

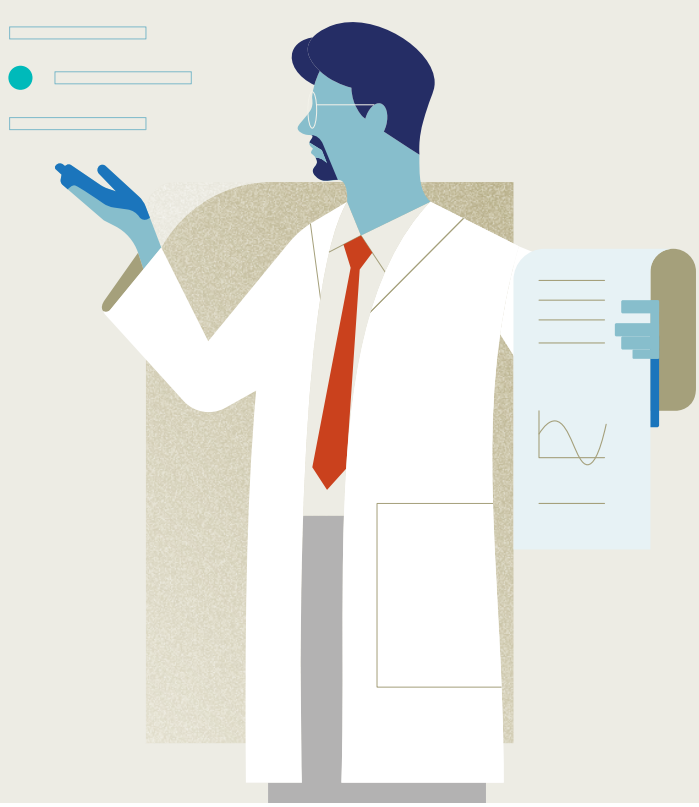
The biological factors influencing migraine.

Migraine

Migraine is a debilitating and painful neurological disorder.¹ It is characterised by recurrent, moderate to severe pulsating headaches, that typically are aggravated by physical activity, and accompanied by nausea and/or photophobia (sensitivity to light) and phonophobia (sensitivity to sound).²

Episodic migraine (**4 to 15 headache days per month**) can progress to chronic migraine (**15 or more days per month**).² Studies have shown that those with chronic migraine demonstrate a higher individual and societal burden and have greater impaired quality of life compared to those with episodic migraine.³

The frequent use of acute or symptomatic medication for migraine can also lead to an **increased number of migraine attacks**, or the worsening of existing ones, in a person who already has a migraine disorder.⁴

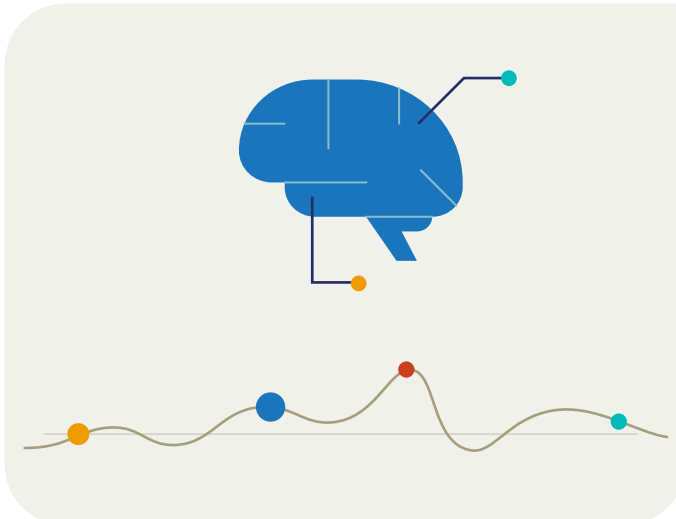


Genetics

Migraine has a large genetic component. Certain genes can make people more sensitive to changes in their environment and other such triggers that can bring on an attack.⁵ It is estimated that genetics can account for **up to 60%** of the reasons people get migraine.⁵

Biological sex

- Although migraine can affect both men and women, women are up to **three times** more likely to experience them than men⁶
- Migraine also affects women differently⁷
 - Longer attack duration in women than men⁷
 - More comorbidities in women than men (**average, 11 in women and 5 in men**) and more psychiatric comorbidities (e.g., anxiety and depression)⁷
 - In general, the characteristic symptoms accompanying migraine (e.g., nausea, vomiting and sensitivity to light) are more frequent among women than men⁷



- Although there is general agreement that **migraine is different in men and women**, the reason why is still not completely understood⁸
 - **Biological factors** – hormone fluctuations may impact parts of the brain involved in migraine development.⁸ They may also raise the production of calcitonin gene-related peptide (CGRP), a protein involved in the transmission of pain⁸
 - **Brain structure and function** – sex-related differences in brain function and structure may also play a role, with women having a greater number of irregular brain connections and a lower resilience to the loss of function of certain brain networks⁸

Migraine and hormones

About **60% of women**, with migraine note an increased number of attacks in association with their menstrual cycle.⁷ In contrast, results from studies suggest that up to **80% of women**, who have migraine without sensory disturbances* experience improvement in migraine during pregnancy, particularly during the second and third trimesters.⁷



Age

Migraine often begins in childhood – **around puberty** – with a few attacks per year.⁹

After the age of around 55, the attacks **tend to become** less frequent, milder or disappear altogether.¹¹

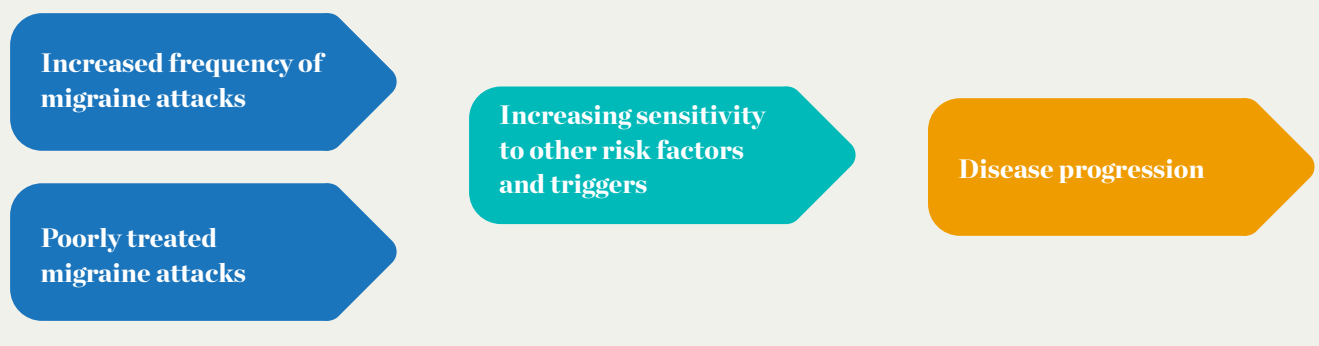


It may progress into chronic migraine (defined as at least 15 days with headache per month) between the **ages of 22 and 55 years**.¹⁰

Hormones as a trigger peak in women in the **30- to 49-year-old** age group.¹¹

Comorbid conditions, lifestyle factors and medicine overuse headache (MoH)

- Obesity, depression and sleep disorders are all considered risk factors for the worsening of migraine^{12,13}
- Lifestyle factors such as caffeine overuse, stressful life events and low physical activity can also contribute to disease progression, from episodic to chronic migraine¹²⁻¹⁵



- Reducing attack frequency, avoiding medication overuse, appropriately using preventive drugs and behavioural therapies, and encouraging a healthy lifestyle can all be useful tools in the fight against migraine¹²

*Migraine can happen with or without 'aura'. 'Aura' is described as sensory disturbances that happen shortly before a migraine attack. These disturbances range from seeing sparks, bright dots and zig zags, to tingling on one side of the body or an inability to speak clearly.¹⁶

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