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Evidence-based commentaries on women's reproductive health

ABSTRACT & COMMENTARY

Should We Remove Every Woman's Fallopian Tubes?

By Molly A. Brewer, DVM, MD, MS

Professor and Chair, Department of Obstetrics and Gynecology, Division of Gynecologic Oncology, Carole and Ray Neag Comprehensive Cancer Center, University of Connecticut Health Center, Farmington

Dr. Brewer reports that she receives grant/research support from the National Cancer Institute.

SYNOPSIS: This article discusses the role of salpingectomy for the prevention of ovarian and fallopian tube cancer.

SOURCE: Falconer H, et al. Ovarian cancer risk after salpingectomy: A nationwide population-based study. *J Natl Cancer Inst* 2015;107: pii: dju410. doi: 10.1093/jnci/dju410.

The incidence of ovarian cancer is low in the general population, with a 1.5-1.7% lifetime risk of ovarian or fallopian tube cancer. Despite the low incidence, presentation of ovarian cancer is often in late stages and is associated with the highest mortality rate of any of the gynecologic cancers. As a result of this poor prognosis, significant efforts have been directed toward early detection. Unfortunately, studies evaluating screening tools in the general population (i.e., CA125, transvaginal ultrasound)[1] have failed to improve survival. In the last 20 years, the paradigm has shifted with the discovery of deleterious BRCA1 and BRCA2 gene mutations, which are linked to a significantly increased risk of both breast and ovarian cancer compared to the general population. Women with a BRCA1 gene mutation have a 60-85% lifetime risk for breast cancer and a 40-60% lifetime risk for ovarian cancer. Women with a BRCA2 gene mutation have a 60-85% and 17-27% risk for breast and ovarian cancer, respectively.

Women at high risk for ovarian cancer likely represent a different population of women. Specifically, women with a deleterious BRCA1 or BRCA2 gene mutation represent a population requiring surveillance and fertility planning that is thoughtful and deliberate. Once childbearing is complete, the primary form of cancer prevention in this population is ultimately prophylactic surgery. Women with a BRCA mutation who undergo risk-reducing salpingo-oophorectomy (RRSO) have a 4-12% risk that they will have an associated occult malignancy of the adnexa at the time of prophylactic surgery.[2-8] As physicians have become more aware of the risk of an occult malignancy, better techniques for pathologic evaluation of the ovary and the fallopian tube have been recommended.[5,6] Studies

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have found that up to 75% of these occult cancers arose from the fallopian tube. As these findings became publicized, there was a move to perform salpingectomy on women to prevent fallopian tube cancer. In addition, some physicians have recommended salpingectomy in lieu of RRSO in young women with a BRCA mutation. In 2011, Greene et al addressed the role of salpingectomy and the deleterious effects of ovary removal in young women. The researchers concluded that salpingectomy without oophorectomy in this population should be experimental only due to the unproven clinical utility of this approach.[9]

In January 2015, the first clinical trial was published addressing the role of salpingectomy in the prevention of ovarian cancer.[10] This population-based cohort study used data from a nationwide health registry supervised by the Swedish Board of Health. The researchers compared women who underwent salpingectomy (unilateral or bilateral) with women who had hysterectomy and bilateral salpingo-oophorectomy (BSO), hysterectomy alone, sterilization alone (tubal ligation), salpingectomy (unilateral or bilateral), or no treatment. They found that there was a reduction in the risk of ovarian cancer in all women who had a procedure compared to the untreated population. Hysterectomy had a hazard ratio (HR) of 0.79 (95% confidence interval [CI], 0.7-0.88), hysterectomy and BSO had an HR of 0.06 (CI, 0.03-0.12), salpingectomy had an HR of 0.65 (CI, 0.52-0.81), and sterilization had an HR of 0.72 (CI, 0.64-0.81). Sterilization, salpingectomy, and hysterectomy all had approximately the same reduction in risk (0.79 vs 0.65 vs 0.72), suggesting that disruption of the connection to the ovary may have been the common denominator. Interestingly, removing both tubes was associated with a more substantial reduction in risk, with an HR of 0.39 (CI, 0.18-0.87), but only after 10 years. This CI is substantially wider than the rest, suggesting there were small numbers and heterogeneity within this group. Hysterectomy and BSO had substantially more protection with an HR of 0.06 (CI, 0.03-0.12). Criticisms of the study were significant because the authors did not include the impact of oral contraceptive pills (OCPs), which would be a substantial confounder, as OCPs have been found to universally decrease the risk of ovarian cancer, which increases with an increased duration of use. This risk reduction may be > 50% when used ≥ 10 years.[11] In addition, the numbers of cancers were small and the numbers of women undergoing bilateral salpingectomy were extremely small, which may limit the applicability of these data. That being said, these are rare cancers unless a woman harbors a BRCA mutation, where the risk of ovarian cancer may be as high as 54%.[12-14]

■ COMMENTARY

Should all women undergo salpingectomy? Currently, the data do not confirm the clinical utility of this procedure; taking OCPs for more than 5 years may reduce the risk as much and spare a woman an invasive procedure. Havrilesky et al conducted a meta-analysis that showed that OCPs taken for more than 120 months reduced the odds of developing ovarian cancer by almost 60%, with an odds ratio (OR) approaching 0.43 (CI, 0.37-0.51). This is almost equivalent to bilateral salpingectomy after 10 years.[11] The time since last OCP use influences risk reduction with 0-10 years having an OR of 0.41 (CI, 0.34-0.5) and 10-20 years having an OR of 0.65 (CI, 0.56-0.74).[10] Thus, OCP use is almost equivalent to bilateral salpingectomy and is based on 10,031 cases and 21,025 controls, a much larger number than represented in the Swedish study salpingectomy study. In addition, this is a reversible form of contraception and avoids a surgical procedure. Each risk-reducing gesture has its own set of risks and benefits, and like most clinical situations, needs to be weighed for each individual patient.

So how should we counsel women? Tailoring the recommendation to the patient seems to be the most prudent approach. Salpingectomy provides permanent contraception with the same surgical risk and a lower failure rate than a tubal ligation, which has been associated with a reduction in the risk of ovarian cancer (HR, 0.76; 95% CI, 0.64-0.90).[15] However, if a patient is at increased risk for ovarian cancer, the role of salpingectomy is less clear. In women with a BRCA mutation, anywhere from 50-75% of the cancers are thought to arise from the fallopian tube, based on data at the time of RRSO. However, there are no data supporting the use of salpingectomy in these high-risk women, and extrapolating the very limited data on salpingectomy in the general population to high-risk women may jeopardize their health: Performing salpingectomy in lieu of RRSO may, in fact, decrease their probability of survival. In particular, women with a BRCA1 mutation have a 4% incidence of ovarian cancer between the ages of 35 and 40 years, suggesting that RRSO should be performed in these women around the age of 35 years or once they have completed their childbearing. Extrapolating data from women with a BRCA mutation to the general population is not appropriate since the populations are different.

Furthermore, performing unnecessary RRSO in women at low risk for ovarian cancer has been associated with adverse outcomes such as an increased risk of coronary artery disease (HR, 1.34; < 45 years of age), increased risk of stroke (HR, 1.21; < 45 years of age), and all-cause death (HR, 1.18; < 45 years of age).[16] Women with a strong family history of breast and ovarian cancer who are BRCA negative on traditional Myriad testing are now being found to have mutations in genes not previously associated with an increased risk of ovarian cancer, such as TP53, BARD1, CHEK2, RAD51, and PALB2, so appropriate referral for genetic counseling and testing should be done based on a comprehensive family history prior to making a decision about salpingectomy vs RRSO.

In conclusion, tailoring the recommendations to perform salpingectomy to the individual patient is the safest, most appropriate approach. Performing universal salpingectomy for prevention of ovarian and fallopian tube cancer without another indication is not supported at this time. ■

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ABSTRACT & COMMENTARY

Should Postmenopausal Women Be Encouraged to Take Calcium?

By Jeffrey T. Jensen, MD, MPH

SYNOPSIS: A systematic review of randomized, controlled trials of calcium supplementation found only small non-progressive increases in bone mineral density. This supports the clinical conclusion that supplementation alone is insufficient to prevent fracture risk.

SOURCE: Tai V, et al. Calcium intake and bone mineral density: Systematic review and meta-analysis. *BMJ* 2015;351;h4183. Doi: 10.1136/bmj.h4183.

The authors conducted a systematic review of published randomized trials to evaluate the effects of increasing calcium intake on bone mineral density (BMD). Eligible studies recruited participants > 50 years of age and randomized subjects to receive increased dietary sources of calcium or calcium supplements (with or without vitamin D) or no additional calcium. Most of the studies enrolled only women. Studies could assess the outcome of BMD at the lumbar spine, total hip, femoral neck, total body, or forearm. They identified 15 trials that evaluated dietary sources of calcium (n = 1533 subjects). Of these, 10 used milk or milk powder, two used dairy products, and three used hydroxyapatite preparations. Calcium supplements (typically 1000 mg/day) were evaluated in 51 trials (n = 12,257); 36 studied calcium monotherapy, 13 co-administered calcium and vitamin D, and two compared both approaches. Most of the studies evaluated calcium without vitamin D in women < 70 years of age and had a duration of at least 2 years.

Overall, calcium supplements increased BMD at all five skeletal sites at 1 year (0.7-1.4%) and 2 years (0.8-1.5%). In studies that followed subjects longer, the size of the increase in BMD was similar to the increase at 1 year. Augmenting calcium intake from dietary sources also increased BMD at the total hip and total body at 1 year (0.6-1.0%) as well as the lumbar spine/femoral neck at 2 years (0.7-1.8%), but there was no effect on BMD at the forearm at either time point. Similar increases in BMD were observed in the trials comparing calcium to co-administered calcium and vitamin D, in trials with calcium doses of ≥ 1000 mg/day vs < 1000 mg/day, and in trials where the baseline dietary calcium intake was < 800 mg/day vs ≥ 800 mg/day. The authors concluded that increasing calcium intake from either dietary sources or supplements results in only small and non-progressive increases in BMD that are unlikely to lead to a clinically significant reduction in risk of fracture.

■ COMMENTARY

In early menopause, rapid bone loss occurs due to the absence of estrogen-regulated modulation of bone remodeling. In addition to direct effects on bone, estrogen also has important effects on vitamin D metabolism and the intestinal absorption and renal excretion of calcium.[1] Since serum calcium levels actually decline in postmenopausal women in the setting of this massive turnover of calcium,[2] calcium supplementation is a routine recommendation. However, given the poor absorption and rapid excretion of calcium, I have always questioned whether the net effect of ingestion of an oral calcium supplement on calcium balance is similar to the effect of dropping a 10-pound bag of salt in the bay on ocean salinity.

Although this meta-analysis provides no new information, the authors do raise a valid question. Since the overall impact of calcium supplementation on BMD is small and non-progressive, can this actually improve health by reducing fracture risk?

Clinical trials measure BMD as a surrogate for fracture risk, as large numbers of subjects must be followed for many years to actually evaluate fracture as a clinical endpoint. The studies evaluated in this meta-analysis have insufficient numbers to address the risk of facture. We also know little about the effect to age and, in particular, whether early replacement could be more impactful. When I discussed this paper with Leon Speroff, he was also careful to point out that "while the increase from baseline was not progressive, we typically expect to see a progressive bone loss accumulating with age, so prevention of that loss may well be meaningful in terms of fracture protection, particularly with long-term exposure."

The most important clinical point to stress is that calcium and calcium/vitamin D should not be recommended for fracture prevention, in keeping with standard practice. In contrast, we have level 1A evidence that postmenopausal estrogen replacement therapy does prevent hip and other fractures.[3,4] Although women using raloxifene had a reduction in spinal compression fractures, this important reduction in hip fracture was not observed.[5,6] A reduction of non-vertebral fracture has also been reported with bazedoxifene, but the absolute number of hip fractures was small and not different from placebo or raloxifene.[7] Bisphosphonates have been shown to reduce vertebral and non-vertebral fracture risk, but the data are less convincing[8] for primary prevention of hip fracture. This leads me to conclude that women at risk for fracture without contraindications to estrogen therapy should be strongly counseled to consider this benefit.

So calcium might help, but it should not be relied upon to prevent fracture in high-risk women. In my opinion, this information should be part of the discussion of initiation of estrogen therapy in healthy menopausal women. ■

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ABSTRACT & COMMENTARY

Urinary Urge Incontinence and Pelvic Floor Physical Therapy

By Chiara Ghetti, MD

Associate Professor, Obstetrics and Gynecology, Division of Female Pelvic Medicine and Reconstructive Surgery, Washington University School of Medicine, St. Loui

Dr. Ghetti reports no financial relationships relevant to this field of study.

SYNOPSIS: Pelvic floor physical therapy with myofascial release techniques improves urinary symptoms and provides an alternate option to medications and more invasive therapies.

SOURCE: Adams SR, et al. Pelvic floor physical therapy as primary treatment of pelvic floor disorders with urinary urgency and frequency-predominant symptoms. *Female Pelvic Med Reconstr Surg* 2015;21:252-256.

The objective of this study was to assess the efficacy of pelvic floor physical therapy (PFPT) as primary treatment for urinary urgency and frequency symptoms. This was a case series study of 36 women with urinary urgency and frequency completing 10 weeks of PFPT. The main outcome measures used to assess symptom improvement were the Pelvic Floor Distress Inventory-Short Form 20 (PFDI-20) and Patient Global Impression of Improvement (PGI-I). Women were excluded if their diagnosis included stress incontinence or stress predominant-mixed incontinence, if they had previous surgical treatment for urinary incontinence, if they had undergone PFPT within 1 month of presentation, if they were taking or wanted to initiate anticholinergic medication for incontinence, or if they did not wish to try PFPT as a management option.

Of the 57 women enrolled over 18 months, 31 completed 10 weeks of PFPT. Participants were referred to one physical therapy group practice, all of which endorsed similar treatment philosophies and modalities. All subjects were taught about healthy bladder habits and fluid management. Subjects were also educated about pelvic floor anatomy and function and normal bladder function (in relationship to urge and voiding). Subjects were taught urge suppression techniques and exercises to facilitate pelvic floor muscle release and improved pelvic floor coordination. PFPT included external trunk and lower extremity connective tissue manipulation and intravaginal myofascial release techniques. Relevant findings from postural, movement, and lumbopelvic-hip examination were addressed on

an individual basis using standard physical therapy interventions. Electrical stimulation and traditional Kegels for strengthening or urinary urge suppression were excluded interventions.

Women enrolled had overactive bladder (OAB) with the following primary diagnoses: urge-predominant mixed urinary incontinence (12; 33.3%), urgency/frequency symptoms (10; 27.8%), urgency urinary incontinence (2; 5.6%), and painful bladder syndrome (12; 33.3%). After completing PFPT, women reported significant decreases in the urinary and prolapse symptoms subscales of the PFDI-20. In addition, 62.5% of subjects reported their symptoms were "much better" or "very much better" by the PGI-I.

■ COMMENTARY

Urinary urgency and frequency symptoms significantly affect the quality of life of millions of women and lead to significant psychological distress.[1] Urgency and frequency urinary complaints are common in a spectrum of diagnoses, including OAB, urge-predominant mixed urinary incontinence, or painful bladder syndrome. Incontinence, pain, and pressure symptoms can commonly be associated with symptoms of urgency and frequency. Treatment options for urinary symptoms include behavioral modification, pharmacologic treatment, sacral or peripheral neuromodulation, and intravesical botulinum toxin. Pelvic floor physical therapy is often overlooked as a therapeutic approach in the treatment of patients with urinary urgency and frequency symptoms. Several studies have demonstrated the efficacy of pelvic floor muscle training in stress and mixed urinary incontinence; however, the data for efficacy of PFPT for OAB are limited.[2]

In a prior issue we reviewed a paper on PFPT and levator myalgia. The current study further highlights the important relationship between pelvic floor muscles and pelvic floor symptoms, in this case specifically urinary symptoms. This is a topic that is near and dear to my practice. My clinical experience has repeatedly shown that women with urinary symptoms of urgency and frequency show dramatic improvement with behavioral changes and by addressing pelvic floor muscle dysfunction with physical therapy and myofascial release.

This study attempts to assess urinary symptom improvement in subjects with urgency and frequency symptoms who chose PFPT as a therapeutic option. The study design was a case series. Subjects who met enrollment criteria were assessed before and after their chosen treatment of PFPT as a therapeutic option. This study lacked a comparative group that did not undergo PFPT or who underwent basic education alone but the outcomes are still valuable. This would have been a stronger study as a randomized intervention trial with a control group. In addition, this study does not determine the duration of effect of PFPT, the need for further physical therapy, or the addition of other treatment modalities. Despite these flaws, the data demonstrated that many women had improvement in pelvic floor symptom after PFPT, which is consistent with what I see in practice. PFPT is a feasible therapeutic option for urinary symptoms that may have the ability to impact a large number of women. ■

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ABSTRACT & COMMENTARY

Screening for Fetal Chromosome Abnormalities: What Combination Makes the Most Sense?

By John C. Hobbins, MD

Professor, Department of Obstetrics and Gynecology, University of Colorado School of Medicine, Aurora

Dr. Hobbins reports no financial relationships relevant to this field of study.

SYNOPSIS: Recent studies using data from the California Prenatal Screening Program show that standard screening protocols, which combine first trimester ultrasound and biochemistry with second trimester biochemistry, has a very acceptable detection rate and outperforms NIPT in cost-effectiveness in low-risk patients.

SOURCES: Baer RJ, et al. Detection rates for aneuploidy by first trimester and second trimester screening. *Obstet Gynecol* 2015;126:753-759.

Kaimal AJ, et al. Prenatal testing in the genomic age: Clinical outcomes, quality of life, and costs. *Obstet Gynecol* 2015;126:737-746.

Over a short time, noninvasive prenatal testing (NIPT) with cell-free DNA has become the darling of providers when screening for fetal aneuploidy. At first it was recommended for high-risk patients only, targeting mostly those of advanced maternal age. Then, perhaps because of the marketing strategies of companies vying for a gigantic market, the tests began being offered to low-risk populations, with detection rates touted as high as 98-99% for trisomy 21 (T21), in particular. Two studies in *Obstetrics and Gynecology* were published in September,

both dealing with the extensive California Prenatal Screening Program database.[1,2] Baer et al mined 3 years' worth of data (2009 through 2012) from the California Screening Program, during which time it was mandated that all pregnant patients in the state be offered screening for fetal aneuploidy.[1] This included first trimester nuchal translucency screening, along with biochemical markers (pregnancy associated plasma protein-A and human chorionic gonadotropin (HCG). To this "combined screen" was added second trimester biochemistry (HCG, estriol, alpha-fetoprotein, inhibin-A) to make it a "sequential screen." The data registry has complete immediate outcome information on all patients entered.

During the study period 452,901 patients had screening with this method, 73% of whom were < 35 years of age. In the study, 91.1% had first and second trimester screening. The researchers found that 20,446 patients (4.5%) were screen positive for aneuploidy, in general, and 17,435 (3.8%) were positive for T21, in particular. In 1291 cases of T21, the detection rate was 92.9%. For those women who were not advanced maternal age, the detection rate was 88.1%, and for those ≥ 35 years the T21 detection rate was 95.6%. Most (72.3%) of those screen-positive patients in the first trimester did not have a second trimester quad screen. In those fetal T21 patients with a first trimester positive screen who chose to have second trimester biochemistry, in only two cases (0.2%) did the second trimester information reclassify them as "negative." T21 accounted for about half (49.5%) of all aneuploid fetuses in the study. For the remaining chromosomal abnormalities, the detection rate for trisomy 18 was 93.7%, for trisomy 13 was 80.3%, for Turner syndrome was 80%, and for Kleinfelter syndrome was 50.8%. The detection rate for triploidy was 91%.

■ COMMENTARY

This study shows in a very large cohort of patients that the standard "old way" of screening is still pretty darn good, with an overall detection rate for T21 of 96% in women ≥ 35 years of age and 88% in younger women. With NIPT, most laboratories are quoting a T21 detection rate of 98-99%. However, 50% of the aneuploid fetuses in the overall group were not T21. Published detection rates are 98-99% for T18, but for other forms of aneuploidy detection rates have been substantially lower with NIPT.

In another article addressing the same issue, the authors compared six screening strategies with a decision–analytic model, using the above California database.[2] They found that multiple marker (standard) methods had the highest detection rates at the lowest cost for all chromosomal abnormalities lumped together in women ages 20 through 38 years. After that time (≥ 39 years of age), NIPT was the best first-line screening test. If one used NIPT as a backup in only those who were screen-positive by multiple markers, then there was a reduction for the need of invasive testing. NIPT is a remarkable test that has expanded our screening possibilities, but we need to explain to our patients that:

1. It does not pick up all types of aneuploidy or other anomalies.
2. At present, it is still expensive.
3. The test results need to be explained fully.

Apropos of the last point, a few days ago, a 31-year-old woman whose first trimester NIPT was positive for T21 called. Based on the positive predictive value, the lab estimated that her chance of having a fetus with T21 was 67%. This calculation was predicated on the prevalence of this condition at her age. However, her primary provider told her that this figure was wrong and that, based on the "accuracy" of the test, her risk was almost 100% for T21. Interestingly, there were no clues for T21 at the time of a 14-week ultrasound scan. She is booked for an amniocentesis. Regardless of whether the fetus has T21, what she heard from a well-meaning provider was not correct.

The nuances with all forms of screening can be confusing for patients and providers. Now that some of the newness and glitter of the new test has worn off, it is time for us to step back and reboot by putting this and other screening tests into proper perspective. ■

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SPECIAL FEATURE

Immediate Postpartum IUD Insertion: Ready for Prime Time?

By Rebecca H. Allen, MD, MPH

Assistant Professor, Department of Obstetrics and Gynecology, Warren Alpert Medical School of Brown University, Women and Infants Hospital, Providence, RI

Dr. Allen reports she is a Nexplanon trainer for Merck, a Liletta trainer for Actavis, and on the advisory board for Bayer, Actavis, and Vermillion.

It is no secret that long-acting reversible contraception (LARC), such as intrauterine devices (IUDs) and implants, are among the most effective methods. LARC offers other advantages including:[1]

- Effectiveness independent from coitus, user motivation, and adherence
- Highest continuation rates and user satisfaction of all reversible methods

- No requirement for frequent visits for resupply
- No requirement for additional funding for consistent use once placed
- Rapid return to fertility after removal
- Few contraindications

If we are ever to reduce the unintended pregnancy rate in the United States and the rate of rapid repeat pregnancies after birth, then LARC methods should be made more accessible to women. One option for timing of placement of intrauterine devices is within 10 minutes of the delivery of the placenta, the so-called *"postplacental"* insertion. Another option is within the first 48 hours postpartum, which is called *"immediate postpartum"* insertion. What is the evidence behind this practice and how can it be incorporated into your hospital?

Immediate postplacental IUD insertion occurs ideally within 10 minutes of the delivery of the placenta. There is no magic to the 10-minute interval, however, and likely any time in the delivery room is acceptable. The United States Medical Eligibility Criteria for Contraceptive Use allows for insertion of IUDs immediately postpartum except in cases of puerperal sepsis (and chorioamnionitis) (*see Table 1*). The advantages to immediate postpartum and postplacental IUD insertion are that the cervix is already open, both the patient and provider are already present, and any side effects the patient experiences due to the IUD may be masked by the normal postpartum lochia.

Immediate postpartum and postplacental IUD insertion has been studied worldwide since the 1980s in countries such as China, Mexico, and Egypt. It is only recently, however, that studies of this practice have been performed in the United States with the resurgence in IUD popularity. One concern that providers have is the risk of expulsion with immediate postpartum and postplacental IUD insertion. The latest Cochrane Review on the subject reports an almost five times higher risk of expulsion with immediate insertion compared to insertion at 4 to 6 weeks' postpartum (odds ratio [OR], 4.89; 95% confidence interval [CI], 1.47-16.32).[2] However, the rate of expulsion will depend on provider experience, type of device, and whether the placement occurs after vaginal delivery or cesarean section. Although experienced providers may report an expulsion rate of 5-10%, those first starting out may see rates as high as 20%. Nevertheless, if expelled devices are recognized and replaced as desired, the rates of IUD use at 6 months with immediate insertion compared to insertion at 4 to 6 weeks are actually higher (OR, 2.04; 95% CI, 1.01-4.09). This is because women may not return for their 4- to 6-week postpartum visit, as multiple studies have shown.[1] A decision analysis that used an expulsion rate of 18% for immediate postpartum insertion still concluded that this practice was cost-effective, saving $282,540 per 1000 women over 2 years and preventing 88 unintended pregnancies.[3] Besides the higher risk of expulsion, published studies do not show an increased risk of bleeding, infection, or other complications. Early follow-up is advised (2 weeks postpartum) to assess for expulsion and trim IUD strings because they lengthen as the uterus involutes.

Placement at the time of cesarean delivery has a lower expulsion rate compared to after vaginal delivery. Levi et al conducted a randomized, controlled trial of 112 women that compared placement at the time of cesarean delivery to placement at 6 weeks postpartum.[4] In this trial, more women were using an IUD at 6 months in the immediate placement arm (40/48, 83%) compared to 6-week placement (32/50, 64%). Furthermore, the expulsion rate in the cesarean group was 8% compared to 2% in the 6-week postpartum placement group. For trans-cesarean insertion of an IUD, the device can be inserted through the hysterotomy with the hand, ring forceps, or the IUD inserter with arms out of the applicator. The strings are then pushed down through the cervix with ring forceps. Levonorgestrel IUD (LNG-IUD) strings, which are longer, need to be trimmed prior to this step. In this study, only 56% of trans-cesarean placed IUD strings were visualized at the 6-week postpartum check, which is not unusual.[4] Therefore, becoming handy at removing IUDs without visualized strings in the office with alligator forceps and ultrasound guidance is important.

Placement at the time of vaginal delivery can also be accomplished by ring forceps or the hand. With the non-dominant hand on the fundus, the IUD is placed through the cervix up to fundus and released. Copper IUD strings do not have to be trimmed in advance, but LNG-IUD strings should be trimmed at the level of the cervical os. If using a ring forceps, the LNG-IUD should not be gripped tightly or there is a risk of breaking the hormone reservoir in the stem. It is still under study if there is a higher expulsion rate in the copper IUD compared to the LNG-IUD.

Although placement of the devices is relatively straightforward, the logistics of reimbursement at the time of the postpartum hospitalization are not. Most insurers have not changed their policies to allow for reimbursement

Table 1. Recommendations for IUD Use Postpartum

Postpartum (breastfeeding or non-breastfeeding including postcesarean delivery)	CuT-380A	LNG-IUS
< 10 min after delivery of the placenta	2	1
10 min after delivery of the placenta to < 4 wks	2	2
≥ 4 wks	1	1
Puerperal sepsis	4	4

CuT-380A = copper intrauterine device (copper T 380A); LNG-IUS = levonorgestrel intrauterine system

Categories: 1 = a condition for which there is no restriction for the use of the contraceptive method, 2 = a condition for which the advantages of using the method generally outweigh the theoretical or proven risks, 3 = a condition for which the theoretical or proven risks usually outweigh the advantages of using the method, 4 = a condition that represents an unacceptable health risk if the contraceptive method is used.

Source: Centers for Disease Control. U S. Medical Eligibility Criteria for Contraceptive Use, 2010. *MMWR* 2010;59:1-86.

of the device outside of the global fee for delivery. In certain states, however, Medicaid is leading the way in changing reimbursement policies for postpartum LARC. Moniz and colleagues recently conducted a telephone survey of Medicaid offices and received responses from 39 states and the District of Columbia.[5] They found that 15 agencies were providing separate or increased bundled payment, nine were considering providing payment in the future, and 16 were not planning to provide enhanced payment. For those agencies not providing payment, the major concern was the upfront cost and also setting a precedent of "carve out" payments for inpatient care. There were also some misperceptions about the safety of postpartum LARC. The authors concluded that having local state champions educate and lobby for this change would be most helpful, especially if it aligns with the state Medicaid program's other goals, such as reducing preterm birth or neonatal abstinence syndrome. There are plenty of published studies documenting the cost-effectiveness of postpartum LARC, as well as websites that can assist with lobbying efforts (http://bit.ly/1WPJCgc).

Even if the state Medicaid program permits postpartum LARC, the next hurdle is implementing a billing process. Even though my own state, Rhode Island, is on the list of states allowing this service, full-scale implementation has been held up by billing uncertainties, and no formal clarification has come from the managed Medicaid plans. Therefore, hospital administrators are hesitant to allow providers to begin inserting the devices. I can only hope this will be resolved so we can offer women this important and valuable service. ■

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CME QUESTIONS

1. Which of the following is true about the role of salpingectomy?
a. Salpingectomy is effective for all women in prevention of ovarian and fallopian tube cancer.
b. Salpingectomy is appropriate for low-risk women for contraception.
c. Salpingectomy has efficacy in BRCA mutated women for prevention of breast cancer.
d. All of the above

2. In a recent meta-analysis, calcium supplementation for postmenopausal women was associated with which of the following?
a. A reduction in non-vertebral and vertebral fractures
b. A reduction in non-vertebral fractures only
c. Annual increases in bone mineral density of 2%
d. A small increase in bone mineral density at 1 year that was non-progressive

3. Based on the study by Adams et al, which is a reasonable first-line treatment option for urinary urgency and frequency symptoms and overactive bladder symptoms?
a. Behavioral modification and pelvic floor physical therapy
b. IntradetrusorOnabotulinumtoxinA injections
c. InterStim therapy
d. Pharmacologic therapy

4. The deficiencies of noninvasive prenatal testing in screening for all aneuploidies are that:
a. it will not pick up one-half of chromosome abnormalities.
b. it is not cost-effective in low-risk patients.
c. it is not a diagnostic test.
d. All of the above are true

5. The risk of expulsion after immediate postpartum intrauterine device insertion is lower with cesarean delivery compared to vaginal delivery.
a. True
b. False