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OCs lead reversible choices, but sterilization is top contraceptive

New finding: One-third of women unmarried at time of sterilization

As the Pill turns 40, it remains the most popular reversible contraceptive method in the United States. But as it reaches middle age, the oral contraceptive (OC) has yet to unseat tubal sterilization as the top family planning choice among American women. And now a new sterilization study has surprised researchers with this finding: One-third of all women in the study population were unmarried at the time of sterilization.[1]

In reviewing the social and behavior contexts of sterilization in the United States, researchers at the Center for Demography and Ecology at the University of Wisconsin-Madison found that about one-fifth of the sterilizations of Caucasian women were performed while they were unmarried, with as many as 31% performed on unmarried African-American women.

"While we were quite surprised by the finding on the high proportions of sterilizations that are to unmarried women, in retrospect, we should not have been," says **Larry Bumpass**, PhD, professor in the department of sociology at the University of Wisconsin-Madison and

EXECUTIVE SUMMARY

While there are many effective methods of contraception available on the U.S. market, female sterilization remains the leading choice among American women. Among married women ages 15 to 44, 41% report surgical sterilization as their contraceptive choice.

- One-third of women in one study were unmarried at the time of sterilization.
- In other research, more than 70% of women who had a tubal ligation said they did so because they did not want to have another child. About 10% of women with children said their husband or partner did not want more children.
- While sterilization is extremely effective, failures do occur. A large prospective study revealed a 10-year failure rate of 18.5 pregnancies for every 1,000 procedures, a risk higher than previously reported.

lead author of the study. "We know that a) a third of all births are to unmarried women; b) about two-thirds of these are to women who are out of their teens; c) about half of these unmarried births are to women who have already had at least one child; d) marriage has been delayed dramatically; and e) a family size of two is preferred by a majority of women."

Given those factors, many women will be living out their reproductive lives without having married, and others will prefer to avoid having more children while they are divorced and sexually active, says Bumpass.

Between 1965 and 1988, the prevalence of surgical sterilization increased dramatically among U.S. married women ages 15 to 44, growing from 16% to 42%.[2] In 1995, the prevalence remained about the same at 41%. Since 1982, tubal ligation has become more prevalent than vasectomy; among married women in 1995, 24% reported a tubal ligation, compared with 15% reporting their husbands had a vasectomy.[2]

Female sterilization, the Pill, and the male condom were the most widely used methods in the United States in 1995.[3] Between 1988 and 1995, the proportion of users relying on the pill decreased from 31% to 27%, while condom use increased from 15% to 20%.[3]

Why sterilization?

Why is sterilization so widely used? "When you take into account that almost half of the pregnancies in the U.S. are unintended, and the fact that women in the U.S. tend to be less effective users of contraception than those in similarly developed countries, I think it makes intuitive sense that sterilization would be very popular just because it is such an effective form of contraception," notes **Vanessa Cullins**, MD, MPH, MBA, vice president and medical director of the New York City-based AVSC International.

While there are no definitive answers, the popularity of sterilization might be influenced by unfounded safety concerns about OCs, which arose in the early 1970s, and the demise of the intrauterine device (IUD) in the 1980s, notes **Anne R. Davis**, MD, assistant professor of obstetrics and gynecology at Columbia University in New York City. Davis served as co-author of a paper examining the U.S. experience with tubal sterilization.[4] The paper was presented at a 1998 conference convened by the contraception and reproductive health branch of the National Institute of Child Health and Human Development in Bethesda to examine female and male sterilization.

While women are now more comfortable with OCs, they still are hesitant about using IUDs, due in part to the continued fallout from the Dalkon Shield. The Dalkon Shield's manufacturer, A.H. Robins Co. of Richmond, VA, declared bankruptcy in 1985 after more than 4,000 product liability cases had been filed against it. **(*Contraceptive Technology Update* examined the use of IUDs in February 1998, p. 17.)**

Although the push is on for more inclusive coverage of all reproductive health choices, insurance payment in the public and private sectors remains very good for sterilization and not as good for other contraceptive methods, notes Cullins. In a recent national poll conducted for the Washington, DC-based American College of Obstetricians and Gynecologists, nearly two-thirds of women surveyed said their contraception was not covered by insurance or they did not know the status of coverage.[5]

Ease of use also might play a factor in choosing sterilization as a contraceptive method, Cullins says. "Sterilization is a method that is not coitally related, so once you have the procedure done, you really don't have to think about doing something immediately before or after intercourse in order to prevent pregnancy. You do have to remember about prevention of sexually transmitted diseases, but in terms of pregnancy, you're well-covered."

Overall, 71% of women who have had a tubal ligation say that they underwent sterilization because they did not want to have another child.[6] Just over 10% of women with children said their husband or partner did not want more children;

COMING IN FUTURE MONTHS

- Brush up on bacterial vaginosis
- Review new diagnostic tests for herpes
- Contraceptive insurance coverage: An update
- Effective counseling on condom use
- A look at low-literacy reproductive health information

21% cited medical problems that would make pregnancy dangerous for them or their babies; and 8% reported problems with their previous contraceptive method.

About half of the women with no children chose the procedure due to medical problems, with 35% noting problems with their contraceptive method and 6% stating they or their husband did not want any children.

Women who are seeking sterilization primarily due to its effectiveness need to know that failures do occur, notes Davis. The U.S. Collaborative Review of Sterilization (CREST), which followed more than 10,000 U.S. women poststerilization, shed new light on cumulative failure rates.[7] (***CTU* covered findings from the CREST study in August 1996, p. 93.)** Findings indicated a 10-year failure rate of 18.5 pregnancies for every 1,000 procedures, a risk higher than previously reported.

"Many physicians are still not aware of the CREST data," says Davis. "They need to know the failure rates for sterilization and know that other long-term methods offer comparable efficacy so that women can understand there are other choices."

The factors surrounding an individual's decision about tubal sterilization varies from woman to woman, according to *Contraceptive Technology*.[8] Prior to her decision, each woman needs to weigh the risks, benefits, effectiveness, and side effects of the various contraceptive options. Providers need to facilitate the decision-making process so the patient may make the best choice for her life situation.

"It is important for the health care team to assess where [the woman] is in her decision making, tailor the information that is conveyed to her, and tailor their approach to her in terms of when to schedule the procedure and how many more additional meetings and sessions need to be held in order to be assured that this woman has thoughtfully considered this permanent decision," says Cullins.

(Brush up on your sterilization counseling strategy with provider tips offered in the article at right.)

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Counseling important in sterilization decision

When a woman asks about tubal sterilization, what is your approach?

"When patients present for sterilization, I treat this an opportunity to review their knowledge and attitudes about contraception, as well as their future plans for childbearing," explains **Andrew Kaunitz**, MD, professor and assistant chair in the obstetrics and gynecology department at the University of Florida Health Science Center / Jacksonville and director of menopause and gynecology services at the Medicus Women's Diagnostic Center in Jacksonville.

Some women do not recognize that surgical sterilization is intended to be permanent, notes Kaunitz. If comments such as "the tubes become retied in five years" are offered, the provider must reinforce the permanent nature of sterilization and note it in the patient's chart, he says.

The term "permanent sterilization" should be explicitly used in patient discussions, states Kaunitz. If that term causes patients discomfort or elicits questions, take the opportunity to explore reversible options, he suggests.

While sterilization is an extremely effective method of contraception, failures do occur, notes **Anne R. Davis**, MD, assistant professor of obstetrics and gynecology at Columbia University in New York City. Review the findings of the U.S. Collaborative Review of Sterilization (CREST), a multicenter prospective study that examined the sterilization outcomes of more than 10,000 women, and be prepared to discuss them with patients, she says.[1]

"I think there is concern about the CREST data in terms of the increase in failure rates that were seen with sterilization, which in the long term were more than had been expected," says **Vanessa Cullins**, MD, MPH, MBA, vice president and medical director of the New York City-based AVSC International. "But what people have to understand is that even at 1.85% overall over 10 years, that cumulative failure rate is much, much lower than the failure rate for most of the reversible methods."

Ectopic pregnancy risk

If a sterilization failure does occur, the risk of an ectopic pregnancy increases, according to the CREST data.[2] Failure rates for female sterilization are low, so the actual number of ectopic pregnancies also is quite small. But when pregnancy does occur in a sterilized woman, the risk that it will be ectopic is significant: about one in three. **(*Contraceptive Technology Update* offered an overview of the CREST findings on sterilizations and ectopic pregnancies in June 1997, p. 67.)**

The CREST data offer a breakdown of failure rates based on the method used to occlude the tubes. However, because the study was conducted at teaching institutions where providers might have had less experience, it is difficult to generalize the findings as to individual methods.[3]

Sterilization is an extremely effective procedure in experienced hands, says Cullins. Women who choose sterilization should understand the provider's experience with his or her preferred method of occlusion. If the provider has good experience and does not have a history of complications in using that particular method, the woman should not worry about the occlusion procedure, she says.

Although most women who were included in the CREST study population expressed no regret after tubal sterilization, women 30 years of age and younger at the time of sterilization had an increased probability of expressing regret during follow-up interviews within 14 years after the procedure.[4] **(For insight into the CREST data, see *CTU*, October 1999, p. 116.)**

While the vast majority of women do not regret the procedure, it is important to realize that some women do experience such feelings, notes Cullins. Nearly 25% of women with an unreversed tubal ligation in 1995 expressed a desire for reversal of the operation on the part of herself, her husband or partner, or both.[5]

RESOURCES

Providers can order the following print resources:

- ***Female Sterilization: Answers to Your Questions about Permanent Birth Control*** (CE-05). Single copies free; 100 copies, $50; 500, $225; and 1,000, $425.
- ***Permanent Birth Control for Women*** (CE-02), a low-literacy brochure developed for use in the United States, available in English and Spanish. Single copies free; 100 copies, $20; 500, $90; 1,000, $165.
- ***Answers to Your Questions about Sterilization Reversal*** (CE-04). Single copies free; 100 copies, $50; 500, $225; 1000, $425.

To order those resources or for more information on sterilization, contact:

- **AVSC International**, 440 Ninth Ave., New York, NY 10001. Telephone: (212) 561-8000. Fax: (212) 561-8067. E-mail: info@avsc.org. Web: www.avsc.org. The Web site offers patient information on female and male sterilization. Please contact by mail or fax prior to order if using a purchase order.

The most important variable in regret is age, according to **Ellen Elizabeth Hardy**, PhD, professor in the department of obstetrics and gynecology, school of medical sciences, Universida de Estadual de Campinas in Brazil. Hardy and her colleagues interviewed 432 sterilized women and concluded that requests for reversal operations were strongly associated with youth (under 25) at the time of sterilization.[6]

While the subject of age is difficult to discuss during counseling, especially when the woman is young and has several children, as is often the case in Brazil, providers must explore the issue with patients, says Hardy.

"Women should be told that young age is a risk factor for regret because young women may experience great changes during the following years of their lives; for example, have a new partner or [experience] death of a child," she notes.

For the woman who is considering tubal sterilization, make sure she has thought through the implications of a change in circumstances and has decided any life change will not alter her satisfaction with her decision, suggests Cullins.

"I think that is the most important thing: that the woman at this point in time in her life is very comfortable with the procedure," Cullins says. "She has not been pressured into the procedure by a husband or partner or physician or people in her

family, yet at the same time she has talked to all the people that are important to her in terms of making this decision, and for that particular moment in time she has thought forward, and she does not desire to have any children in the future."

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Raise young adults' awareness about EC

Initial success seen in Boulder, CO, program

What can you do to lower the incidence of unintended pregnancies in young people ages 18 to 24? The Boulder (CO) County Health Department reports that it's receiving a good response to an innovative emergency contraception (EC) awareness campaign.

While officials estimate some 39% of all pregnancies in the county are unintended, the numbers climb sharply when looking at women ages 18 to 24, says **Alison Smith**, MPH, coordinator of the department's unintended pregnancy pilot project. Nearly 70% of pregnancies among those young adults are unplanned, she reports.

While the pilot program is still in its infancy, health department officials are encouraged by the response to the posters and handout cards in young adult gathering sites that highlight EC availability. During the height of the campaign, the number of students visiting the University of Colorado-Boulder Wardenburg Health Center for EC doubled from the same month a year ago, says Smith. Because numbers were the same for the preceding two months in both 1999 and 2000, officials believe the target audience is indeed hearing the message.

The program is funded by a $10,000 allocation of federal maternal and child health dollars awarded by the state, says Smith. If the pilot program proves successful, health department officials hope to gain additional grant money to expand its scope.

Much effort traditionally has gone into adolescent pregnancy prevention programs. Given the high rate of unintended pregnancy among the county's young adults, health department officials knew they would have to use a somewhat different approach in reaching the older population.

Young adults who had experienced an unintended pregnancy were gathered in focus groups to determine the causes and identify effective prevention strategies. Findings showed that among that population, casual sex is a cultural norm, often occurring with no preparation for protection against pregnancy or sexually transmitted diseases (STDs), says Smith. Because young adults are generally a healthy population, many do not regularly seek preventive care services and are more likely to access health care in an emergency, she points out.

Acknowledging the unfortunate reality of those behaviors, health department officials

EXECUTIVE SUMMARY

The Boulder (CO) County Health Department reports an initial positive response to an emergency contraception (EC) awareness campaign to reduce unintended pregnancies among young adults. While officials estimate 39% of pregnancies in the county are unintended, nearly 70% among women ages 18 to 24 are unplanned.

- Posters with handout cards denoting the availability of EC at three local clinics have been placed in bathrooms in popular gathering areas and circulated around the university campus.
- During the height of the campaign, the number of students visiting the university student health center doubled from the same month a year ago.
- Student volunteers are checking the effectiveness of the posters and cards. Health care providers also are collecting data from those accessing EC services to determine how they learned about the method.

New report available

Obtain an overview of the innovative process U.S. foundations and advocacy organizations pursued to make emergency contraception available to American women in a new report, *From Secret to Shelf: How Collaboration Is Bringing Emergency Contraception to Women*.

The report, written by Barbara Pillsbury, PhD, Francine Coeytaux, MPH, and Andrea Johnston, MPH, all of the Pacific Institute for Women's Health in Los Angeles, was compiled by the Pacific Institute in collaboration with the David and Lucile Packard Foundation of Los Altos, CA. *From Secret to Shelf* describes an effective model for ongoing collaboration to provide women worldwide an even greater range of reproductive choices.

The publication is available at no charge as a PDF document on the "Publications" page of the institute's Web site, www.piwh.org. Hard copy cost is $12 (includes shipping/handling); orders may be addressed to Rochelle Fabb, Director of Communications, Pacific Institute for Women's Health, 2999 Overland Ave., Suite 111, Los Angeles, CA 90064. Telephone: (310) 842-6828. Fax: (310) 280-0600. E-mail: rfabb@piwh.org. ■

determined that a campaign informing young adults about EC would be the most effective approach, says Smith. By bringing young adults to the health care facilities who otherwise would not come, the door would be open to discuss ongoing contraceptive methods. "Anyone who comes into the clinic for EC is going to get full information about finding a more ongoing reliable method of contraception," she observes. "We are hoping that this will be a way to encourage people to utilize health care services and then, in turn, get them on a more long-term method."

Young adults want information and services at locations where they congregate, according to a finding from the focus group. A number of sites were selected, including the university recreation center, restaurants, and bars. Copies of two posters — one for females and the other for males — were placed in bathrooms at the selected sites, along with take-away information cards. Student volunteers were enlisted to distribute material to university sororities and fraternities and university student mailboxes. Volunteers also acted as field surveyors, conducting polls outside the targeted poster areas to determine the effectiveness of the awareness campaign.

The posters and cards highlight EC's 72-hour window of effectiveness, its mechanism of action, its inability to protect against STDs, and its cost. The cards list the addresses of three sites for EC: the student health center, Planned Parenthood of Boulder, and Boulder Valley Women's Health Center. Each of the sites is collecting data on the reason behind each EC visit and how each woman learned about the method.

The campaign began with a front-page story in the student newspaper about the addition of Plan B (the levonorgestrel ECP from Women's Capital Corp. of Bellevue, WA) to the student pharmacy. The story informed students who knew about EC only as the "morning-after pill" of the method's 72-hour window, as well as the decreased side effects associated with the progestin-only pill.

Many of the students who discuss EC with **Judy Buck**, RN, a women's health nurse at the university's health center, say they saw the poster or cards. While many of them may have known about EC, they may not have known it was easily accessible at the health center, she notes.

Many students confuse EC with the abortion drug RU-486 (mifepristone), says Buck. She carefully explains the method's mechanism of action and assuages fears that EC may hinder future pregnancies.

"When I talk to them and hear their history, I generally am very supportive that it was a very good thing to come in and learn more about EC," she says. "I try to be very sensitive to the different situations that are presented, then I go over what EC is and how it works. Often, just hearing about what it is and how it works dispels a lot of myths."

She also explains that while Plan B is a new brand, EC has been safely and effective used by millions of women. "A lot of people come in and say, 'I'm so glad this is finally available,'" she says. "ECs have been available for about 25 years, which makes them feel better about this not being something new and bizarre that has not been completely explored." ■

RESOURCE

- **Alison Smith**, MPH, Coordinator, Unintended Pregnancy Project, Boulder County Health Department, 3450 Broadway, Boulder, CO 80304. Telephone: (303) 441-1530. Fax: (303) 441-1452. E-mail: axshe@co.boulder.co.us.

New progestins eyed for HRT and OC use

Would your patients use a hormone replacement therapy (HRT) product in a gel form, featuring a mixture of an established estrogen and a new progestin? How about an oral HRT preparation using the most-recognized oral estrogen product in combination with a new progestin, or the same new progestin combined with ethinyl estradiol in oral contraceptive (OC) form?

Research is under way on such products, say representatives of two companies.

When used in OCs, progestins inhibit ovulation by suppressing luteinizing hormone, hamper the transport of sperm by thickening cervical mucus, and impede implantation by producing a decidualized endometrial bed with exhausted and atrophied glands.[1] In HRT preparations, progestins protect the uterus against endometrial cancer by keeping the endometrium from thickening. Depending on the formulation, some women may shed the endometrial lining from the uterus through the vagina. That HRT-induced bleeding may be regarded as unacceptable.[2]

Scientists are interested in developing new progestins, particularly for HRT applications, with improved blood lipids, reduction in nuisance side effects, and better bleeding control.

Nestorone in HRT gel

Orion Pharma of Helsinki, Finland, has entered into a licensing agreement with the New York City-based Population Council for worldwide exclusive rights to develop, manufacture, and market the Population Council's synthetic progestin, Nestorone, for HRT transdermal dosage forms other than the patch. (The Population Council negotiated an exclusive license with Miramar, FL-based Sano Corp. for the North American rights to use Nestorone in transdermal patches for female contraception and HRT. **See *Contraceptive Technology Update,* October 1997, p. 121.**) The company now will begin clinical trials to prove the effectiveness of the progestin in an HRT gel formulation.

Elof Johansson, Population Council vice president and head of its Center for Biomedical Research, sees the situation as a "win / win" for the Council and Orion Pharma. Orion Pharma has developed gels for estrogen replacement therapy and has examined several progestins for HRT use, says Johansson.

"[They] found that the Nestorone that we are working with goes through the skin very readily and also is quite effective per weight so you don't need that much," he explains. The Population Council will continue to work with Nestorone in other applications.

Nestorone provides an efficacious, invisible progestin treatment for menopausal disorders to prevent endometrial hyperplasia or to reduce the risk of endometrial carcinoma associated with estrogen-only treatments, says **Jyrki Mattila**, Orion Pharma president. In transdermal form, it is very easy and comfortable to use, he notes.

Unlike most progestins, Nestorone effectively penetrates the skin, exerts good progestational effects, and is well-tolerated, observes Mattila.

"Currently, there are no gel preparations available combining estrogen and progestin," he says. "The market is steadily growing."

The company offers five HRT products, none of which are offered in the United States:

- Divina, a biphasic estrogen and progestin combination;
- Divitren, a biphasic combination preparation in which natural estrogen and progestin are given sequentially, with withdrawal bleeding occurring four times a year;
- Indivina, a continuous combined product in which estrogen and progestin are administered continuously, resulting in HRT without any withdrawal bleeding;
- Diviseq, a triphasic estrogen and progestin combination;

EXECUTIVE SUMMARY

Scientists are evaluating new progestins for hormone replacement therapy (HRT) and oral contraceptive (OC) use.

- Nestorone, a progestin developed by the Population Council, is being tested by a Finnish-based pharmaceutical company for use in gels and other transdermal preparations.
- Trimegestone, a novel norpregnane progestin, is being evaluated in the United States for HRT and OC formulations. Patterns of bleeding might become poorly predictable and heavy when progestin is added sequentially in an HRT preparation. Researchers are examining trimegestone's effectiveness in delivering shorter, lighter, and more predictable bleeding patterns.

• Divigel, an opalescent estrogen gel.

Divina, Divitren, and Indivina also are indicated for the prevention of osteoporosis, says Mattila. The company is seeking what it terms "an appropriate partner" for introduction of such products in the U.S. market.

Philadelphia-based Wyeth-Ayerst Laboratories is examining the use of another new progestin, trimegestone, for HRT and OC applications. Trimegestone is a novel norpregnane progestin, which in human recombinant receptor binding studies demonstrates potent progesterone receptor, very low androgen receptor affinities, and no detectable affinity to estrogen receptor.[3]

Phase III trials under way

Trimegestone with Wyeth-Ayerst's own Premarin hormone replacement therapy is in phase III clinical trials in the Unites States, confirms **Audrey Ashby**, company spokeswoman.

Trimegestone with 17 ß-estradiol for use in hormone replacement therapy with endometrial protection has been registered outside the United States, she notes. Researchers also are evaluating trimegestone with ethinyl estradiol for oral contraception in Phase II trials.

In a European dose-ranging study using oral trimegestone administered at 0.05, 0.1, 0.25, and 0.5 mg per day (days 15 to 28) and 2 mg of oral micronized ethinyl estradiol daily, the majority of women in the four dose groups experienced relief of climacteric symptoms by the end of the third treatment cycle.[4] The incidence of premenstrual-type (PMT-type) symptoms was low and did not differ among the dose groups.

After six months of treatment, scientists found the bleeding pattern showed a clear dose-dependent modulation: The higher the dose of trimegestone administered, the more predictable the day of onset of bleeding. Also, bleeding episodes were shorter and lighter with higher doses.

"Its lipids-friendly profile is very close to unopposed estrogen," says **Farook Al-Azzawi**, MA, PhD, FRCOG, who has studied its use in HRT preparations. Al-Azzawi is director of the gynecology research unit in the department of obstetrics and gynecology at University of Leicester (UK) school of medicine and biological sciences. "The adverse progestogenic effects, namely PMT-type of symptoms, were minimal, and despite the wide dose range, no dose-related effect was demonstrated."

When progestin is added sequentially in an HRT preparation, uterine bleeding is re-initiated.[3] If the pattern of bleeding is poorly predictable and heavy, it may discourage HRT use. If trimegestone proves effective, it might help women's long-term acceptance of HRT.

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Mid-Years WOMEN'S HEALTH

Treatment options for urinary incontinence

By **Ivy M. Alexander**, MS, C-ANP
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Urinary incontinence (UI) affects 25% to 34% of women living at home. Despite recent research supporting the effectiveness of exercise regimens in treating UI,[1] some women require medication, assistive devices, or surgical interventions. Take a look at the following interventions, which often are useful in conjunction with behavioral interventions to treat stress, urge, or mixed incontinence. **(For a review of UI types and discussion of behavioral interventions, see *Contraceptive Technology Update,* March 2000, Mid-Years Women's Health column, p. 36.)**

Although absorbent products can ease embarrassment, they should not be perceived as a UI solution. Several assistive devices for stress or urge incontinence are available, with most working by

obstructing the urethral opening or by supporting the urethra and bladder through the vaginal wall. Intravaginal supportive devices include pessaries (silicone or plastic rings) and tampons. External disposable devices obstruct the urethral opening to prevent urine loss and must be removed prior to urinating. The FemAssist personal urinary control device (Insight Medical Corp., Bolton, MA) and the CapSure continence shield (Bard Urological Division, Covington, GA) are held in place by suction, while the Impress softpatch (UroMed, Needham, MA) has an adhesive surface.[2,3]

Specially manufactured "plugs" are inserted directly into the urethra and seal in urine to prevent leakage. The FemSoft self-inserted device (Rochester Medical, Stewartville, MN) recently received federal regulatory approval for use in stress or mixed incontinence. The device is cylindrical with a bulb-shaped area near the end and a tab at the tip, which remains outside the urethral meatus. When the woman needs to urinate, she pulls on the tab to remove the insert.[3,4]

Examine medications

Medications for stress or urge incontinence can be an important second-line treatment for women who do not achieve adequate control using behavioral methods alone. They reduce uninhibited bladder contractions to increase storage capacity, while maintaining voluntary contraction for emptying. Success is significantly improved when medications are used in addition to behavioral interventions.

Oxybutynin (Ditropan, Ditropan XL from Alza Pharmaceuticals, Palo Alto, CA) is an anticholinergic and smooth muscle relaxant available in both short-acting and controlled-release formulations. The short-acting formula dose is 2.5 mg to 5 mg BID or TID. The controlled release dose is 5 mg to 30 mg daily. The XL formula is equally effective and has been associated with fewer side effects.

Begin with a low dose and titrate up until symptoms are well-controlled without undue side effects. Side effects reflect the anticholinergic properties and include dry mouth, tachycardia, constipation, transient blurred vision, and urinary retention. Anticholinergics are contraindicated in patients with narrow angle glaucoma, most cardiac arrythmias, intestinal obstruction, obstructive uropathy, and myasthenia gravis.[5,6,7]

Tolterodine (Detrol, Pharmacia & Upjohn, Bridgewater, NJ) is a muscarinic antagonist. Start patients at 2 mg BID and reduce to 1 mg when adequate control is achieved. Patients with hepatic impairment or concomitant use of CYP3A4 inhibitors should use only 1 mg BID. The contraindications and side effects are similar to those with oxybutynin.[5,6,7]

Women with stress or urge incontinence symptoms associated with vaginal or urethral atrophy may benefit from oral or intravaginal estrogen replacement therapy. It may be given alone or in combination with other incontinence medications.[6]

Desmopressin (DDAVP, Rhone-Poulenc Rorer Pharmaceuticals, Collegeville, PA) is a synthetic vasopressin. It is used primarily for nocturnal enuresis and is given orally or intranasally. Doses are titrated from 0.1-0.6 mg PO or 10 mcg to 40 mcg intranasally at bedtime.[5,7] Other less-often used medications include alpha-adrenergic agents and tricyclic antidepressants.[6,7]

New therapies under investigation include:

- duloxetin, a centrally acting serotonin and norepinephrine reuptake inhibitor for use in stress and urge incontinence;
- capsaicin, used in a intravesical instillation to impair the fibers that cause reflex voiding, thus reducing leakage;
- resiniferatoxin, a more selective and less irritating analog of capsaicin.[5]

Surgery is available

Although generally used as a last resort, several surgical procedures are available. Collagen injection into the sphincter can provide symptom relief, but relapse is common; the cure rate is 30% to 40%. Procedures designed to support the bladder neck and anterior vaginal wall have success rates of 80% to 90%.

Bladder augmentation, which increases the bladder capacity by inserting a piece of intestine, also is successful but requires a five-hour procedure and a lengthy recovery. A relatively new procedure, sacral nerve stimulation, treats urge incontinence through biofeedback using a pulse generator connected to an electrode implanted in the S3 nerve.[3,5]

The most important message for patients is: Don't give up! Ask your patients about incontinence and encourage them to try behavioral options first. If reducing irritants (such as artificial sweeteners, caffeine, spicy or acidic food, and alcohol), bladder retraining, urge suppression, and pelvic muscle exercises are not successful,

then women need to know that other effective options do exist. Careful counseling and frequent reinforcement and assessment are necessary for regaining bladder control.

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Web site offers teen program resources

Best practices provided

Do you work with adolescents? Then take a look at the Resource Center for Adolescent Pregnancy Prevention (ReCAPP), a new Web-based resource developed by ETR Associates. ETR Associates is a Scotts Valley, CA-based not-for-profit organization providing educational resources, training, and research in health promotion with an emphasis on sexuality and health education. The site's address is www.etr.org/recapp.

Designed for health educators and program coordinators, the Web site provides practical tools and information on reducing sexual risk-taking behaviors among teens.

Based on a needs assessment from providers in the field, the site offers the following:

• best practices in pregnancy prevention education, skill-building activities, and education and facilitation tips;

• information on evidence-based programs that change sexual risk-taking behavior;

• latest statistics, abstracts, news summaries, and papers on current research in the field of teen pregnancy prevention;

• a resource database of educational resource materials;

• a calendar of current events in the field of pregnancy prevention.

Join ReCAPP's mailing list by clicking on "ReCAPPNotes" on the Web site's home page. Additional information on the educational program is available by contacting Lara Zeidberg at ETR Associates, 4 Carbonero Way, Scotts Valley, CA 95066. Telephone: (831) 438-4080 ext. 172. Fax: (831) 438-4284. E-mail: Laraz@etr.org. Web: www.etr.org/recapp. ▼

Breastfeeding sites for family planners

Learn more about LAM

Aug. 1-7 marks the annual observance of World Breastfeeding Week. Family planners are most familiar with breastfeeding when it is used as a contraception option, known as Lactational Amenorrhea Method (LAM).

According to *Contraceptive Technology*, LAM is a highly effective temporary method of contraception. To maintain effective pregnancy prevention, another method of contraception must be used as soon as menstruation resumes, the frequency or duration of breastfeedings is reduced, bottle feedings or regular food supplements are introduced, or the baby reaches 6 months of age.[1]

Following are some breastfeeding Web sites for you and your patients:

1. **La Leche League International. Web site: www.lalecheleague.org.** The Schaumberg, IL-based La Leche League International is a nonprofit organization that offers breastfeeding education and encouragement through mother-to-mother support groups, telephone counseling, and extensive interaction with physicians and health care providers.

More than 200,000 women in 66 countries are assisted by La Leche League programs every month. The Web site includes general information as well as information for providers, including schedules for lactation specialist education workshops and physician seminars.

2. **World Alliance for Breastfeeding Action. Web site: www.waba.org.br.** Based in Penang, Malaysia, the World Alliance for Breastfeeding Action launches World Breastfeeding Week each year. This year's theme is "Breastfeeding: It's Your Right!" The site offers information on World Breastfeeding Week in English, Spanish, French, and Portuguese and includes information and answers to frequently asked questions on LAM.

3. **American Academy of Pediatrics. Web site: www.aap.org/family/brstguid.htm.** The American Academy of Pediatrics, based in Elk Grove Village, IL, is a professional organization that dedicates its efforts and resources to the health, safety, and well-being of infants, children, adolescents, and young adults. It offers "A Woman's Guide to Breastfeeding," an easy-to-read explanation of breastfeeding geared for the general public, on its Web site.

4. **Managing Contraception. Web site: www.managingcontraception.com.** *Contraceptive Technology* readers may be familiar with *A Pocket*

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Guide to Managing Contraception, a handy clinic resource headed by the same lead author, Robert Hatcher, MD, MPH, professor of obstetrics and gynecology at Emory University in Atlanta.

This Web site offers downloadable chapters from the pocket guide. Click on "Choices" to get a listing of 25 brief descriptions of contraceptives and other reproductive choices for women, including breastfeeding. The contraceptive descriptions are freely reproducible. **(See breastfeeding handout, inserted in this issue.)**

5. **AVSC International. Web site: www.avsc.org/contraception/clam2.html.**

AVSC International, based in New York City, works worldwide to make reproductive health services safe, available, and sustainable. It offers this easy-to-read "Answers to Your Questions on the LAM Method" fact sheet at this Web address.

Reference

1. Hatcher RA, Trussell J, Stewart F, et al. *Contraceptive Technology*. 17th ed. New York City: Ardent Media; 1998. ■

CE objectives

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After reading *Contraceptive Technology Update*, the participant will be able to:

• Identify clinical, legal, or scientific issues related to development and provisions of contraceptive technology or other reproductive services. **(See "OCs lead reversible choices, but sterilization is top contraceptive," p. 77, and "New progestins eyed for HRT and OC use," p. 83.)**

• Describe how those issues affect service delivery and note the benefits or problems created in patient care in the participant's practice area.

• Cite practical solutions to problems and integrate information into daily practices, according to advice from nationally recognized family planning experts. **(See "Counseling important in sterilization decision," p. 79, and "Treatment options for urinary incontinence," p. 84.)** ■

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