as the 'postdromal phase'.⁶

What Causes Migraine?

The cause and triggers of migraine are not fully understood as no two migraines are the same. However, Calcitonin gene-related peptide (CGRP) has been long thought to play a role in the underlying pathophysiology mechanisms of migraine.⁷ CGRP is a molecule that binds to the CGRP receptor complex, and is thought to be responsible for transmitting the pain signals associated with migraine.⁸ Levels of CGRP have been found to increase at the onset of migraine symptoms, and to return to normal when the migraine pain subsides.⁹ CGRP is also involved in vasodilation and sensory transmission which takes place during a migraine.¹⁰

The Impact of Migraine:

Migraine is associated with:



Financial cost to society¹¹



Migraine causes more than just physical pain and symptoms, it also causes personal pain. Studies show that migraine negatively impacts family relationships and activities, including missing life milestones of loved ones (e.g., friends and family weddings, "firsts" with children) and reduced time with partners and children. 45% of individuals report missing social and leisure activities.^{12,13}



Disability and reduced quality of life¹¹



Migraine has a profound and limiting impact on an individual's abilities to carry out everyday tasks.¹¹



Every year, almost 20% of men and 30% of women report losing more than 10% of workdays as a result of the disease.¹⁴



90% of people report they cannot work or function with a migraine.¹³

How Is Migraine Diagnosed?

There is no single test to definitively diagnose migraine. Diagnosis is based on assessment of the individual's medical history and the exclusion of other headache disorders.¹⁵

Treating Migraine:



About **half of individuals** with migraine **self-medicate** with over-the-counter pain relief. The majority of readily available treatments for migraine, either over-the-counter or prescription, aim to relieve the symptoms once they have already begun.¹¹



As a result of **poor efficacy and tolerability** with existing prevention treatments, the majority of patients choose to discontinue treatments within one year.¹⁷



Prevention treatments may reduce the number of migraines experienced each month. However, **prevention treatments currently available were generally developed for other diseases**, such as epilepsy, heart conditions, certain muscular conditions, anxiety and antidepressants, and are generally associated with poor efficacy.¹⁶



There remains a **significant need** for new prevention migraine treatments.



Prevalence:



The World Health Organization ranks migraine as one of the most debilitating of all illnesses and has declared migraine to be one of the top ten causes of years lived with disability for men and women.^{11,18}



More than 10% of people are affected by migraine worldwide.^{11,18}



It remains under-recognized and under-treated with more than 40% of people going undiagnosed.¹⁶

REFERENCES

1. Brown H, Newman C, Noad R, Weatherby S. Behavioural management of migraine. *Ann Indian Acad Neurol.* 2012;15(Suppl 1):S78-S82.2. Vos T et al. Global Burden of Disease Study. *Lancet.* 2015;386(9995):743-800
2. National Institute for Neurological Disorders and Stroke. Headache: Hope Through Research. <https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Hope-Through-Research/Headache-Hope-Through-Research>. Accessed March 2017.
3. Lipton et al. Migraine in the United States. *Neurology.* 2002; 58:885-894
4. American migraine foundation. Migraine and aura. <https://americanmigraine.org/living-with-migraines/types-of-headchemigraine/migraine-and-aura/>. Accessed August 2016
5. Burstein R, et al. Migraine: Multiple Processes, Complex Pathophysiology. *J Neurosci.* 2015;35:6619-6629
6. Ng-Mak DS, et al. Key Concepts of Migraine Prodrome: A Qualitative Study to Develop a Post-Migraine Questionnaire. *Headache.* 2011;51:105-117
7. Russo AF. Calcitonin gene-related peptide (CGRP): a new target for migraine. *Annu Rev Pharmacol Toxicol.* 2015;55:533-552
8. Hansen JM et al. Calcitonin gene-related peptide triggers migraine-like attacks in patients with migraine with aura. *Cephalalgia.* 2010; 30(10):1179-86
9. Lassen et al. CGRP may play a causative role in migraine. *Cephalalgia.* 2002 Feb;22(1):54-61. Available <http://www.ncbi.nlm.nih.gov/pubmed/11993614>. Accessed August, 2016.6. World Health Organization. Headache disorders. <http://www.who.int/mediacentre/factsheets/fs277/en/>. Accessed August 2016.
10. Bigal ME et al. Calcitonin Gene-Related Peptide (CGRP) and Migraine Current Understanding and State of Development. *Headache.* 2013;53(8):1230-1244
11. World Health Organization. Headache disorders. <http://www.who.int/mediacentre/factsheets/fs277/en/>. Accessed August 2016.
12. Lipton RB, et al. The family impact of migraine: population-based studies in the USA and UK. *Cephalalgia.* 2003; 23(6): 429-40
13. Migraine Research Foundation. Migraine Facts. <https://migraineresearchfoundation.org/about-migraine/migraine-facts/>. Accessed March 2017
14. Steiner TJ, et al. The impact of headache in Europe: principal results of the Eurolight project. *J Headache Pain.* 2014;15:311-1146-1158
15. Katsarava Z, et al. Defining the Differences Between Episodic Migraine and Chronic Migraine. *Curr Pain Headache Rep.* 2012;16:86-92
16. Diamond S et al. Patterns of Diagnosis and Acute and Preventive Treatment for Migraine in the United States: Results from the American Migraine Prevalence and Prevention Study. *Headache.* 2007; 47(3):355-63
17. Global Burden of Disease Study 2013 Collaborators. *Lancet.* 2013;386:743-800.
18. Stovner L, et al. The global burden of headache: a documentation of headache prevalence and disability worldwide. *Cephalalgia.* 2007; 27(3):193-210