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Best Practices to Minimize Risk of Infection With Intrauterine Device Insertion

This committee opinion has been prepared by the Infectious Disease Committee, reviewed by the Family Practice Advisory Committee, the Registered Nurse Advisory Committee, the Aboriginal Health Initiative, and the Canadian Paediatric and Adolescent Gynaecology and Obstetricians Committee, and approved by the Executive and Council of the Society of Obstetricians and Gynaecologists of Canada.

PRINCIPAL AUTHORS

Sheila Caddy, MD, Edmonton AB

Mark H. Yudin, MD, Toronto ON

Julie Hakim, MD, Ottawa ON

Deborah M. Money, MD, Vancouver BC

INFECTIOUS DISEASE COMMITTEE

Mark H. Yudin, MD (Chair), Toronto ON

Victoria M. Allen, MD, Halifax NS

Céline Bouchard, MD, Quebec QC

Marc Boucher, MD, Montreal QC

Sheila Caddy, MD, Edmonton AB

Eliana Castillo, MD, Calgary AB

Deborah M. Money, MD, Vancouver BC

Kellie E. Murphy, MD, Toronto ON

Gina Ogilvie, MD, Vancouver BC

Caroline Paquet, RM, Trois-Rivieres QC

SPECIAL CONTRIBUTOR

Wendy V. Norman, MD, Vancouver BC

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Abstract

Background: Intrauterine devices provide an extremely effective, long-term form of contraception that has the benefit of being reversible. Historically, the use of certain intrauterine devices was associated with increased risk of pelvic inflammatory disease. More recent evidence suggests that newer devices do not carry the same threat; however, certain risk factors can increase the possibility of infection.

Objectives: To review the risk of infection with the insertion of intrauterine devices and recommend strategies to prevent infection.

Outcomes: The outcomes considered were the risk of pelvic inflammatory disease, the impact of screening for bacterial vaginosis and sexually transmitted infections including chlamydia and gonorrhea; and the role of prophylactic antibiotics.

Evidence: Published literature was retrieved through searches of PubMed, Embase, and The Cochrane Library on July 21, 2011, using appropriate controlled vocabulary (e.g., intrauterine devices, pelvic inflammatory disease) and key words (e.g., adnexitis, endometritis, IUD). An etiological filter was applied in PubMed. The search was limited to the years 2000 forward. There were no language restrictions.

Grey (unpublished) literature was identified through searching the web sites of national and international medical specialty societies.

Values: The quality of evidence in this document was rated using the criteria described in the Report of the Canadian Task Force on Preventative Health Care (Table).

Recommendations

1. All women requesting an intrauterine device should be counselled about the small increased risk of pelvic inflammatory disease in the first 20 days after insertion. (II-2A)
2. All women requesting an intrauterine device should be screened by both history and physical examination for their risk of sexually transmitted infection. Women at increased risk should be tested prior to or at the time of insertion; however, it is not necessary to delay insertion until results are returned. (II-2B)
3. Not enough current evidence is available to support routine screening for bacterial vaginosis at the time of insertion of an intrauterine device in asymptomatic women. (II-2C)

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Key to evidence statements and grading of recommendations, using the ranking of the Canadian Task Force on Preventive Health Care

Quality of evidence assessment*		Classification of recommendations†	
I:	Evidence obtained from at least one properly randomized controlled trial	A.	There is good evidence to recommend the clinical preventive action
II-1:	Evidence from well-designed controlled trials without randomization	B.	There is fair evidence to recommend the clinical preventive action
II-2:	Evidence from well-designed cohort (prospective or retrospective) or case–control studies, preferably from more than one centre or research group	C.	The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making
II-3:	Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category	D.	There is fair evidence to recommend against the clinical preventive action
		E.	There is good evidence to recommend against the clinical preventive action
III:	Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees	L.	There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making

*The quality of evidence reported in these guidelines has been adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.[66]

†Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.[66]

4. Routine use of prophylactic antibiotics is not recommended prior to intrauterine device insertion, although it may be used in certain high-risk situations. (I-C)
5. Standard practice includes cleansing the cervix and sterilizing any instruments that will be used prior to and during insertion of an intrauterine device. (III-C)
6. In treating mild to moderate pelvic inflammatory disease, it is not necessary to remove the intrauterine device during treatment unless the patient requests removal or there is no clinical improvement after 72 hours of appropriate antibiotic treatment. In cases of severe pelvic inflammatory disease, consideration can be given to removing the intrauterine device after an appropriate antibiotic regimen has been started. (I-B)
7. An intrauterine device is a safe, effective option for contraception in an HIV-positive woman. (I-B)
8. An intrauterine device can be considered a first-line contraceptive agent in adolescents. (I-A)

BACKGROUND

In the past, the use of IUDs, in particular the Dalkon shield, was found to be associated with increased risk of PID and septic abortion.[1,2] As a result, the IUD fell out of favour as a contraceptive option, especially in women who had not yet had children. However, more recent literature from the last 2 decades has illustrated that the risk of PID after insertion of an IUD is extremely low, especially in women at low risk of STIs, and that this risk peaks in the first month after insertion.[3–6]

Despite the overall low risk of infection, it is prudent to examine the roles of screening for and treating STIs prior to IUD insertion, the administration of prophylactic antibiotics, and cervical preparation in preventing PID in patients undergoing IUD insertion.

RISK OF PELVIC INFLAMMATORY DISEASE AFTER INSERTION

A recent retrospective cohort study in northern California that included 57 728 IUD insertions found an overall risk of PID in the first 90 days of 0.54%.[6] This supports historical data that found low rates of PID in women who had IUDs inserted. In a review of trials of IUD insertion in the mid-1970s and 1980s, among 22 908 IUD insertions over 51 399 woman-years of follow-up, Farley et al. found an overall rate of PID of 1.6 per 1000 woman-years of use.[3] When sub-analyzed for time from insertion, the rate of PID infection was highest at 9.7 per 1000 woman-years in the first 20 days and then dropped to 1.4 per 1000 woman-years, suggesting infection was most strongly associated with the insertion process. In this study, PID rates also varied by the country in which the trial took place and the age of the women, with a higher risk seen in younger women.

Other studies have also found a differential risk of PID based on geographic location. In an RCT investigating the role of prophylactic antibiotics for IUD insertion in Los Angeles County, California, there was only 1 case of salpingitis in 915 control subjects 90 days after insertion.[5] Similarly, very low rates of PID (0.6 per 1000 woman-years) were seen in an international collaboration comparing the effectiveness of Norplant, IUDs, and sterilization