The College of Sexual & Reproductive Healthcare

4 June 2026

CoSRH Statement: Meningioma and Progestogens

This summary brings together previous CoSRH statements and responses to members' evidence requests regarding progestogens and the risk of meningioma.

Background

Meningioma is an uncommon and predominantly benign tumour. Incidence increases significantly with age, the median age at diagnosis being 66 years old. The incidence in patients over 40 is 18.69/100,000 and in patients aged 0-19 is 0.16/100,000. The main risk factors are advanced age and being female.[1]

Summary of evidence

Evidence suggests that some progestogens are associated with an increased risk of intracranial meningioma (IM), particularly with prolonged use.[2,3] The magnitude of association varies between different progestogens, as summarised in table 1.

It has been advised that cyproterone acetate, medroxyprogesterone acetate, and nomegestrol acetate are avoided in individuals with a current or previous meningioma.[4-6] Following publication of the second Roland study in 2025, the CEU also advised that desogestrel should not be used in individuals with meningioma or a history of meningioma.[7] In the general population, healthcare professionals should remain vigilant for signs and symptoms of meningioma, and these methods should be discontinued if a meningioma is diagnosed.[4,7-9]

No evidence has been identified about the risk of meningioma with drospirenone, norethisterone or etonogestrel. Drospirenone is a spironolactone derived progestogen and is not structurally related to desogestrel or its metabolic pathway.

Etonogestrel, used in the contraceptive implant, is the active metabolite of desogestrel. Given the pharmacological similarity between these hormones and the absence of reassuring safety data, etonogestrel-containing implants may not be appropriate for individuals with a current or history of meningioma.

No statistically significant or consistent association has been identified between levonorgestrel use and meningioma risk.[3] However, no studies have specifically evaluated the safety of levonorgestrel use in individuals with a current or history of meningioma.

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***Table 1**: Odds ratios (ORs) for intracranial meningioma associated with progestogens reported in Roland et al. (2024, 2025)[2,3]*

Evidence of increased risk of IM with current use*	**Odds ratio (95% Confidence Interval)**
Cyproterone acetate	19.21 (16.61 to 22.22)[2]
Medroxyprogesterone acetate	5.55 (2.27 to 13.56)[2]
Nomegestrel acetate	4.93 (4.50 to 5.41)[2]
Desogestrel	1.25 (1.10 to 1.42)[3]
Evidence showing no increased risk of IM	
Levonorgestrel 52 mg LNG-IUD	0.94 (0.86 to 1.04)[2]
Levonorgestrel 13.5 mg LNG-IUD	1.39 (0.70 to 2.77)[2]
Levonorgestrel 30mcg	1.44 (0.87 to 2.40)[3]
Levonorgestrel + oestrogen	0.92 (0.77 to 1.09)[3]
No evidence available (safe to use)	
Cu-IUD	N/A
Condoms	N/A
Diaphragms	N/A
No evidence available (see above)	
Etonogestrel	No data
Norethisterone	No data
Drospirenone	No data

* The studies defined 'current use' as at least one prescription or dispensing of the contraceptive during the year before index date; index date is defined as the start date of the corresponding hospital admission for surgery for intracranial meningioma.[2,3]

At the current time, the CEU recommends:

In individuals with a current meningioma who are under the care of neurosurgeons, the CEU suggests seeking expert advice about continuing any hormonal method of contraception.

In individuals with a history of meningioma, advice should be sought regarding use of any hormonal method of contraception, as this may depend on tumour type.

Counselling healthy individuals who are starting or currently using progestogens

Meningioma is an uncommon and benign brain tumour. It should be noted that even among users of progestogens, the overall risk remains relatively low. This risk should be considered alongside the benefits of contraception and preventing an unplanned pregnancy.

Individuals starting cyproterone acetate, nomegestrol acetate, medroxyprogesterone acetate or desogestrel should be informed of the increased risk of IM requiring surgery with these methods.

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The Number Needed to Harm (NNH), shown in table 2 represents the estimated number of women who would need to use a given progestogen for one additional case of intracranial meningioma requiring surgery to occur, compared with non-use. For example, approximately 67,000 women would need to use desogestrel 75 µg (across all durations) for one additional intracranial meningioma requiring surgery to occur. The NNH may be helpful when counselling patients about the risk of meningioma.

***Table 2**: Numbers Needed to Harm (NNH) by use of progestogens for continuous exposure reported in Ronald et al. (2025)[3]*

Progestogen	Number needed to harm
Desogestrel	67,287
Medroxyprogesterone acetate	3,265
Cyproterone acetate	518

For further details about the evidence, please see our most recent statements

FSRH response to study: Use of progestogens and the risk of intracranial meningioma (2024) | CoSRH

FSRH statement: Use of desogestrel and risk of intracranial meningioma (July 2025) | CoSRH

Disclaimer

This is not official CoSRH guidance but a summary of statements and members evidence requests, to aid clinicians in counselling patients. This summary does not include a systematic review of the evidence.

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References

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