

Intrauterine Contraception

Today

VOLUME 1, ISSUE 3 MAY 2007

Note: This is the third of three issues.

The intrauterine device (IUD) has been endorsed by the American College of Obstetricians and Gynecologists as a safe and effective contraceptive for women.¹ This newsletter explores the practical issues of the two currently available IUDs, including techniques for insertion and removal of the device, and information on costs and reimbursement. We are also featuring several overviews from question-and-answer sessions that were held during a recent audioconference series featuring experts in the field of female reproductive health.

Practical Use of IUDs

The two IUDs currently approved by the US Food and Drug Administration (FDA)—the copper T 380A IUD (ParaGard®) and the levonorgestrel intrauterine system (LNG IUS) (Mirena®)—are packaged with their own inserts and have their own insertion protocols. It's important to be familiar with these protocols because insertion and removal techniques are different for each device. Experience inserting one type does not confer competence with the other. IUD insertion is readily learned by clinicians who routinely provide gynecologic care, and hands-on experience is considered the best training. Ample scientific evidence (as summarized in previous issues of this newsletter) is available to allow patients to make informed decisions and clinicians to select appropriate patients for IUD use.

Insertion Techniques

IUDs can be inserted any time during the menstrual cycle, if the woman is not pregnant.² Insertion of a device can also occur at any time after delivery; a study showed that there is no increased expulsion rate when an IUD is inserted immediately post-delivery of the placenta, or when the uterus is fully involuted, usually at four to six weeks postpartum.³ When the IUD is inserted during the luteal phase, another nonhormone contraceptive should be used until after the next menses.⁴ Patients with active sexually transmitted diseases (STDs) are not candidates for IUD insertion.

Most women can tolerate IUD insertion without pain-sparing interventions such as a paracervical block. However, some patients may benefit from local anesthetic and/or administration of a nonsteroidal anti-inflammatory drug 30 to 60 minutes prior to the procedure.²

Setting the Stage

Nearly all US women (98%) aged 15 to 44 years who have had intercourse have used at least one method of contraception; most (62%) currently use a contraceptive method.¹ Still, nearly half of the 6.4 million annual pregnancies in the United States are unintended.²

Modern methods of contraception offer women enormous freedom in planning future pregnancies. Each presents its own advantages and disadvantages with regard to efficacy, ease of use, ability to protect against sexually transmitted diseases, accessibility, side effects, and duration of action.

This newsletter series focuses on one form of long-term, reversible contraception: the intrauterine device. Other forms of this type of contraception include hormonal implants, the vaginal ring, and transdermal patch.

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. Available at: <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.

LEARNING OBJECTIVES

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

- Summarize practical issues related to the two currently available intrauterine devices (IUDs), including the insertion and removal of the IUDs, as well as their cost and reimbursement

TARGET AUDIENCE

This continuing medical education (CME) and continuing education (CE) 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: 5/31/2007-5/31/2008

CE Release/End dates: 5/31/2007-5/31/2009

This CME/CE activity is sponsored by Professional Postgraduate Services® (PPS), Secaucus, NJ.

Volume 1, Issue 3, is an educational activity that offers both CME and CE credit. To receive the appropriate credit, participants must read this newsletter and complete the posttest and evaluation form.

Participants should then return all forms to: Professional Postgraduate Services® CME Dept. F211, 150 Meadowlands Parkway, Secaucus, NJ 07094-2304.


You may also fax the completed forms to 1 (201) 430-1441.

Participants applying for CE credit must score 70% on the posttest to receive a statement of credit.

Applicants will receive a statement of participation by return mail within 6 to 8 weeks of the date of receipt of the completed evaluation form and posttest.

Professional Postgraduate Services® is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Professional Postgraduate Services® designates this educational activity for a maximum of .50 AMA PRA Category 1 Credit™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

 This CME/CE activity has been evaluated and approved by the Continuing Education Approval Program of the National Association of Nurse Practitioners in Women's Health (NPWH) for .50 contact hour of continuing education credit, including .50 contact hours of pharmacology content. NPWH Activity No. 07-04B.

Each participant should claim only those contact hours that he/she actually spent in the educational activity.

This CME/CE activity is supported by an educational grant from Duramed Pharmaceuticals, Inc.

This newsletter does not contain discussion of off-label or investigational uses of products.

Copyright © 2007 Professional Postgraduate Services®. All rights reserved.

Planning Committee

Raquel D. Arias, MD

Associate Professor
Obstetrics and Gynecology
University of Southern California
Keck School of Medicine
Los Angeles, California

Penelope M. Bosarge, RNC, MSN, CRNP

School of Nursing
University of Alabama at Birmingham
Birmingham, Alabama

David A. Grimes, MD

Clinical Professor
Department of Obstetrics and Gynecology
University of North Carolina School of Medicine
Chapel Hill, North Carolina

Andrew M. Kaunitz, MD

Professor and Assistant Chair
Department of Obstetrics and Gynecology
University of Florida College of Medicine
Jacksonville, Florida

Anne A. Moore, MSN, ANP, FAANP

Professor of Nursing and Chair, NPWH
Vanderbilt University School of Nursing
Nashville, Tennessee

Susan Rawlins, MS, RNC, WHNP

Faculty Associate, OB/GYN
UT Southwestern Medical Center
Dallas, Texas
National Association of Nurse Practitioners
in Women's Health
Washington, District of Columbia

Suzy L. Reiter, NP, MSN

Vice President, Medical Services
Planned Parenthood
Grand Rapids, Michigan

Lee P. Shulman, MD

Professor and Chief
Division of Reproductive Genetics
Department of Obstetrics and Gynecology
Feinberg School of Medicine
Northwestern University
Chicago, Illinois

Carolyn M. Sutton, MS, WHNP

Faculty Associate, OB/GYN
UT Southwestern Medical Center
Dallas, Texas

Susan Wysocki, RNC, NP

President and CEO
National Association of Nurse Practitioners
in Women's Health
Washington, District of Columbia

PPS Staff Disclosures

Senior Medical Writer **Mark Palangio** and Editorial Director **Caroline Tredway** indicated no relevant financial relationships to disclose.

Please visit www.ppscme.org/womenshealth to review Planning Committee disclosure information.

Before insertion, the clinician should perform a bimanual examination to determine the position of the uterus. Afterwards, the depth of the uterine cavity should be measured using a uterine sound. An adequate uterine depth is between 6 and 9 cm by uterine sound measure.² The IUD is inserted into the uterus according to the manufacturer's insertion protocol.^{2,4-6} The transverse arm of the IUD should be in the horizontal plane within the fundus for maximal efficacy and low expulsion rates. IUD strings should be cut at a length that allows the patient to check for the presence of the device each month after menses. To increase her comfort level, it may be helpful to invite the patient to feel the IUD strings before leaving the office. She should then be counseled that if in the future she is concerned that she cannot feel the strings, she should contact her provider.

To evaluate if the IUD is in place, the provider should perform a speculum exam to try to visualize the strings. If they are visible, the patient should be reassured. If they are not visualized, a pregnancy test may be performed to rule out pregnancy.

If the test is negative: a small cotton-tipped swab or a cytobrush can be gently inserted into the canal in an attempt to "tease" the strings out of the os. If this does not work, radiography or ultrasonography may be used to locate the IUD.⁷

If the test is positive: the IUD should be localized by ultrasonography and then removed. It is important to rule out ectopic pregnancy in the presence of a pregnancy with an IUD in situ.⁷

Removal Techniques

IUD removal is a simple office procedure and can be performed anytime during a woman's menstrual cycle at her request or for a medical indication. To remove the IUD, the strings are securely grasped at the external os with ring forceps and firm and steady traction is applied away from the cervix.² The vast majority of IUDs are removed without difficulty. However, if the provider is unable to remove the device, direct visualization of the IUD with sonography or hysteroscopy may be needed to facilitate removal. If a patient wishes to continue use of an IUD, a new device can be placed immediately after removal of the old one.²

Cost and Reimbursement

The 2006 average wholesale prices for the copper T 380A IUD and the LNG IUS are \$475 and \$495, respectively.⁸ Despite these initial costs, a recent study pointed to lower total method costs for the copper T 380A IUD and the LNG IUS when compared with oral, barrier, and surgical contraceptive methods.⁹

When the device is not covered by insurance, the initial cost of the IUD is sometimes a barrier to use. However, as of November 2006, 26 states require insurers that cover prescription drugs in general also to provide coverage of approved contraceptive drugs and devices; 17 of these states specifically require coverage of related outpatient services.¹⁰

Clinicians with uninsured patients can advise them about the IUD manufacturers' assistance plans; further, both manufacturers offer payment plans that allow patients to pay for the device in monthly installments.

References

1. Cramer DW, Schiff I, Schoenbaum SC, et al. Tubal infertility and the intrauterine device. *N Engl J Med*. 1985;312:941-947.
2. Speroff L, Darney PD. *A Clinical Guide for Contraception*. 4th ed. 2005.
3. Chi I, Wilkens L, Rogers S. Expulsions in immediate postpartum insertion of Lippes Loop D and Copper T IUDs and their counterpart Delta devices: an epidemiological analysis. *Contraception*. 1985;32:119-134.
4. Johnson BA. Insertion and removal of intrauterine devices. *Am Fam Physician*. 2005;71:95-102.
5. ParaGard [package insert]. N. Tonawanda, NY: FEI Women's Health LLC; 2005.
6. Mirena [package insert], Montville, NJ: Berlex; 2006.
7. ACOG Practice Bulletin No. 59. Intrauterine Device. *Obstet Gynecol*. 2005;105:223-232.
8. *Red Book*. 2006. Thomson PDR.
9. Chiou CF, Trussell J, Reyes E, et al. Economic analysis of contraceptives for women. *Contraception*. 2003;68:3-10.
10. Guttmacher Institute. Insurance Coverage of Contraceptives. State Policies In Brief As of November 1, 2006. Available at: http://www.guttmacher.org/statecenter/spibs/spib_ICC.pdf

HIGHLIGHTS OF AN INTERACTIVE DISCUSSION FROM AN AUDIOCONFERENCE SERIES

From David A. Grimes, MD:

A recent audioconference series entitled *Intrauterine Contraception Today* included interactive question-and-answer sessions with the faculty and audience members. Here, we feature several participant questions on a range of topics; answers are provided by David A. Grimes, MD, and Lee P. Shulman, MD.

Q and A Disclosures:

Dr Grimes has indicated relevant financial relationships as noted: speakers bureau for Berlex, Inc. and Duramed Pharmaceuticals, Inc.

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.

Faculty Reviewer Disclosure:

Carolyn M. Sutton, MS, WHNP has indicated relevant financial relationships as noted: speakers bureau for Berlex, Inc., Ortho-McNeil Pharmaceutical, Inc., Pfizer Inc, and Wyeth Pharmaceuticals.

Q: How many times would you offer to reinsert an IUD in a nulliparous woman?

If a woman has expelled one IUD, she is at increased risk for expelling another. After two expulsions, I'd suggest other forms of contraception. One study of risk factors for expulsion of the copper T 380A found that women younger than 20 years, with heavy menstrual flow before IUD use, and dysmenorrhea were associated with spontaneous expulsion.¹

1. Zhang J, Feldblum PJ, Chi IC, Farr MG. Risk factors for copper T IUD expulsion: an epidemiologic analysis. *Contraception*. 1992;46:427-433.

Q: Is the expulsion rate higher if the IUD is inserted immediately postabortal? I remember years ago we had to wait 6 weeks, but things have apparently changed.

Immediate postabortal insertion is considered appropriate practice.¹ There is one randomized controlled trial that compared immediate postabortal insertion (a Copper 7 IUD) with planned insertion 3 to 5 weeks later.² Although there was an increased risk of expulsion with immediate postabortal insertion compared with interval insertion (odds ratio 2.9; 95% CI: 1.0-8.7), 42% of the women scheduled to come back for the IUD insertion did not return. They might have started some other contraceptive, but my hunch is that many chose either no method or a method less effective than the IUD. My personal experience with immediate postabortal IUD insertion has been favorable, and I use ultrasound guidance to ensure high fundal placement.

1. Grimes D, Schulz K, Stanwood N. Immediate postabortal insertion of intrauterine devices. *Cochrane Database Syst Rev*. 2004;CD001777.

2. Gillett PG, Lee NH, Yuzpe AA, Cerskus I. A comparison of the efficacy and acceptability of the Copper-7 intrauterine device following immediate or delayed insertion after first-trimester therapeutic abortion. *Fertil Steril*. 1980;34:121-124.

Q: What are the guidelines for screening prior to insertion for patients with gonorrhea or chlamydia?

While some screening guidance is available from the United Kingdom,¹ I am unaware of any comparable recommendations from the United States.² In a large randomized trial we did in Los Angeles County in the early 1990s, the 11 clinical sites [doctors' offices, hospitals, managed care organizations] had different screening approaches; no matter what they used, there was essentially no infection to be found. I don't think the IUD insertion should be contingent upon having negative screen results available. In a situation where you put in the IUD and a few days later you get a positive test, just treat as you would ordinarily.³

1. Penney G, Brechin S, de Souza A, et al. FFPRHC Guidance (January 2004). The copper intrauterine device as long-term contraception. *J Fam Plann Reprod Health Care*. 2004;30:29-41. Quiz 42.

2. American College of Obstetricians and Gynecologists. ACOG practice bulletin. Clinical management guidelines for obstetrician-gynecologists. Number 59, January 2005. Intrauterine device. *Obstet Gynecol*. 2005;105:223-232.

3. Grimes DA. Intrauterine device and upper-genital-tract infection. *Lancet*. 2000;356:1013-1019.

Q: Do you recommend IUD insertion at menses or at any time of the cycle?

It's okay to put it in at any time in the cycle.¹ The key is to make sure the woman is not pregnant. Restricting insertion to the time of menses only, as is done in many developing countries,^{2,3} is a burden on the woman, because she's got to time her office visit during her menstruation, and that's sometimes difficult. There are several advantages, of course, to doing it during menses. The cervix is open a bit, you know she's not pregnant, and any spotting or bleeding related to the insertion will be disguised by the menses.

1. White MK, Ory HW, Rooks JB, Rochat RW. Intrauterine device termination rates and the menstrual cycle day of insertion. *Obstet Gynecol.* 1980;55:220-224.
2. Stanback J, Thompson A, Hardee K, Janowitz B. Menstruation requirements: a significant barrier to contraceptive access in developing countries. *Stud Fam Plann.* 1997;28:245-250.
3. Stanback J, Nutley T, Gitonga J, Qureshi Z. Menstruation requirements as a barrier to contraceptive access in Kenya. *East Afr Med J.* 1999;76:124-126.

From Lee P. Shulman, MD

Q: How strict should I be about having my patients check for the strings?

If you have a woman with a normal sized and shaped uterus (nulliparous or not) who is doing well and not having symptoms, my advocacy for checking the strings would end after the first 4 to 6 months. However, if you're dealing with a woman with a fibroid uterus, I would encourage "string checking" throughout the use of the IUD. I also recommend that my patients check for the strings when they are alone in the shower—a time when they usually feel a bit more comfortable in palpating the strings and not one when doing so might be totally out of the ordinary.

Q: Regarding the intrauterine sounding, both IUD companies recommend a depth of 6 to 9 centimeters, and I know of some clinicians who are concerned about both insertion and effectiveness in a woman with a uterus that sounds to a greater distance.

I'm not going to tell you that once you get to 9 centimeters that the use of an IUD is absolutely prohibited. However, I would want to know the anatomical reason for the length of the sounding. Is it because of the presence of fibroids? Although I don't have a clear limit, such as 9½ or 10 centimeters, where I'm not going to insert it, I would definitely get an ultrasound before going forward with an insertion. In fact, insert it under ultrasound guidance to ensure that the IUD, regardless of the type, is in the correct anatomical position. Bear in mind that such use has not been rigorously studied (resulting from the exclusion of such women from trials) and, as such, is unproven. Nonetheless, anecdotal reports indicate that the use of IUDs in such a manner may still provide effective contraception.

Q: I have been trying IUDs with nulliparous women who desire long-term, non-oral, and reversible contraception. I'm wondering if you have any suggestions, because I sometimes have trouble getting through the internal os?

I have had success with one to two 200 Cytotec tablets (misoprostol 200 mcg) in the vagina about 45 minutes to an hour before insertion. You will quickly find, unless the patient had some scarring, that this will open both the external and internal os, and will likely facilitate insertion. Li YT and colleagues studied the use of misoprostal vaginally for difficult insertions—though they waited 24 hours until re-attempting insertion.¹ Just remember to remove the Cytotec tablet(s) when you're done, or the patient is going to have cramping and discomfort. I also occasionally use a urethral dilator, which can also facilitate insertion. I would also recommend giving that patient a dose of a nonsteroidal analgesic about 1 hour beforehand, because insertion is likely going to be more uncomfortable for her than for her older sister or mother who is multiparous.

1. Li YT, Kuo TC, Kuan LC, Chu YC. Cervical softening with vaginal misoprostol before intrauterine device insertion. *Int J Gynaecol Obstet.* 2005;89:67-68.