Gynecologic surgery
Enhanced recovery pathways

LEGALLY SPEAKING Complications during vaginal hysterectomy

Evidence-based cesarean section
Guide to ACOG 2018 Annual Meeting

MATERNAL MORTALITY
Losing a patient
Long-lasting effects

Resources
- ACOG guidelines for emergencies, adversity
- Stories in the media
- AHA guidelines for maternal resuscitation
Tell her she has a hormone-free choice—tell her about PARAGARD.

INDICATION
PARAGARD is indicated for intrauterine contraception for up to 10 years.

IMPORTANT SAFETY INFORMATION
- PARAGARD does not protect against HIV/AIDS or other sexually transmitted infections (STI).
- PARAGARD must not be used by women who are pregnant or may be pregnant as this can be life threatening and may result in loss of pregnancy or fertility.
- PARAGARD must not be used by women who have acute pelvic inflammatory disease (PID) or current behavior suggesting a high risk of PID: have had a postpregnancy or postabortion uterine infection in the past 3 months; have cancer of the uterus or cervix; have an infection of the cervix; have an allergy to any component; or have Wilson's disease.
- The most common side effects of PARAGARD are heavier and longer periods and spotting between periods; for most women, these typically subside after 2 to 3 months.
- If a woman misses her period, she must be promptly evaluated for pregnancy.
- Some possible serious complications that have been associated with intrauterine contraceptives, including PARAGARD, are PID, embedment, perforation of the uterus, and expulsion.

Please see the following page for a brief summary of full Prescribing Information.

If the string is not visible, and the woman decides to continue her pregnancy, check for pregnancy loss.

Abnormalities of the uterus resulting in distortion of the uterine cavity

Acute pelvic inflammatory disease, or current behavior suggesting a high risk for pelvic inflammatory disease

Postpartum endometritis or postpartoblast endometritis in the past 3 months

Known or suspected uterine or cervical malignancy

Genital bleeding of unknown etiology

Mucopurulent cervicitis

Wilson’s disease

Allergy to any component of ParaGard®

A previously placed IUD that has not been removed

## WARNINGS

### 1. Intrauterine Pregnancy

If intrauterine pregnancy occurs with ParaGard® in place and the string is visible, ParaGard® should be removed because of the risk of spontaneous abortion, premature delivery, sepsis, septic shock, and, rarely, death. Removal may be followed by pregnancy loss.

If the string is not visible, and the woman decides to continue her pregnancy, check if the ParaGard® is in her uterus (for example, by ultrasound). If ParaGard® is in her uterus, warn her that there is an increased risk of spontaneous abortion and sepsis, septic shock, and, rarely, death. In addition, the risk of premature labor and delivery is increased.

Human data about risk of birth defects from copper exposure are limited. However, studies have not detected a pattern of abnormalities, and published reports do not suggest a risk that is higher than the baseline risk for birth defects.

### 2. Ectopic Pregnancy

Women who become pregnant while using ParaGard® should be evaluated for ectopic pregnancy. A pregnancy that occurs with ParaGard® in place is more likely to be ectopic than a pregnancy in the general population. However, because ParaGard® prevents most pregnancies, women who use ParaGard® have a lower risk of an ectopic pregnancy than sexually active women who do not use any contraception.

### 3. Pelvic Infection

Although pelvic inflammatory disease (PID) in women using IUDs is uncommon, IUDs may be associated with an increased relative risk of PID compared to other forms of contraception and to no contraception. The highest incidence of PID occurs within 20 days following insertion. Therefore, the visit following the first post-insertion menstrual period is an opportunity to assess the patient for infection, as well as to check that the IUD is in place. Since pelvic infection is most frequently associated with sexually transmitted organisms, IUDs are not recommended for women at high risk for sexual infection. Prophylactic antibiotics at the time of insertion do not appear to lower the incidence of PID.

PID can have serious consequences, such as tubal damage (leading to ectopic pregnancy or infertility), hysterectomy, sepsis, and, rarely, death. It is therefore important to promptly assess and treat any woman who develops signs or symptoms of PID. Guidelines for treatment of PID are available from the Centers for Disease Control and Prevention (CDC), Atlanta, Georgia at www.cdc.gov or 1-800-311-3435. Antibiotics are the mainstay of therapy. Most healthcare professionals also remove the IUD.

The significance of actinomyces-like organisms on Papanicolaou smear in an asymptomatic IUD user is unknown, and so this finding alone does not always require IUD removal and treatment. However, because pelvic actinomycosis is a serious infection, a woman who has symptoms of pelvic infection possibly due to actinomycosis should be treated and have her IUD removed.

### 4. Immunocompromise

Women with AIDS should not have IUDs inserted unless they are clinically stable on antiretroviral therapy. Limited data suggest that asymptomatic women infected with human immunodeficiency virus may use intrauterine devices. Little is known about the use of IUDs in women who have illnesses causing serious immunocompromise. Therefore these women should be carefully monitored for infection if they choose to use an IUD. The risk of pregnancy should be weighed against the theoretical risk of infection.

### 5. Embedment

Partial penetration or embedment of ParaGard® in the myometrium can make removal difficult. In some cases, surgical removal may be necessary.

### 6. Perforation

Partial or total perforation of the uterine wall or cervix may occur rarely during placement, although it may not be detected until later. Spontaneous migration has also been reported. If perforation does occur, remove ParaGard® promptly, since the copper can lead to intraperitoneal adhesions. Intestinal perforation, intestinal obstruction, and/or damage to adjacent organs may result if an IUD is left in the peritoneal cavity. Pre-operative imaging followed by laparoscopy or laparotomy is often required to remove an IUD from the peritoneal cavity.

### 7. Expulsion

Expulsion can occur, usually during the menses and usually in the first few months after insertion. There is an increased risk of expulsion in the nulliparous patient. If unnoticed, an unintended pregnancy could occur.

### 8. Wilson’s Disease

Theoretically, ParaGard® can exacerbate Wilson’s disease, a rare genetic disease affecting copper excretion.

### PRECAUTIONS

Patients should be counseled that this product does not protect against HIV infection (AIDS) and other sexually transmitted diseases.

1. Information for patients

Before inserting ParaGard®, discuss the Patient Package Insert with the patient, and give her time to read the information. Discuss any questions she may have concerning ParaGard® as well as other methods of contraception. Instruct her to promptly report symptoms of infection, pregnancy, or missing strings.

2. Insertion precautions, continuing care, and removal

3. Vaginal bleeding

In the 2 largest clinical trials with ParaGard®, menstrual changes were the most common medical reason for discontinuation of ParaGard®. Discontinuation rates for pain and bleeding combined are highest in the first year of use and diminish thereafter. The percentage of women who discontinued ParaGard® because of bleeding problems or pain during these studies ranged from 11.9% in the first year to 2.2% in year 9. Women complaining of heavy vaginal bleeding should be evaluated and treated, and may need to discontinue ParaGard®.

4. Vasovagal reactions, including fainting

Some women have vasovagal reactions immediately after insertion. Hence, patients should remain supine until feeling well and should be cautious when getting up.

5. Expulsion following placement after a birth or abortion

ParaGard® has been placed immediately after delivery, although risk of expulsion may be higher than when ParaGard® is placed at times unrelated to delivery. However, if done immediately postpartum, insertion should be delayed to the second postpartum month because insertion during the first postpartum month (except for immediately after delivery) has been associated with increased risk of perforation. ParaGard® can be placed immediately after abortion, although immediate placement has a slightly higher risk of expulsion than placement at other times. Placement after second trimester abortion is associated with a higher risk of expulsion than placement after the first trimester abortion.

6. Magnetic resonance imaging (MRI)

Limited data suggest that MRI at the level of 1.5 Tesla is acceptable in women using ParaGard®. One study examined the effect of MRI on the CU-7® Intrauterine Copper Contraceptive and Lippes Loop™ intrauterine devices. Neither device moved under the influence of the magnetic field or heated during the spin-echo sequences usually employed for pelvic imaging. An in vitro study did not detect movement or temperature change when ParaGard® was subjected to MRI.

7. Medical diathermy

Theoretically, medical (non-surgical) diathermy (short-wave and microwave heat therapy) in a patient with a metal-containing IUD may cause heat injury to the surrounding tissue. However, a small study of eight women did not detect a significant elevation of intrauterine temperature when diathermy was performed in the presence of a copper IUD.

8. Pregnancy

ParaGard® is contra-indicated during pregnancy.

9. Nursing mothers

Nursing mothers may use ParaGard®. No difference has been detected in concentration of copper in human milk before and after insertion of copper IUDs. The literature is conflicting, but limited data suggest that there may be an increased risk of perforation and expulsion if a woman is lactating.

10. Pediatric use

ParaGard® is not indicated before menarche. Safety and efficacy have been established in women over 16 years old.

### ADVERSE REACTIONS

The most serious adverse events associated with intrauterine contraception are discussed in WARNINGS and PRECAUTIONS. These include:

- Pelvic infection
- Perforation
- Embedment

The following adverse events have also been observed. These are listed alphabetically and not by order of frequency or severity.

- Anemia
- Backache
- Dysmenorrhea
- Dyspareunia
- Expulsion, complete or partial
- Leukorrhea
- Pelvic infection
- Perforation
- Embedment
- Menstrual flow, prolonged
- Menstrual spotting
- Pain and cramping
- Urticarial allergic skin reaction
- Vaginitis

CopertSurgical

CopertSurgical, Inc
95 Corporate Drive
Trumbull, CT 06611

This brief summary is based on the ParaGard full prescribing information dated September 2014.

PAR-41287 01/18
**INDICATIONS**

SUPRAX® (cefixime) is a cephalosporin antibacterial drug indicated in the treatment of adults and pediatric patients six months of age and older with the following infections when caused by susceptible isolates of the designated bacteria: Uncomplicated Urinary Tract Infections; Otitis Media; Pharyngitis and Tonsillitis; Acute Exacerbations of Chronic Bronchitis; Uncomplicated Gonorrhea (cervical/urethral).

**IMPORTANT SAFETY INFORMATION**

SUPRAX should only be used to treat infections that are proven or strongly suspected to be caused by bacteria.

**CONTRAINDICATIONS**

SUPRAX (cefixime) is contraindicated in patients with known allergy to cefixime or other cephalosporins.

**WARNINGS & PRECAUTIONS**

- **Hypersensitivity reactions:** Anaphylactic/anaphylactoid reactions (including shock and fatalities) have been reported with the use of cefixime. Before therapy with SUPRAX is instituted, careful inquiry should be made to determine whether the patient has had previous hypersensitivity reactions to cephalosporins, penicillins, or other drugs. Discontinue use if a reaction occurs.
- **Clostridium difficile associated diarrhea:** Evaluate if diarrhea occurs.
- **Dose Adjustment in Renal Impairment:** The dose of SUPRAX should be adjusted in patients with renal impairment and those undergoing continuous ambulatory peritoneal dialysis and hemodialysis.
- **Coagulation Effects:** Cephalosporins, including SUPRAX, may be associated with a fall in prothrombin activity. Prothrombin time should be monitored in patients at risk and exogenous vitamin K administered as indicated.
- **Phenylketonurics:** SUPRAX Chewable Tablets contain aspartame, a source of phenylalanine.

**ADVERSE REACTIONS**

- Most common adverse reactions are gastrointestinal such as diarrhea (16%), loose or frequent stools (6%), abdominal pain (3%), nausea (7%), dyspepsia (3%), and flatulence (4%).
- Serious adverse reactions included: pseudomembranous colitis, hypersensitivity reactions including Stevens-Johnson syndrome and serum sickness, acute renal failure, seizures, agranulocytosis, and toxic epidermal necrolysis.

**DRUG INTERACTIONS**

- Elevated carbamazepine levels have been reported in postmarketing experience when cefixime is administered concomitantly.
- Increased prothrombin time, with or without clinical bleeding, has been reported when cefixime is administered concomitantly with warfarin and anticoagulants.
- A false positive reaction for ketones and glucose in urine may occur with certain test kits. A false positive direct Coombs test has also been reported.

**USE IN SPECIAL POPULATIONS**

- Efficacy and safety in infants aged less than six months have not been established.
- Cefixime should be used during pregnancy only if clearly needed.
- Consideration should be given to discontinuing nursing temporarily during treatment with cefixime.

Please note this information is not comprehensive. Please see Brief Summary of Prescribing Information on the following page.

For more information, visit [www.supraxrx.com](http://www.supraxrx.com)
SUPRAX® (cefixime)

BRIEF SUMMARY: This summary does not include all the information needed to use SUPRAX safely and effectively. Consult Full Prescribing Information for complete product information.

SUPRAX should only be used to treat infections that are proven or strongly suspected to be caused by bacteria.

INDICATIONS AND USAGE
SUPRAX (cefixime) is a cephalosporin antibacterial drug indicated in the treatment of adults and pediatric patients six months of age or older with the following infections when caused by susceptible isolates of the designated bacteria:

Uncomplicated Urinary Tract Infections caused by Escherichia coli and Proteus mirabilis.
Otitis Media caused by Haemophilus influenzae, Moraxella catarrhalis, and Streptococcus pyogenes. (Note: For patients with otitis media caused by Streptococcus pneumoniae, overall response was approximately 10% lower for cefixime than the competitor. Efficacy for Streptococcus pyogenes in this organ system was studied in fewer than 10 infections.)
Pharyngitis and Tonsillitis caused by Streptococcus pyogenes. (Note: Penicillin is the usual drug of choice in the treatment of Streptococcus pyogenes infections. SUPRAX is generally effective in the eradication of Streptococcus pyogenes from the nasopharynx; however, data establishing the efficacy of SUPRAX in the subsequent prevention of rheumatic fever is not available.)
Acute Exacerbations of Chronic Bronchitis caused by Streptococcus pneumoniae and Haemophilus influenzae.
Uncomplicated Gonorrhea (cervical/urethral) caused by Neisseria gonorrhoeae (penicillinase-and non-penicillinase-producing isolates).

CONTRAINDICATIONS
SUPRAX (cefixime) is contraindicated in patients with known allergy to cefixime or other cephalosporins.

WARNINGS AND PRECAUTIONS
Hypersensitivity Reactions: Anaphylactic/anaphylactoid reactions (including shock and fatalities) have been reported with the use of cefixime. Erythema multiforme, Stevens-Johnson syndrome, and serum sickness-like reactions have also been reported. Before therapy with SUPRAX is instituted, careful inquiry should be made to determine whether the patient has had previous hypersensitivity reactions to cephalosporins, penicillins, or other drugs. Discontinue SUPRAX if an allergic reaction occurs.

Clostridium difficile-Associated Diarrhea: Clostridium difficile associated diarrhea (CDAD) has been reported with use of nearly all antibacterial agents, including SUPRAX.

Dose Adjustment in Renal Impairment: The dose of SUPRAX should be adjusted in patients with renal impairment.

Coagulation Effects: Cephalosporins, including SUPRAX, may be associated with a fall in prothrombin activity. Prothrombin time should be monitored in patients at risk and exogenous vitamin K administered as indicated.

Phenyketonurics: SUPRAX (cefixime) Chewable Tablets contain aspartame, a source of phenylalanine. 100 mg, 150 mg and 200 mg strength contains 3.3 mg, 5 mg and 6.7 mg of phenylalanine, respectively.

ADVERSE REACTIONS
The most commonly seen adverse reactions were gastrointestinal events, which were reported in 30% of adult patients on either the twice daily or the once daily regimen. Five percent (5%) of patients in the U.S. clinical trials discontinued therapy because of drug-related adverse reactions.

Individual adverse reactions included diarrhea 16%, loose or frequent stools 6%, abdominal pain 3%, nausea 7%, dyspepsia 3%, and flatulence 4%. The incidence of gastrointestinal adverse reactions, including diarrhea and loose stools, in pediatric patients receiving the suspension was comparable to the incidence seen in adult patients receiving tablets.

DRUG INTERACTIONS
Carbamazepine: Elevated carbamazepine levels have been reported in postmarketing experience when cefixime is administered concomitantly. Drug monitoring may be of assistance in detecting alterations in carbamazepine plasma concentrations.
Warfarin and Anticoagulants: Increased prothrombin time, with or without clinical bleeding, has been reported when cefixime is administered concomitantly.

Drug/Laboratory Test Interactions: A false-positive direct Coombs test has been reported during treatment with other cephalosporins; therefore, it should be recognized that a positive Coombs test may be due to the drug.

USE IN SPECIFIC POPULATIONS
Pregnancy: Pregnancy Category B. Reproduction studies in mice have revealed no evidence of harm to the fetus due to cefixime. There are no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Labor and Delivery: Cefixime has not been studied for use during labor and delivery and should only be given if clearly needed.

Nursing Mothers: It is not known whether cefixime is excreted in human milk. Consideration should be given to discontinuing nursing temporarily during treatment with this drug.

Pediatric Use: Safety and effectiveness of cefixime in children aged less than six months old have not been established.

Geriatric Use: Clinical studies did not include sufficient numbers of subjects aged 65 and older to determine whether they respond differently than younger subjects. Other reported clinical experience has not identified differences in response between the elderly and younger patients. A pharmacokinetic study in the elderly detected differences in pharmacokinetic parameters, but they were small and do not indicate a need for dose adjustment.

Renal Impairment: Dose adjustment is advised in patients with renal impairment as well as those undergoing continuous ambulatory peritoneal dialysis (CAPD) and hemodialysis (HD). Patients on dialysis should be monitored carefully.

DOSE AND ADMINISTRATION
Adults: The recommended dose of cefixime is 400 mg daily. This may be given as a 400 mg tablet or capsule daily or the 400 mg tablet may be split and given as one half tablet every 12 hours. The capsule and tablet may be administered without regard to food.

Pediatric Patients (6 months or older): The recommended dose is 8 mg/kg/day of the suspension. This may be administered as a single daily dose or may be given in two divided doses, as 4 mg/ kg every 12 hours. Children weighing more than 45 kg or older than 12 years should be treated with the recommended adult dose. SUPRAX (cefixime) Chewable Tablets must be chewed or crushed before swallowing.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088, or contact Lupin Pharmaceuticals, Inc. at 1-800-399-2561.

Please note that this information is not comprehensive. Please visit www.supraxrx.com for Full Prescribing Information.

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111 South Calvert Street, Baltimore, MD 21202. NP-SPX-0005
Burnout and depression in medical students and mentors

Cynicism is contagious, but we can take steps to bring joy back to our specialty

From our own experience in academic medicine, Dr. Ed Funai and I can vouch for the fact that most medical students are going into medicine for the right reasons—to help others via a career wedded in both science and humanity. We can also attest to the intense desire that today’s students have to make the world a better place reminiscent of the heady days of President Kennedy’s Peace Corps. We have seen medical students clamoring to go into harm’s way in parts of the globe decimated by natural disasters and threatened by emerging pathogens, all in the hope of making a difference. Ironically, those same medical students are also experiencing record levels of burnout, substance abuse and depression as they enter their third and fourth years.

Burnout among medical students

In a survey of over 12,000 medical students, 80% reported burnout, alcohol abuse/dependence, or depressive symptoms. Another survey found that, compared with general population controls, medical students, residents/fellows, and early career physicians were more likely to be burned out and depressed. A carefully performed systematic review by Rottenstein and colleagues indicated that this is a global phenomenon. These authors found a prevalence of depression or depressive symptoms among medical students of 27.2% while the percentage of medical students seeking psychiatric treatment for their depression was 15.7%. Most worrisome, the overall pooled crude prevalence of suicidal ideation was 11.1%.

The origins of this epidemic of trainee burnout, substance abuse and depression are unclear and likely multifold. The sheer volume of material to be mastered continues to grow near exponentially while the time to learn it remains stagnant. Record levels of indebtedness appear to play a role as, we suspect, does growing competition for residency slots. And while there may also be ascertainment bias in these reported prevalence figures because we only began searching for evidence of these problems recently, we can’t help but think that burnout has an infectious-like quality and that third- and fourth-year students become exposed to burned out residents while on their rotation and the residents, in turn, are exposed to burned out early and mid-career attending physicians.

Burnout among practicing physicians

The physician burnout crisis should have been readily predictable. An aging population with growing comor...
bilities is being cared for by a system with too few physicians, leading to increasing workloads. Compounding the problem are unrelenting compliance and regulatory burdens and ill-advised and premature introduction of decidedly user-unfriendly electronic health records (EHRs). The latter have not been shown to reduce costs or improve quality but unarguably consume an enormous amount of time during the day and are increasingly being accessed at night when many physicians try to catch up on their charting.

Adding to this confluence of pain are generational factors. Generation-X and millennial students and residents, raised in the 80-hour-workweek environment, appear particularly vulnerable to burnout as they enter their early and mid-careers, while older physicians exposed to far harsher training regimens appear more resistant to burnout. A final element of this witches’ brew is the current chaotic nature of the American healthcare delivery system in which the Center for Medicare & Medicaid Services (CMS) reconsiders its commitment to the highly complex Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) and hospital value-based payments schemes. Many physicians and hospitals have invested considerable time and dollars preparing for these changes. Similarly, Congress is attempting to kill the Affordable Care Act by a thousand cuts rather than a simple coherent repeal and replace strategy. All this chaos creates uncertainty and frustration among physicians, elements that promote burnout.

A recent survey conducted jointly by the American Medical Association and the Mayo Clinic reported that burnout is increasing among virtually all medical specialties with a more than 10% increase in just 3 years. For example, 51% of family medicine physicians reported burnout in 2011 compared with 63% in 2014. Similar trends were observed among general pediatrics, urology, orthopedic surgery, pathology, radiology and general surgery.

In a 2018 survey of over 15,000 ob/gyns across various subspecialties, 50% felt burned out, depressed, or both. Even more concerning, a far higher percentage of female ob/gyns reported burnout (55%) compared to men (32%). As expected, bureaucratic burdens, often related to EHRs, and long hours were cited as the two biggest contributors. When asked if resources were available to help them cope, a mere 27% said such offerings were at their disposal. Another recent Medscape survey of 15,543 physicians practicing in the United States across 29 medical specialties demonstrated that ob/gyns had the fourth highest rates of burnout (46%) and led all other fields in those experiencing both burnout and depression (20%). Respondents listed exercise, talking with family and close friends and sleep as their top three coping mechanisms. They also opined that increased compensation, more manageable workloads and decreased government regulations would reduce burnout.

Beyond the personal pain engendered by burnout and associated substance abuse and depression, burnout is also an independent predictor of medical errors, malpractice suits, hospital-acquired infections and patient mortality, pathology, radiology and general surgery.

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Beyond the personal pain engendered by burnout and associated substance abuse and depression, burnout is also an independent predictor of medical errors, malpractice suits, hospital-acquired infections and patient mortality, pathology, radiology and general surgery.
mortality. Burnout also increases provider turnover which adds costs. These sequelae, in turn, drive work load and exacerbate burnout.

**Difficulty of turning the tide**

Medical school leadership across the United States is well-aware of the problem, and there are growing resources being put in place for students who need mental health support when they are having problems. Examples include campus-embedded mental health counselors and psychologists, reduced lecture time, wellness programs (e.g., yoga, exercise class, massage therapy, nap rooms, fitness centers, and access to healthier foods). Another strategy is creation of collegia which are groupings of students across all 4 years who study, work, and socialize together to promote inter-year mentorship. However, what medical school leadership has little control over is the deteriorating emotional tenor of the healthcare system that students are exposed to when they start their clinical rotations in earnest. Preventing such student “contamination” requires addressing burnout among attending residents and attending physicians.

Organized medicine was slow to recognize this crisis but is finally beginning to act. The National Academy of Medicine, in association with over 50 other organizations including the Association of American Medical Colleges (AAMC) and the Accreditation Council for Graduate Medical Education (ACGME) have recently launched a national Action Collaborative on Clinician Well-Being and Resilience. The collaborative has 4 initial goals which include increasing visibility of clinician stress and burnout; improving health care organizations’ baseline understanding of challenges to clinician well-being; identifying evidence-based solutions; and monitoring the effectiveness of potential solutions. One immediate coalition deliverable will be creation of an online “knowledge hub” repository for available data, models, and toolkits to prevent burnout.

Among the novel solutions being proposed to curb burnout is a team-based model called ambulatory process excellence (APEX) created by the Department of Family Medicine at the University of Colorado Health System. In APEX, medical assistants (MAs) who have received added training proactively gather patient data, organize visits, reconcile medications, and review basic preventive care strategies. These data are then shared with the provider who sees the patient while the MA stays in the room to document the visit in the EHR. After the provider leaves the MA completes patient education. APEX requires a higher ratio of MAs to physicians but increased provider productivity appears to more than make up for the added expense.

**Take-home message.**

The contagion of physician burnout has reached down to the level of our medical students, threatening the welfare of our entire profession as well as public health more broadly. While steps are being taken to mitigate medical student stressors, it is vital that we treat the source of the “infection,” which is burnout among residents, early and mid-career physicians. This cure will require “decluttering” healthcare by reducing non-value-added aspects such as ineffective regulations and administrative busywork while also creating more efficient, effective and error-free value-adding care models.

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**Burnout is also an independent predictor of medical errors, malpractice suits, hospital-acquired infections and patient mortality.**

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Dr. Lockwood, editor in chief, is Senior Vice President, USF Health, Dean, Morsani College of Medicine, University of South Florida, Tampa. He can be reached at DrLockwood@UBM.com

ACKNOWLEDGEMENT: Dr. Ed Funai, Professor of Obstetrics and Gynecology at USF Health Morsani College of Medicine collaborated on this editorial. Dr. Lockwood thanks him for his contributions.

FOR REFERENCES VISIT contemporaryobgyn.net/burnout

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Stress was a consistent theme in our recent reader survey. See those results at http://bit.ly/LoveHateDivide.
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Our Mission

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In the prevention of Rh sensitization....

TREATMENT SAFETY AND RELIABILITY MATTER TO US. CHOOSE HyperRHO® S/D (Rh₀[D] immune globulin [human])

For over 45 years, produced with an unwavering commitment to safety, HyperRHO S/D Full Dose has been a reliable treatment choice for Rh-negative pregnant women.

SAFETY
- 4-step virus removal and inactivation process
- The only Rh₀(D) immune globulin product with FDA labeling for prion removal
- Mercury (thimerosal) and latex free
- Needle guards to protect against needlestick injury

RELIABILITY
- Dosing consistent with ACOG practice guidelines

CONVENIENCE
- Low-volume fully assembled prefilled syringes

HyperRHO S/D Full Dose is made from human plasma. Because this product is made from human plasma, it may carry a risk of transmitting infectious agents, such as viruses, and, theoretically, the Creutzfeldt-Jakob disease (CJD) agent.

Please see Important Safety Information and brief summary of Prescribing Information for HyperRHO S/D Full Dose on following pages. Visit www.HyperRHO.com for full prescribing information.
IMPORTANT SAFETY INFORMATION

HyperRHO® S/D Full Dose (Rh\textsubscript{\text{D}} immune globulin [human]) is indicated for the prevention of Rh hemolytic disease of the newborn (HDN) and the prevention of isoimmunization in Rh\textsubscript{\text{D}}-negative individuals who have been transfused with Rh\textsubscript{\text{D}}-positive red blood cells.

Because HyperRHO S/D Full Dose is made from human plasma, it carries a risk of transmitting infectious agents, eg, viruses, and theoretically, the Creutzfeldt-Jakob disease (CJD) agent.

Never administer HyperRHO S/D Full Dose intravenously. Inject only intramuscularly. Never administer to the neonate.

Rh\textsubscript{\text{D}} immune globulin (human) should be given with caution to patients with a history of prior systemic allergic reactions following the administration of human immunoglobulin preparations. Such persons have increased potential for developing antibodies to IgA and could have anaphylactic reactions to subsequent administration of blood products that contain IgA.

As with all preparations administered by the intramuscular route, bleeding complications may be encountered in patients with thrombocytopenia or other bleeding disorders.

A large fetomaternal hemorrhage late in pregnancy or following delivery may cause a weak mixed field positive DU test result. If there is any doubt about the mother’s Rh type, she should be given Rh\textsubscript{\text{D}} immune globulin (human). A screening test to detect fetal red blood cells may be helpful in such cases.

If more than 15 mL of D-positive red blood cells are present in the mother’s circulation, more than a single dose of HyperRHO S/D Full Dose is required. Failure to recognize this may result in the administration of an inadequate dose.

Although systemic reactions to human immunoglobulin preparations are rare, epinephrine should be available for treatment of acute anaphylactic symptoms.

Administration of live virus vaccines (eg, MMR) should be deferred for approximately 3 months after Rh\textsubscript{\text{D}} immune globulin (human) administration.

HyperRHO S/D Full Dose should be given in pregnant women only if clearly needed because animal reproduction studies have not been conducted.

Reactions to Rh\textsubscript{\text{D}} immune globulin (human) are infrequent in Rh\textsubscript{\text{D}}-negative individuals and consist primarily of slight soreness at the site of injection and slight temperature elevation. While sensitization to repeated injections of human immunoglobulin is extremely rare, it has occurred.

Elevated bilirubin levels have been reported in some individuals receiving multiple doses of Rh\textsubscript{\text{D}} immune globulin (human) following mismatched transfusions. This is believed to be due to a relatively rapid rate of foreign red cell destruction.

Please see brief summary of full prescribing information on adjacent page or visit www.hypermunes.com.

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Rh(D) Immune Globulin (Human)
Solvent/Detergent Treated

BRIEF SUMMARY
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FOR INTRAMUSCULAR INJECTION ONLY

INDICATIONS AND USAGE
Pregnancy and Other Obstetric Conditions
Rh(D) Immune Globulin (Human) — HyperRHO® S/D Full Dose is recommended for the prevention of Rh hemolytic disease of the newborn by its administration to the Rh(D) negative mother within 72 hours after birth of an Rh(D) positive infant, providing the following criteria are met:
1. The mother must be Rh(D) negative and must not already be sensitized to the Rh(D) factor.
2. Her child must be Rh(D) positive, and should have a negative direct antiglobulin test (see PRECAUTIONS).

If HyperRHO S/D Full Dose is administered antepartum, it is essential that the mother receive another dose of HyperRHO S/D Full Dose after delivery of an Rh(D) positive infant.

If the father can be determined to be Rh(D) negative, HyperRHO S/D Full Dose need not be given.

HyperRHO S/D Full Dose should be administered within 72 hours to all nonimmunized Rh(D) negative women who have undergone spontaneous or induced abortion, following ruptured tubal pregnancy, amniocentesis or abdominal trauma unless the blood group of the fetus or the father is known to be Rh(D) negative. If the fetal blood group cannot be determined, one must assume that it is Rh(D) positive, and HyperRHO S/D Full Dose should be administered to the mother.

Transfusion
HyperRHO S/D Full Dose may be used to prevent isoinmunization in Rh(D) negative individuals who have been transfused with Rh(D) positive red blood cells or blood components containing red blood cells.

CONTRAINDICATIONS
None known.

WARNINGS
HyperRHO S/D Full Dose is made from human plasma. Products made from human plasma may contain infectious agents, such as viruses, and, theoretically, the Creutzfeldt-Jakob Disease (CJD) agent that can cause disease. The risk that such products will transmit an infectious agent has been reduced by screening plasma donors for prior exposure to certain viruses, by testing for the presence of certain current virus infections, and by inactivating and/or removing certain viruses. Despite these measures, such products can still potentially transmit disease. There is also the possibility that unknown infectious agents may be present in such products. Individuals who receive infusions of blood or plasma products may develop signs and/or symptoms of some viral infections, particularly hepatitis C. ALL infections thought by a physician possibly to have been transmitted by this product should be reported by the physician or other healthcare provider to Grifols Therapeutics Inc. [1-800-520-2807].

The physician should discuss the risks and benefits of this product with the patient, before prescribing or administering it to the patient.

Rh(D) Immune Globulin (Human) should be given with caution to patients with a history of prior systemic allergic reactions following the administration of human immunoglobulin preparations.

The attending physician who wishes to administer Rh(D) Immune Globulin (Human) to persons with isolated immunoglobulin A (IgA) deficiency must weigh the benefits of immunization against the potential risks of hypersensitivity reactions. Such persons have increased potential for developing antibodies to IgA and could have anaphylactic reactions to subsequent administration of blood products that contain IgA.

As with all preparations administered by the intramuscular route, bleeding complications may be encountered in patients with thrombocytopenia or other bleeding disorders.

PRECAUTIONS
General
A large fetomaternal hemorrhage late in pregnancy or following delivery may cause a weak mixed field positive D" test result. If there is any doubt about the mother’s Rh type, she should be given Rh(D) Immune Globulin (Human). A screening test to detect fetal red blood cells may be helpful in such cases.

If more than 15 mL of D-positive fetal red blood cells are present in the mother’s circulation, more than a single dose of HyperRHO S/D Full Dose is required. Failure to recognize this may result in the administration of an inadequate dose.

Although systemic reactions to human immunoglobulin preparations are rare, epinephrine should be available for treatment of acute anaphylactic reactions.

Drug Interactions
Other antibodies in the Rh(D) Immune Globulin (Human) preparation may interfere with the response to live vaccines such as measles, mumps, polio or rubella. Therefore, immunization with live vaccines should not be given within 3 months after Rh(D) Immune Globulin (Human) administration.

Drug/Laboratory Interactions
Babies born of women given Rh(D) Immune Globulin (Human) antepartum may have a weakly positive direct antiglobulin test at birth.

Passively acquired anti-Rh(D) may be detected in maternal serum if antibody screening tests are performed subsequent to antepartum or postpartum administration of Rh(D) Immune Globulin (Human).

Pregnancy Category C
Animal reproduction studies have not been conducted with HyperRHO S/D Full Dose. It is also not known whether HyperRHO S/D Full Dose can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. HyperRHO S/D Full Dose should be given to a pregnant woman only if clearly needed.

Pediatric Use
Safety and effectiveness in the pediatric population have not been established.

ADVERSE REACTIONS
Reactions to Rh(D) Immune Globulin (Human) are infrequent in Rh(D) negative individuals and consist primarily of slight soreness at the site of injection and slight temperature elevation. While sensitization to repeated injections of human immune globulin is extremely rare, it has occurred. Elevated bilirubin levels have been reported in some individuals receiving multiple doses of Rh(D) Immune Globulin (Human) following mismatched transfusions. This is believed to be due to a relatively rapid rate of foreign red cell destruction.

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**Continuing the fight from deep in the trenches**

Thank you, Dr Lockwood, for your commitment to reducing maternal mortality! It is simply shameful that women, particularly women of color, are dying at such an alarming rate in 2018. As an OB hospitalist in Chicago’s underserved Englewood neighborhood, I am deep in the trenches of maternal obesity, hypertension, diabetes, substance abuse, mental illness, homelessness, domestic abuse, etc. The stories I could tell! Despite the constant threat of maternal mortality, it is simply shameful that women, particularly mothers, are subjected to fewer inductions and fewer cesarean sections. It is our duty as well as our gift.

Joy West MD, FACOG
Chicago, Illinois

**IN REPLY:**

God bless you Dr. West. You are battling on the front lines of this important struggle. You are also addressing a particularly important component of the challenge of maternal mortality: racial disparities!

Joy West MD, FACOG
Chicago, Illinois

**Time to reduce cesarean deliveries rates**

Dear Dr. Lockwood,

Your statistics (on maternal mortality) are correct but, like most members of ACOG, you ignore the iatrogenic nature of the US maternal mortality crisis and blame the patients themselves—obesity, medical conditions, drugs, etc. How can Canada, 15 minutes from where I live and practice in Buffalo, NY, have a maternal mortality rate one-quarter to one-third of the United States? You cannot say their mothers are so much younger, slimmer, have fewer preexisting conditions than ours, or that they live in a world without guns, cars and drugs. Their care is different. They are more often cared for by midwives and, whether cared for by obs or midwives, are subjected to fewer inductions and fewer cesarean sections.

Cesarean sections carry a four-fold risk of death when compared to vaginal birth. The World Health Organization states that the correct cesarean section rate is between 10% and 15% but ours in the United States is 38% to 40%. We know the risks of cesareans, we know the high rate has not helped babies. Why can’t ACOG or Contemporary OB/GYN take a leadership role to decrease cesareans? Forty years of the continuous electronic fetal monitor has shown, through multiple peer-reviewed studies/articles, that it has not helped babies but increased cesarean sections. Why can’t ACOG or your publication take a stance to eliminate this device from Labor and Delivery rooms? Two exhaustive studies by NIH have shown that VBAC is less likely to cause a mother’s death than elective repeat cesarean section. Why can’t ACOG or Contemporary OB/GYN come out against those hospitals that forbid VBAC?

Until your publication, and ACOG for that matter, comes out squarely against those practices which are actually contributing to mothers’ deaths, devoting...
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2018 to the subject of maternal mortality will not save a single woman.

*Katharine Morrison, MD, FACOG*  
THE BIRTHING CENTER OF BUFFALO  
BUFFALO, NEW YORK

**IN REPLY:**  
Dear Dr. Morrison,  
The high US cesarean delivery rate has many causes including the virtual abandonment of mid-forceps deliveries and cesarean deliveries for breech presentations, ironically after publication of the work of a Canadian author. While less measurable, I am sure a fear of lawsuits has led to excess cesarean deliveries when there is equivocal evidence of fetal distress. Another cause is the reduction in trials of labor to achieve VBAC due to fear of uterine rupture.

But by far the primary driver of high US cesarean delivery rates is the occurrence of dystocia in first pregnancies which, in turn, can be directly linked to larger infants and rising maternal obesity rates. And while our high rate of repeat cesareans has led to an increase in mortality accruing morbidly adherent placentas, this represents a small fraction of the excess American maternal mortality rates. Indeed, the leading cause of current maternal deaths in the United States is heart disease including cardiomyopathies. Ironically again obesity, coupled with older parturients, chronic hypertension and successful correction of congenital heart disease are the likely culprits for this epidemic of maternal cardiac pathology - not rising cesarean delivery rates. Indeed, maternal deaths from hemorrhage, infection and venous thromboembolism—which can be linked to cesarean deliveries—continue to decline as relative causes of the death of American mothers. So, while I agree we should strive to reduce primary cesarean deliveries, it is unlikely that such success will have a major impact on US maternal mortality rates. Thank you for your heartfelt comments. Best,

*CJL and Carolyn Zelop, MD*

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**No need to politicize the issue**

The problem of maternal mortality is clearly one without match. In demeaning a slogan chosen by the President and supported by about half the population of our great nation, you demean the very topic that you choose to uplift into our consciousness. “A call to arms” was a great title and you could have stuck with that and not “gone cheap” with the MAGA reference. It was completely unnecessary, and belittles those that believe that lowering taxes, bringing back foreign jobs and manufacturing to our own country, enhancing US security and border control, enforcing existing immigration laws, seriously confronting terrorism threats, declaring a nationwide public health emergency to attack the opioid epidemic, and renegotiating trade agreements to be more favorable for US taxpayers are critical issues for our nation’s future. I respect fully suggest that your readership is best served when we stick to the medicine and leave out the politics where it serves no purpose but to demean, divide or belittle others of an opposing view; even in a “tongue in cheek” manner.

With respect to maternal mortality, I applaud your efforts and those of your contributors. I would estimate the average BMI of patients presenting to the office I staffed this week to be > 50. Certainly, we have seen a parallel risk in Class III obesity (not to mention extreme advanced maternal age and repetitive cesarean sections), along with the risk in maternal mortality. Educational efforts aimed at increasing awareness of the pregnancy-specific health risks of obesity are needed. In my experience, most of our super-obese patients are unaware that their condition impacts the likelihood for optimal perinatal outcome.

I look forward to learning from the experts you’ve assembled to provide us with much-needed information on approaches to reducing maternal mortality.

*Jordan Perlow, MD*  
BANNER UNIVERSITY MEDICAL CENTER - PHOENIX  
PHOENIX, ARIZONA

**IN REPLY:**  
Jordan thank you for your kind words and your “political” advisement. While physicians may have diverse political opinions, we should all be committed to evidence-based medicine and many of the issues you raise are major public health problems in need of being addressed. All the best,

*CJL*

**DISCLOSURES** The editors reserve the right to shorten or edit letters and comments.
The U.S. Food and Drug Administration (FDA) has done women a disservice by incompletely examining the evidence for risk and benefits associated with morcellation for women undergoing surgery for suspected fibroids. The FDA’s recent analysis of data, as we note below, is surprising.1 Of note, within days of the FDA report, the Agency for Healthcare Quality and Research (AHRQ) of the US Department of Health and Human Services published a more rigorous and complete analysis of available data with entirely different results and conclusions.2

The original FDA report relied upon 9 studies and used an outmoded method of analysis to determine a rate of leiomyosarcoma of 1 in 498 fibroid surgeries.3 Following the original FDA advisory in 2014, a rigorous meta-analysis (Pritts, et al) reviewed 5,000 candidate studies and found 133 studies that met criteria for inclusion: patients having surgery for presumed fibroids with full reporting of pathologic findings in all patients. A Bayesian statistical model was used that allowed weighting of each study according to its size and degree of statistical heterogeneity. This analysis showed a prevalence rate of 1 leiomyosarcoma (LMS) in 1,700 women having surgery for presumed fibroids for the 70 retrospective datasets, 1 in 8,300 for the 64 prospectively collected datasets and an overall prevalence rate of 1 in 2,000 surgeries. Despite the fact that 7 of the 32 “leiomyosarcomas” analyzed would not be classified as LMS based on current WHO criteria, the original diagnoses of LMS were used in the calculations, so the actual risk was likely lower.

In their “update” of the literature, the FDA failed to include the 124 of the 133 studies analyzed by Pritts, ignored all fibroid studies that did not have detection of LMS as a central purpose, limited their inclusion to English-language papers, included multiple studies from administrative databases known to be highly inaccurate in coding of diagnoses and treatments and, once again, utilized an overly simplistic analytic approach to evaluate quite complex data.4

In contrast, the AHRQ analysis included all studies of women having surgery for presumed fibroids and included an additional 14 studies published after the Pritts report, encompassing 92,082 total surgeries. AHRQ statisticians validated and employed the Bayesian statistical methodol—
Dysuria, painful lesions in 26-year-old woman

What’s your diagnosis and treatment plan for this patient?

by DIANA CURRAN, MD, JOHN O. DELANCEY, MD, AND HOPE K. HAEFNER, MD

PRESENTATION
A 26-year-old G0 comes to the office complaining of dysuria and painful lesions on her vulva. She has a new sexual partner as of 3 months ago and neither she nor her new partner have traveled outside of the United States. The patient takes oral contraceptives for birth control and has no known drug allergies. She denies any history of sexually transmitted infection. On physical examination, there is no inguinal lymphadenopathy. No bleeding is present with gentle touching of the lesions.

WHAT IS THE MOST LIKELY DIAGNOSIS IN THIS PATIENT?
A. Chancroid
B. Behcet’s disease
C. HSV (herpes simplex virus)
D. Granuloma inguinale

1. YOUR MANAGEMENT PLAN IS:
A. Biopsy
B. Polymerase chain reaction (PCR) of lesion
C. Prescription of oral steroids
D. Treatment with antibiotics

FIGURE 1: Appearance of the vulvar lesions

FOR THE DIAGNOSIS, TREATMENT PLAN, AND DISCUSSION TURN TO PAGE 36
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Enhanced recovery in gynecologic surgery

ERPs may take a year or two to get going but the benefits to patients and the healthcare system can be significant.

by AMY N. BROWN, MD AND BRUCE S. KAHN, MD

**Quick Take**

- ERPs focus on non-narcotic multimodal approaches to pain control during the entire perioperative period.
- Securing support for an ERP from hospital administration, surgical and nursing departments and heads of multi-disciplinary teams is critical for implementing a successful program.

**Enhanced Recovery Pathways (ERP)**

Enhanced recovery pathways (ERP) are rapidly gaining acceptance and use in gynecologic surgery. Studies have shown that patients on an ERP have fewer complications, a shorter length of hospital stay and attain a higher level of satisfaction with their surgical experience.1-2 ERPs utilize patient-centered multidisciplinary teams to optimize patient outcomes through evidence-based best practices in perioperative care.3 The essentials of ERPs include: 1) reducing surgical stress; 2) maintaining normal physiological function perioperatively; and 3) expediting postoperative recovery.1 While originally based in colorectal surgery, these protocols have been expanded to other surgical specialties, including gynecology. In 2016, the ERAS® Society published guidelines for gynecologic/oncology surgery. Several of these guidelines are well-established standards of care, such as skin preparation, antimicrobial prophylaxis, and thromboembolism prevention. Others, however, represent a significant departure from long-standing practices like the avoidance of prolonged fasting, mechanical bowel preparation, and opioid pain medications. The benefits for patients and health care systems at large argue for prompt implementation of ERP protocols. This article reviews both established and more recent guidelines which have been less readily adopted and describes how to incorporate these guidelines into surgical practice.

**Preoperative interventions**

**Education and counseling.** Ideally, preparation for surgical recovery begins at the time surgical management is recommended. Educating patients and caregivers on what to expect before and after surgery leads to decreased fear and anxiety.4 Encouraging patients to actively participate in their recovery facilitates improved compliance and outcomes. Counseling is performed by primary surgeons, perioperative nurses, and anesthesiologists, emphasizing day-to-day goals and expectations during the entire perioperative period. Take-home materials such as enhanced recovery brochures provide...
resources for patients to reference before and after surgery. Because opioid abuse has become a public health crisis, it is imperative to adequately and responsibly treat pain secondary to surgery. ERPs focus on non-narcotic multimodal approaches to pain control during the entire perioperative period, with a goal of reducing opioid consumption. Patients should receive counseling on these pain management strategies and education on opioid risks and ways to minimize opioid use after surgery.

Preoperative optimization. Prior to surgery, nutritional status and medical conditions such as diabetes and anemia should be optimized. Optimization allows the body to prepare for the stress of surgery and reduces surgical morbidity.1 An emphasis should be placed on cessation of tobacco and excessive alcohol use for at least 4 weeks prior to surgery to promote wound healing and reduce postoperative complications.5-9

HRT and OCs. Given that long-term hormone replacement therapy and oral combined hormonal contraceptives are risk factors for postoperative thromboembolism, consideration should be given to discontinuation of them prior to surgery. Alternative forms of contraception or transdermal hormone therapies can be substituted in their place. Employ thrombo-phylaxis for patients utilizing these therapies at the time of surgery.

Preoperative bowel preparation. A large body of evidence clearly shows that mechanical bowel prep, especially in gynecology, does not improve surgical outcomes.10 Avoid routine use of mechanical bowel preparation for patients undergoing benign gynecologic procedures.

Preoperative fasting and carbohydrate loading. Preoperative intake of solid food up to 6 hours and clear liquids up to 2 hours prior to surgery is safe.11 Carbohydrate loading with a clear fluid containing complex carbohydrates is known to attenuate insulin resistance, minimize protein and muscle loss, and improve patient comfort.12 At the preoperative visit, patients are instructed to drink 3 12-oz. bottles of Clearfast before their scheduled surgical time, with the last bottle to be consumed 2 hours before anesthesia, as noted in the available schedule (contemporaryobgyn.net/beverageschedule). If Clearfast is not available, Gatorade can be used as a substitute.

Preanesthetic medications/nausea prophylaxis. Patients commonly experience high levels of anxiety in anticipation of surgery and may be given anxiolytics preoperatively. However, anxiolytics can cause varying levels of sedation, impairing early oral intake and mobilization.13 Avoid use of long-acting anxiolytics prior to surgery with administration of short-acting agents only as necessary. Instead, consider other strategies to reduce anxiety, including an emphasis on preoperative counseling and education.

While ERAS Society guidelines recommend multimodal opioid-sparing analgesics in the postoperative period, the theory of pain pathway sensitization, or “protective analgesia,” argues for preoperative initiation.14 While there is some controversy regarding the role of oral vs intravenous (IV) analgesics, oral analgesics are certainly safe to use preoperatively. Consider beginning multimodal non-opioid analgesics preoperatively including a long-acting oral nonsteroidal anti-inflammatory drug (NSAID) (celecoxib 400 mg), acetaminophen (1000 mg), and possibly gabapentin (300-600 mg). Then continue the use of multimodal non-opioid analgesics as a mainstay of pain control post-operatively.

Postoperative nausea and vomiting (PONV) can impede the recovery process. A focus on multimodal PONV prophylaxis and prevention throughout the perioperative period should be utilized. Restricted use of inhalational anesthetics combined with 3 or more IV antiemetic medications with different mechanisms of action provide additive effects. The most commonly administered antiemetics are: ondansetron (4 mg), dexamethasone (4-8 mg), droperidol (0.625 mg) and metoclopramide (10-20 mg). For patients with a history of PONV, consider giving an oral dose of the NK1 receptor antagonist, aprepitant (40 mg) preoperatively.

The essentials of ERPs

1. Reducing surgical stress
2. Maintaining normal physiological function perioperatively
3. Expediting postoperative recovery

While ERAS Society guidelines recommend multimodal opioid-sparing analgesics in the postoperative period, the theory of pain pathway sensitization, or “protective analgesia,” argues for preoperative initiation. While there is some controversy regarding the role of oral vs intravenous (IV) analgesics, oral analgesics are certainly safe to use preoperatively. Consider beginning multimodal non-opioid analgesics preoperatively including a long-acting oral nonsteroidal anti-inflammatory drug (NSAID) (celecoxib 400 mg), acetaminophen (1000 mg), and possibly gabapentin (300-600 mg). Then continue the use of multimodal non-opioid analgesics as a mainstay of pain control post-operatively.

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Intraoperative interventions
Minimally invasive surgery. Minimally invasive approaches to surgery have myriad advantages over laparotomy. Advantages include reduction in intraoperative blood loss, decreased pain and narcotic use, earlier mobilization and return of bowel function, shorter hospital stay and fewer postoperative complications. Minimally invasive approaches to gynecologic surgery, by way of vaginal, traditional laparoscopic or robotic-assisted routes, are strongly recommended.\textsuperscript{15,16}

Standard anesthetic protocol. Anesthetic protocols that allow for rapid recovery are strongly encouraged. Use of short-acting agents, such as propofol, promote rapid awakening. In addition, use of regional anesthesia in open abdominal and vaginal cases helps reduce postoperative pain, nausea and vomiting. Unfortunately, its use can also delay mobilization and Foley catheter removal, and should therefore be considered on a case-by-case basis.

Nasogastric intubation. While nasogastric (NG) and orogastric tubes aid in gastric decompression during traditional or robotic-assisted laparoscopy, tubes should be removed prior to patient awakening. In addition, routine placement of NG tubes until return of bowel function is no longer recommended, as systematic reviews have shown improved outcomes in those without traditional NG tube decompression after surgery.\textsuperscript{17}

Preventing intraoperative hypothermia. Hypothermia during the perioperative period can contribute to increased blood loss, a delay in wound healing, increased risk of surgical site infections, and cardiac morbidity.\textsuperscript{18} Use modalities to prevent intraoperative hypothermia including temperature monitoring, active surface body warming systems, and pre-warmed IV fluids.

Perioperative fluid management. Avoiding mechanical bowel preparation and prolonged preoperative fasting with employment of carbohydrate loading and hydration allows maintenance of a euvolemic state and mitigates the need for excessive fluid resuscitation intraoperatively. ERPs emphasize the concept of euvolemia, or a zero-fluid balance. Excessive IV fluid administration delays patient recovery and increases risk of surgical complications.\textsuperscript{19-21}

Postoperative interventions
Postoperative fluid therapy/nutrition. With early advancement in oral intake, patients require less IV hydration. It can be discontinued once patients are tolerating clear liquids, which in most cases can be safely resumed immediately after surgery.\textsuperscript{22} For patients who are not discharged same-day, advancement to regular diet can be instituted upon arrival to the floor.

Postoperative analgesia. The use of multimodal opioid-sparing analgesia to adequately treat postoperative pain is a core element of ERPs. Acetaminophen and NSAIDs are the cornerstone of postoperative pain management, and can effectively reduce opioid consumption without compromising pain control or recovery.\textsuperscript{23} Preoperative administration of these medications, along with dexamethasone, should be given consideration. When used, oral opioid administration is preferred, especially for patients tolerating oral intake.

Peritoneal/urinary drains. Guidelines recommend that routine peritoneal drainage be avoided in gynecologic/oncologic surgery. Urinary catheters

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**TABLE 1**  
Steps to implementing an enhanced recovery pathway

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Secure support from hospital leadership for program implementation, employee education and continuous program auditing. Anticipate a timeline of 1 to 2 years for successful implementation.</td>
</tr>
<tr>
<td>2</td>
<td>Identify individual leaders from surgical specialties, anesthesia and nursing administration to work as a multidisciplinary implementation team.</td>
</tr>
<tr>
<td>3</td>
<td>Develop streamlined perioperative order sets that allow surgeons ease in transitioning patients from the preoperative to postoperative period.</td>
</tr>
<tr>
<td>4</td>
<td>Provide standardized educational material for patients. Make distribution of preoperative wipes &amp; fluids easy for patients (i.e., distribution at the preoperative clinic visit).</td>
</tr>
<tr>
<td>5</td>
<td>Develop an action plan for auditing compliance, measuring successful outcomes (i.e. LOS) and implementing future program initiatives.</td>
</tr>
</tbody>
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should be utilized for a short duration, ideally less than 24 hours after surgery.

**Early mobilization.** Encouraging patients to mobilize within 24 hours after surgery is strongly recommended to decrease pulmonary complications and length of hospital stay, as well as aid in prevention of thromboembolic events.\(^\text{24}\)

**Initiating and maintaining an ERP at your hospital**

Steps to consider when implementing an ERP are outlined in Table 1. Securing support for the program from hospital administration, surgical and nursing department heads is critical. Gaining buy-in from a multidisciplinary team of surgeons, anesthesiologists and nursing staff is also essential. Then education and re-education on the pathways for hospital as well as outpatient clinic staff will greatly aid in success. Providing standardized educational materials and establishing easy-to-follow perioperative order sets will make transition to an ERP easier. Finally, true success will be determined by continuous auditing of program compliance and patient outcomes.

**Conclusion**

As value in healthcare becomes an increasing priority for healthcare systems, enhanced recovery pathways will play a vital role in improving the quality of care provided to patients. With value measured as a ratio of outcomes to cost, ERPs improve outcomes (i.e. quicker recovery, increased patient satisfaction) while reducing costs (i.e. reduced morbidity and length of stay). The use of ERPs is a reason patients should choose your practice for surgical care. With support from hospital leadership, employee education and continuous monitoring of compliance and outcomes, ERPs can be successfully implemented for the care of gynecologic surgery patients in any participating hospital.

**DISCLOSURES**

The authors report no potential conflicts of interest with regard to this article.

**FOR REFERENCES VISIT**

contemporaryobgyn.net/implement-ERP

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**PROTOCOLS FOR ENHANCED RECOVERY AFTER SURGERY**

To help with implementation of an ERP program at your hospital, we have collected several helpful forms, brochures, and order sets currently used at Scripps Health in San Diego, CA. These are available to download (contemporaryobgyn.net/ERAS-resources) and can be used as a guide to implementing ERP at your facility.

**TOOLKIT CONTAINS:**
- Protocol
- List of applicable surgeries
- Brochure - Once brochures come in, they will be provided to MD offices
- Handouts - Carbohydrate drink, CHG Wipes, & Surgical Site Infection Prevention
- Order sets - Once approved and finalized, orders will be provided to MD offices as an editable PDF
- Pharmacy locations

**SCHEDULING:**
- Schedule patient as an ERAS patient
- Submit a completed ERAS order sheet to scheduling, or presurgical examination (PSE), or via web-based orders.
- Check for time of surgery on the PSE Order sheet so patient knows when to drink Clearfast
- Schedule PSE appointment with patient at the office to close the loop

**ACCESSIBILITY:**
- MD offices to send patient to one of the participating pharmacy locations to pick up supplies, or bowel prep, or medications; include antibiotics if MD orders.
- If patient has a PSE appointment the patient can receive the supplies at the PSE appointment.
- Supplies will be available at participating pharmacy locations, and PSE units.
- Handouts will be available at participating pharmacy locations, PSE, PREOP, patient care floors

**EDUCATE THE PATIENT:**
- Education begins at the office, and is one of the most important elements to the ERAS program. Please go over the brochure and handouts
- Handouts correspond to carbohydrate drink and CHG wipes - PSE or pharmacy can provide these to the patient. MD office may provide as a pre-educational tool.
- Handout for surgical site infection prevention is necessary to review with the patient. This will help patient understand the importance and how to prevent a SSI
- Patients who are diabetic or have delayed gastric emptying will not receive Clearfast
- Patients who are allergic to corn, stevia or watermelon should not receive Clearfast

Further information and resources from ERAS\(^*\) Society are available for download at contemporaryobgyn.net/ERAS-resources.
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Memorials to two mothers

The loss of a patient is not something from which you ever completely recover

by CHRISTIAN M. PETTKER, MD, AND ERIKA WERNER, MD, MS

As obstetricians we commit ourselves to a job that consists mostly of bringing life to the world. These celebrations offer such joy in our work. Less often we are shepherds of loss. We help a couple through miscarriage or stillbirth and support families with the loss of a newborn, for example. These moments are most devastating for patients and their families, but they are also full of grief for us. We are never prepared for, nor do we completely recover from, the loss of a mother. Mothers are young. Mothers are the foundations of a family. Most of the time, the loss of a mother is sudden and unexpected. It leaves an empty space unlike any other. Most obstetricians can recite the names of every mother we helped take care of, but lost.

We offer these two memorials as part of Contemporary OB/GYN’s maternal mortality series and to share our experiences. When we were asked to write, we accepted without a second thought; it is easy to write about people we think about on most days. We hope that reflecting on these lives and how we have been changed by them can help our colleagues reflect on their own experiences. We also aim to help motivate a movement to improve efforts to prevent maternal mortality. Our reflection on these cases cannot dwell purely on the profound sadness of it all or how we might have wanted it to go differently. From each case we need to grow and change and get better for the next woman that comes through our door.

During a low point in training, during a time of loss, one of our mentors offered important words of encouragement in this context: “You will be changed by this event. You will either be better from it, or worse from it. But you are the one who chooses which it will be.” In trying to make things better, and in a spirit of fellowship for our colleagues reading this, we are sharing our stories.
We paused in the hallway halfway between triage and the operating room (OR), so she could kiss her kids. “We will take good care of her,” I remember saying to the two scared, sleepy looking faces. They were in pajamas and attached to their dad. One was about a year younger than my daughter and one was about a year older.

“She lost a lot of blood,” her husband said again. I nodded, said “I know” and tried to sound reassuring. “We have blood on the way, but the most important thing right now is that we get her into the operating room.” And off we went. It was 5:45 am.

By the time the case started, I had two chiefs operating with me. Thank goodness for change of shift. We worked quickly to get in, acutely aware of how quickly blood was coming out from below. The woman was scheduled to be seen for the first time the next day by maternal-fetal medicine (MFM), but I knew at minimum she had a bleeding previa and two prior cesareans. Anesthesia was transfusing, the cell saver was being assembled, oncology was on their way, my back-up was coming. I was supported. This was the way it was supposed to work.

Yet despite my amazing team, a very prepared hospital, and my years of training, 90 minutes later I was giving chest compressions. And despite a trauma surgeon, two gynecologic oncologists, and a critical care boarded MFM all by my side, a few minutes after 8 am, I was telling that scared man, now father of three, that he was a single parent.

Six hours later, after debriefing with the many residents, nurses, and specialists who shared in this tragedy with me, I was back home. My family was the same, my house was the same, but nothing would ever be quite the same. I took a healthy young woman into the OR to deliver her baby and she died on my OR table in my care.

As I learned more about my patient in the days that followed her death, from the neonatal intensive care unit doctors who took care of her 32-weeker, from hospital staff who knew her as a friend, and from her family who spoke at her funeral, I was bothered most by the fact that we did not have the chance to know one another. I hated that our entire patient-doctor relationship was defined by that night. I wanted her to know the kind of doctor I was. I wanted the opportunity to answer her questions and concerns. I wanted to reassure her that even in the brief moments we had together, I understood how much she loved her children, and I would have done anything to have her case end differently. I wanted then and now to be able to reach out to her family, to see her kids, to tell them in person how sorry I was. And yet because of the Health Insurance Portability and Accountability Act, the medical legal system, and perhaps most importantly because of a brief moment of eye contact between her husband and me at the funeral, I have stayed away. I am a caregiver but I continue to care in this instance in silence.

Now almost a decade out from this tragedy, I continue to think about this woman, her daughter, and her family almost every day. In the early years, what used to surprise me most was that I barely knew this woman or her family and yet I thought about them not only at work when I was counseling, operating, and teaching, but at home when I was tucking my kids in, laughing with my husband, or admiring a sunrise. As the years have passed, I have become more comfortable with how frequently my thoughts drift to her and her family. Her story has become part of my story even though our endings were so different.

Sunrises
by ERIKA WERNER, MD, MS
Dr. Werner is Associate Professor, Warren Alpert Medical School of Brown University, Providence, Rhode Island.

For my part, I have been exceptionally lucky. This tragedy could have led to self-doubt and a disdain for the uncertainty and powerlessness of obstetrical care. Perhaps because of the amazing team who got me through that night, I continue to believe that I kept my promise and that we took good care of this mom. I continue to love obstetrics, especially the most challenging deliveries, which push us all to be better. I will forever feel vulnerable because of that night, but I feel honored to be with families at these most dangerous and intimate moments.
Getting Better

by CHRISTIAN M. PETTKER, MD

Dr. Pettker is Associate Professor, Yale School of Medicine, New Haven, Connecticut. He is a member of the Contemporary OB/GYN editorial board.

She came to our practice after finding out the worst and best information a woman can hear. A neurologist told her the bad news that she had suspected: Her symptoms indeed were signs that the disease that took her mother would also slowly but soon take her life, too. At the same time, she found out she was pregnant. The neurologist and our MFM team were uncertain if she would live through her pregnancy. She was certain she would try. She wanted to be a mother, she wanted her husband to be a father, and she wanted to give life to her child.

With her first visit to our practice she set into motion a transformation of our service. We spent weeks coordinating her care and planning her admission. We assembled all of the specialists and all of the nursing units for regularly scheduled morning meetings planning for her pregnancy. At a certain point she and her husband wanted to join the meetings. Despite our trepidation at this request, based on a paternalistic fear that we would have trouble discussing openly some of the scarier parts of her care, we accepted this challenge. And together we planned for the joy of birth but also for all of the frightening moments she might encounter to get there.

We took care of the woman for four months in the hospital—she was in the ICU all of those days—progressively losing her strength to move, talk, and breathe. With each week we added another specialty to our meetings, to support her feeding or to plan her tracheostomy and ventilator management. But at the same time, we tried to commit to all of the normal aspects of childbirth, too. Our lactation team visited her in the third trimester to discuss her plans for breastfeeding. The labor and maternity nurses threw her a baby shower in the intensive care unit. One of my highest honors as an obstetrician was to be invited; it remains, and will probably always be, the only baby shower I have attended. She was committed to becoming well again and having as normal an experience as possible. She believed there would be a cure for her disease in her lifetime.

Her plan was for a vaginal birth and despite her weakness we believed it was medically possible. At term, when we found out that her baby was in breech presentation, she requested an external cephalic version. We tried, but failed, and she ended up with a cesarean that included skin-to-skin, breastfeeding, and rooming-in, even in the ICU. She left the hospital with her husband and her baby, to go live and die at home.

She was able to see her child’s first birthday. As a result, she avoided becoming a “maternal mortality” “pregnancy-related death” statistic. Admittedly, when we talk about efforts to reduce maternal mortality we are not talking about preventing cases like this. But despite all we were able to do for her, those who took care of this family experienced profound loss because she did not live long enough. For me and my colleagues, years later even, this still has all of the sadness of a maternal loss.

All the way through the end, she felt blessed and had no regrets. I think she knew how much she touched and influenced each of her caregivers. Her courage and strength were something that built strength in our hospital’s service and made us so much better at taking care of complicated patients. Our introspection on her care and her life was important for our thinking about how to build a patient-centered destination hospital for the highest-risk pregnancies. Realizing how often complex patients at our hospital could be helped by this level of coordination, this work became a regularly occurring meeting that continues monthly to this day. What she started for us continues to amaze me. New specialties join our meetings all the time, though this is hardly challenging in a tertiary care center. It is when a family member, a church leader, an attorney, a conservator, or a patient joins us for these meetings that I am convinced we would not be meeting our patients’ true needs if our patient had not blessed us with her experience.

I think about her regularly. Certainly, each meeting of the Proactive Care group generates memories of our first meetings working together. But I also think about her every time I work harder to support a vaginal birth or the breastfeeding goals of a woman who faces smaller but still important challenges related to her medical problems or social issues. Most of all, I think of her strength and courage and her commitment to getting better in the face of her inevitable death. This makes me stronger, too.
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STATEMENTS AND GUIDELINES

Preparing for Clinical Emergencies in Obstetrics and Gynecology
ACOG Committee Opinion Number 590, March 2014; reaffirmed 2016
Advance preparation and standard protocols addressing emergency situations can help reduce the number of those emergencies or lessen their severity.

Disclosure and Discussion of Adverse Events
ACOG Committee Opinion Number 681, December 2016
Health care facilities should establish a blame-free culture and a responsive process to help all those involved in an adverse event, including the health-care providers, or “second victims.”

INTERNATIONAL PERSPECTIVES

Haiti’s maternal health crisis
Mimsi International (Modification In Mother-Baby Mortality Statistics Initiative) is a community-powered nonprofit organization that provides training and pregnancy care to women in remote, rural areas of the developing world via mobile technology, resulting in a dramatic reduction in the number of maternal deaths.
https://intpolicydigest.org/2018/03/03/haiti-s-maternal-health-crisis/?platform=hootsuite

JOURNAL ARTICLES AND REFERENCES

How to Cope with the Death of a Patient
The Association for Academic Surgery provides suggestions and guidelines for providers who are dealing with the death of a patient.

“It was haunting...” Physicians descriptions of emotionally powerful patient deaths.
A research report from the Journal of the Association of American Medical Colleges (AAMC) about the emotional experiences of physicians who care for dying patients. Includes reports of senior and attending physicians who dealt with sudden, unexpected patient loss, including maternal death.
https://journals.lww.com/academicmedicine/Fulltext/2005/07000/It_was_haunting_____Physicians__Descriptions_of_7.aspx

Mass Media Updates

Miriam Zoila Pérez: How Does Racism Effect Pregnant Women and Babies
In a recent TED Talk, activist and doula Miriam Zoila Pérez, explains that racism and discrimination can have a detrimental effect on health - both in the mother and her fetus.

Many Women Come Close to Death in Childbirth
NPR and ProPublica have reported American mothers die in childbirth at a higher rate than mothers in all other developed countries. And for every woman who dies, 70 others reach the brink of death.

Black mothers keep dying after giving birth. Shalon Irving’s story explains why
Dr. Irving, a former epidemiologist at the Centers for Disease Control and Prevention, was researching how childhood experiences affect health later on. Then 3 weeks after giving birth, she collapsed and died from complications of high blood pressure.

CARDIOVASCULAR STATEMENTS AND GUIDELINES

Cardiac Arrest in Pregnancy - A Scientific Statement from the American Heart Association
This updated statement from the AHA provides up-to-date and comprehensive information, guidelines, and recommendations for all aspects of maternal resuscitation.
http://www.contemporaryobgyn.net/cardiac-arrest-pregnancy

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Round-up of authoritative sources for further reading.
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Cesarean sections - based on the evidence

Information gleaned from recent studies results in updated recommendations, guidelines for routine cesarean sections.

by ERIC A. STRAND, MD, AND SHELBY M. DICKISON, MD

Cesarean section is the most commonly performed surgical procedure in the United States, with nearly 1.3 million cases performed each year. After rising for several decades, the cesarean rate has plateaued at approximately 32% of all deliveries. Some portions of the procedure have been thoroughly investigated in the literature, while others have not. The purpose of this article is to review the steps in a cesarean delivery and examine the best available evidence for performing the procedure.

Skin preparation
Surgical site infections (SSIs) add significantly to a patient’s cost of care. Cesarean sections are associated with a 10-fold increased risk of infection as compared to vaginal delivery. Abdominal preparations with a bactericidal solution have been shown to decrease the risk of a SSI. The preparations come in a variety of types, but the most commonly studied are povidone-iodine (PI), PI-alcohol, and chlorhexidine gluconate (CHG)-alcohol.

In 2012, a Cochrane Review found insufficient evidence to recommend one skin preparation over another, but at that time data in obstetrics were lacking. Huang et al performed a more recent meta-analysis comparing CHG versus PI preparations, both with and without alcohol, and found no difference in SSI rates. This was supported in a subgroup analysis comparing CHG-alcohol versus PI-alcohol (RR 0.59, CI 0.33-1.06). Individual studies, however, varied in both concentration of the preparation and presence of other agents, such as isopropyl alcohol. They also noted a lack of quality studies.

In 2016, Tuuli et al randomized patients undergoing cesarean deliveries to PI-alcohol or CHG-alcohol. There were significantly lower SSI rates in the CHG group (RR = 0.55; CI 0.34-0.90). Unlike prior studies, this study included unscheduled cesarean deliveries (42%), improving the generalizability of the results. In general, CHG-alcohol solutions have been shown to decrease SSI rates.
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in a variety of surgeries; based on these studies and the results of Tuuli’s trial, CHG-alcohol skin preps are a reasonable first choice for obstetrical patients. Of note, alcohol-containing skin preps require 3 minutes of drying time to avoid the flammability that may occur prior to evaporation, whereas preparations without alcohol can be used immediately without a “dry time.” The methods of application are different and the manufacturers’ instructions should be followed for proper application.

Vaginal preparation before cesarean delivery
Vaginal preparation with bactericidal solutions has been studied as a mechanism to reduce infectious morbidity after cesarean delivery. Vaginal cleansing with PI has been shown to significantly reduce incidence of endometritis by over 50%. This was even more pronounced for women in labor or with ruptured membranes at the time of cesarean. These findings were supported in a 2017 meta-analysis of studies using either a PI- or CHG-based vaginal prep, which found a reduction in endometritis and postoperative fever with vaginal preparation (RR 0.52, CI 0.28-0.97), even more so in women laboring or with ruptured membranes (RR 0.23, CI 0.10-0.52).

Whether this translates to benefit in non-laboring or unruptured patients is less clear. Furthermore, many of the studies included in this meta-analysis excluded patients with chorioamnionitis or included patients who received antibiotics after cord clamping, a practice known to increase SSI risk. Lastly, it is unknown how vaginal preparation may impact the vaginal microbiome and infant health. More data from a modern setting—incorporating current skin preparation solutions and antibiotic administration practices—are needed to fully evaluate the potential impact of vaginal cleansing.

Antibiotic administration
Cesarean delivery is the single most important risk factor for maternal postpartum infection. While antibiotic prophylaxis is recommended, the timing, dose, agents, and use of post-delivery antibiotics have all been recently investigated. Originally, prophylaxis was given after umbilical cord clamping because of the potential concern for masking neonatal sepsis or infection. Several large studies evaluating antibiotic prophylaxis administered after cord clamping versus at the time of skin incision, however, found a reduced incidence of infectious morbidity when antibiotics were given within the 60 minutes preceding the skin incision. In 2011, The American College of Obstetricians and Gynecologists (ACOG) (Practice Bulletin #120) recommended pre-incision antibiotic administration as routine practice.

Extended spectrum antibiotics that have coverage against gram-positive, gram-negative, and some anaerobes are appropriate for prophylaxis given the multiple organisms that have been implicated in SSIs. Cefazolin, a first-generation cephalosporin, is most commonly chosen. A combination of clindamycin and an aminoglycoside can be used for women with significant penicillin allergies.

The C-SOAP trial was a multicenter study that randomized 2013 women undergoing cesarean delivery during labor or after membrane rupture to an additional 500 mg azithromycin or placebo to their standard antibiotic prophylaxis. A 50% reduction in postoperative SSI was demonstrated with the addition of azithromycin (Figure 1). Furthermore, a cost-effectiveness model using an azithromycin-cephalosporin combination for cesarean prophylaxis found it to be cost-effective, leading to improved maternal outcomes beyond a reduction in SSI, including fewer cases of sepsis, venous thromboembolism, and future uterine ruptures. Adding azithromycin to the standard antibiotic prophylaxis in women undergoing cesarean who are laboring or with ruptured membranes may be warranted.

Obesity is a known risk factor for SSI. Given the different pharmacokinetics in obese women, a higher dose of antibiotics may be indicated in women with body mass index greater than 30 kg/m² or absolute weight of more than 100 kg.

Abdominal incisions
Most cesarean sections are performed using the Pfannenstiel skin incision, which has been associated with better wound healing and decreased postoperative pain compared to vertical skin incisions. The Joel-Cohen incision has been described as an alternative. It is a straight incision, versus the slightly curved Pfannenstiel, and is located...
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3 cm below the anterior superior iliac spines. The subcutaneous tissue layer is only opened sharply 2 to 3 cm in the midline down to the fascia. The incision is then stretched transversely using blunt dissection. Entry into the peritoneum occurs bluntly in a cranial to caudal fashion.

The Joel-Cohen technique was found to decrease all of the following when compared to the Pfannenstiel incision: time to delivery, overall operating room time, blood loss, and postoperative pain medication requirements. There were no differences regarding wound infection, blood transfusions or muscle strength 3 months after delivery. There are a number of Joel-Cohen-related techniques described in the literature, all of which share the common theme of limited dissection of the existing tissue in favor of bluntly developing surgical planes.

**Bladder flap**

Creating a bladder flap is a vestige of prior times, when it could be used to isolate the hysterotomy from the peritoneal cavity to decrease risk of infection. In clinical trials with modern antibiotic use, however, routine creation of a bladder flap has not demonstrated any benefit, although it does increase operative time. In certain specific situations (e.g., repeat cesarean with significant adhesive disease, suspected placenta accreta), use of a bladder flap may facilitate access to the lower uterine segment. It is unnecessary, though, as a routine measure.

**Uterine incision**

Typically, hysterotomy is created in a transverse fashion through the lower uterine segment, given the increased risk of uterine rupture associated with classical cesareans. After uterine entry, the hysterotomy may be extended bluntly or sharply, most often with bandage scissors. Blunt dissection has been found to result in a quicker extension, less risk of inadvertent neonatal injury, and lower blood loss. Whether to extend the hysterotomy with transverse manual traction versus cephalo-caudad manual traction has also been evaluated. Transverse extensions resulted in a higher rate of unintended extensions laterally (and potentially into the uterine artery) and greater blood loss. Altogether, these data support blunt extension of the uterine incision in a cephalo-caudad direction.

**Placental delivery**

After fetal delivery, the placenta should typically be allowed to deliver spontaneously. A Cochrane review in 2008 found higher rates of endometritis, blood loss, and greater drops in hematocrit with manual extraction. Spontaneous placental delivery allows uterine contraction to limit blood loss from the dilated uterine sinuses supplying the placenta.

**Uterine repair**

Hysterotomies may be closed in a variety of fashions, but most often in single or multiple layers. Single-layered closure has consistently shown beneficial results for short-term outcomes such as decreased blood loss, operative time, and postoperative pain. However, single-layer closure may present a risk factor for uterine rupture during a future trial of labor after cesarean delivery. Interestingly, Roberge et al did not find increased rates of uterine rupture between a single or double-layered closure. Instead, they found that a locking, single-layered closure increased the risk of uterine rupture when compared to an unlocked, single-layered closure. Given these data, it may be the locked nature of the suture, possibly strangulating the tissue, which increases risk of future uterine rupture. In a setting where vaginal birth after cesarean (VBAC) is uncommon, a single-layer closure is likely adequate, but the authors recommend caution.
Can the locum tenens process be simplified?
Will my malpractice be paid for?
When will my travel itinerary be confirmed?
When will the job I want become available?
Will everything be taken care of?

It already is.
**HSV (herpes simplex virus)**

**CONTINUED FROM PAGE 16**

**DIAGNOSIS:**
C. HSV

**TREATMENT PLAN:**
B. Polymerase chain reaction (PCR) of lesion

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**Discussion**

Polymerase chain reaction (PCR) of the patient's lesions was positive for HSV, which is an incurable, life-long condition caused mainly by HSV 1 and 2. In the past, HSV 1 was considered more common as an orolabial infection and HSV-2 as a genital infection, but the lines have blurred and each can be found in either site. A diagnosis of HSV is distressing to patients and should be handled sensitively.

Estimates indicate that approximately 25% of the US population has had an HSV infection. Up to 80% of patients with genital HSV are unaware that they have herpes. Diagnosis is made by sending a sample of a lesion for culture or PCR. PCR is the preferred test, especially when trying to determine the cause of a neurologic infection (i.e., meningitis, encephalitis, neonatal infection). Serology is recommended when a patient has recurrent genital symptoms in the presence of a negative HSV PCR, or in someone whose sexual partner is HSV-positive. Using serology to screen the population currently is not recommended.

Antivirals such as acyclovir can be used to treat a herpes breakout and shorten its duration. Daily suppressive antiviral therapy is recommended for patients with recurrent herpes outbreaks. In pregnant women with a known history of vulvar HSV, suppressive therapy is recommended in the late third trimester to prevent a breakout at time of delivery. In women with an active outbreak of HSV in labor, cesarean section is required to decrease the likelihood of perinatal transmission.

Non-pregnant individuals shed virus regularly but at an increased amount during a breakout. (See the Centers for Disease Control and Prevention’s STD Treatment Guidelines for further information).

The prevalence of chancroid in the United States has declined. When the infection occurs, it is usually associated with sporadic outbreaks. A definitive diagnosis of chancroid requires identification of *Hemophilus ducreyi* on special culture media. However, this media is not widely available from commercial sources. The combination of a painful genital ulcer and tender suppurative inguinal adenopathy suggests the diagnosis of chancroid. For both clinical and surveillance purposes, a probable diagnosis of chancroid can be made if all of the following criteria are met: 1) the patient has one or more painful genital ulcers; 2) the clinical presentation, appearance of genital ulcers and, if present, regional lymphadenopathy are typical for chancroid; 3) the patient has no evidence of *Trichomonas pallidum* infection by darkfield examination of ulcer exudate or by a serologic test for syphilis performed at least 7 days after onset of ulcers; and 4) an HSV PCR test or HSV culture performed on the ulcer exudate is negative.

If chancroid is suspected, it is treated with one of the regimens listed in Table 1.

Behcet’s disease (BD) is a chronic disease affecting multiple organ systems that can manifest on the vulva. It is a painful condition that impacts pa-
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- Carrier screening
- Infectious disease screening
- Hormone test options with extensive age-related reference intervals

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- Genetic counselors
- Patient information and counseling reports
- Patient portal
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- EMR interface solutions

For more information about LabCorp tests and services, visit www.labcorp.com.
Patients’ quality of life. Table 2 lists the criteria for defining BD.

The incidence of BD is highest in the Middle East and parts of Asia. The usual age of onset is in the third decade. BD is more common in men. The ulcers usually resolve spontaneously in 7 to 10 days. Multiple therapies are combined to treat patients with BD, including topical steroids, tumor necrosis factor inhibitors, systemic corticosteroids, and a variety of other agents. Additional information on treatments for BD can be found at http://bit.ly/BDtreatments.

Granuloma inguinale is a genital ulcerative disease caused by the intracellular gram-negative bacterium Klebsiella granulomatis (formerly known as Calymmatobacterium granulomatis). The disease occurs rarely in the United States. It is endemic in some tropical and developing areas, including southern Africa; India; Papua, New Guinea; the Caribbean; and central Australia. Granuloma inguinale is characterized by painless, slowly progressive ulcerative lesions on the genitals or perineum; subcutaneous granulomas (pseudobuboes) also may occur. The lesions are highly vascular (i.e., beefy red appearance) and bleed.

Treatment of granuloma inguinale has been shown to halt progression of lesions, and healing typically proceeds inward from the ulcer margins (Table 3). Prolonged therapy is usually required to permit granulation and re-epithelialization of the ulcers. Relapse can occur.

### Table 2: International Study Group criteria for Behcet’s Disease

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent oral ulceration</td>
<td>Minor aphthous, major aphthous, or herpetiform ulceration observed by physician or patient, which recurred at least 3 times in one 12-month period*</td>
</tr>
<tr>
<td>Plus 2 of the following:</td>
<td></td>
</tr>
<tr>
<td>Recurrent genital ulceration</td>
<td>Aphthous ulceration or scarring, observed by physician or patient*</td>
</tr>
<tr>
<td>Eye lesions</td>
<td>Anterior uveitis, posterior uveitis, or cells in vitreous on slit lamp examination; or retinal vasculitis observed by ophthalmologist</td>
</tr>
<tr>
<td>Skin lesions</td>
<td>Erythema nodosum observed by physician or patient, pseudofolliculitis, or papulopustular lesions; or acneiform nodules observed by physician in post-adolescent patients not on corticosteroid treatment*</td>
</tr>
<tr>
<td>Positive pathergy test</td>
<td>Read by physician at 24 to 48 hours</td>
</tr>
</tbody>
</table>

*Findings applicable only in absence of other clinical explanations.
Reprinted from The Lancet, 335(8697), Criteria for diagnosis of Behcet’s Disease, International Study Group for Behcet’s Disease, 1078-1080, Copyright 2018, with permission from Elsevier.

### Table 3: Therapy for granuloma inguinale

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended regimen</strong></td>
<td></td>
</tr>
<tr>
<td>Azithromycin 1 g orally once per week or 500 mg daily for at least 3 weeks and until all lesions have completely healed</td>
<td></td>
</tr>
<tr>
<td><strong>Alternative regimens</strong></td>
<td></td>
</tr>
<tr>
<td>Doxycycline 100 mg orally twice a day for at least 3 weeks and until all lesions have completely healed</td>
<td>OR</td>
</tr>
<tr>
<td>Ciprofloxacin 750 mg orally twice a day for at least 3 weeks and until all lesions have completely healed</td>
<td>OR</td>
</tr>
<tr>
<td>Erythromycin base 500 mg orally 4 times a day for at least 3 weeks and until all lesions have completely healed</td>
<td>OR</td>
</tr>
<tr>
<td>Trimethoprim-sulfamethoxazole 1 double-strength (160-mg/800-mg) tablet orally twice a day for at least 3 weeks and until all lesions have completely healed</td>
<td>OR</td>
</tr>
</tbody>
</table>

Adding antibiotic to these regimens can be considered if improvement is not evident within the first few days of therapy. Adding an aminoglycoside to these regimens is an option (gentamicin 1 mg/kg IV every 8 hours).

**DISCLOSURES** The authors report no potential conflicts of interest with regard to this article.

**FOR REFERENCES VISIT** contemporaryobgyn.net/201804quiz

For additional information, see the Centers for Disease Control and Prevention STD treatment guidelines at HTTPS://WWW.CDC.GOV/STD/TG2015/DONOVANOSIS.HTM.
Contemporary OB/GYN contributors at ACOG

Contemporary OB/GYN is proud of our board members and our authors, and we never want to miss an opportunity to applaud their contributions to our pages each month. The following board members — both past and current — authors and collaborators will be appearing in Austin at the ACOG Annual Clinical and Scientific Meeting in April. Here is a rundown on where you can find them, the programs they will be participating in, plus links to their recent articles in Contemporary OB/GYN. Don’t miss this opportunity to hear their presentations and talk to these great folks in person.

EDITOR IN CHIEF
Charles J. Lockwood, MD, MHCM
Clinical Seminar: Practice Implications of MACRA (CS62), Saturday, April 28, 3:30 p.m. to 4:20 p.m.
Also appearing at booth 7021, Saturday, April 28, 10:30 a.m. to 12 noon.
A call to arms against maternal mortality http://bit.ly/MMCallToArms
More - Dr. Lockwood’s Take http://bit.ly/LockwoodArticles

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Catherine Y. Spong, MD
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AUTHORS AND COLLABORATORS
Ted L. Anderson, MD, PhD
ACOG Collaborative Session With Subspecialty Society: Office Hysteroscopy: Tips from Masters for a Roadmap to Success – A Joint ACOG/AAGL Session (4SUBAAGL), Saturday, April 28, 2 p.m. to 5 p.m.
Meet the Editor in Chief!
Visit booth #7021 at the 2018 ACOG Clinical and Scientific Meeting in Austin, TX.

Charles J. Lockwood, MD, MHCM
Saturday, April 28, 10:30 AM to 12 PM
Talking all things Contemporary OB/GYN
Vincenzo Berghella, MD
Clinical Seminar: Universal Cervical Length Screening (CS30), Saturday, April 28, 8 a.m. to 8:50 a.m.
Articles by Dr. Berghella

Stephen Chasen, MD
Trifecta Clinical Seminars: Anomalies That Should Not Be Missed by Ultrasound (CS46B), Saturday, April 28, 10:15 a.m. to 11:05 a.m.
Using ultrasound to recognize fetal anomalies: part 1
Using ultrasound to recognize fetal anomalies: part 2

Sara Cichowski, MD
Lunch Conversations: What We Have To Offer For Sexual Pain Disorders, Friday, April 27, 11:30 a.m. to 12:45 p.m.
Management of perineal lacerations

Hope K. Haefner, MD
Clinical Seminar: Vulvar Diseases: What Do You Know (CS83), Sunday, April 29, 1 p.m. to 1:50 p.m. 6 Hour Postgraduate Course: Advancements in Vulvar and Vaginal Disease (PG601), Monday, April 30, 8 a.m. to 3:30 p.m.
Test Your Knowledge: Vulvar diseases

Keith Isaacson, MD
Postgraduate Course: Moving Surgical Procedures from the OR to Your Office, Monday, April 30, 8 a.m. to 11:00 a.m.
Why you should be performing office hysteroscopy...now
More from Dr. Isaacson

Bruce S. Kahn, MD
Clinical Seminar: Chronic Pelvic Pain & Interstitial Cystitis: Pearls on Diagnosis and Treatment, Friday, April 27, 1 p.m. to 1:50 p.m.
Interstitial cystitis: Simplified diagnosis and treatment
Enhanced recovery in gynecologic surgery
Check out page 18 of this issue

Susan C. Modesitt, MD
Clinical Seminar: Hereditary Cancers in Gynecology: What Physicians Should Know About Genetic Testing, Screening, and Risk Reduction (CS82), Sunday, April 29, 1 p.m. to 1:50 p.m.
3 Hour Postgraduate Course: Personalized Medicine in Women’s Health (Hereditary Cancers) (PG302), Monday, April 30, 8 a.m. to 11 a.m.
Hereditary cancers in gynecology: What clinicians need to know

Eric A. Strand, MD
Clinical Seminar: Evidence-Based Cesarean Delivery, April 27, 2 p.m. to 2:50 p.m.
Cesarean sections - based on the evidence
Check out page 30 of this issue

Contemporary OB/GYN will be at ACOG in booth 7021 - be sure to stop by and say hello! Meet members of our editorial and publishing teams, and talk to us about the magazine, our content, your ideas, or whatever is on your mind. Also, be an active part of our Maternal Mortality Project by taking the opportunity to sign our petition to members of Congress in support of HR 1318 - the Preventing Maternal Deaths Act of 2017 - and S1112 - the Maternal Health Accountability Act of 2017.
ogy of the Pritts report and calculated an estimated prevalence of 1 LMS for every 1429 cases of surgery for presumed fibroids among all studies and a rate less than 1 in 4000 derived from more reliable prospective databases.

The AHRQ report also analyzed data for women who had an occult uterine sarcoma and for whom the method of removal of the specimens and the patients’ survival time could be determined. Sixteen such studies included 196 women and AHRQ found no statistically significant difference in 5-year survival rates between women having power morcellation, scalpel morcellation or no morcellation. AHRQ concluded that "uterine sarcoma has high mortality and the fact or method of morcellation is not associated with overall lethality of the disease."

We consider the publication of the FDA report to be a disservice to women with fibroids by incompletely examining the evidence for risk and benefits associated with morcellation. We strongly recommend that Contemporary OB/GYN’s readers review the AHRQ findings and decide which report serves women best.

IN RESPONSE:
The editorial staff of Contemporary OB/GYN would like to point out that our piece on the FDA report was presented as news and not as an opinion about the federal commentary. Nevertheless, we appreciate the feedback from Dr. Parker and the signatories of this letter.

FOR REFERENCES VISIT contemporaryobgyn.net/morcellation

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Background
As a proud wound closure materials geek, I view 3 patents as the most significant modern inventions in the field: US patent 3,297,0331 for polyglycolic acid suture (1967), US patent 8,721,681 B22 for barbed suture (2014) and US patent 5,530,0373 for sterilizing cyanoacrylate (1996). The last of the triad essentially enabled Krazy® Glue (Elmer’s Products, Westerville, OH) to become Dermabond® (Ethicon, Inc., Somerville, NJ) and changed the way millions of wounds have been and will be reapproximated.

Design/Functionality
LiquiBand Exceed™ Topical Skin Adhesive is sterile 2-octyl cyanoacrylate contained in a 0.8-g ampoule encased in a proprietary dispenser for single use. While each manufacturer of a 2-octyl cyanoacrylate topical skin adhesive claims their version is the best due to special additives and processes that alter the viscosity, as a user, the biggest differences seem to be in the dispensers. With its unique felt tip and pressure-producing wings, the LiquiBand Exceed™ dispenser was by far the best topical skin adhesive dispenser I have ever used. It consistently produced an even distribution of adhesive over wounds without clogging, enabling me to use all 0.8 g of glue.

Innovation
Advanced Medical Solutions, Ltd., neither invented cyanoacrylate nor figured out how to sterilize it so I can’t give them too many cleverness points. However, their felt-tipped, winged dispenser is a big improvement over the competition so kudos to them.

Value
2-octyl cyanoacrylate is essentially a commodity product that will usually be subject to bundled pricing and thus highly variable in its cost. From my perspective, the real value discriminator between products is the dispensers. With some dispensers, the tips clog before all of the adhesive is delivered, often necessitating opening a second applicator and doubling the cost. With the LiquiBand Exceed™ dispenser I was able to use all of the adhesive in the ampoule every time. THAT...is good value.

Summary
This is simple. If you use topical skin adhesives for wound closure, you should try LiquiBand Exceed™ to see for yourself and your institution whether this is a good alternative to what you are currently using.

The views of the author are personal opinions and do not necessarily represent the views of Contemporary OB/GYN.

Dr. Greenberg is Chief, Division of Gynecology, Brigham & Women’s Hospital, and Associate Professor, Harvard Medical School, Boston. He has no conflicts of interest to report with regard to the content of this review.

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recommend a double-layer closure in a patient considering VBAC in the future.

Given a lack of data regarding the choice of suture material, it is reasonable to select a suture type based on the surgeon’s preference.

**Peritoneal closure**

Adhesion formation can complicate future cesarean deliveries, resulting in prolonged surgical time, increased blood loss, or visceral injury. The role of peritoneal closure in prevention of adhesion formation, though, remains unclear. While observational studies suggest that closure of the parietal peritoneum may play a role in adhesion prevention, prospective studies randomizing patients to closure versus non-closure of the parietal peritoneum do not seem to show a benefit when adhesions are evaluated at the time of subsequent cesarean delivery. Further study is needed before recommending routine closure of the peritoneum.

**Adhesion barriers**

Adhesion barriers, such as sodium hyaluronic acid/carboxymethylcellulose, may also prevent adhesion formation. However, randomized trials in obstetrics have not demonstrated benefit when used at time of cesarean delivery. Given the expense of these adhesion barrier products and without evidence of proven benefit, we advocate against their routine use.

**Subcutaneous closure**

Based upon a meta-analysis performed in 2004, subcutaneous tissue should be closed if the thickness is greater than 2 cm. That analysis demonstrated a 34% decreased risk of wound disruption when subcutaneous tissue greater than 2 cm was closed. The subcutaneous tissue may be closed with either a continuous suture or interrupted sutures, based on the surgeon’s preference. There appears to be no additional benefit to wound healing for routine placement of a subcutaneous drain.

**Skin closure**

Skin closure technique was evaluated in a 2013 randomized controlled trial comparing subcuticular suture and skin staples, which found a decreased incidence of wound complications associated with use of suture. Use of subcuticular skin closure was further supported by a 2015 meta-analysis revealing an overall RR of 0.49 (CI 0.28-0.87) for wound complications in the suture group.

Suture material has also been a recent area of study. Buresch et al randomized women to undergo closure of skin with poliglecaprone 25 (Monocryl™) versus polyglactin 910 (Vicryl™) and found lower rates of wound complications associated with the former. This study, however, did not include emergent cesarean deliveries and the specific antiseptic skin preparation was not identified, which may limit generalizability of the results. This is a topic of ongoing research.

Obesity is a known risk factor for wound infections. Negative-pressure wound therapy after cesarean may be associated with reduced risk of surgical site infections, but larger trials are needed to clarify their benefit in this population.

**Conclusion**

Based on recent trials and meta-analyses, a number of recommendations can be made regarding routine performance of cesarean delivery (Table 1). As in any area of medicine, clinical scenarios may dictate a particular approach and cause a practitioner to deviate from the “standard” approach (for example, creating a bladder flap when faced with dense lower-uterine segment adhesions). An increased research focus, however, allows us to continue refining our surgical technique for this common obstetrical intervention.

**DISCLOSURES** The authors report no potential conflicts of interest with regard to this article.

**FOR REFERENCES VISIT** contemporaryobgyn.net/cesarean
was removed, but mild-moderate clear, odorless fluid was leaking from the vagina. The patient was ordered to be out of bed and advanced to a regular diet.

On 12/31/11, the patient was feeling well and her catheter was removed. She complained of vaginal leaking of mild-to-moderate clear fluid. The next day she complained of more intense leaking of clear/pinkish fluid from her vagina. The vaginal packing was removed and was described as moist and slightly bloodtinged. The patient also complained that she was leaking urine. The resident discussed the case with Urology and Dr. A, who commented that urinary incontinence was to be expected to some degree. The patient was discharged with instructions to follow up with Dr. A in 2 weeks and with Dr. C in 1 week.

The patient presented to the ED on 1/5/12, complaining of bedwetting and right flank pain x2 days and moderate intermittent urinary incontinence x1 day. It was noted that the patient had spoken with a urologist, who instructed her to come into the office, but she did not want to wait as she was experiencing leg pain. A Foley catheter was placed and she was admitted to the gynecology service for possible ureteral injury. A computed tomography (CT) scan of the abdomen and pelvis with contrast showed bilateral distal ureteral leaks with associated fluid collections, a right ureteral leak in communication with the vagina, and possible pyelonephritis of the right kidney. The patient was advised that she was to be readmitted for operative repair.

On 1/7/2012, Dr. C performed a cystoscopy, speculum examination, and bilateral retrograde pyelogram and placed a left ureteral stent. The postoperative diagnoses were listed as urinary incontinence and ureterovaginal fistula. The Operating Room record noted that Dr. A was present during this procedure.

Dr. A examined the patient postoperatively, noting that she was feeling well and there had been no leaking since the surgery. Laparoscopic repair of the right ureteral injury was recommended, possibly on 1/9 or 1/10, but the procedure was subsequently put on hold.

Dr. A testified that repair was cancelled because the patient did so well immediately after the 1/7 surgery that spontaneous healing of the right ureter was anticipated. On 1/10/2012, the patient was discharged with a leg bag, prescription for ciprofloxacin, and instructions to call Dr. C for a follow-up appointment in 1 week.

The woman again presented to defendant hospital on 2/6/2012, arriving via ambulance. She reported that following the removal of 2 stents from her bladder 2 days earlier, she had been experiencing urinary leakage. Urinalysis showed large blood, positive nitrates, and large leukocyte esterase. A urine culture grew Escherichia coli. Ciprofloxacin was given for a urinary tract infection. She was admitted under the care of Dr. C with diagnoses of persistent postoperative fistula, genital tract fistula, depressive disorder, and urethral stricture.

Two days later, Dr. C performed a cystoscopy and placed a right ureteral stent. According to the Operative Report, Dr. C encountered difficulty...
in passing the wire into the right ureteral orifice but a 6-Fr 24-cm right ureteral stent was inserted. Following the procedure, the patient’s Foley was discontinued and a drainage bag was placed. She was discharged home with prescriptions for acetaminophen/oxycodone and ciprofloxacin and advised to follow up with Dr. C.

At a postoperative visit with Dr. A. on 2/23/2012, the plaintiff’s cuff was well healed and no leakage was noted. Dr. A also noted that the patient was to follow up with Urology regarding the stent.

On 4/12/2012, the plaintiff presented to the ED with complaints of constant right flank pain x2 days that was 10/10 on the pain scale. She reported that her right stent was removed 3 days earlier and she was now experiencing increasing involuntary leakage of urine. The patient was admitted under the care of Dr. C with a diagnosis of urinary incontinence for pre-op labs and CT abdomen/pelvis with IV contrast.

On 4/13/2012, a CT of the abdomen and pelvis revealed new moderate right hydronephrosis and hydroureter, “despite the presence of ureteral stent, which might be occluded.” The most distal segment of the right ureter, measuring 1.5 cm, could not be visualized, possibly due to a stricture.

There was also evidence of right pyelonephritis; the left kidney and ureter were unremarkable. No urine extravasation was seen. Later that day, the patient was discharged home with instructions to follow up with Dr. C.

On 5/9/2012, the plaintiff presented to defendant hospital with complaints of right-sided kidney pain x3 weeks, measuring 10/10 on the pain scale. It was noted that she was taking oxycodone 3x/day for the pain. The patient was readmitted under the care of Dr. C with a diagnosis of urinary calculus and a secondary diagnosis of stricture/kinking of the ureter. Dr. C performed a right ureteral reimplantation for a right ureteral stricture. Dr. C’s operative report indicated that once the right ureter was identified, “there appeared to be a very dense inflammatory process in the distal right ureter.” The ureter was freed very carefully. Nevertheless, “despite very minimal manipulation, the ureter looked ischemic in this area and easily tore.” The patient was discharged on 5/14/2012 with a catheter and leg bag, and instructions to follow up with Dr. C in 2 weeks.

On 5/17/2012, the patient presented to Dr. A’s office for an emergency visit. She complained of leaking from the abdominal incision and pain from the urinary catheter. Dr. A noted that the patient was tearful and stated that she was going to her social worker later that day for admission secondary to depression. She also demanded that the urinary catheter be taken out or she would pull it out herself. Although Dr. A advised the patient that Dr. C should remove the catheter and warned the patient of the risks of premature removal, he ultimately removed it “for safety reasons” after the patient began pulling it out herself. Dr. A examined the patient’s incision line and documented “seroma at superior edge, fascia intact.” Dr. A removed the staples, evacuated the seroma, and cleaned and packed the wound with a single 4x4.

On 5/18/2012, the plaintiff presented to the nonparty hospital ED with complaints of bleeding from the abdomen, status post-surgery, and abdominal pain rated 7/10 on the pain scale. She reported that she had surgery 2 weeks prior for uterine fibroids and had her staples removed 5/17/2012 by Dr. A and on arrival home she began bleeding from the abdominal site. On exam, the surgical wound was noted to be open in the midline of her abdomen and serosanguinous discharge was noted from the wound under the umbilicus.

The patient was placed on 1:1 observation for “suicidality.” She reported a history of domestic violence and bipolar disease. The Attending noted that the patient was aggressive and verbally threatening. She stated that “Dr. A is only concerned because I told him that I’m suing him.” The Attending noted that the on-call psychiatrist felt that the patient was not a danger to herself or others. She was evaluated by a psychiatrist, who recommended that she be discharged, and to follow up with her private psychiatrist the following day.

**Allegations**

Plaintiff alleged that the defendants failed to properly perform a laparoscopic hysterectomy, right salpingectomy and uterosacral ligament colpocpy; improperly lacerated, tore
and/or entered a blood vessel; caused and/or allowed plaintiff to bleed internally; caused and/or allowed a perforation, laceration and/or other injury to the right ureter; caused plaintiff to undergo additional surgical procedures. The plaintiff claimed the following permanent injuries: uterovaginal fistula; urinary incontinence; right ureteral stricture; right hydronephrosis; right hydroureter; perforation, laceration, injury and/or trauma to the right ureter; infection; unnecessary and prolonged hospitalizations.

**Discovery**

Dr. A explained at his deposition that the injury in this case was likely due to an anatomical variation. He testified that with all the safety profiles he employs during the course of surgery to protect the ureter and identify the uterosacral ligament, the fact that he put in a stitch that caused direct trauma to the ureters suggests that they were much closer to the uterosacral ligament than is typical, or that the woman had extremely weak tissue since the stitch was able to cut through 2.5 cm of the tissue. He testified that “It’s unlikely that the stitch ripped through 2.5 cm” and that as a result, it’s likely that she had a “combination of weak tissue and an abnormal position of ureter to the operative field.”

Our ob/gyn expert agreed that colpopexy was a routine and necessary part of any vaginal hysterectomy, and that when the uterus is removed, the uterosacral ligaments have to be reattached some place and cannot just be left “flopping around.” He also agreed with Dr. A’s opinion that the injury to the ureter occurred during the colpopexy and not the hysterectomy. However, he did not agree that the injury reflected some anatomical anomaly, as such an injury can occur even in the face of normal anatomy. He added that because the patient already had a vertical abdominal incision, he would have performed an abdominal rather than vaginal hysterectomy.

**Trial**

Plaintiff’s expert gynecologist testified that Dr. A failed to provide the plaintiff with informed consent. Cross-examination, supported by our expert, made clear that there was no reason to discuss alternative treatments with the plaintiff as they were not viable under the circumstances because none of them addressed the uterine cancer issue. While the woman’s fibroids may well have been reduced with any of the treatments and have disappeared when she became menopausal, all of those options left her with her uterus in place and, thus, she remained at risk for uterine cancer. We further argued that the concept of genetic testing made no sense because regardless of the test outcome, hysterectomy would be mandated because of the family history in that not all genetic subtypes of uterine cancer have yet to be identified.

Insofar as the propriety of the vaginal hysterectomy is concerned, on cross it was established that the American College of Obstetricians Gynecologists recommends vaginal hysterectomy as the procedure of choice. It was further established that the ureteral injury didn’t occur during hysterectomy but rather during colpopexy and thus plaintiff’s expert testimony that the uterus couldn’t be successfully removed vaginally was factually inaccurate and irrelevant.

**The verdict**

Ultimately, the case settled during jury deliberations for less than half of plaintiff’s pretrial settlement demand.

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Please email caroline.jones@mcleodhealth.org or call at 843-777-5870.
Did vaginal hysterectomy result in iatrogenic injuries?

A family history of uterine cancer prompted the patient to seek a hysterectomy.

Facts

A 50-year-old woman presented to Dr. A on 10/20/2011 at a nonparty hospital clinic with a complaint of pelvic pressure from fibroid growth. She testified that her grandmother, mother, and sister all died from uterine cancer and that she was advised by her mother’s physician to undergo a hysterectomy to decrease her risk of the disease. Following a lengthy discussion on the different ways in which he could perform the surgery, it was agreed that Dr. A would do a vaginal hysterectomy with conversion to abdominal hysterectomy as needed.

The woman was admitted on 12/29/2011 with a preoperative diagnosis of symptomatic fibroid uterus. A consent form was signed authorizing Dr. A to perform a diagnostic laparoscopy, cystoscopy, possible laparoscopy-assisted vaginal hysterectomy with removal of tube and ovaries, possible total vaginal hysterectomy, and possible laparotomy.

Dr. A, assisted by resident Dr. B, performed a cystoscopy, diagnostic laparoscopy, total vaginal hysterectomy, right salpingectomy, and uterosacral ligament colpopexy. During cystoscopy, brisk blue jets of urine were seen from each of the ureteral orifices. Following removal of the cystoscope and insertion of the laparoscope, Dr. A noted that the uterus was markedly enlarged and distorted due to the fibroid.

He reported no significant adhesions from a prior cesarean delivery via vertical incision that were deemed to impact a vaginal hysterectomy.

Before completing the procedure, Dr. C, a nonparty urologist was consulted and he stented the right ureter. According to his separate Operative Report, with the stent in place, IV methylene blue was given and seen coming out of the left ureteral orifice and out of the stent on the right side. Subsequently, the vaginal cuff was closed and vaginal packing was placed. Under Complications, a right ureteral injury was listed. The patient was transferred to the Recovery Room in stable condition with an indwelling Foley catheter and later to the floor in stable condition.

On 12/30/11 at 10:30 a.m., Dr. B reported that the patient was not yet out of bed but was feeling well. She complained of wetness, more when moving, laughing or coughing. Upon examination, it was noted that the catheter was in place and draining clear urine. No vaginal bleeding was seen when the packing...

Andrew I Kaplan, Esq is a partner at Aaronson, Rappaport, Feinstein & Deutsch, LLP in New York City, specializing in medical malpractice defense and healthcare litigation. This case was handled by one of his partners.
NOW AVAILABLE
DEMONSTRATED TO SIGNIFICANTLY DECREASE MODERATE TO SEVERE DYSPAREUNIA DUE TO MENOPAUSE

NON-ESTROGEN BASED, CONVERTS TO ESTROGENS AND ANDROGENS
Prasterone is a precursor that is locally converted to estrogens and androgens with minimal systemic exposure. The mechanism of action of INTRAROSA is not fully established.

ONCE-DAILY TREATMENT
Individually wrapped vaginal inserts with disposable applicators

INTRAROSA is a steroid indicated for the treatment of moderate to severe dyspareunia, a symptom of vulvar and vaginal atrophy, due to menopause.

In four 12-week randomized, placebo-controlled clinical trials, the most common adverse reaction with an incidence ≥2 percent was vaginal discharge. In one 52-week open-label clinical trial, the most common adverse reactions with an incidence ≥2 percent were vaginal discharge and abnormal Pap smear.

INDICATION
INTRAROSA is contraindicated in women with undiagnosed abnormal genital bleeding. Estrogen is a metabolite of prasterone. Use of exogenous estrogen is contraindicated in women with a known or suspected history of breast cancer. INTRAROSA has not been studied in women with a history of breast cancer.

Adverse Reactions
In four (4) placebo-controlled, 12-week clinical trials [91% - White Caucasian non-Hispanic women, 7% - Black or African American women, and 2% - “Other” women, average age 58.8 years of age (range 40 to 80 years of age)], vaginal discharge is the most frequently reported treatment-emergent adverse reaction in the INTRAROSA treatment group with an incidence of ≥2 percent and greater than reported in the placebo treatment group. There were 38 cases in 665 participating postmenopausal women (5.71 percent) in the INTRAROSA treatment group compared to 17 cases in 464 participating postmenopausal women (3.66 percent) in the placebo treatment group.

References:

To order samples and learn more about INTRAROSA, including our patient savings program, visit IntrarosaHCP.com