

Intrauterine Contraception

Today

VOLUME 1, ISSUE 1 FEBRUARY 2007

Note: This is the first of three issues.

Nearly all US women (98%) ages 15 to 44 years who have had intercourse have used at least one method of contraception, and most (62%) are currently using a contraceptive method.¹ Still, unintended pregnancy continues to be a major public health issue—nearly half of the 6.4 million annual pregnancies in the United States are unintended and almost half of these end in abortion.² (See Figure 1.)

Modern methods of contraception offer women enormous freedom in planning future pregnancies. Their criteria for choosing one method over another include efficacy, ease of use, ability to protect against sexually transmitted diseases (STDs), accessibility, side effects, and duration of action. Each method presents its own advantages and disadvantages. Oral contraceptives, for example, are highly effective when used as directed, but have a high discontinuation rate.³ Sterilization, which must be perceived by women and clinicians as a permanent and irreversible approach to pregnancy prevention, should be selected only by women who absolutely have no further desires for child bearing. Unfortunately, because of a variety of economic and societal factors, many women who undergo sterilization later express regret over their decision. Hillis and colleagues⁴ found that 1 in 5 women undergoing sterilization before the age of 30 expressed regret within 14 years, and that 1 in 4 women desired reversal. Accordingly, women considering sterilization need to understand its permanence as well as the availability of long-term and reversible hormonal and non-hormonal methods that provide highly effective contraception.

These methods—which include intrauterine devices (IUDs) as well as the levonorgestrel implant, the vaginal ring, and the transdermal patch—have been described as “forgettable,” emphasizing their long duration of action and ease of use. The two IUDs currently approved by the US Food and Drug Administration include the copper T 380A IUD (ParaGard®) and the levonorgestrel intrauterine system (LNG IUS) (Mirena®).

IUD usage: US and Worldwide Rates

Worldwide, IUDs are the most popular form of reversible contraception; a total of 160 million women use these devices.⁵ However, the use of IUDs in the United States is far less than the usage rate elsewhere. Among US women who practice contraception, only 2% use IUDs⁶; in contrast, 15% of European women on contraception use IUDs. This low IUD usage rate in the United States was not always the case. In the 1970s, prior to the Dalkon Shield recall, nearly 10% of women using contraception chose an IUD.

A recent survey speaks to young women's unfamiliarity with IUDs. In a study of 190 women aged 14 to 25 years presenting for prenatal or abortion care, 50% had not heard of IUDs, 71% did not know about IUD safety, and 58% did not know about IUD efficacy.⁷ Respondents who knew of IUDs were older (21 years vs 19 years, $P < 0.001$) and more likely to be parous (55% vs 39%, $P = 0.04$). Study authors suggest that young women choosing

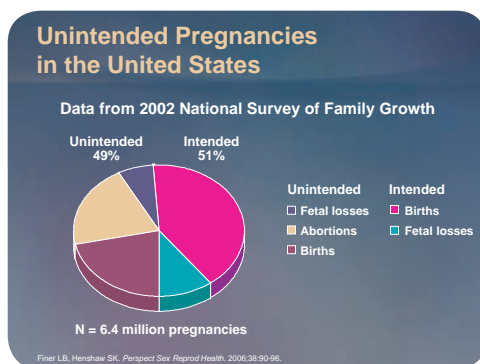


Figure 1

LEARNING OBJECTIVES

After studying the information presented in this newsletter, participants will be able to:

- Identify the need for long-term reversible contraception, including intrauterine devices (IUDs)
- Discuss the overall use, satisfaction rates, safety, and efficacy of the two available IUDs
- Differentiate between misconceptions and facts of IUD use.

TARGET AUDIENCE

This educational activity is designed for OB/GYNs, nurse practitioners in women's health, select primary care physicians, select physician assistants, office nurses, retail pharmacists, and managed care decision makers.

CME Release/End dates: 2/22/2007-2/22/2008

CE Release/End dates: 2/22/2007-2/22/2009

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contraception after a pregnancy might benefit from counseling on the relative safety and effectiveness of IUDs. (See accompanying commentary by Lee P. Shulman, MD)

Misconceptions vs Facts About IUDs

The low use of IUDs in the United States can be attributed to a number of safety myths, the most widespread of which can trace its roots back to the Dalkon Shield debacle—the belief that IUD use is linked to pelvic inflammatory disease (PID). Other common misconceptions are that IUDs cause infertility, are abortifacients, and present an increased risk of ectopic pregnancies. A review of recent literature addresses these points:

- Pelvic Inflammatory Disease.** Evidence supports the fact that IUD use in properly selected patients is not associated with an increase in PID after the first 20 days post-insertion.⁸ In fact, the incidence of PID for IUD users is similar to that in the general population (1.6 cases per 1,000 person-years),⁹ and research has shown that STD at time of insertion, not the IUD, increases risk for PID.⁹ Nulliparous and multiparous women at low risk of STDs are not at increased risk for PID.¹⁰ Furthermore, risk of upper genital tract infection is negligible after IUD insertion (approximately 1/1,000 during 90 days).¹¹ (See Figure 2.)

Does IUD Use Increase the Risk of Upper Genital Tract Infection?

- PID incidence for IUD users similar to general population (1.6 cases per 1,000 person-years)¹
- STD at time of insertion, not IUD, increases PID risk¹
- Risk of upper genital tract infection negligible after IUD insertion (~1/1,000 during 90 days)²

1. Peterson HB, Curtis KM. *N Engl J Med*. 2005;353:2169-2175.
2. Walsh T et al. *Lancet*. 1996;351:1005-1008.

Figure 2

- Ectopic Pregnancies.** The use of IUDs decreases the risk of both ectopic and intrauterine pregnancy, and randomized trials have shown that IUDs protect against ectopic pregnancy. However, because IUDs are more efficient at preventing uterine than ectopic pregnancy, a higher proportion of pregnancies with IUDs, compared with other methods of contraception, are ectopic.¹⁰ US cohort data with both the copper T 380A IUD and the LNG IUS have demonstrated an ectopic pregnancy rate of 0 to 0.5 per 1,000 woman-years versus an ectopic pregnancy rate of 3.25 to 5.25 per 1,000 woman-years among women not using contraception.^{10,12,13} In light of this very low risk, a history of ectopic pregnancy is not considered a contraindication to IUD use.
- Infertility.** The return of fertility after IUD removal is similar to that after discontinuation of other methods. A study showed that fertility rates among parous women 18 months after an IUD is removed is an estimated 80%, similar to the rates after discontinuation of oral contraceptives, diaphragms, and other methods of birth control.¹⁴ Differences between the groups was minimal from 24 months onward.
- Abortifacients.** The principal mode of action for IUDs is prevention of fertilization.¹⁰ Postfertilization effects may also occur. However, because IUDs exert their effects before implantation, they are not considered abortifacients.

Efficacy of IUDs

First-year typical-use failure rates with the copper T 380A IUD and the LNG IUS are among the lowest of contraceptive methods, 0.8% and 0.1%, respectively, which is comparable to female sterilization (first-year failure rate, 0.5%).¹⁵ (See Figure 3.) Alternatively, first-year typical-use failure rates with oral contraceptives and the male condom are 8% and 15%, respectively.

First-year continuation rates for the copper T 380A IUD and the LNG IUS are among the highest for reversible contraceptive methods, 78% and 81%, respectively.³ On the other hand, first-year continuation rates with oral contraceptives and the male condom are 68% and 53%, respectively. Focusing on longer-term efficacy rates, a study examining



Counseling Tips: How to Talk With Your Patient

1. An IUD is “forgettable” contraception—once it is inserted, it can be forgotten and is effective for 5 or 10 years, depending on which brand is used.
2. An IUD’s rate of failure is one of the lowest among contraceptives. Depending on which of the two brands is used, the failure rate in the first year can be as low as 0.8% (copper T 380A IUD [hormone free]) or 0.1% (LNG IUS [with hormone]). By comparison, the same rate for oral contraceptives is 8%.
3. An IUD may alter your menstrual cycle. With the LNG IUS, for instance, a significant percentage of women will experience amenorrhea (the absence of a menstrual period) after 6 months. If you do note a significant change in the amount or duration of bleeding, or you experience discomfort, contact your healthcare provider.
4. Because one contains a hormone and one does not, each IUD may be appropriate for women with certain types of conditions—for instance, those with heavy bleeding (LNG IUS may be better) or those with classic migraines (copper T 380A IUD may be better).
5. Studies have shown that IUDs do not contribute to infertility. Your fertility will return to the same status it was before your contraceptive was inserted.

— Anne Moore, MSN, RNC

Ms Moore has indicated relevant financial relationships as noted: retained consultant and speaker for Berlex, Inc., Duramed Pharmaceuticals, Inc., Organon Pharmaceuticals USA Inc., Ortho-McNeil Pharmaceutical, Inc., and Wyeth Pharmaceuticals.

prolonged intrauterine contraception showed the following cumulative pregnancy rates at seven years: 1.1 per 100 for the LNG IUS and 1.4 per 100 for the copper T 380A.¹⁶

The copper T 380A IUD and the LNG IUS are approved for use up to 10 and 5 years, respectively. An important advantage of this reversible method of contraception over others is that an IUD requires only a single act of motivation for long-term use. A 1999 industry-sponsored survey revealed that 96% of current IUD users were satisfied with this contraceptive method, a satisfaction rate equivalent to that of pill users.¹⁷

Conclusion

Accumulating scientific evidence, including that cited above, points to the long-term safety and efficacy of IUDs. Supporting this view is a statement released in 2005 by the American College of Obstetricians and Gynecologists: “IUDs offer safe, effective, long-term contraception and should be considered for all women seeking a reliable, reversible contraceptive that is effective before coitus.”¹⁰

References

1. Mosher WD, Martinez GM, Chandra A, Abma JC, Willson SJ. Use of Contraception and Use of Family Planning Services in the United States: 1982-2002. “Advance Data from Vital and Health Statistics,” No. 350. Hyattsville, MD: NCHS, 2004. <http://www.cdc.gov/nchs/data/ad/ad350.pdf>
2. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health.* 2006;38:90-96.
3. Trussell J, Vaughan B, Stanford J. Are all contraceptive failures unintended pregnancies? Evidence from the 1995 National Survey of Family Growth. *Fam Plann Perspect.* 1999;31:246-247, 260.
4. Hillis SD, Marchbanks PA, Tylor LR, Peterson HB. Poststerilization regret: findings from the United States Collaborative Review of Sterilization. *Obstet Gynecol.* 1999;93:889-895.
5. Alan Guttmacher Institute. Facts in Brief. Contraceptive use. Available at www.guttmacher.org.
6. Population Reference Bureau. Family Planning Worldwide 2002 Data Sheet. 2002.
7. Stanwood NL, Bradley KA. Young pregnant women’s knowledge of modern intrauterine devices. *Obstet Gynecol.* 2006;108:1417-1422.
8. Hubacher D, Lara-Ricalde R, Taylor DJ, Guerra-Infante F, Guzman-Rodriguez R. Use of copper intrauterine devices and the risk of tubal infertility among nulligravid women. *N Engl J Med.* 2001;345:561-567.
9. Peterson HB, Curtis KM. Long-acting methods of contraception. *N Engl J Med.* 2005;353:2169-2175.
10. ACOG Practice Bulletin #59: Intrauterine Device. *Obstet Gynecol.* 2005;105:223-232.
11. Walsh T, Grimes D, Frezieres R, et al. Randomised controlled trial of prophylactic antibiotics before insertion of intrauterine devices. IUD Study Group. *Lancet.* 1998;351:1005-1008.
12. Sivin I. Dose- and age-dependent ectopic pregnancy risks with intrauterine contraception. *Obstet Gynecol.* 1991;78:291-298.
13. Sivin I, Stern J. Health during prolonged use of levonorgestrel 20 micrograms/d and the copper TCu 380Ag intrauterine contraceptive device: a multicenter study. International Committee for Contraception Research (ICCR). *Fertil Steril.* 1994;61:70-77.
14. Vessey MP, Lawless M, McPherson K, Yeates D. Fertility after stopping use of intrauterine contraceptive device. *Br Med J (Clin Res Ed).* 1983;286:106.
15. Trussell J. Contraceptive failure in the United States. *Contraception.* 2004;70:89-96.
16. Sivin I, Stern J, Coutinho E, et al. Prolonged intrauterine contraception: a seven-year randomized study of the levonorgestrel 20 mcg/day (LNG 20) and the Copper T380 Ag IUDs. *Contraception.* 1991;44:473-480.
17. Hubacher D. The checkered history and bright future of intrauterine contraception in the United States. *Perspect on Sex Reprod Health.* 2002;34:98-103.

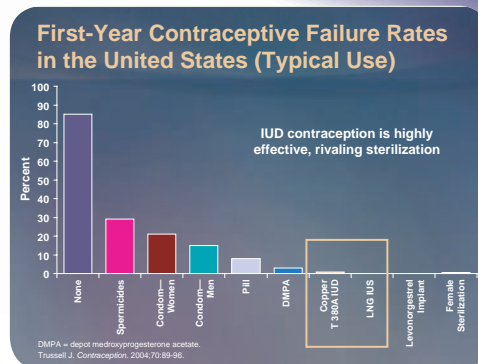


Figure 3

By comparison, the same rate for oral contraceptives is 8%.

Be Part of an Interactive Audioconference Series Intrauterine Contraception Today

Sign up today to hear the latest evidence about the efficacy and safety of the modern IUD—all delivered by top faculty in female health. Listen from your home or office, and participate in a question-and-answer session with a faculty member after the formal presentation. **To register, click here**

In March and April this newsletter will examine practical issues involving IUD insertion and continuing care, as well as cost and reimbursement. Frequently asked questions from an upcoming series of interactive audioconferences, along with experts' responses, will also be featured. See the announcement elsewhere regarding the audioconferences.

COMMENTARY

A balanced approach needed to contraceptive counseling



It is clear that a considerable number of women wish to use a reversible, nondaily, and nonoral method of contraception. Until the 1980s, the contraceptive most commonly used by women choosing such an approach was the intrauterine device (IUD). However, a combination of misperceptions and erroneous "urban legend" continued to support the sharp decline in IUD use after the Dalkon Shield controversy of the 1970s. This precluded the training of women's healthcare providers in the insertion and management of IUDs, thus creating a catch-22 scenario in which women who wished to use a nondaily method were counseled that IUDs were unsafe and associated with medical complications by clinicians who had no training or experience with these devices. Such clinicians then pointed to the low usage rates of IUDs as a corroboration for their opinions that women did not want to are use this method.

Nonetheless, an overwhelming body of literature supporting IUDs as safe and reliable along with more promotion of IUDs and training of clinicians in insertion and management have led to a renaissance in the use of IUDs as first-line, mainstream contraceptive options. However, this renewed interest has not yet completely filtered down to women considering contraception, especially younger women. A recent article by Stanwood and Bradley¹ shows that younger women are less likely to have heard about the IUD and, thus, less likely to consider its use when deciding on a contraceptive option.

A balanced approach to contraceptive counseling, including the safety and reliability of the IUD, is what will empower women to choose the optimal contraceptive for their own health and lifestyle needs and serve to encourage continued and correct use as long as pregnancy is not desired. In this way, unintended pregnancy rates will continue to fall and women will gain the maximal noncontraceptive benefits associated with their contraceptive.

— Lee P. Shulman, MD

Dr. Shulman has indicated relevant financial relationships as noted: consultant for Berlex, Inc., Ortho-McNeil, Inc., Wyeth-Ayerst Pharmaceuticals, Pfizer Inc., F. Hoffmann-LaRoche Ltd., and Eli Lilly and Company; receives research grants or contracts from Wyeth-Ayerst Pharmaceuticals and Duramed Pharmaceuticals, Inc.

1. Stanwood NL, Bradley KA. Young pregnant women's knowledge of modern intrauterine devices. *Obstet Gynecol.* 2006;108:1417-1422.

POSTTEST QUESTIONS (please see the directions for submission on the front page and the next page)

A summary of posttest results will be available effective March 30, 2007, on www.ppscme.org/womenshealth. The summary will be updated on a quarterly basis to reflect all responses received.

Question 1: What percentage of current IUD users (from a 1999 survey) was satisfied with this contraceptive method?
A. 26 B. 46 C. 66 D. 96

Question 2: Regarding the efficacy of IUDs, which of the following statements is false?
A. First-year typical-use failure rates with IUDs are among the lowest of contraceptive methods.
B. First-year typical-use failure rates with IUDs are comparable with those of oral contraceptives and the male condom.
C. First-year continuation rates for IUDs are among the highest for reversible contraceptive methods.
D. The copper T 380A IUD and the LNG IUS are approved for use up to 10 and 5 years, respectively.