

Evidence-based answers from the
Family Physicians Inquiries Network

CLINICAL INQUIRIES



Q/What are the benefits and risks of IUDs in adolescents?

EVIDENCE-BASED ANSWER

A | LITTLE AVAILABLE EVIDENCE specifically addresses the benefits and risks of intrauterine devices (IUDs) in adolescents. Most studies have evaluated IUD use in nulliparous adults.

Levonorgestrel IUDs cause less menstrual bleeding than oral contraceptive pills (OCPs) in adult nulliparous women without differences in complications or pregnancy rates (strength of recommenda-

tion [SOR]: **B**, one RCT).

Levonorgestrel IUDs appear to have similar expulsion and continuation rates in adolescents and adults (SOR: **B**, one prospective study). Adult nulliparous women who discontinue IUDs have subsequent birth rates similar to women who stop using OCPs or barrier methods. (SOR: **B**, limited quality evidence).

Evidence summary

One RCT that compared the levonorgestrel IUD (Mirena) with oral contraceptives in 200 nulliparous women 18 to 25 years of age found the IUD to have equivalent safety and efficacy to OCPs.¹ Moreover, the IUD group experienced a significant decrease in bleeding, with a number needed to treat of 4 ($P=.001$).

Neither group reported any pregnancies or pelvic inflammatory disease at one year. The overall discontinuation rate at one year was 20% for IUDs and 27% for OCPs (P =not significant [NS]).¹ Multiple studies show no unintended pregnancies with the IUD.¹⁻³

Study of adolescents finds low complication rate

A prospective cohort study of 179 adolescents 10 to 19 years of age found that the overall incidence of complications with the levonorgestrel IUD was relatively low, with removal rates of 8/179 (4.5%) each for pain and abnormal vaginal bleeding. The cumulative incidence of expulsion was estimated at 8.3% (95% confidence interval [CI], 4.2%-14.3%). No cases of uterine perforation were identified,

and the one-year continuation rate was 85% (95% CI, 77%-90%).² Other studies haven't evaluated adolescents as a separate group.

IUDs are also well tolerated in an older cohort

A cohort study of 113 nulliparous women 16 to 30 years of age found insertion of a copper or levonorgestrel IUD to be well tolerated; no perforations were observed. At one year, 65 women (58%) still had their original IUD, 15 (13%) had had it removed, 6 (5%) had experienced expulsion, and 27 (24%) were lost to follow-up.³

Abdominal and back pain can be a problem

An RCT of 200 nulliparous women 18 to 25 years of age found that levonorgestrel IUDs were associated with more abdominal and back pain at 12 months than OCPs (54.7% of women with IUDs had pain vs 40% of women with OCPs; number needed to harm=7; $P=.007$). Pain was the leading cause of discontinuation in the IUD group (6 women with IUDs stopped using them vs no OCP users; $P=.012$).¹

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➤ **Levonorgestrel IUDs cause less menstrual bleeding than oral contraceptives in adult nulliparous women but don't differ from OCPs in complications or pregnancy rates.**

No difference in IUD complications in nulliparous vs parous women

A retrospective cohort study compared 129 nulliparous women with 332 parous women 17 to 52 years of age who had either copper or levonorgestrel IUDs. The researchers found no differences between the 2 groups in rates of perforation, pelvic inflammatory disease, ectopic pregnancy, or expulsion.⁴

Fertility after IUD removal: An encouraging picture

No studies have evaluated fertility after IUD use exclusively in adolescents. A prospective cohort study of 558 nulliparous women ages 18 to 40 years who stopped using a barrier method, copper IUD, or OCP in order to conceive found the quickest return to fertility among women who used the barrier method. The main outcome, percent of women who delivered within 12 months of discontinuation, was highest in the barrier method cohort and lowest in the OCP cohort (54% vs 32%; $P=.002$). The difference in delivery rates between the IUD and OCP groups at 12 months wasn't statistically significant (39% vs 32%). By 18 months after cessation of contraception, the delivery rates in all 3 groups were similar (76%, 67%, and 70% for

barrier, OCP, and IUD use, respectively).⁵

A retrospective cohort study that compared 36 nulliparous women with 83 parous women 18 to 41 years of age who were trying to conceive after removal of the GyneFix (copper) IUD found no statistical difference in pregnancy rates for age or duration of IUD use. Among women younger than 30 years, nulliparous women conceived earlier than parous women; cumulative pregnancy rates after 12 months were 100% for nulliparous and 80% for parous women ($P=.007$). No ectopic pregnancies were observed.⁶

Recommendations

The United Kingdom's National Institute for Health and Clinical Excellence states that IUD use isn't contraindicated in nulliparous women of any age, and that women of all ages may use IUDs. The Institute also states that no specific restrictions limit the use of copper or levonorgestrel IUDs by adolescents.

All women at risk for sexually transmitted infections may need to be tested before insertion. No evidence exists for a delay in return to fertility after removal or expulsion of an IUD.⁷

JFP

References

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