

Levonorgestrel-releasing intrauterine system

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HUG

Devices

- ◆ Levonorgestrel-releasing intrauterine system- Mirena[®]
 - Progestasert-progesterone
 - Intra-cervical device (ICD)

Action

- ◆ Levonogestrel 20 mcg/day
- ◆ sufficient concentrations few hours after insertion
- ◆ atrophy of endometrial glands, decidualisation of stroma
- ◆ limited effects on ovulation and pituitary gland
- ◆ 5 years

Systematic review:
Levonorgestrel-releasing
intrauterine systems (Mirena[®])
compared with other methods of
reversible contraceptives

French 2000, BJOG 107:1218-1225

Systematic review

- ◆ > 400 publications
- ◆ 7 randomised controlled trials, reported in 23 publications
- ◆ 5 for data extraction

– French BJOG 2000, 107;1218-1225

Comparisons:

◆ $> 250 \text{ mm}^3$ copper

◆ $= / < 250 \text{ mm}^3$ copper

Pregnancy: LNG-20/IUD vs >250

mm³Cu French 2000

	Rate ratio	95% confidence interval
◆ Year 1	1.01	(0.17, 5.82)
◆ Year 2	0.30	(0.07, 1.24)
◆ Year 3	0.11	(0.01, 2.12)
◆ Year 5	0.66	(0.25, 1.75)

Pregnancy: LNG 20-IUD vs \leq / $<$ 250 mm³ Cu

French 2000

	Rate ratio	95% confidence interval
◆ Year 1	0.12	(0.03, 0.49)
◆ Year 3	0.07	(0.02, 0.19)
◆ Year 5	0.08	(0.04, 0.18)

Planned pregnancies after removal

(LNG-20 vs Nova T) Andersson 1994

	Rate ratio	95% confidence interval
◆ Year 1	1.07	(0.88, 1.32)
◆ Year 2	1.07	(0.9, 1.28)

Menstrual patterns French 2000

- ◆ Amenorrhoea (compared to CuT380Ag)
 - RR 2.25 (1.3-3.56) after 3 months
 - RR 7.24 (4.14-12.55) after 3 years

Discontinuation: LNG-20/IUD vs >250

mm³Cu French 2000

	Rate ratio	95% confidence interval
◆ Year 1	0.81	(0.23, 2.80)
◆ Year 3	1.71	(0.64, 4.55)
◆ Year 5	*4.24	(1.99, 9.04)

Reasons for discontinuation French 2000

Risk difference (95% CI)

◆ amenorrhoea

– 1 year	5%	(3.2, 6.9)
– 3 years	13.5%	(9.3, 17.3)

◆ bleeding/dysmenorrhoea

– 5 years	-7.6%	(-10.9, -4.9)
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Hormonal side effects

LNG-20 vs Nova-T (Andersson 1994)

@ 5 years	RR	(95% CI)
◆ ovarian cysts	1.5	(0.51-4.40)
◆ headaches	1.71	(0.49-6.02)
◆ breast tenderness	1.50	(0.31-7.17)
◆ acne	5.56	(0.73-42.35)
◆ nausea	5.0	(0.24-103.86)

other outcomes

- ◆ difficulties and pain at insertion, expulsion
 - more reported with LNG-IUS
- ◆ pelvic inflammatory disease
 - ? reduced, especially women < 25y
- ◆ haemoglobin levels
 - higher when compared to Cu-IUDs

Conclusions

- ◆ preventing pregnancy:
 - LNG-IUD = Cu > 250 mm³
 - LNG-IUD is **more effective** than Cu =/< 250 mm³

- ◆ return to fertility:
 - **similar** compared to other IUDs

Conclusions

- ◆ amenorrhoea is a notable reason for discontinuation
- ◆ reduced menstrual bleeding and pain
- ◆ counseling
 - hormonal effects
 - duration of use