brainstrust
the brain cancer people

know how

Meningioma brain tumours and the contraceptive injection Medroxyprogesterone acetate (brand names include Depo Provera, Sayana Press)[1]

Update, July 2026: *this Know How has been updated to include new regulatory action on two further groups of progestogen contraceptives: the desogestrel progestogen-only pill (brands include Cerazette, Cerelle) and etonogestrel implants and vaginal rings (brands include Nexplanon). These are covered alongside the injection below.*

Executive summary

This Know How explains the link between certain progestogen contraceptives and meningioma, a typically non-malignant brain tumour. Originally focused on the medroxyprogesterone acetate injection (brands include Depo-Provera and Sayana Press), it has been updated in July 2026 to cover the desogestrel progestogen-only pill (brands include Cerazette and Cerelle) and etonogestrel implants and rings (brands include Nexplanon).

A French study published in the British Medical Journal in 2024 found a 5.6-fold increased risk of meningioma with use of medroxyprogesterone acetate for 12 months or more. A second study (June 2025) found a much smaller risk with prolonged use of desogestrel: around 1 in 67,000 women overall, rising to around 1 in 17,000 after more than five years of continuous use, and disappearing within a year of stopping. No increased risk has been found with levonorgestrel, including the hormonal coil. In July 2026 the European Medicines Agency's safety committee (the PRAC) confirmed the small risk and agreed new safety measures: meningioma will be listed as a possible side effect, and these medicines should not be used by women who have, or have had, a meningioma.

The overall risk remains very low and most people do not need to change their contraception. Anyone with concerns, or with symptoms such as persistent headaches, vision problems or memory issues, should speak to their doctor. Legal claims relating to medroxyprogesterone acetate are developing in the US, Australia and, at an earlier stage, in the UK; nothing in this Know How is legal advice.

1 https://www.nhs.uk/medicines/contraceptive-injections-medroxyprogesterone/.

brainstrust information sheet

Know Hows are published by *brainstrust* to help people living with a brain tumour to understand current topics. They are produced with input from relevant scientific and clinical experts and are written in a way that should help you to understand often complicated topics.

If you have an idea for a Know How, then please let us know.

If you have any queries, don't forget you can talk to one of our support specialists on **01983 292 405**, or email **hello@brainstrust.org.uk**.

Why do we need this Know How

Recent research (2024)[2] has uncovered a potential link between long-term use of medroxyprogesterone acetate (Depo Provera is one brand name), a widely used contraceptive injection, and an increased risk of developing meningioma, a typically non-malignant brain tumour.

Since then, further research (2025)[3] and new European regulatory action (2026)[4] have identified a smaller, similar link with two other progestogen contraceptives: the desogestrel progestogen-only pill and etonogestrel implants (Nexplanon) and rings. This Know How now covers these too.

What is a meningioma?

A meningioma is a tumour that develops from the meninges, the protective layers surrounding the brain and spinal cord. While most are non-malignant, they can cause significant health issues due to their location, potentially affecting vision, memory, and motor functions.

Evidence

What is the situation?

A comprehensive French study published in the British Medical Journal in March 2024 analysed data from over 108,000 women, including 18,000 who had undergone surgery for meningiomas. The findings revealed that women who used medroxyprogesterone acetate for at least 12 months had a 5.6-fold increased risk of developing a meningioma compared to non-users. This elevated risk was also observed with other high-dose progestogens like medrogestone and promegestone. However, no increased risk was found with lower-dose progestogens such as dydrogesterone or levonorgestrel used by devices in the uterus (intrauterine).

A second French study, published in the British Medical Journal in June 2025, looked specifically at the desogestrel progestogen-only pill and at levonorgestrel. It found a small increased risk of meningioma with desogestrel used continuously for more than five years, with the risk rising the longer it was taken. To put the size of this risk

2 BMJ 2024; 384 doi: https://doi.org/10.1136/bmj-2023-078078 (Published 27 March 2024).

3 Roland N, Kolla E, Baricault B, et al. Oral contraceptives with progestogens desogestrel or levonorgestrel and risk of intracranial meningioma: national case-control study. BMJ 2025; 389:e083981 doi: https://doi.org/10.1136/bmj-2024-083981 (Published 11 June 2025).

4 European Medicines Agency. Meeting highlights from the Pharmacovigilance Risk Assessment Committee (PRAC) 6-9 July 2026. https://www.ema.europa.eu/en/news/meeting-highlights-pharmacovigilance-risk-assessment-committee-prac-6-9-july-2026 (Published 10 July 2026).

in context, it is estimated that around 67,000 women would need to use desogestrel for one woman to need surgery for a meningioma, falling to around 17,000 for use of more than five years. Reassuringly, the risk disappeared within a year of stopping desogestrel, and no increased risk at all was found with levonorgestrel, whether used alone or combined with oestrogen and regardless of how long it was taken.

In July 2026, the European Medicines Agency's safety committee (the PRAC) reviewed this evidence and agreed new safety measures for desogestrel- and etonogestrel-containing contraceptives. It confirmed a small increased risk of meningioma with current, prolonged use (more than one year), while stressing that the overall likelihood of developing a meningioma remains very low: an estimated one additional meningioma for every 67,300 women who use these medicines. The risk may be higher in women who have previously used a progestogen already linked with meningioma (for example cyproterone, nomegestrol, medroxyprogesterone or chlormadinone), so previous progestogen use should be considered before starting desogestrel or etonogestrel.

This finding is supported by earlier research, including a 2021 study from the University of Pittsburgh Medical Center, which observed that discontinuing medroxyprogesterone acetate led to shrinkage in some meningiomas.

While the risk is considered small, it is more significant with prolonged use and high doses. It is important to remember too that there are benefits of medroxyprogesterone acetate.

Risks and benefits

Risks

Potential increased risk of developing meningioma.

Higher doses: risk appears to increase with the duration of use and dosage.

Unknown mechanisms: the exact mechanism by which medroxyprogesterone acetate might increase meningioma risk is not fully understood but is thought to involve hormonal effects.

Which contraceptives are involved: the higher-dose injection (medroxyprogesterone acetate) carries the largest increase in risk. The desogestrel pill and etonogestrel implants (Nexplanon) and rings (Nuvaring) carry a smaller increase, mainly with prolonged use. Levonorgestrel (Mirena or Kyleena) (including the hormonal coil/intrauterine system) has not been linked with any increased risk.

Benefits

Medroxyprogesterone acetate is an effective and long-acting contraceptive; having a baby is not without risk:

- It may reduce menstrual cramps and pain.
- It may lower the risk of endometrial cancer.
- It may lighten bleeding.

Why is this relevant for a people living with a meningioma?

Meningiomas are known to be hormone-sensitive, particularly to progesterone. Synthetic progestins like medroxyprogesterone acetate may overstimulate progesterone receptors in the meninges, leading to abnormal cell growth and tumour formation.

Regulatory and legal responses

In response to these findings, health authorities in the UK, EU, and New Zealand ensured that product information was updated for medroxyprogesterone acetate brands such as Depo-Provera to include warnings about the potential risk of meningiomas with long-term use. However, as of June 2025, the U.S. Food and Drug Administration (FDA) has not revised the product labelling. This discrepancy has led to legal actions, including class action lawsuits in the United States and Australia, alleging that the manufacturer, Pfizer, failed to adequately warn consumers about these risks. While a formal class action lawsuit has not yet been filed, several personal injury and product liability lawsuits are underway.

In the UK, the picture is at an earlier stage, but claims are beginning to gather momentum.

Following the MHRA's warning about a small increased risk of meningioma with high-dose medroxyprogesterone acetate, some law firms experienced in group litigation have started building cases on behalf of women in this country. This is likely to develop over the coming months.

brainstrust cannot recommend or endorse any particular law firm, and nothing here is legal advice. If you are thinking about taking legal advice, you may wish to speak to more than one solicitor and check that they are regulated (by the Solicitors Regulation Authority in England and Wales, or the Law Society of Scotland). Take your time and be cautious of advertising that pressures you to act quickly.

In July 2026, the European Medicines Agency's PRAC went a step further for the desogestrel pill and etonogestrel implants and rings. It agreed a direct healthcare professional communication (a formal safety letter to prescribers) and new measures to reduce risk. Meningioma will be added to the product information as a possible side effect, and the medicines are now contraindicated (should not be used) in women who have a meningioma or have had one in the past. Women using them should be monitored for signs and symptoms that could suggest a meningioma, and if one is diagnosed the medicine must be stopped.

Why has this become newsworthy now?

The research was published in March 2024, so it is not new. There is a commercial motivation for some legal companies who wish to attract enough people to create a class action so this has become more visible. In the U.S., a class action lawsuit is a type of lawsuit where one or more individuals sue on behalf of a large group of people who have suffered similar harm from the same entity. It is particularly relevant to the US due to the product labelling not being revised.

The desogestrel and etonogestrel news is more recent: the underlying study was published in June 2025 and the European regulator announced its new safety measures in July 2026, which is why you may be seeing coverage of it now.

What this means for people living with a meningioma

If you have used medroxyprogesterone acetate (brands include Depo-Provera and Sayana Press) for an extended period and are experiencing symptoms such as persistent headaches, vision problems, or memory issues, it's important to consult your doctor. While the overall risk of a meningioma diagnosis remains low, being informed and proactive about your health is important.

The same applies if you use the desogestrel pill or an etonogestrel implant (Nexplanon) or ring (Nuvaring). A few practical points may help:

- Most people do not need to change their contraception. The overall risk is low, and this is a decision to make with your doctor rather than something to act on alone.
- If you have a meningioma now, or have had one in the past, these medicines are no longer recommended for you, then speak to your GP or clinic about alternatives.
- Symptoms worth mentioning to your doctor include changes in vision, hearing loss or ringing in the ears, loss of smell, worsening headaches, memory problems, seizures, or weakness in your arms or legs.
- The desogestrel risk appears to reverse: it disappeared within a year of stopping the medicine.
- Levonorgestrel contraceptives, including the hormonal coil, have not been linked with this risk and may be an option to discuss.

Just a note too that it is best to avoid comparisons between diagnoses and individual experiences. This can make you feel anxious or invalidated if your treatment or care plan differs from others with the same diagnosis.

It is important to remember the overall risk of developing a meningioma is still low; the study found a 0.01% chance overall and 0.05% chance on medroxyprogesterone acetate. For the desogestrel pill and etonogestrel implants and rings, the risk is smaller still: around 1 in 67,000 women overall (about

0.0015%), rising roughly to 1 in 17,000 (about 0.006%) with more than five years continuous use. Contraception is important for preventing unwanted pregnancies; the risks associated with an unplanned or mistimed pregnancy occur at a significantly greater frequency than that of meningioma. This underscores the importance of this as a contraceptive option. Regulators have now acted on this evidence to strengthen safety warnings, though research into the underlying mechanisms continues.

Making informed decisions

Discuss with your healthcare provider: have an open conversation with your doctor about the risks and benefits. Consider your health history, and your preferences.

Weigh the risks and benefits: make a careful assessment of benefits and risks.

Consider alternatives: other contraceptive options may be available.

Monitor for symptoms: if you experience new or worsening headaches, seizures or other neurological symptoms, consult your doctor.

For more detailed information, you can refer to the original study published in the *British Medical Journal*.

Ask yourself

- What am I struggling with?
- What specifically is causing me to be anxious about this topic?
- Who can I talk with about it?
- What other information do I need?

Contact

Talk to *brainstrust*. We can help. You can call, write, type, text. Email for help and support: **hello@brainstrust.org.uk**.
Telephone: **01983 292 405**.

References

1 https://www.nhs.uk/medicines/contraceptive-injections-medroxyprogesterone/.

2 BMJ 2024; 384 doi: https://doi.org/10.1136/bmj-2023-078078 (Published 27 March 2024).

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4 European Medicines Agency. Meeting highlights from the Pharmacovigilance Risk Assessment Committee (PRAC) 6-9 July 2026. https://www.ema.europa.eu/en/news/meeting-highlights-pharmacovigilance-risk-assessment-committee-prac-6-9-july-2026 (Published 10 July 2026).

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