Molar pregnancy
Diagnosis and management
John R. Lurain, MD

Bladder cancer
Gender disparities in diagnosis, treatment

Lupus
Optimizing maternal, fetal outcomes

TEST YOUR KNOWLEDGE
Vulvar conditions

FLU UPDATE
What’s new this year

PRACTICE MATTERS
Cash flow tips for high-deductible plans

NEW: RESIDENTS CORNER
A night on call

Artistic interpretation of complete molar pregnancy. Overlay shows fertilization of egg containing no nuclear material resulting in trophoblastic proliferation (cytotrophoblast and syncytiotrophoblast).
The only one for almost everyone™

Only Paragard® IUD, with 1 hormone-free active ingredient (copper), delivers the strongest combination of benefits for the widest range of women1,2*

The Paragard Promise:
- Proven >99% efficacy
- 100% hormone free
- Pregnancy prevention for up to 10 years
- Immediately reversible whenever she decides

Satisfy more patients with Paragard—the only highly effective, reversible birth control that is completely hormone free. Learn more at hcp.paragard.com or call 1-877-PARAGARD.

Indication
Paragard is intended for intrauterine contraception for up to 10 years.

Important Safety Information
- Paragard must not be used by women who have acute pelvic inflammatory disease (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.
- If a woman misses her period, she must be promptly evaluated for pregnancy.
- Possible serious complications that have been associated with intrauterine contraceptives are PID, embedment, perforation of the uterus, and expulsion.
- Paragard must not be used by women who are pregnant as this can be life threatening and may result in loss of pregnancy or infertility.
- The most common side effects of Paragard are bleeding and spotting; for most women, these typically subside after 2 to 3 months.
- Paragard does not protect against HIV or other sexually transmitted infections (STI).

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


*According to the Centers for Disease Control and Prevention (CDC), Paragard is one of the least restrictive birth control options across all patient types compared to other IUDs.
ParaGard® T 380A Intrauterine Copper Contraceptive

INDICATIONS AND USAGE
ParaGard® is indicated for intrauterine contraception for up to 10 years. The pregnancy rate in clinical studies has been less than 1 pregnancy per 100 women each year.

CONTRAINDICATIONS
ParaGard® should not be placed when one or more of the following conditions exist:
1. Pregnancy or suspicion of pregnancy
2. Abnormalities of the uterus resulting in distortion of the uterine cavity
3. Acute pelvic inflammatory disease, or current behavior suggesting a high risk for pelvic inflammatory disease
4. Postpartum endometritis or postpartum endometritis in the past 3 months
5. Known or suspected ureter or cervical malignancy
6. Genital bleeding of unknown etiology
7. Mucopurulent cervicitis
8. Wilson’s disease
9. 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 spontaneous abortion or 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), hysterecstomy, sepsis, and, rarely, death. It is therefore important to promptly assess and treat any woman who develops signs or symptoms of PID.

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 penetration, 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
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, unless 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 may result in 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 contraindicated 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 IUD. 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:

- Intrauterine pregnancy
- Pelvic infection
- Septic abortion
- Perforation
- Ectopic pregnancy
- Embryos
- 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
- Menstrual flow, prolonged
- Menstrual spotting
- Pain and cramping
- Urticarial allergic skin reaction
- Vaginitis

CooperSurgical, 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
A Small but Fine Difference
Minilaparoscopic Instruments from KARL STORZ

NOW also available:
- dismantling
- bipolar

VISIT US AT ACOG,
BOOTH #900

KARL STORZ SE & Co. KG, Dr.-Karl-Storz-Straße 34, 78532 Tuttlingen/Germany
KARL STORZ Endoscopy-America, Inc. 2151 East Grand Avenue El Segundo, CA 90245-5017/USA
www.karlstorz.com
IN THIS ISSUE

march 2019

TEST YOUR KNOWLEDGE

18 Irregular vulvar mass
MATT GROSSI, MD, ROSALYN ELIZABETH MABEN-FEASTER, MD, DIANA CURRAN, MD, JOHN O. DELANCEY, MD, AND HOPE K. HAEPNER, MD
Can you tell the difference between precancerous and cancerous vulvar lesions?

PEER-REVIEWED

24 Bladder cancer
MARCUS L. QUEK, MD, MICHAEL E. WOODS, MD, AND SPENCER T. HART, MD
Many factors contribute to gender disparities in bladder cancer diagnosis and treatment.

PEER-REVIEWED

27 Lupus in pregnancy
MICHÈLLE PETRI, MD, MPH, AND ROMY KALLAS, MD
Managing the challenges of caring for OB patients with SLE.

SPECIAL REPORT

36 Flu shots

FROM THE PAGES OF DRUG TOPICS

What’s new in the updated batch of shots for the 2018-2019 flu season.

DIGITAL OB/GYN

38 Six tech advances to watch
DONNA MARBURY
Five years from now, today’s new technologies may be part of everyday care.

IN ADDITION

06 Lockwood’s Editorial

10 Readers React

20 Bench to Bedside

PEER-REVIEWED

12 Hydatidiform mole
JOHN R. LURAIN, MD
Expert advice on how to minimize the possibility of serious complications from this uncommon disorder with prompt diagnosis and appropriate management.

18 Irregular vulvar mass
MATT GROSSI, MD, ROSALYN ELIZABETH MABEN-FEASTER, MD, DIANA CURRAN, MD, JOHN O. DELANCEY, MD, AND HOPE K. HAEPNER, MD
Can you tell the difference between precancerous and cancerous vulvar lesions?

PEER-REVIEWED

24 Bladder cancer
MARCUS L. QUEK, MD, MICHAEL E. WOODS, MD, AND SPENCER T. HART, MD
Many factors contribute to gender disparities in bladder cancer diagnosis and treatment.

PEER-REVIEWED

27 Lupus in pregnancy
MICHÈLLE PETRI, MD, MPH, AND ROMY KALLAS, MD
Managing the challenges of caring for OB patients with SLE.

SPECIAL REPORT

36 Flu shots

FROM THE PAGES OF DRUG TOPICS

What’s new in the updated batch of shots for the 2018-2019 flu season.

DIGITAL OB/GYN

38 Six tech advances to watch
DONNA MARBURY
Five years from now, today’s new technologies may be part of everyday care.

IN ADDITION

06 Lockwood’s Editorial

10 Readers React

20 Bench to Bedside

PEER-REVIEWED

12 Hydatidiform mole
JOHN R. LURAIN, MD
Expert advice on how to minimize the possibility of serious complications from this uncommon disorder with prompt diagnosis and appropriate management.

OUR MISSION

For nearly a half century, busy practitioners have trusted Contemporary OB/GYN to translate the latest research into outstanding patient care. We are dedicated to providing them with evidence-based information on scientific advances in a clinically useful format.

Let us know what you think. Email us at COGEditorial@ubm.com
We bring you critical thinking from top academic physicians. Through our allied publication *Psychiatric Times*, we’re now your source for free Category 1 continuing medical education credits. Improve the care you deliver to patients, meet new licensing or certification requirements, and build knowledge you need for career growth — right here, at no cost.

**New courses available now:**
- Lifeline for Pregnant and Postpartum Women
- Expanding Access to Opioid Addiction Treatment
- Antidepressants: 100 Years and Counting
- Suicide Risk and Sleep: What’s the Link?
- Antidepressants: Kinetics, Dynamics, Mechanisms of Action

Start earning your CME credits today!
contemporaryobgyn.net/cme
‘Policing’ pregnant women during the opioid epidemic
Getting to good medicine and good law
Should ob/gyns police their pregnant patients as part of the battle against the opioid epidemic?

Every 15 minutes a baby is born with neonatal abstinence syndrome (NAS), a condition whose incidence has increased 5-fold since 2004. There are also increasing reports of opioid overdoses in breastfed babies whose mothers are ultrarapid metabolizers of codeine and tramadol. The opioid epidemic clearly has hit obstetricians and pediatricians full bore. However, lost in discussions about how to mitigate the problem has been a growing state policy divide that pits protecting infant health against preserving maternal autonomy. There is now an increasingly bright line in state policies between states that have enacted punitive laws treating drug use during pregnancy as child abuse, and a possible crime, and states that have laws emphasizing supportive or preventive policies and practices.

Advocates of criminalization note that failure to impose strict and clear expectations and consequences for illicit use of opioids has had the dual social impact of enabling bad behaviors and recklessly endangering the health of innocent newborns, thereby warranting a punitive policy response. Moreover, they note, care for these infants consumes $1.5 billion per year in health care costs that are frequently borne by state Medicaid coffers. In contrast, critics of punitive policies argue that criminalizing prenatal opioid use deters mothers from seeking appropriate care; brands women with a criminal stigma; and in some cases, destroys families by removing the newborn from the custody of the mother. They also argue that racial and economic profiling targets poorer women and that criminalizing a pregnant woman for opioid abuse is another step on the slippery slope of restricting or eliminating reproductive choice.

As is the case with many hot-button issues, our nation is sharply divided as to how the government, particularly states, should best protect the interests of pregnant mothers, their fetuses, and newborn children in the face of the opioid crisis. We offer here what we hope is a balanced, reasoned perspective on this subject.

Consequences of opioid dependence.
Opioid use disorder (OUD) in pregnancy is associated with all the same risks to the mother as in non-pregnant women: overdose death, serious infections from intravenous injections and needle sharing, domestic violence, criminal behavior, and sexually transmitted diseases. Indeed, substance abuse is now a major risk factor for pregnancy-associated deaths. Obstetrical risks of untreated OUD include fetal growth restriction, abortion, stillbirth, and preterm labor. Depression is present during the antenatal period in 30% of affected women and 40% of such postpartum women. The major newborn risk is NAS, which is present in up to 80% of newborns.

Hydatidiform moles
While molar pregnancy is not very common, it is associated with serious morbidity and ob/gyns must understand the proper management. Read more on page 12.

Test your knowledge
A 77-year old patient presents with vulvar irritation. Can you make the diagnosis? Read more on page 18.
WE RECENTLY CONDUCTED
A SURVEY OF OUR CLIENT PRACTICES’ PATIENTS
asking them about their experience with the in-office screening mammography service provided by

ONsite Mammography

While the results didn’t surprise us, we take nothing for granted. It is our goal to continuously improve what we do so that every patient in every client practice will provide observations like these.

ONsite Mammography is the nationwide authority on in-office mammography (tomosynthesis) services. When you decide it is time to add these services to your patient offering or just want to explore their potential, give us a call. We’ll be happy to explain how we can work together to enhance breast health maintenance across your entire patient base.

815 North Rd., Westfield, MA 01085  855-405-9302  ONsiteMammography.com
whose mothers have OUD. Affected newborns display irritability, feeding difficulties, and sleep abnormalities. The severity of these complications has led the American College of Obstetricians and Gynecologists (ACOG) to recommend universal screening for OUD using validated tools such as questionnaires. Identification of addicted mothers would allow for prompt referral for medication-assisted treatment (MAT) with opioid agonist pharmacotherapy and appropriate behavioral and social counseling and support to optimize both obstetrical and neonatal outcomes.

Current laws and regulations
The Federal Child Abuse Protection and Treatment Act of 1988 (P.L. 93-247), amended as part of the Comprehensive Addiction and Recovery Act of 2016 (P.L. 114-22 and P.L. 114-198) requires that states receiving certain federal funds develop reporting systems and notification protocols to child protective services along with guidelines for determining if and how drug use during pregnancy should be classified by state law as child abuse. In response, three states (Tennessee, Alabama and South Carolina) enacted “fetal assault” laws criminalizing opioid use during pregnancy under chemical endangerment laws. Tennessee’s law allowed a woman to be prosecuted for use of a narcotic while pregnant if her infant was born addicted to or harmed by the drug and the addiction or harm was a result of her illegal use while pregnant. It carried a maximum penalty of 15 years in prison. This law sunset in 2016. Alabama prosecuted 479 women for drug use during pregnancy from 2006 to 2015 before the law was modified in 2016 to exclude prescription drugs. The South Carolina statute is the broadest, as it does not mention controlled substances but targets prenatal OUD and other prenatal substance abuse affecting viable fetuses through its child abuse and endangerment laws. It should be noted that while many convictions in these states have been upheld, others have been overturned on appeal. Of note, in Alabama and South Carolina, the majority of state supreme court judges determined that the word “child” includes a fetus, a finding with implications for abortion access, should Roe v. Wade be further modified or overturned.

 Wisconsin, Minnesota, Oklahoma, and both North and South Dakota have child protection laws permitting detention of ostensibly abusing pregnant women, with some states assigning a guardian ad litem to represent the fetus with provisions for removing the child from the mother once born. Wisconsin investigated 389 women in 2017 and removed 33 babies from maternal custody after birth. However, states cannot routinely and easily identify a woman while pregnant as a potential opioid abuser unless she consents to a screening test. Non-consensual diagnostic tests of mothers have been deemed unconstitutional by the U.S. Supreme Court, but of course newborn infants may be tested.

Punitive versus preventive state laws
Anything that an adult may do that is likely to cause death or serious bodily injury to a child can be deemed a crime of reckless endangerment. This is long-established common law that...
has, in many jurisdictions, been translated into statute. "Reckless indifference," a leap above simple negligence, is the general standard for criminalizing adult acts against children. Twenty-three states and the District of Columbia consider substance use during pregnancy to be child abuse under civil child-welfare statutes, and three states consider it grounds for civil commitment. Moreover, 24 states and the District of Columbia require health care professionals to report suspected prenatal drug use, and eight states require providers to test for prenatal drug exposure if they suspect drug use.

These jurisdictions ground their laws in a "compelling state interest" that places the health and welfare of the unborn and delivered child above the decisions and behaviors of the pregnant woman. Laws that criminalize opioid use during pregnancy presume the reckless endangerment of the child and posit that prevention of "bad acts" requires powerful, punitive deterrents. Protection of the child is a powerful and well-tested Constitutional basis for government policies; that of the fetus is more controversial and unsettled.

The policy alternative to criminalization has been more aggressive treatment and prevention programs, pursued by 21 states with 19 states having either created or funded drug treatment programs for pregnant women, and 17 states and the District of Columbia providing pregnant women with priority access to state-funded drug treatment programs. Ten states also prohibit publicly funded drug treatment programs from discriminating against pregnant women. The social and legal presumptions driving this class of state initiatives are far more consistent with ACOG recommendations, including the premise that early and well-coordinated identification and treatment will result in "the best chance of helping infants and families." Criminal sanctions are viewed as detrimental to the long-term solution to OUD because such laws might discourage affected women from seeking prenatal care altogether.

Unanswered is whether either punitive or permissive state laws isolated in utero opioid exposure.

Because obstetricians are on the front line of promoting maternal, fetal, and newborn health, what meaningful expanded role should we play, and will we be expected to participate in policing women to impose criminal penalties that can include removal of children from their patients? We posit that ob/gyns should never be placed in the position of directly policing their patients, a practice which violates our Hippocratic oath.

Breaching the current chasm in practice and policy concerning opioid use during pregnancy requires a combination of reasoned, informed discussion plus higher-quality evidence on optimal clinical management strategies and sound, tested public policies that decrease occurrence. Ultimately, good medicine and good law demand better data.

Non-consensual diagnostic tests of mothers have been deemed unconstitutional but... newborn infants may be tested.

Take-home message
We concur that there is a recognized, compelling state interest in protecting pregnant women and children, but what should be the pragmatic guiding policy principle(s) of government: Criminalization? Punitive sanctions? Stigma reduction? Prevention? Mitigation of adverse sequelae? We would contend that punitive laws will discourage some pregnant women from seeking any prenatal care, potentially exposing mothers, fetuses and newborns to greater harm than

Dr. Wolfson, is Distinguished Service Professor of Public Health, Medicine and Pharmacy, Senior Associate Dean, Morsani College of Medicine, Associate Vice President USF Health, University of South Florida.

Dr. Lockwood, is Professor of Obstetrics & Gynecology, and Public Health, Dean, Morsani College of Medicine, Senior Vice President, USF Health, University of South Florida, and Editor-in-Chief of Contemporary OB/GYN

FOR REFERENCES VISIT contemporaryobgyn.net/Policing
Try to achieve ‘Happy Birth’

My answer to your question ‘How to minimize vaginal birth complications’ of some weeks ago is: Try to achieve ‘Happy Birth’ by performing as few as possible interventions. In other words, avoid the cascade of interventions.

**Daily management:**
1. Start early in pregnancy with offering women personal continuity of care (max. of 2 persons (doctor or midwife) per woman the whole process) for building up self-efficacy, motivation and locus of control.
2. Keep all women upright during birth (same as mentioned by the German doctor for breech birth). Upright women react better and more intuitively to signals from their bodies.
3. Strive for “no more than” 10% of births in beds (WHO and midwifery model of care recommendation)
4. Trust women’s abilities from day one as well as your own natural intuition.

Yours sincerely,
*Tine Oudshoorn, senior midwife,
THE NETHERLANDS.*

---

**Well-intentioned but misguided**

Dear Dr. Lockwood,

Your editorial on saving America’s rural OB care is statistically accurate. Many of the conclusions are not. The picture statistics paint is more of a Picasso whereas rural physicians will paint a picture more like a Remington. Government and academia have created the problem (CMS, NRHA, USPSTF, etc) by encouraging different rules and regs for rural areas thinking they are helping (CAHs, Rural Health Clinics, FQHCs, itinerate doctors, paying mid-level providers more in rural areas than doctors, etc). Ask rural practitioners which laws, rules, or regulations they have to work under that do not apply to nearby metropolitan areas. How many rural hospitals have been closed by the 96-hour rule, the 30-mile rule, the introduction of a FQHC or Rural Health Clinic, and on down the line.

I wish you well in your endeavor to help rural OB, but it is likely to perpetuate the decline in the name of progress.

*William Bart Pate, MD*

DEPARTMENT OF FAMILY MEDICINE
FORT WORTH, TEXAS
READERS REACT

SOCIAL MEDIA FEEDBACK

ContemporaryOBGYN
@ContempOBGYN #Sepsis and septic shock in #pregnancy buff.ly/2DpIKxJ

Dr. Vero Pimentel MD @DrVeroMe
Thanks. I read this last week. It is an excellent review.

ContemporaryOBGYN
@ContempOBGYN Would a minimum-volume standard improve #hysterectomy outcomes? buff.ly/2UtdCWb

Fibroids Network UK @fibroidsupport
Better Surgical training skills are needed for Hysterectomy (womb removal). There’s issue of, some Drs not supporting the Apex ie pelvic organ support structures are not left in place, leading to Bladder/Vaginal Prolapse together with Incontinence Risk from it & iatrogenic errors

ContemporaryOBGYN
@ContempOBGYN Does race influence #hysterectomy route and outcomes?
Adedotun @MustyLusi
You should read this @ShaqmanX @serikiomoba. Shocking
Shaq @ShaqmanX
I’m not shocked. I’ll like to see the figures when they are corrected for quality of care viz a viz the surgeon’s ability and complication rate. Black women have a much poorer access to quality care and I think the higher average BMI explains the rest.
Adedotun @MustyLusi
I think it was mentioned they mentioned it as a limitation of the study. Rightly so. They corrected for uterine size though. Which is impressive.

TWITTER

FACEBOOK

ContemporaryOBGYN We want to hear from you! Have you seen an increase in the number of your pregnant patients using #marijuana to treat symptoms associated with #pregnancy?
Cecille T Stgo I don’t know if it’s an actual increase or a more open attitude about admitting to the use

See more great content on our website

CONTEMPORARYOBGYN.NET

Don’t miss the articles, videos, and other content found exclusively on our website.

What do you say we all start a conversation with pregnant moms about cannabis?

Women’s perspectives on cannabis use during pregnancy Bobby Lazara MD
Brought to you by Medical News Minute

OBSTETRICS Obesity and efficacy of combined OCs
Bob Kronemeyer

GYNECOLOGY Are endometriosis and birth weight linked?
Bob Kronemeyer

WELL WOMAN Do postmenopausal hormones increase risk of cutaneous melanoma?
Renée Bacher

QUIZ Adenomyosis and its impact on fertility
Nancy Monson

LEGAL Did unnecessary induction result in birth injury?
Andrew I Kaplan, Esq

UPDATES USPSTF makes recommendations on perinatal depression
Judith M. Orvos, ELS

Tweets and posts have been unedited
Hydatidiform mole
Recognition and management

Hydatidiform mole is an abnormal pregnancy characterized by varying degrees of trophoblastic proliferation (both cytotrophoblast and syncytiotrophoblast) and vesicular swelling of placental villi associated with an absent or abnormal fetus/embryo. Two types of hydatidiform mole, complete and partial, have been described based on both morphologic and cytogenetic criteria (Table 1). 1,2

Epidemiology
Epidemiologic studies have reported wide regional variations in the incidence of molar pregnancies. Estimates from studies in North America, Europe, Australia and New Zealand have shown incidence rates ranging from 0.57-1.1 per 1000 pregnancies, whereas studies in Southeast Asia and Japan have suggested an incidence rate as high as 2.0 per 1000 pregnancies. These reported differences may...
be related to lack of standardization of data collection and reporting rather than true incidence differences. However, socioeconomic status and diet rather than genetic or cultural factors may also contribute to these reported differences in incidence rates. Declining incidence of molar pregnancies in Asia has been attributed to increasing western diet and improved standard of living. The overall incidence of molar pregnancies in the United States and Europe is about 1/1000 pregnancies for both complete and partial moles.3,4

Several potential etiologic risk factors for development of molar pregnancy have been evaluated (Table 2).3 For complete hydatidiform moles, two well-established risk factors have emerged: (1) extremes of maternal age; and (2) prior molar pregnancy. Both advanced and very young maternal age have consistently correlated with higher rates of complete mole. Compared to risk in women aged 21 to 35 years, risk of complete mole is 1.9 times higher for women both < 21 years and > 35 years and 7.5 times higher for women > 40 years, including 1 in 3 pregnancies for women > 50 years. These observations suggest that ova of very young or older women are predisposed to abnormal fertilization events that lead to complete hydatidiform moles. Prior complete molar pregnancy increases risk of developing a subsequent complete molar pregnancy.

Risk of a repeat molar pregnancy after one mole is approximately 1%, about 10 to 20 times the risk for the general population, while after two moles, the risk of a third mole is 20%. History of prior spontaneous abortion also appears to increase risk of a molar pregnancy (both complete and partial) 2- to 3-fold compared to women without a history of prior miscarriage. Dietary deficiency of β-carotene and animal fat has been linked to an increase in complete moles. There appears to be a possible increased risk of molar pregnancy (partial and complete) with a history of oral contraceptive use, while ovulation induction regimens may be associated with an increase in twin pregnancies consisting of a normal fetus(es) and a complete mole.

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Clinicopathologic features of hydatidiform mole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molar pregnancy type</td>
<td>Pathological features</td>
</tr>
<tr>
<td>Complete mole</td>
<td>Diploid (45, XX; rarely 46, XY)</td>
</tr>
<tr>
<td></td>
<td>Absent fetus/embryo</td>
</tr>
<tr>
<td></td>
<td>Diffuse swelling of villi</td>
</tr>
<tr>
<td></td>
<td>Diffuse trophoblastic hyperplasia</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial mole</td>
<td>Triploid (69, XXY, 69, XXY; 69, XXX)</td>
</tr>
<tr>
<td></td>
<td>Abnormal fetus/embryo</td>
</tr>
<tr>
<td></td>
<td>Focal swelling of villi</td>
</tr>
<tr>
<td></td>
<td>Focal trophoblastic hyperplasia</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: GTN, gestational trophoblastic neoplasia; D&C, dilation and curettage

| TABLE 2 | Epidemiologic risk factors for hydatidiform mole |
|-----------------|-----------------|-----------------|
| Risk factor | Complete mole | Partial mole |
| Maternal age < 20, > 40 | ++ | - |
| Prior complete mole | ++ | - |
| History of spontaneous abortion | + | + |
| Dietary deficiency of β-carotene & animal fats | + | - |
| Ovulation induction | + | - |
| OCPs | +/- | +/- |
| History of menstrual irregularities | - | + |
| Ethnicity | + | - |

Abbreviations: OCPs, oral contraceptive pills

The overall incidence of molar pregnancies in the United States and Europe is about 1/1000 pregnancies for both complete and partial moles. Several potential etiologic risk factors for development of molar pregnancy have been evaluated (Table 2).3 For complete hydatidiform moles, two well-established risk factors have emerged: (1) extremes of maternal age; and (2) prior molar pregnancy. Both advanced and very young maternal age have consistently correlated with higher rates of complete mole. Compared to risk in women aged 21 to 35 years, risk of complete mole is 1.9 times higher for women both < 21 years and > 35 years and 7.5 times higher for women > 40 years, including 1 in 3 pregnancies for women > 50 years. These observations suggest that ova of very young or older women are predisposed to abnormal fertilization events that lead to complete hydatidiform moles. Prior complete molar pregnancy increases risk of developing a subsequent complete molar pregnancy.

Risk of a repeat molar pregnancy after one mole is approximately 1%, about 10 to 20 times the risk for the general population, while after two moles, the risk of a third mole is 20%. History of prior spontaneous abortion also appears to increase risk of a molar pregnancy (both complete and partial) 2- to 3-fold compared to women without a history of prior miscarriage. Dietary deficiency of β-carotene and animal fat has been linked to an increase in complete moles. There appears to be a possible increased risk of molar pregnancy (partial and complete) with a history of oral contraceptive use, while ovulation induction regimens may be associated with an increase in twin pregnancies consisting of a normal fetus(es) and a complete mole.

While several definite etiologic risk factors have been identified for complete moles, the epidemiologic char-
characteristics of partial moles differ and are less well defined. Importantly, the association between maternal age and complete molar pregnancies is not seen in women with partial molar pregnancies. Furthermore, partial molar pregnancies are more common in women with a history of irregular menses, miscarriage, and oral contraceptive use for > 4 years, but are not associated with ethnicity, ovulation induction, or dietary factors.

Genetics
Complete hydatidiform moles usually arise when an ovum without maternal chromosomes is fertilized by one sperm which then duplicates its DNA, resulting in a 46, XX androgenic karyotype in which all the chromosomes are paternally derived. About 10% of complete moles are 46, XY or 46, XX arising from fertilization of an “empty ovum” by two sperm. Bipaternal diploid complete moles are associated with a maternal autosomal-recessive missense gene mutation, most commonly NLRP7 on chromosome 19q, which results in repetitive molar pregnancies. Partial hydatidiform moles have a triploid karyotype, usually 69, XXY, resulting from dispermic fertilization of an apparently normal ovum (Figure 1).

Pathology
Complete hydatidiform moles undergo early and uniform hydatid enlargement of villi in the absence of an ascertainable fetus or embryo, the trophoblast is consistently hyperplastic with varying degrees of atypia, and villous capillaries are absent. Partial hydatidiform moles demonstrate identifiable fetal or embryonic tissue, chorionic villi of varying size and shape with focal edema, scalloping and prominent stromal inclusions, a functioning villous circulation, as well as focal trophoblastic hyperplasia with only mild atypia. Immunohistochemical staining for p57 (a parentally imprinted, maternally expressed gene) may be useful for differentiating a positive partial mole from a negative complete mole, but cannot be used to distinguish a partial mole from a nonmolar abortus both of which are positive.

Clinical presentation
Complete hydatidiform moles most commonly present with vaginal bleeding, usually occurring at 6 to 16 weeks of gestation in 90% of cases. The other classical clinical signs and symptoms, such as uterine enlargement greater than expected for gestational dates (28%), hyperemesis (8%), and toxemia, hyperthyroidism, and trophoblastic embolization (< 1%), occur less frequently in more recent years due to earlier diagnosis as a result of widespread use of ultrasonography and accurate tests for human chorionic gonadotrophin (hCG). Bilateral theca lutein cyst enlargement of the ovaries occurs in approximately 15% of cases, hCG levels are
often > 100,000 mIU/mL, and fetal heart sounds are absent.\textsuperscript{7,8}

Partial hydatidiform moles do not have the same presenting features as complete moles. Although the main presenting symptom is also vaginal bleeding, which occurs in about 75\% of patients, excessive uterine enlargement, hyperemesis, pregnancy-induced hypertension, hyperthyroidism, and theca lutein cysts develop infrequently. Fewer than 10\% have hCG levels > 100,000 mIU/mL. More than 90\% of patients with partial moles have symptoms and ultrasound findings consistent with an incomplete or missed abortion, and the diagnosis is usually made only after histologic examination of uterine curettage specimens.\textsuperscript{9}

**Diagnosis**

Ultrasonography plays a critical role in the diagnosis of both complete and partial molar pregnancy, and it has virtually replaced all other means of preoperative diagnosis. Because the chorionic villi of complete moles exhibit diffuse hydropic swelling, a characteristic vesicular ultrasonographic pattern can be observed consisting of multiple echoes (holes) within the placental mass and usually no fetus (Figure 2). Ultrasonography may also facilitate early diagnosis of a partial mole by demonstrating focal cystic spaces within the placenta and an increase in the transverse diameter of the gestational sac.\textsuperscript{12}

hCG is a disease-specific tumor marker produced by the trophoblast of hydatidiform moles and gestational trophoblastic neoplasms as well as normal pregnancy. Hydatidiform moles are commonly associated with markedly elevated hCG levels above those of normal pregnancy. Approximately 50\% of complete moles have pre-evacuation hCG levels > 100,000 mIU/mL. However, a single hCG level is seldom helpful in differentiating a complete mole from another type of pregnancy. Partial moles, on the other hand, are most often not associated with such elevated hCG levels, as noted previously.\textsuperscript{13}

Despite earlier diagnosis of complete moles resulting in fewer complications, there has not been a simultaneous reduction in incidence of postmolar gestational trophoblastic neoplasia (GTN).

**Management**

Once the diagnosis of molar pregnancy is suspected based on history, physical examination, hCG level, and ultrasound findings, the patient should be evaluated for the presence of medical complications (anemia, preeclampsia, hyperthyroidism), which may need to be corrected. Basic laboratory tests should include complete blood count, comprehensive metabolic panel, thyroid function test, urinalysis, and chest x-ray, as well as blood type and screen with cross match if anemic or uterus ≥ 16-week gestational size. An electrocardiogram and coagulation profile may also be indicated. Once the patient is determined to be hemodynamically stable, the most appropriate method of molar evacuation should be decided upon.\textsuperscript{1,2,14}

Suction evacuation and curettage is the preferred method of evacuation of a hydatidiform mole.
maintain their fertility. After anesthesia is achieved, the cervix is dilated to allow a 12- to 14-mm suction cannula to pass into the lower uterine segment and then rotated as the intrauterine contents are removed, preferably under ultrasound guidance. Suction evacuation should be followed by gentle sharp curettage. Uterotonic drugs should be started after initiation of evacuation of the uterus, although oxytocin receptors may be absent. Because risk of excessive bleeding increases with uterine size, 2 units of blood should be immediately available when the uterus is ≥ 16-week gestational size. Attention to blood and crystalloid replacement decreases pulmonary complications. It is clear that with judicious use of appropriate equipment, access to blood products, careful intraoperative monitoring, and early anticipation of complications, patient outcomes improve. Patients who are Rh-negative should receive Rho(D) immune globulin at the time of evacuation, as Rh D factor is expressed on trophoblastic cells.

Hysterectomy is an alternative to suction curettage in patients who do not wish to preserve fertility or are older and at increased risk for development of postmolar GTN. The adnexa may be left intact even in the presence of theca lutein cysts. In addition to evacuating the molar pregnancy, hysterectomy provides permanent sterilization and eliminates risk of local myometrial invasion as a cause of persistent disease. Because of the potential for metastatic disease even after hysterectomy, risk of postmolar GTN still remains at 3% to 5%, thereby requiring continued hCG follow up.

Medical induction of labor and hysterotomy are not recommended for molar evacuation. These methods increase maternal morbidity, such as blood loss, incomplete evacuation requiring curettage, and the requirement for cesarean delivery in subsequent pregnancies. They also increase trophoblastic dissemination and the development of postmolar GTN requiring chemotherapy.

Prophylactic chemotherapy at the time or immediately after evacua-
tion of a molar pregnancy is associated with a reduction in incidence of postmolar GTN from approximately 15% to 20% down to 3% to 8%.

Use of prophylactic chemotherapy should be limited, however, to special situations in which risk of postmolar GTN is much greater than normal (age > 40 years, hCG > 100,000 mIU/mL, excessive uterine enlargement, theca lutein cysts > 6 cm, medical complications) and/or when adequate hCG follow-up is unavailable or unreliable. Essentially all patients who are followed with serial hCG testing after molar evacuation and are found to have persistent GTN can be cured with appropriate chemotherapy.

Twin pregnancy consisting of a complete mole and a coexisting normal fetus is estimated to occur once in every 22,000 to 100,000 pregnancies (Figure 3). It must be distinguished from a partial mole (triploid pregnancy with fetus). The diagnosis can usually be established by ultrasound, but cytogenetics may be used to differentiate between chromosomally normal, potentially viable fetuses and triploid nonviable fetuses. Patients with a normal fetus/complete mole twin pregnancy should be cautioned that they may be at increased risk for hemorrhage, medical complications, and development of persistent GTN. Suction evacuation and curettage in the operating room under ultrasound guidance is recommended for desired pregnancy termination, bleeding, or medical complications. However, up to 40% of these pregnancies will result in normal viable births if allowed to continue.

Follow-up
After evacuation of a hydatidiform mole, follow-up is essential to detect trophoblastic sequelae (invasive mole and choriocarcinoma), which develop in approximately 15% to 20% of patients with complete mole and 1% to 5% with partial mole. Clinical findings of prompt uterine involution, ovarian cyst regression, and cessation of bleeding are all reassuring signs, however, definitive follow-up requires serial serum hCG measurements every 1 to 2 weeks until three consecutive tests show normal hCG levels, after which hCG levels should be determined at 3-month intervals for 6 months after the spontaneous return to normal. Contraception is recommended during the follow-up period for 6 months after the first normal hCG result. Oral contraceptives are preferred because they have the advantage of suppressing endogenous luteinizing hormone (LH), which may interfere with the measurement of hCG at low levels, and do not increase the risk of postmolar GTN. Indications for treatment of postmolar GTN are: plateauing hCG levels ≥ x4 values over 3 weeks, rising hCG levels ≥ 10% x three values over 2 weeks, persistently elevated hCG levels 6 months after evacuation, a histopathologic diagnosis of choriocarcinoma or intermediate trophoblastic tumor, or detection of metastases.

In all future pregnancies, pathologic examination of the placenta or other products of conception as well as determination of a 6-week postpartum hCG level are recommended.

Medical induction of labor and hysterectomy are not recommended for molar evacuation.

DISCLOSURE The author reports no potential conflicts of interest with regard to this article.

FOR REFERENCES VISIT contemporaryobgyn.net/MolarPregnancy

Medical management of missed abortion
Adding mifepristone to an ob/gyn’s armamentarium isn’t as easy as writing a prescription but women need access to this drug for missed abortion.

Behavioral health in pregnancy and postpartum
Women with behavioral conditions need ongoing care through pregnancy and postpartum, but our health care system makes this a challenge.

Evaluation and management of polyhydramnios
This summary of SMFM Consult Series #46 reviews major considerations in evaluation and management of polyhydramnios.
Irregular vulvar mass in a postmenopausal woman

Do you know how to differentiate precancerous from cancerous vulvar lesions?

**FIGURE 1.** Appearance of the vulva in this case

**HISTORY** A 77-year-old woman presents for evaluation of an irritated area on her vulva (Figure 1). She has a history of vulvar lichen sclerosus since her teenage years and has been only partially compliant in using topical corticosteroids.

**WHAT IS THE MOST LIKELY DIAGNOSIS?**

A. Differentiated vulvar intraepithelial neoplasia  
B. Squamous cell carcinoma  
C. Verrucous carcinoma  
D. Paget’s disease  
E. Melanoma

**THE NEXT STEP IN YOUR MANAGEMENT PLAN IS: **

A. Wide local excision of the lesion with at least 1-cm margins  
B. Refer to Gynecologic Oncology  
C. Magnetic resonance imaging of the pelvis  
D. Vulvar biopsy

**FOR THE DIAGNOSIS, TREATMENT PLAN, AND DISCUSSION TURN TO PAGE 32**
Have your say about what appears in Contemporary OB/GYN.

Sign up today for our Reader Reactor panel! Weigh in on topics of interest, submit topics for consideration, talk the latest technology—we want to hear from you.

If you’re an intern or resident, sign up to be a Resident Reactor where you can comment or discuss topics that are specific to you, your needs and interests.

Join now at bit.ly/reactorsignup
Race and breastfeeding in the American South

Breastfeeding rates in the United States differ by race with rates lowest among African-American infants. These trends are especially evident in the American South. A recent study appearing *Pediatrics* examined how effective a hospital- and community-based initiative could be in reducing racial disparities while at the same time helping participating hospitals achieve a Baby-Friendly designation.

Between 2014 and 2017, 33 hospitals enrolled in the CHAMPS (Communities and Hospitals Advancing Maternity Practices) program from Boston Medical Center’s Center for Health Equity, Education and Research. The program was intended to decrease racial disparities in breastfeeding by using a community and hospital collaborative strategy to improve maternity care practices and implement the Ten Steps to Successful Breastfeeding Initiative.

Enrolled hospitals received intensive quality and technical assistance intervention to improve compliance. They were located in Mississippi (18), Louisiana (9), Texas (5), and Tennessee (2). All hospitals submitted monthly aggregate data stratified by race on breastfeeding initiation and exclusivity, skin-to-skin care, and rooming in practices.

The authors found that the average rate of breastfeeding initiation at CHAMPS-enrolled hospitals rose from 66% to 75% and the average rate of breastfeeding exclusivity rose from 34% to 39%. The disparity between African-American and white infants in regard to breastfeeding initiation disparity decreased by 9.6% over 31 months. Among African-American infants, breastfeeding initiation and exclusivity increased from 46% to 63% and 19% to 31%, respectively. Skin-to-skin care after vaginal birth increased from 33% to 88% and care after cesarean delivery increased from 11% to 67%. Rooming in increased from 11% to 75%.

The authors noted that skin-to-skin care after cesarean delivery was significantly associated with increased breastfeeding initiation and exclusivity overall, with the greatest impact seen among African-American infants.

Among African-American infants, breastfeeding initiation and exclusivity increased from 46% to 63% and 19% to 31%, respectively.

Rooming in was also significantly associated with increased exclusive breastfeeding among African-American infants as they were 1.54 times more likely to breastfeed than infants who did not room in (95% CI: 1.14-2.07).

By 2017, 91% of all CHAMPS hospitals, including 100% of Mississippi CHAMPS hospitals, were on the Baby-Friendly pathway and 1 hospital had gained the designation. By November 2018, 14 CHAMPS hospitals were designated Baby-Friendly. Also, during enrollment, the number of hospitals that stopped distributing formula industry sample packs increased from 42% to 97%.

The authors believe their findings illustrate that breastfeeding rates in the American South can be improved.
through implementing Baby-Friendly practices in hospitals. Their data show that increased compliance in the program was associated with a decrease in racial and/or ethnic disparities in breastfeeding initiation in hospitals and increased breastfeeding initiation, breastfeeding exclusivity, skin-to-skin care and rooming in across all races. The researchers also noted that during the implementation process, many outdated and non-evidence practices, such as breast binding, universal “trials of swallowing” with bottles of sterile water, and long periods of maternal/infant separation came to light. In addition, many evidence-based practices, such as delayed cord clamping and placing infants on their backs for safe sleep were often lacking. As hospitals worked towards improving care, these unsafe practices were eliminated and replaced with updated, evidence-based care.

**SOURCE**

---

**EXPERT PERSPECTIVE**

This report shows that racial disparity in breastfeeding initiation, exclusive breastfeeding, and continuation can be overcome through innovation, education, care coordination and follow up. Implementation of Baby-Friendly breastfeeding strategies requires leadership from administrators and staff and commitment to patient-centered care and shared decision-making. Improving breastfeeding racial disparity can also lead to generation disparity in childhood and adult obesity, diabetes and hypertension.

Haywood L. Brown, MD
Vice President for Diversity, Inclusion & Equal Opportunity
University of South Florida, Tampa, past President American College of Obstetricians & Gynecologists.

---

**Can AI outperform humans in detecting cervical cancer?**

*by Judith M. Orvos, ELS*

Automated evaluation of digital images of the cervix may have potential in point-of-care cancer screening, according to results of a proof-of-concept study supported by the National Institutes of Health. Published in *The Journal of National Cancer Institute*, the research showed that a computer could be taught to distinguish cervical precancer/cancer from normal cells in images using a “deep learning” visual evaluation algorithm.

The images in the study were cervigrams, pairs of cervical photographs that are visually screened for cervical cancer and precursors. The method, called cervicography, has been discontinued but was in use in Guanacaste, Costa Rica during the period of study—1993 to 2000. The population longitudinal cohort for this research was 9406 women aged 18 to 94 in that geographic area who were followed for 7 years.

The participants were screened with cervicography and other methods and their precancers were histologically confirmed. Tumor registry linkage identified cancers up to 18 years. Images from the patients’ cervigrams were used to train an automated visual evaluation algorithm. The authors designed the algorithm to detect the cervix within an image and predict the probability that the image represented cervical intraepithelial neoplasia (CIN) 2+. The resulting image prediction score (0-1) could be categorized to balance sensitivity and specificity for detection of precancer/cancer.

Testing of automated evaluation of the cervigrams showed that the system was more accurate in identifying precancer/cancer cases than the original cervigram interpretations (AUC 0.91, 95% confidence interval [CI] 0.89 to 0.93 vs AUC 0.69, 95% CI 0.63 to 0.74; \( P < .001 \)). The automated technique also was more accurate than conventional cytology (AUC 0.71; 95% CI 0.65 to 0.77; \( P < .001 \)). A single visual screening round restricted to women aged 25 to 49 could identify 127 of 228 precancers (55.7%) diagnosed cumulatively in the adult population while referring 11% for management.
Endometrial scratching—taking an endometrial-biopsy sample—has been proposed as a way to improve live birth rates with in vitro fertilization (IVF). Some studies have suggested a benefit for the procedure, but they have had limitations including small sample sizes and unclear methods of randomization. New data are now available on endometrial scratching from a large, multicenter, randomized trial.

The 1364 women in the study, published in *The New England Journal of Medicine*, were recruited from June 2014 through June 2017 at 13 sites in five countries. All were undergoing IVF (both fresh- or frozen-embryo transfer) and had no recent exposure to disruptive intrauterine instrumentation, such as a hysterectomy. Participants were randomized 1:1 to either endometrial scratching by Pipelle biopsy or to no intervention.

The live birth rate for the endometrial scratching group was 26.1% versus 26.1% in the control group. There were also no significant differences between the two groups in rates of ongoing, clinical, biochemical, multiple or ectopic pregnancy or miscarriage. In women who had not failed implantation at least twice, no benefit was found for endometrial scratching (estimated interaction odds ratio, 0.63; 95% CI 0.35 to 1.15; *P* = 0.14). Furthermore, neither the number of

**EXPERT PERSPECTIVE**

The use of deep learning for cervical cancer screening reveals the potential of this method. Deep Learning has networks that are capable of learning, unsupervised, from data that are largely unstructured and unlabeled. In combination with big data analytics, this technology will undoubtedly help us to get better information and improve our diagnostic capabilities in the near future.

*Jon I. Einarsson, MD, PhD, MPH* Professor of obstetrics and gynecology, Harvard Medical School, Director, Division of Minimally Invasive Gynecologic Surgery, Brigham and Women’s Hospital, Boston, Mass.

**SOURCE**


**EXPERT PERSPECTIVE**

This is an example of another test that initially showed clinical promise in some small observational studies which was ultimately proven to be unhelpful in a well-designed prospective clinical trial.

*Steven J. Ory, MD* Professor of obstetrics and gynecology, Florida International University, Miami, Partner, IVF Florida, Margate.
days between endometrial scratching and embryo transfer nor reported pain during the procedure were associated with greater odds of live birth.

Because data on pain and bleeding were captured only in the endometrial scratch group, it was not possible to compare the frequency of these adverse events between groups. Identified strengths of the research were large sample size and minimal attrition.

The authors said their results indicate that endometrial scratching is not beneficial for women trying to conceive through IVF. They suggest that clinicians not encourage their patients to pursue the procedure before IVF because it resulted in no improvement in live birth rate, exposes women to the potential for pain, and is associated with a cost of approximately $500 and inconvenience.

**SOURCE**

---

**Can sleeping habits predict late stillbirth?**

*b*en *schwartz*

In high-income countries, 1.3 to 8.8 births per 1000 are late stillbirths. Because these fetal deaths at ≥ 28 weeks often occur in women with no established risk factors, research to identify potentially modifiable behaviors is needed. A new study looked at whether maternal sleep practices play a role.

Published in *Birth*, the results are from an analysis of data on an international cohort. Between September 2012 and August 2014, women were invited to participate in an anonymous online survey distributed across social media and through web-based advertising and word-of-mouth. All of them were at least 18 years old, fluent in reading and writing English, and had delivered a singleton stillborn baby at least 28 weeks’ gestation within 1 month before completing the questionnaire. Controls were also at least 18 years old and either still pregnant (≥ 28 weeks) or had delivered a living baby within the month before responding.

Median duration of time since childbirth in the 480 controls was 13 days (range 1-29 days). Median gestation at time of stillbirth in the 153 cases was 37 weeks (range 28-41 weeks) and 52% of stillbirths were male.

The authors found no differences in self-reported sleep practices before pregnancy in cases and controls. In the last month of pregnancy, however, nocturnal sleep duration was significantly longer in cases versus controls, as was 24-hour sleep duration.

Women with stillbirths were at significantly higher odds (aOR 1.75 [95% CI 1.10-2.79]) of sleeping ≥ 9 hours a night in the month before delivery. They were also more likely to report not waking up or waking up only once on the last night before delivery. Although no relationship was found between stillbirth and reported sleep position, the authors noted that the number of reported supine sleepers included in the study was universally low, which prevented full analysis.

Having restful sleep was more likely in the stillbirth group in the last month.

Having restful sleep was more likely in the stillbirth group in the last month, even after accounting for other risk factors (aOR 1.73 [95% CI 1.03-2.99]). Odds of good/very good sleep quality in the last month were higher in the stillbirth group (OR 1.69 [95% CI 1.03-2.99]). A small number of women reported using sleep aids during the last month and on the last night before taking the survey, but no significant relationship was found with stillbirth. Women in the stillbirth group were also asked about their perception of when their baby died and 74% (n=83) believed it was during the night.

The authors believe their findings suggest that long periods of undisturbed sleep are associated with a late stillbirth. Reports of higher-quality sleep and lack of restless sleep were also more likely in the stillbirth group.

**SOURCE**
Persistent disparities in outcomes between men and women with bladder cancer highlight areas of needed improvement in delivery of oncologic care. There were 81,190 new cases of bladder cancer in the United States in 2018, the majority in men. While males are three to four times more likely to develop the disease, women tend to present at an advanced stage, experience differences in quality-of-life following treatment, and suffer higher cancer-specific mortality. Based on Surveillance, Epidemiology, and End Results (SEER) data, women appear to have better cancer-specific mortality for most malignancies, but that does not appear to be the case for bladder cancer. Epidemiologic and biologic explanations have been offered, but our incomplete understanding of the issue suggests numerous contributing factors.

Disparities in evaluation and diagnosis
Perhaps the most evident disparity confronting women with bladder cancer is related to timely evaluation and diagnosis. The reasons for this are multifaceted and reflect differences in how women with hematuria progress through the health care system. Interpretation of hematuria in a woman can be challenging for primary care physicians. While it is certainly concerning for malignancy, it is also present in a number of benign conditions including urinary tract infections (UTIs), which are common in postmenopausal women. In a large population study performed by Cohn and colleagues, women presenting with hematuria who were ultimately diagnosed with bladder cancer were far more likely to be treated for a suspected UTI during initial evaluation than men. Similarly, evaluation of practice patterns of primary care physicians by Buteau and colleagues demonstrated that women presenting with hematuria often underwent three or more pre-referral consultations with their primary care provider for the same complaint before referral for urologic evaluation (OR 2.31, 95% CI 1.98–2.69). It is possible that these barriers result from conflicting guidelines regarding evaluation of asymptomatic microscopic hematuria. While the American Urologic Association defines microscopic hematuria as greater than three red blood cells (RBCs) per high powered field as the trigger for further diagnostic evaluation, the recently released 2017 guidelines from the American Col-

DR. HART is a urology resident at Loyola University Stritch School of Medicine, Maywood, Ill.

DR. WOODS is a professor of urology at Loyola University Stritch School of Medicine, Maywood, Ill.

DR. QUEK is a professor of urology at Loyola University Stritch School of Medicine, Maywood, Ill.
The College of Obstetricians and Gynecologists favors a cut-off of 25 RBCs per high powered field for non-smoking women under age 50. This may lead to confusion for primary care physicians as to when referral is appropriate. Similarly, women who present to their gynecologist for evaluation of microscopic hematuria may experience delays in urologic referral.

While individually, these factors likely play only a small role in the overall delay in evaluation, their net effect is notable. Cohn and colleagues demonstrated that women were more likely to experience a delay in time to diagnosis when compared to men (85.4 days vs 73.6 days; \(P < 0.001\)) and a higher rate of > 6-month delay in diagnosis (17.3% vs 14.1%; \(P < 0.001\)). It has been well documented that delays in diagnosis translate to poorer cancer-specific outcomes.

**Gender differences in cancer-specific outcomes**

Even after diagnosis, women with bladder cancer continue to suffer worse outcomes than males following definitive treatment. While it has been proposed that advanced stage presentation in women may be to blame, this does not fully explain differences in overall survival. An analysis of 5-year survival between men and women with bladder cancer found that women fared worse across all stages. This would suggest that gender continues to play a role even after diagnosis.

One single-institution series suggests that women were less likely to receive intravesical therapy for non-muscle-invasive disease, but larger population cohorts have failed to demonstrate this. Several studies have examined use of various treatment modalities and associated outcomes in women with muscle-invasive bladder cancer. An analysis of SEER data which examined use of radical cystectomy or radiotherapy in patients with muscle-invasive bladder cancer revealed that while men were more likely to receive radiotherapy, there were no differences in use of radical cystectomy between men and women. Similarly, it has been demonstrated that, compared with men, women do not experience significant differences in surgical margin status and lymph node count at time of cystectomy. Outcomes regarding cancer-specific survival following cystectomy have unfortunately been conflicting. Although older series showed that female gender was an independent risk factor for worse cancer-specific survival, newer series suggest that the gender gap may be closing. While more studies are needed to confirm this new trend, it is encouraging. This may be due, in part, to heightened awareness of historical disparities in diagnosis and treatment of bladder cancer in women.

**Urinary diversion and health-related QoL**

Despite equivalent use of radical cystectomy between men and women, continent diversions are underutilized in women. A recent review of radical cystectomies performed in the United States revealed that use of continent urinary diversions has declined, but male patients still received this treatment at more than twice the rate of women. It has been demonstrated...
that women suffer worse health-related quality of life (QoL) outcomes following ileal conduit when compared to men. While patient perception of body image and the results of surgery impact a number of QoL measures in all patients, several studies have suggested this may be improved with use of continent diversion. In a meta-analysis performed by Cerruto et al, 65% of men who had an orthotopic neobladder following radical cystectomy showed improved QoL measures when compared to those who received an ileal conduit. (An orthotopic neobladder is a continent urinary reservoir to the urethra that allows for volitional voiding per urethra.) Few studies have compared health-related QoL measures in men and women following cystectomy. In one study of 73 women who underwent radical cystectomy, those who received an orthotopic neobladder were more likely to experience improvements in future perspective about their illness, perceptions of body image, and sexual function than those who received an ileal conduit.

Factors driving underutilization of orthotopic neobladder use in females are unclear, but may be related to gender-specific complications and adverse outcomes following urinary diversion. A study of urinary functional outcomes in women receiving an orthotopic neobladder revealed that urinary retention rates may be as high as 44.6% in women. There is a paucity of data comparing men to women in terms of daytime incontinence, night time incontinence, urinary retention, and sexual function following orthotopic diversion. Lack of standardization of questionnaires, varying definitions of continence, under-sampling of female patients, and variable assessments of sexual function are mostly to blame. Further assessment of gender differences in this area is needed.

Even after diagnosis, women with bladder cancer continue to suffer worse outcomes than males following definitive treatment.

Potential biologic differences

The role of sex steroids and the hormonal axis have been investigated as a potential biologic explanation for the gender divide in bladder cancer. Population analyses have demonstrated that bladder cancer is more common in postmenopausal than premenopausal women. This has led several investigators to assess the role of sex steroid receptors in bladder tumors. The primary points of interest have been expression of androgen receptor (AR) and estrogen receptor (ER) and their association with pathologic stage. In an analysis of 188 tumors, Miyamoto and colleagues showed that loss of AR and ERα and increases in ERβ were associated with an increase in tumor grade and stage. It also appears that modulating ERs may inhibit growth of urothelial cell carcinoma. In a study conducted by Sonpavde and colleagues, raloxifene, a selective estrogen receptor modulator (SERM), inhibited growth of urothelial cell carcinoma in an in vivo model. Implications of ARs and ERs as drivers of tumorigenesis are profound. The role of tamoxifen, another SERM, is currently under investigation for the treatment of low- and intermediate-risk bladder cancer (NCT02197897). Further study is needed to determine the role of androgens in treatment of bladder cancer.

Conclusion

Gender disparity in bladder cancer is a complex issue that likely stems from diagnostic delays, therapeutic differences, and possibly biological factors. Each of these areas provide opportunities for improvement and for the eventual elimination of the gender divide. Partnerships between primary care providers, gynecologists and urologists should remain a priority to improve education and understanding of the importance of timely evaluation of hematuria in women. It is hoped that continued understanding of the biologic drivers of urothelial carcinoma will provide novel therapeutic targets for both men and women with bladder cancer.

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

FOR REFERENCES VISIT contemporaryobgyn.net/BladderCancer

FROM THE PAGES OF Urology Times

CONTEMPORARYOBGYN.NET 26
Lupus in pregnancy

Maternal and fetal outcomes complicated by SLE require that patient, rheumatologist, and ob/gyn work as a team.

**by Michelle Petri, MD, MPH, and Romy Kallas, MD**

Systemic lupus erythematosus (SLE) is a multi-system autoimmune disease that affects women of childbearing age. Although most pregnancies are successful with reported live birth rates of 85%, SLE pregnancies remain high-risk. The challenges posed by such pregnancies arise from increased maternal risk of flares, preeclampsia, and maternal mortality, as well as increased fetal risks of intrauterine growth restriction (IUGR), pregnancy loss and preterm birth (PTB). In this review, we consider what is known about the immunology of lupus in pregnancy as well as the maternal and fetal risks and outcomes.

**SLE immunology**

It is amazing how little is still known about the immunology of SLE in pregnancy. Gonadal and adrenal steroid hormones are dysregulated in SLE pregnancies. In normal pregnancies, estrogen and progesterone stimulate Th2 and inhibit Th1 cytokines, while dehydroepiandrosterone sulfate (DHEA-S) plays an immunosuppressive role. Levels of these three hormones are significantly lower in SLE pregnancies, particularly during the second and third trimesters, possibly due to placental compromise. In pregnant SLE patients, prolactin levels are elevated in the second trimester and peak in the third trimester. High prolactin level correlates with pregnancy disease activity and poor pregnancy outcomes.

Cytokine imbalances have also been found in pregnancies complicated by SLE, regardless of whether the disease is clinically active or inactive. Increases in interleukin (IL)-6, a Th2 cytokine, are lower than expected and IL-10, B-cell growth factor, is persistently elevated.

In the PROMISSE Study, overactivation of the complement pathway, detected by increased Bb and SC5b-9 (products of this pathway), was present early in 487 SLE pregnancies when compared with 204 healthy pregnancies. Increased Bb and SC5b-9 correlated with adverse pregnancy outcomes, which included fetal/neonatal death, preterm delivery or preeclampsia and/or IUGR. In one SLE pregnancy, mutations in complement system regulatory proteins were found. These proteins are highly expressed on trophoblast membranes and prevent excessive complement activation in uncomplicated pregnancies.

**Preconception preparation should include assessing renal disease activity in a patient, knowing which treatments she is taking for SLE, and being aware of whether she is anti-Ro- and La-positive and has APS.**

**Lupus-affected pregnancies are at risk for renal flares, preeclampsia, cesarean delivery and a twenty-fold increase in maternal mortality.**

**QUICK TAKES**

- DR Petri is professor of medicine, Division of Rheumatology, Johns Hopkins University School of Medicine, Baltimore, Md.
- DR Kallas is Lupus Fellow, Division of Rheumatology, Johns Hopkins University School of Medicine, Baltimore, Md.
Angiogenic imbalance is present in SLE pregnancies complicated by preeclampsia. In a case-control study using stored serum samples, soluble fms-like tyrosine kinase-1 (sFlt1), an anti-angiogenic factor, was significantly higher in pregnant patients with SLE who had preeclampsia.\textsuperscript{14} Elevation of sFlt1, as early as 12 to 15 weeks, correlated strongly with adverse pregnancy outcomes.\textsuperscript{1}

Given the number and breadth of the immunologic, endocrine, and angiogenic changes in pregnancies complicated by SLE, it is no wonder that they are associated with multiple adverse outcomes. However, these changes have not been integrated in a way that would be useful clinically at the individual patient level.

**Maternal outcomes**

Lupus-affected pregnancies are at risk for renal flares,\textsuperscript{16} preeclampsia, cesarean delivery and a twenty-fold increase in maternal mortality.\textsuperscript{5}

**DISEASE ACTIVITY AND LUPUS NEPHRITIS**

Multiple case-control studies have yielded conflicting results regarding the likelihood of flares during pregnancy. While some centers found no difference in flare rates,\textsuperscript{17-20} others have found increased risk of flare (Table 1)\textsuperscript{3,4} in pregnant compared to non-pregnant women with SLE. The differences are likely due to patient selection rather than study design or definition of flare. In particular, studies that included African-Americans, lupus nephritis and women with unplanned pregnancies have shown higher flare rates.\textsuperscript{1}

Patients with organ-specific lupus activity during the 6 months prior to conception were more likely to have persistence of, or an increase in, the same type of activity during pregnancy.\textsuperscript{21} Most of the flares were mild to moderate in intensity\textsuperscript{7,21-23} and manageable with small increases in prednisone. Severe flares constituted only 2% to 20% of flares.\textsuperscript{7,21-24} There has been no overall pattern of timing of flares, with some studies showing flares early\textsuperscript{20} and some late in pregnancy.\textsuperscript{4}

Patients with SLE who have lupus nephritis constitute a special population that has been studied separately. Case-control studies that evaluated

<table>
<thead>
<tr>
<th>Study</th>
<th>Number of lupus pregnancies</th>
<th>Number of controls &amp; type</th>
<th>Study design</th>
<th>Quantified measure of flare</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zulman, 1980\textsuperscript{2}</td>
<td>24</td>
<td>Prepregnancy course</td>
<td>Case-control study</td>
<td>No</td>
<td>Increased flare rates in pregnancy</td>
</tr>
<tr>
<td>Lockshin, 1984\textsuperscript{17}</td>
<td>33</td>
<td>Matched nonpregnant</td>
<td>Case-control study</td>
<td>No</td>
<td>No difference in flare rates</td>
</tr>
<tr>
<td>Meehan, 1987\textsuperscript{18}</td>
<td>22</td>
<td>Matched nonpregnant</td>
<td>Case-control study</td>
<td>No</td>
<td>No difference in flare rates</td>
</tr>
<tr>
<td>Petri, 1991\textsuperscript{3}</td>
<td>39</td>
<td>Postpregnancy course Nonpregnant SLE patients</td>
<td>Case-control study</td>
<td>Yes</td>
<td>Increased flare rates in pregnancy</td>
</tr>
<tr>
<td>Urtowitz, 1993\textsuperscript{19}</td>
<td>61</td>
<td>Matched nonpregnant Nonpregnant</td>
<td>Case-control study</td>
<td>Yes</td>
<td>No difference in flare rates</td>
</tr>
<tr>
<td>Ruiz-Irastorza, 1996\textsuperscript{4}</td>
<td>78</td>
<td>Matched nonpregnant Postpregnancy course</td>
<td>Case-control study</td>
<td>Yes</td>
<td>Increased flare rates in pregnancy</td>
</tr>
<tr>
<td>Georgiou, 2000\textsuperscript{20}</td>
<td>59</td>
<td>Matched nonpregnant</td>
<td>Case-control study</td>
<td>Yes</td>
<td>No difference in flare rates</td>
</tr>
</tbody>
</table>
risk of flares in lupus nephritis concluded that pregnancy does not increase risk for renal flares. However, the study population included mostly white women in complete or partial remission at time of conception (Table 2).\textsuperscript{25,26} Compared to patients without lupus nephritis, pregnant women who have nephritis are at increased risk of renal flare.\textsuperscript{16}

Lupus activity (manifested as mild, moderate or severe disease flares) in the months prior to conception is a major predictor of pregnancy activity. Studies with more than one-third of their patients with active disease at conception reported flare rates ranging from 45% to 70%,\textsuperscript{3,23} while those with predominantly inactive or stable disease at conception reported flare rates lower than 20%.\textsuperscript{22}

In patients with lupus nephritis, renal disease activity prior to or at the time of conception, and shorter renal disease remission duration were predictors of pregnancy flare.\textsuperscript{16,25} Renal flares occurred in 5% of pregnancies in women who were in complete remission prior to conception compared to 40% of pregnancies in those who had active renal disease.\textsuperscript{25} Renal activity within 4 months prior to conception was the strongest predictor.\textsuperscript{16} Kidney biopsy early in pregnancy is safe and informative in patients with suspected renal flares. In a case series of 11 patients with SLE who underwent kidney biopsy during pregnancy, all but one underwent a change in management as a result of findings on renal biopsy and none had biopsy-related complications.\textsuperscript{27}

**Fetal outcomes**

Major fetal complications of pregnancy affected by SLE include pregnancy loss, preterm birth, IUGR, and neonatal lupus.

**PREGNANCY LOSS**

Fetal loss rates for pregnancy complicated by lupus have decreased over the past 40 years, from a mean of 40% to 17%.\textsuperscript{6} In patients with SLE, pregnancy loss occurs mostly during the first trimester. Attribution of early losses to SLE is often not possible, as early pregnancy losses are also common in the general population. Second-trimester losses are mostly associated with secondary antiphospholipid syndrome (APS).\textsuperscript{1}

We have found that proteinuria (> 500 mg in a 24-hour urine collection or a urine protein-to-creatinine ratio > 0.5 g; OR = 2.1), secondary APS (APS in the setting of another autoimmune disorder; OR = 3.4), hypertension (blood pressure > 140/90 mm Hg; OR = 4.4) and thrombocytopenia (platelet count < 150,000; OR = 3.0) at the first prenatal visit in patients with SLE is predictive of pregnancy loss. We coined the acronym PATH (proteinuria, antiphospholipid syndrome, thrombocytopenia and hypertension) to remember these risk factors.\textsuperscript{28} Increased lupus disease activity in the first and second trimester,\textsuperscript{29,30} particularly when combined with low complement levels\textsuperscript{29,30} or second-trimester positive anti-dsDNA antibodies,\textsuperscript{29} is associated with higher risk of pregnancy loss.

In our center, only presence of lupus anticoagulant at the first pregnancy visit (not a past history of positivity) predicted loss of that pregnancy.\textsuperscript{30} Thus, if lupus anticoagulant is positive, we recommend low-dose aspirin and low-molecular-weight heparin.\textsuperscript{31} In patients with thrombosis due to secondary APS, full anticoagulation is indicated and should be done with unfractionated or low-molecular-weight heparin.

A history of pregnancy loss in the first pregnancy is not a predictor of poor outcomes in future pregnancies.\textsuperscript{28,32} In an Australian cohort, 90% of women with SLE and a history of first pregnancy loss had a live-born infant, with no recurrence of perinatal death.\textsuperscript{32}

**PRETERM BIRTH**

PTB is the most frequent adverse pregnancy outcome in SLE,\textsuperscript{33} with a reported incidence of approximately 50%.\textsuperscript{7,24,37} PTB can be spontaneous, such as preterm labor or premature rupture of membranes (PROM), or indicated for maternal or fetal complications such as preeclampsia, IUGR or fetal distress.
Maternal hypertension is an important predictor of PTB. In the Hopkins study, mean diastolic blood pressure correlated with preterm delivery. Use of low-dose aspirin therapy was not predictive of better outcome, but instead was predictive of increased PTB, likely due to a clinician sensing that the patient was already at high risk.

Disease activity, particularly in the second trimester and when combined with hypocomplementemia or anti-dsDNA antibodies, is a risk factor for PTB. In the Hopkins cohort, 45% of patients who delivered preterm had a high physician global assessment of disease activity and 70% were on 20 mg or more of prednisone. Active, but not quiescent lupus nephritis during pregnancy (defined as achievement of 50% reduction in urine protein/creatinine ratio 4 months prior to conception) is associated with a higher incidence of PTB (46.3% compared to 25.9%, respectively).

Low estradiol, elevated ferritin and elevated uric acid levels at mid-gestation and maternal serum alpha-fetoprotein (AFP) levels have been found to be potential markers of subsequent PTB.

In the Hopkins cohort, PROM occurred in 40% of preterm SLE pregnancies and was also common in term SLE pregnancies. Occurrence of PROM did not correlate with disease activity, prednisone use, or serologic tests. In the same cohort, preeclampsia or pregnancy-induced hypertension was the reason for PTB in 32%, while spontaneous premature labor occurred in only 11%.

IUGR affects 20% to 30% of pregnancies complicated by SLE. Mean birth weight was significantly less for infants born to mothers with SLE than mothers without SLE. This effect became more marked the longer the gestational period, suggesting that IUGR simply becomes worse as the pregnancy progresses.

Despite the fact that infants of mothers with SLE are more likely to be premature and to have IUGR, they tend to do well. Fewer than 2% had an Apgar score below 7. Risk of neonatal intensive care unit admission, however, was three times higher in infants born to mothers with SLE.

**NEONATAL LUPUS**

Neonatal lupus consists of neonatal lupus rash or congenital heart block due to transplacental transfer of anti-Ro and anti-La antibodies. The rash usually resolves by about 6 months. Cardiac manifestations, including heart block and cardiomyopathy, are associated with 20% mortality and 60% rate of permanent cardiac pacing. Anti-Ro-positive women without previously affected pregnancies have a 2% estimated risk of congenital heart block. The rate of congenital heart block when a previous pregnancy resulted in cutaneous or cardiac neonatal lupus is 20%. Weekly fetal cardiac monitoring (by echocardiography assessing PR intervals, valvulopathy, and myocardial function) between weeks 16 and 24 is recommended. Fluorinated steroids are given—to prevent cardiomyopathy—when a fetal echocardiograph detects heart block. To date, hydroxychloroquine is the only drug that has shown to be beneficial in decreasing incidence of neonatal lupus.

**Management of SLE during pregnancy**

Preconception preparation is key. Prior to pregnancy, it is essential to assess disease activity (especially renal) in a patient, know which treatments she is taking for SLE (to switch to medications allowed in pregnancy), and be aware of whether she is anti-Ro- and La-positive and has APS.

Hydroxychloroquine should be maintained or initiated in all pregnancies complicated by SLE. We tell patients that it is desirable in preg-
nancy—for both mother and fetus. The safety of hydroxychloroquine in pregnancy was first demonstrated by Parke et al.50 Other studies have confirmed the drug’s lack of fetal toxicity and congenital abnormalities.16,51,52 Maintaining hydroxychloroquine during pregnancy offers maternal benefits. It decreases disease activity and flares.16,24,52 particularly joint and constitutional flares.52 In the Hopkins cohort, among patients with low disease activity who discontinued hydroxychloroquine, 30% developed high disease activity during pregnancy compared to only 3% of those taking hydroxychloroquine.52 Hydroxychloroquine has an anti-thrombotic effect53 and should be used in pregnancies complicated by SLE in view of the 10-fold increase in thrombosis risk.5 Hydroxychloroquine also reduces neonatal morbidity. Rates of prematurity and IUGR were lower in 41 pregnancies complicated by SLE exposed to hydroxychloroquine compared to 77 pregnancies not exposed to hydroxychloroquine.49 Neonates born to mothers who continued hydroxychloroquine had higher gestational age, birth weight, and Apgar scores.51

Nonsteroidal anti-inflammatory drugs (NSAIDs) should be avoided in the second and third trimesters. They have been shown to increase risk of premature closure of ductus arteriosus and impair fetal renal function.54,55 Increases in prednisone to doses equal or greater than 10 mg should be avoided. Exposure to glucocorticoids did not increase risk of major anomalies, but did increase risk of cleft palate in pregnancies to women who did not have SLE.49 Exposure to prednisone during the first trimester, in the general population, was associated with increased rates of miscarriage, PTB and low birth weight.55 It was not possible to separate out the effects of the underlying conditions from the effects of prednisone. Moreover, prednisone use in pregnancy was shown to be associated with increased risk of gestational diabetes when used in patients with idiopathic thrombocytopenia.58

Despite the fact that infants of mothers with SLE are more likely to be premature and have IUGR, they tend to do well. Azathioprine has not been associated with major congenital anomalies or poor pregnancy outcomes at daily doses not exceeding 2 mg/kg.59 Azathioprine safety is explained by absence of the enzyme inosinate pyrophosphorylase in the immature fetal liver. This enzyme is essential to convert azathioprine to its active metabolite mercaptopurine.

Tacrolimus has been used successfully for maintenance and control of flares during pregnancy in nine patients with lupus nephritis, with no congenital abnormalities reported.60 In a retrospective review of 15 pregnancies complicated by SLE, tacrolimus use was not associated with adverse fetal and maternal outcomes.53

Most pregnancies exposed to rituximab (monoclonal antibody against CD20 present on B cells) resulted in uncomplicated live births with no pattern of congenital anomalies.62 Transient B-cell depletion in infants has been reported in three pregnancies exposed to rituximab less than 12 weeks before delivery. The recommendation remains to stop rituximab 12 months prior to conception.64 Seventy-seven pregnancies exposed to belimumab (monoclonal antibody against B-cell activating factor) resulted in 38 live births and four congenital anomalies. The latter were chromosomal, urogenital, neural tube, and cardiovascular anomalies.65 One was a mild Ebstein’s anomaly.

Approach to SLE in pregnancy

Three issues regarding SLE in pregnancies were highlighted in recent studies. First, during pregnancy, patients with SLE do not visit their rheumatologists

CONTINUED ON PAGE 43
**IRREGULAR VULVAR MASS**

**Squamous cell carcinoma**

*CONTINUED FROM PAGE 18*

**Vulvar squamous cell carcinoma**

Any patient in whom cancer is diagnosed needs to be referred to a gynecologic oncologist. But the initial biopsy of a lesion can be done by an ob/gyn to expedite a patient’s care. Over 90% of vulvar malignancies are histologically squamous cell carcinomas (SCC). There are two known causal pathways for development of vulvar SCC: human papillomavirus (HPV)-dependent and HPV-independent. Approximately 20% of vulvar SCC is HPV-dependent and accounts for the majority of vulvar SCC in younger women; 80% of vulvar SCC is HPV-independent and more often found in older women. Patients with HPV-independent disease often have a concurrent vulvar inflammatory disorder, such as lichen sclerosus. Other risk factors for vulvar SCC include increasing age, cigarette smoking, multiple sexual partners, cervical dysplasia, and immunodeficiency. Biopsy is essential in diagnosis and work-up of a suspected vulvar SCC. Once the diagnosis is made by vulvar biopsy, treatment includes referral to a specialist in gynecologic oncology for primary surgery (radical vulvectomy), possibleinguinofemoral lymph node dissection dependent on the depth of invasion, as well as adjuvant radiation and/or chemotherapy when indicated.¹

**Precancerous lesions of the vulva**

Terminology for precancerous vulvar lesions has changed several times over the past few decades. The most recent and most widely used is the International Society for the Study of Vulvovaginal Disease (ISSVD) terminology of 2015.

**This classification system uses:**

1. Low-grade squamous intraepithelial neoplasia (LSIL)
2. High-grade squamous intraepithelial neoplasia (HSIL) (Figure 2)
3. Differentiated vulvar intraepithelial neoplasia (dVIN)

LSIL of the vulva refers to flat condyloma or HPV-effect, which does not usually require treatment unless it is bothersome to the patient. HSIL of the vulva (previously usual-type VIN) is associated with HPV in over 80% of cases. Left untreated, a significant number of cases will progress to vulvar SCC, therefore, treatment is recommended for vulvar HSIL.²,³ Treatment of HSIL is with simple excision or carbon dioxide laser, dependent on whether the disease is in the hair-bearing or non-hair-bearing area and whether the clitoris is involved. Topical treatment with 5% imiquimod (off-label) has been found to be efficacious. Wide local excision is preferable if occult invasive disease cannot be excluded.⁴

Much less common than HSIL of the vulva, dVIN is associated with approximately a 35% chance of progression to SCC. Most cases of dVIN are independent of HPV but are associated with older age and presence of an inflammatory dermatosis, most commonly

---

**FIGURE 2. Vulvar HSIL**

---

**DIAGNOSIS:**

B. Squamous cell carcinoma

**TREATMENT PLAN:**

D. Vulvar biopsy
lichen sclerosus. Treatment with lifelong topical corticosteroids has been shown to decrease the chance of a patient with lichen sclerosus developing precancerous and cancerous lesions of the vulva. Wide local excision of dVIN is suggested to exclude areas of occult invasion.\(^5\) Laser therapy and topical treatments are not recommended, outside of exceptional circumstances.

**Other less common vulvar diseases**

Vulvar Paget’s disease (Figure 3) is a multifocal disease process that accounts for approximately 1% of all vulvar malignancies, most often in postmenopausal white women. The disease is often multifocal, and delay in diagnosis can be several years, so any non-resolving hyperkeratotic plaque on the vulva requires biopsy. Primary treatment of Paget’s disease is generally wide local excision to obtain clear margins. Treatment of invasive Paget’s disease is typically radical vulvectomy and consideration of inguinalfemoral lymph node sampling.\(^5\)

---

**LOCUMS ONE STEP AHEAD.**

To deliver the industry’s smoothest locums process, we draw upon decades of experience and map the easiest course for you.
Invasive disease occurs in 10% to 25% of all extramammary Paget’s disease. Perianal tissue is more likely to be associated with invasion than disease on other areas of the vulva.

**Verrucous carcinoma**

Verrucous carcinoma of the vulva (Figure 4), often grossly mistaken for condylomata, is a rare vulvar malignancy (fewer than 1% of vulvar cancers). It can present as an exophytic, ulcerated or bleeding mass. In general, this variant can be slow growing and is locally invasive. Distant metastases have not been reported with this histologic subtype of vulvar cancer. On histopathology, verrucous carcinoma is characterized by a verruciform growth pattern, a blunt interface between the neoplastic epithelium and the underlying submucosal stroma, and minimal nuclear atypia. Treatment is typically in the form of surgical excision. Topical medications, ablation therapies, and radiotherapy have not been shown to be effective.

**Melanoma**

Vulvar melanoma (Figure 5) accounts for approximately 10% of all pigmented vulvar lesions. Incidence is highest after the sixth decade in white women. Early diagnosis through biopsy has been shown to decrease mortality, so biopsy is warranted of any new or atypical-appearing nevus. Vulvar melanoma should be treated with surgery by a clinician experienced in management of cutaneous malignancies. Five-year survival rates are often less than 50%.

**Disease metastatic to the vulva**

Metastases to the vulva from primary tumors located elsewhere in the body are uncommon and account for approximately 3% to 5% of all vulvar malignancies. Most common sites of metastases include the cervix and less commonly the uterus, however, reports of vulvar metastases exist from primary tumors arising in the breast, bladder, anus, appendix (and other parts of the gastrointestinal tract), kidney, lung, thyroid, and as a primary presentation of lymphoma.

**DISCLOSURES**

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

**FOR REFERENCES VISIT**

contemporaryobgyn.net/IrregularVulvarMass

*To read more about puzzling vulvar conditions visit our website* contemporaryobgyn.net
GOHO ultrasound program expands

The Gottesfeld-Hohler Memorial Foundation’s (GOHO) ultrasound education program, previously just for residents, has been expanded. Late last year, the organization welcomed 65 students to its inaugural Second-Year Fellow Course.

During a 3-day retreat held at Lago Mar Resort & Club in Fort Lauderdale, Florida, the fellows received instruction from leaders in the field. Topics for the lectures included screening for fetal anomalies, first-trimester anatomy, chorionic villus sampling and amniocentesis, genetics, the role of magnetic resonance imaging in fetal brain imaging, and four-chamber view of the heart.

The fellows represented programs from across the United States. Faculty who volunteered to teach were Drs. Alfred Abuhamad, Beryl Benacerraf, Joshua Copel, Lorraine Dugoff, Helen Feltovich, Steven Goldstein, Christina Han, John Hobbins, Ana Monteagudo, Lawrence Platt, Magdalena Sanz Cortes, Lynne Simpson, Joanne Stone, and Ilan Timor-Tritsch.

Like GOHO’s course for residents, which is held annually during the summer at Mount Sinai in New York, the program for second-year fellows was offered free of charge as part of the Foundation’s mission of ultrasound education.

The Gottesfeld-Hohler Memorial Foundation (www.gohofoundation.org) is a 501(c)(3) charity founded by Drs. Larry Platt and John Hobbins together with two of the founders of the former ADR Ultrasound, Jim Binns and Marty Wilcox, to honor two early pioneers of ob/gyn ultrasound, Ken Gottesfeld and Chuck Hohler. The GOHO Foundation organizes a fundraising CME ultrasound course in Florida every December, with all proceeds going towards the educational mission of the group.

For more information on upcoming events, go to HTTP://GOHOFOUNDATION.ORG
How flu shots help protect the public

Here’s what ob/gyns need to know when treating their at-risk patients.

The 2018-2019 flu season got off to a slow start, but that doesn’t mean patients should skip getting a flu shot or that ob/gyns can skimp on recommending them. “Flu activity has been low so far this year, but we expect activity will pick up soon,” said Alicia Budd, MPH, an epidemiologist in the Influenza Division of the CDC’s National Center for Immunization and Respiratory Diseases.

According to Budd, Influenza A (H1N1) is the predominant flu virus circulating so far this season. “Last season the flu vaccine reduced H1N1 risk by 65%.”

The success of any season’s flu vaccine depends on how well it matches the three or four viruses most likely to strike. As viruses evolve, vaccines are updated to counter new strains.

The roster of approved vaccines for the 2018-2019 season includes inactivated injectable vaccines (IIV), recombinant flu vaccines (RIV), and live attenuated vaccine (LAIV), which was omitted last year. The CDC expresses no preference, as long as vaccines are licensed and age-appropriate.

Trivalent or Quadrivalent?
Although trivalent and quadrivalent vaccines are both available this season, manufacturers estimate that up to three-quarters of the flu vaccines administered this seasons will be quadrivalent because the vaccine’s extra component protects patients from another strain of influenza.

Trivalent flu vaccines are designed to protect against three virus strains, two A viruses (H1N1 and H3N2) and one B virus, but there’s often more than one B virus circulating during any flu season. Quadrivalent vaccines offer more protection by adding a second strain of B virus.

Although quadrivalent flu vaccines offer broader protection, the CDC does not recommend waiting in the event there’s a shortage. Getting a trivalent flu shot when you can is considered more effective than waiting for a quadrivalent vaccine.

What’s Changed This Season?
Both trivalent and quadrivalent vaccines contain the same H1N1 virus as last season. Updates were made to the H3N2 virus, and the B virus is a different strain from last year.

Components in this year’s trivalent vaccine are:
- Type A H1N1: A/Michigan/45/2015 (H1N1)pdm09-like virus, same as last year.
- Type A H3N2: A/Singapore IN-FIMH-16-0019/2016 A(H3N2)-like virus, updated.
- The B virus this season is different, B/Colorado/06/2017-like (Victoria lineage) virus updated.

Quadrivalent vaccines feature an additional B virus:
- B/Phuket/3073/2013-like (B/Yamagata lineage) virus, which is the same as in the 2017-2018 flu vaccine.
This year’s trivalent vaccines come in a standard dose for ages 18 through 64 and a stronger dose for people over 65 because a higher dose of flu vaccine is more effective in older adults.

A cell-based flu vaccine offers options for patients with egg allergies since this type is grown in mammalian cells rather than in chicken eggs. The virus may contain traces of albumin, so people with a history of severe egg allergy should be vaccinated in a doctor’s office, where any allergic reaction can be monitored and treated.

Patients who don’t like needles can get the trivalent flu vaccine via an intradermal shot, which inserts medicine under the skin, or a jet injector, which uses a high-pressure stream of fluid.

CONTINUED ON PAGE 41

### TABLE 2018-2019 Vaccine options and suitability

<table>
<thead>
<tr>
<th>Trade name [Manufacturer]</th>
<th>Presentation</th>
<th>Age indication</th>
<th>HA, μg/dose (Each virus)</th>
<th>Egg-grown virus, cell culture-grown virus, or recombinant HA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>QUADRIVALENT IIVS (IIV4S)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afluria Quadrivalent [Seqirus]</td>
<td>0.5 mL prefilled syringe</td>
<td>≥ 3 yrs</td>
<td>15</td>
<td>Egg</td>
</tr>
<tr>
<td></td>
<td>5.0 mL multidose vial</td>
<td>≥ 6 mos (needle/syringe) 18 through 64 yrs Get injector</td>
<td>7.5/0.25 mL 15/0.5 mL</td>
<td>Egg</td>
</tr>
<tr>
<td>Fluarix Quadrivalent [GlaxoSmithKline]</td>
<td>0.5 mL prefilled syringe</td>
<td>≥ 6 months</td>
<td>15</td>
<td>Egg</td>
</tr>
<tr>
<td>Flulaval Quadrivalent [ID Biomedical Corp. of Quebec]</td>
<td>0.5 mL prefilled syringe</td>
<td>≥ 6 months</td>
<td>15</td>
<td>Egg</td>
</tr>
<tr>
<td></td>
<td>5.0 mL multidose vial</td>
<td>≥ 6 months</td>
<td>15</td>
<td>Egg</td>
</tr>
<tr>
<td>Flucelvax Quadrivalent [Seqirus] (cclIV4)</td>
<td>0.5 mL prefilled syringe</td>
<td>≥ 4 yrs</td>
<td>15</td>
<td>Cell</td>
</tr>
<tr>
<td></td>
<td>5.0 ml multidose vial</td>
<td>≥ 4 yrs</td>
<td>15</td>
<td>Cell</td>
</tr>
<tr>
<td>Fluzone Quadrivalent [Sanofi Pasteur]</td>
<td>0.25 mL prefilled syringe</td>
<td>6 through 35 months</td>
<td>7.5/0.25 mL</td>
<td>Egg</td>
</tr>
<tr>
<td></td>
<td>0.5 ml prefilled syringe</td>
<td>≥ 3 yrs</td>
<td>15/0.5 mL</td>
<td>Egg</td>
</tr>
<tr>
<td><strong>TRIVALENT IIV (IIV3S)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afluria [Seqirus]</td>
<td>0.5 mL prefilled syringe</td>
<td>≥ 3 yrs</td>
<td>15</td>
<td>Egg</td>
</tr>
<tr>
<td></td>
<td>5.0 mL multidose vial</td>
<td>≥ 6 mos (needle/syringe) 18 through 64 yrs Get injector</td>
<td>7.5/0.25 mL 15/0.5 mL</td>
<td>Egg</td>
</tr>
<tr>
<td>Fluad [Seqirus] (allIV3)</td>
<td>0.5 mL prefilled syringe</td>
<td>≥ 65 yrs</td>
<td>15</td>
<td>Egg (adjuvanted with MF59)</td>
</tr>
<tr>
<td>Fluzone High-Dose [Sanofi Pasteur] (HD-IIV3)</td>
<td>0.5 mL prefilled syringe</td>
<td>≥ 65 yrs</td>
<td>60</td>
<td>Egg</td>
</tr>
<tr>
<td><strong>QUADRIVALENT RIV (RIV4)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flublok Quadrivalent [Sanofi Pasteur]</td>
<td>0.5 mL prefilled syringe</td>
<td>≥ 18 yrs</td>
<td>45</td>
<td>Recombinant</td>
</tr>
</tbody>
</table>

Source: CDC
experts agree that forecasting the future of healthcare technology isn’t difficult: machine learning, artificial intelligence (AI), and cloud technologies that apply to clinical, workplace, and financial processes will have better and richer incorporation into the industry.

But to get there, healthcare executives need to be laying the cultural foundation today for the technology changes coming in the next decade.

For example, investing in AI over the next 5 years could cost, on average, more than $30 million per organization, according to a survey of 500 healthcare executives by OptimIQ that was published in November 2018. However, 38% of employers and 20% of health plans believe they would see a return on that investment in 4 years or less. Ultimately, 94% of respondents see investments in technologies, such as AI, as the clearest route to affordable, accessible and equitable healthcare in the future.

But in order to realize those future possibilities, a culture shift needs to happen in healthcare today, says Tom Lawry, director of worldwide health for Microsoft. The future of healthcare technology relies more on the culture and framework being created by clinical and business leaders today, he tells Drug Topics.

Investing in AI over the next 5 years could cost, on average, more than $30 million per organization.

“What really is going to be needed in the future is not just the breakthroughs in technology, but breakthroughs in creative thinking and the ability of leaders to think differently when redeveloping their processes to leverage the power of the technologies rather than trying to insert these new technologies into a framework,” Lawry says.

Anil Jain, MD, vice president and chief information officer for Watson Health at IBM, says that healthcare organizations will need to shake the stigma of being bureaucratic and slow to adapt so they can be agile enough to adopt future technologies.

“Healthcare organizations need to start to push the agenda that says innovation is important to healthcare. People outside of healthcare view the industry as very conservative, very slow to adapt,” Jain tells Drug Topics. But when you talk to people inside the industry, we all think we’re moving very, very quickly. The key is for these healthcare organizations to get involved in the national debate, at the advocacy level and advising others on what the industry needs, so that movement is made collectively.”

These experts have given their insights on where healthcare technology will be the most impactful in the next decade.

1 **Better cloud integration**

Although devices collecting digital data are important to healthcare, how those data are shared is the most essential part of the equation, Lawry says.

More than 90% of healthcare organizations are widely using the cloud to host applications, accord-
ing to a 2017 Healthcare Information and Management Systems Society (HIMSS) survey on cloud use. However, the industry is still using the cloud for separate functions, such as clinical apps, data hosting, and backup, and not in a holistic fashion. The survey found that though there is a high level of cloud usage at healthcare organizations, the functionality is still limited.

Use of cloud integration has allowed for data from different healthcare silos to be shared, and as more organizations continue to connect those dots, and Lawry says that it will transform the industry.

“Everyone’s digitizing their data, whether that’s electronic medical records or X-rays. But digitizing data doesn’t do anything other than that. It changes data from one form to another instance,” Lawry says. “The transformation that’s brought about by the cloud and bringing that data together allows for all kinds of interesting things. That to us is the number one transformational aspect going forward for the next few years.”

Deeper AI infusion

Artificial intelligence has been a part of the healthcare for years, but experts believe in the next decade it will be a regular part of the industry.

A survey of 200 healthcare professionals by Intel Corporation, released in July 2018, found that 37% of respondents were using AI in limited ways, and 54% believe that there will be widespread AI adoption in the next 5 years.

John Doyle, director of business strategy for Worldwide Health Industry at Microsoft, says moving forward, we should expect to see AI infused into all aspects of clinical and operational workflow.

“We are early in the journey for cloud and AI adoption today, but we are already starting see some amazing progress being made, and we expect this continue and with a broader adoption of applied AI in areas such as the clinical interpretation of complex datasets, intelligent medical images, voice integration, and real-time insight of streaming medical devices and sensors data,” Doyle says.

As a new generation of consumer-focused services aim to merge patients and consumer journeys, applied AI will disrupt how patients engage with healthcare providers today, Doyle says. “Applied AI has the potential to reduce the complexity of how healthcare data is captured and analyzed, examples of this include how intelligent voice integration and bot technologies are being used during virtual consultations to reduce the time spent entering data by both patients and clinicians, and how pretrained clinical knowledge can be applied at the point of care.”

Infrastructure upgrades

The ability for clinicians to meet with patients via web and mobile portals is essential for chronic care management, says Rhonda Collins, DNP, RN, chief nursing officer at Vocera, and founder of the American Nurse Project.

“A majority of this country is still rural. So, we need to rely on technology to fill gaps in human connections in healthcare—telehealth will be more important going forward, as infrastructure and technology continue to improve. Hospitals and clinics will need to prepare for a world that technology is making smaller,” Collins says.

A 2017 report issued by the Federal Communications Commission found that 50% of U.S. counties house people who both have high occurrences of chronic diseases and a greater need for broadband connectivity.
The commission called this “double burden,” and incidents can be as high as 60% in rural counties.

“That makes a remote consultation with a doctor or video chat very difficult, but the situation is improving, and over time, I think at-home remote care will be most valuable in rural areas, where technology use is far more practical than a long drive to see a doctor,” Collins says.

As telehealth expansion continues through Medicare reimbursements, patients are still unclear about its availability and use. A survey released by Healthline in August 2018 found that 46% of Medicare Advantage members were unsure if telehealth was an option, and 37% stated telehealth was not offered even though it is.

Collins adds that hospitals are still lacking full-scale wi-fi and consistent cellular service, which impedes integration of telehealth and other mobile health offerings.

“These basic issues make it very difficult to bring technology in to provide extraordinary care and connectivity to all patients everywhere. Infrastructure upgrades are a must, and that should be the focus of many hospitals, so they can leverage great technologies that improve the lives of patients and clinicians alike,” Collins says.

**Smarter therapies**

Though smart phones, smart watches and other smart devices are being used by consumers, a focus on “smart” hasn’t translated to healthcare solutions, says Kai Patel, MD, MBA, senior vice president of digital health at Flex, a solutions provider that builds intelligent products.

“By and large, many healthcare solutions lack meaning. They are not smart,” Patel says. “The data from them is either not collected at all or it is collected, and it stays in some type of local environment which inherently limits the value you can derive from that.”

Patel says in the next decade, drug delivery devices such as insulin pens, biologic auto injectors, inhalers, and smart packaging for pills will become commonplace and enhance both clinical and business operations in healthcare. The goal of tracking these data is to add to the landscape of behavioral insights that can help enhance patient care. Patel says the ability to observe how patients use chronic therapies both inside clinical settings and at home or inpatient care settings is enhanced by integrated cloud and artificial intelligence use.

“Most of that technology is already there, so in the next 5 to 10 years it’s about unlocking that data. Once you can unlock that data, we will really be able to see progress using artificial intelligence and machine learning within those data sets,” Patel says.

Jain says IBM Watson is currently studying concepts around prescribing digital therapies that can be powered by blockchain and artificial intelligence and can be tailored to patients’ behavior.

“Wouldn’t it be really interesting if I prescribed an antidiabetes tablet, and I’m also prescribing an app on the patient’s smart phone that makes sure that they stay somewhat adhering to the medication? If they have any side effects, they’re educated about when they should see the doctor or when they could just simply ignore them,” Jain says.

Smarter therapies could also prescribe diets that work in conjunction with medications and give patients more feedback on their progress, he says. “The idea is that we have to go beyond the pill. As a physician, there has to be a better way to virtually have eyes on the patient even when they’re not in my exam room four times a year for 15 minutes.”

**Enhanced personal medical care**

In the next decade, clinicians will have the ability to use blockchain, machine learning, and artificial intelligence seamlessly to provide specialized care to patients, says Jain.

“The biggest thing is going to be our ability to use these advanced technology enablers to get much better at doing personalized medicine and personalized healthcare with our patients,” Jain says. “Because the back-end healthcare technology is crunching all of their clinical data and administrative data, looking at their genomic profile, looking at their social determinates of health much faster than any human physician or
Jain says that fitness trackers are currently collecting siloed data, but are an important part of the equation when the data can be integrated along with other health determinants. Ultimately, he says more personalized treatments, especially for chronic conditions, would increase adherence to care plans.

“Essentially a clinician will have the ability to say, instead of just practicing in an evidence-based way, we’re going to combine evidence and personalized choices to give patients a much higher likelihood of being successful at the first set of treatments that are offered, instead of going back and forth a few times trying to figure things out,” Jain says.

Collins says she is hopeful that the workflow technology the healthcare field adopts over the next 10 years will match and adapt to technology that people are used to in other areas of their lives.

“Before a hospital shift, someone can sit in their cars and buy movie tickets, make dinner reservations, and chat with friends—all from their smart phones. They then enter the hospital for a day’s work, and many times, the technology landscape is entirely different,” Collins says. She fears that antiquated processes and devices in healthcare workplaces will be a deterrent to tech-savvy millennials.

“When millennials go to work at a hospital, we are asking doctors, nurses and care teams to step back 20 years and use landline phones, fax machines, pagers, and overhead calls—all of which downgrade and add complexity to our millennial workforce. They carry a heavy burden every day working with patients in stressful hospital environments, and the very basic technology they’re using only adds to the stress,” Collins says. “Furthermore, we are adding to cognitive loads by forcing them to remember procedures and how to use outdated technologies they are not naturally accustomed to using. So, over time, antiquated technology that doesn’t mirror what is used in our personal life and is not secure will be eliminated. As younger people continue to enter the workforce, many hospitals will be forced to modernize.”

Ms. Marbury is a journalist and communications specialist who has written for several publications including Medical Economics.

DISCLOSURES The author reports no potential conflicts of interest with regard to this article.

Nasal spray
Nasal sprays are also back on the approved vaccine list due to an improvement in formula. A quadrivalent nasal-spray vaccine is now recommended for non-pregnant individuals who are 2 years through 49 years of age.

There are some important exclusions with the nasal-spray vaccine. Children aged 2 through 17 who take aspirin- or salicylate-containing medications; as well as children aged 2 to 4 who have asthma; and anyone with a weakened immune system, should not be administered the nasal vaccine.

Immunization is still recommended for everyone over 6 months of age. Flu shots are especially important for young children, adults 65 years of age and older, pregnant women, and people with asthma, diabetes and heart disease.

Flu shots CONTINUED FROM PAGE 37

FROM THE PAGES OF
Drug Topics

WE WANT TO HEAR FROM YOU
Want to let Contemporary OB/GYN know what you thought of this month’s cover story? There are lots of ways to interact with us. You can:

Email ContemporaryOB/GYN at COG.Editorial@ubm.com
Leave comments on our Facebook page: facebook.com/ContempOBGYN
Follow us and tweet to @ContempOBGYN

The editors reserve the right to shorten or edit letters and comments.
Night call siren song

Responsibility, anxiety, and expectations converge for an on-duty resident.

by LUKE BURNS, MD

Nothing can compare to the old days of medicine when residents were literally “residents” of the hospital, but demands on US medical trainees are still unique in the Western world.

Last month I worked 3 weeks in a row without a break and by the end of it I was bone tired and mentally drained. My Sunday night was going just as I had planned and I was relishing my last few hours of freedom when I received a group-text from one of the senior residents asking if anyone could fill in for the night call resident, who was sick.

When it became clear that I was the only one available, I somewhat reluctantly donned my scrubs, went hunting for my stethoscope, and headed to the hospital.

And so began “signout,” the transfer of responsibility from the day team to me. Information on medical and surgical histories, issues and complaints, and likelihood of patients spontaneously dying overnight all were relayed to me as the resident “coming on.” Like two friends fighting to pay the check, the “day” resident and I each volleyed responsibility for last-minute tasks:

“I’ll just finish this discharge summary, then I’ll be done.”
“No, you’ve been working all day, I’ll do it, go home!”
“It’s okay, I should have done this earlier—”
“I got it, go home! Go home!”

With all these unfamiliar patients...the idea wasn’t to heal. It was simply to keep them alive overnight.

With signout completed, I was now responsible, during the night, for every patient in the hospital with a gynecological concern. Consults in the emergency room and phone calls from patients at home with gynecologic issues would also fall to me. With all these unfamiliar patients, many of whom were very sick with cancer or recovering from major surgery, the idea wasn’t to heal. It was simply to keep them alive overnight.

Of course, I was never completely alone. There is a chain of authority that night residents can climb with questions, starting with the senior resident working on labor and delivery, moving up to a junior attending “on call” from home, all the way up to the senior attendings. But sometimes calling for backup isn’t an option. There is a certain compulsion not to phone the sleeping attending at home, especially for small problems we’re expected to know how to fix on our own.

And then, it’s 3 am and I’m being “hammer-paged,” as nurses, emergency room staff and patients calling the telephone consult service all vie for my attention:

“Patient in bed 22 says she has 9/10 pain, have already given oxycodone and Tylenol, she cannot get Motrin due to kidney disease, what do you want to do?”

“Patient calling from home has had heavy bleeding since 6 am; call back immediately.”

“Hi, consult in the ED. 79-year-old with chemo-resistant ovarian cancer, now with likely small bowel obstruction, please come see her asap, thanks”
Residents are expected to be experts in their field, but I often find myself scouring medical websites on my phone looking for answers on the way to a patient awaiting my keen critical input.

Each page is triaged for severity, corralled into a “to-do list of importance.” Then I do a quick mental calculation of the best path to take through the hospital to tick off as many tasks as efficiently as I can. All the while, there is paperwork to complete and an escalating mountain of notes to write. I do my best to document as I go, because in a few short hours, I’ll be signing out to the day team.

It feels like any mistake I make has dramatic consequences. Forget to ask a patient what medications they take? I won’t know she needs insulin and might send her into diabetic ketoacidosis. Overlook an obvious lab order? The morning attending will lay the blame on the day resident for the life-threatening electrolyte imbalance that I missed.

Night call is a game of constantly spinning plates, managing multiple sources of anxiety, scribbling notes as I clutch a phone in the crook of my neck and mouth apologies to the emergency medicine resident, who has been waiting 2 hours for my treatment recommendations. Residents are expected to be experts in their field, but I often find myself scouring medical websites on my phone looking for answers on the way to a patient awaiting my keen clinical input.

And then finally, slowly, the morning approaches. My phone rings and I meet the day resident for another signout. This time, I’m the one recounting the events of the past shift—everything that happened overnight, everything I did for every patient who came in, everything still waiting to be done. Usually I will sign out to a more senior resident, whose gentle probing about each patient reveals the important details I forgot to gather. Kindly the resident will reassure me, promise it gets easier with time, and then repeat the “signout” pantomime:

“I still have a consult sitting in the ED I need to get to…”
“No, no, you go home, I'll do it.”
“I can’t make you do that! It was my fault.”
“You need to sleep! Go home!”

“Well…are you sure?”

Leaving the hospital at this time of day carries a unique warmth. Against the flow of foot traffic headed toward the hospital elevators, I lope toward the parking lot, nodding knowingly at other who recognize the semi-delirious smile of a night resident going home.

After my first few night shifts, I was anxious about turning off my pager, nervous that someone might get sick or die if I didn’t immediately answer, or that I’d miss a call from an angry attending who couldn’t comprehend my treatment plan from the night before. But now I understand the meaning of signout, that informal but very real transfer of power and responsibility at the beginning and end of each day.

I relish the moment I can turn off my pager, when I can cut the cord tying me to the hospital, to the impossible responsibility of caring for several dozen very sick strangers, and instead crawl into a familiar bed to pretend I am a lazy teenager again, sleeping deep into the late afternoon.

Lupus in pregnancy

as often as they should. This is of concern and could indicate that patients are ignoring their disease while focusing on pregnancy.

Second, immunosuppressant use decreased in women with SLE during pregnancy. This is possibly due to inappropriate concern about fetal safety of these drugs, since azathioprine and tacrolimus therapy are permissible in pregnancy. Controlling lupus activity remains key to a successful pregnancy outcome.

Third, inadequate counselling and use of contraceptives in patients with SLE who are at risk of pregnancies contributes to an increased number of unplanned pregnancies.

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

FOR REFERENCES VISIT contemporaryobgyn.net/LupusPregnancy
How to survive high-deductible health plans

Implementing a few simple financial policies can help ob/gyns improve cash flow.

by JORDAN ROSENFELD

More Americans are choosing high-deductible health plans for their lower monthly premiums, though this results in steeper out-of-pocket costs for care. According to the Centers for Disease Control and Prevention (CDC), in 2017 42.3% of insured patients were enrolled in high-deductible health plans, up from 39.4% in 2016. This leaves some physicians scrambling to collect payments and manage shrinking cash flow.

What can physicians do to improve their cash flow in this new landscape? Experts suggest that successful practices will review and establish new financial policies, do a better job of educating patients, and consider cash-pay services.

Put policies into place

Many physician practices erroneously assume their patients understand their financial obligations and insurance details, according to David Zetter, CHBC, a healthcare business consultant in Mechanicsburg, Pa.

"Most practices don’t have patients sign a financial policy, so most patients have no clue what the practice expects," Zetter says.

Physicians need to set policies on getting money up front, he says. He usually recommends a practice rewrite their financial policies to include steps such as:
- charging a late or no-show fee;
- requiring all patients to have a credit or debit card on file;
- or always taking a flat deposit upon booking an appointment, that can later be credited back to the copay once the patient’s percentage is determined.

"If the business isn’t taken care of first, you’re not going to be able to take care of patients, because you won’t be able to afford it," Zetter says. He also recommends that every patient be required to have a phone meeting with a patient financial counselor, which can be an office staff person, who reviews the practice’s financial policies and gets the patient to sign the practice’s agreement to the financial policies.

"I’ve got clients that won’t even accept patients if they don’t have a debit or credit card. They don’t have an accounts receivable problem," Zetter explains. Other practices he’s consulted with have strict policies where patients can’t be seen until they catch up on outstanding payments.

Educate your patients

Tisha Rowe, MD, a primary care physician in private practice in Houston, Texas, says that it’s up to the practice to help patients understand their financial responsibility.

"Whether that’s highlighting that portion of their [explanation of benefits] in writing or maybe creating a short video that spells it out, you want to make sure patients know their deductible and what a visit costs them," Rowe says.

She’s had many incidents where patients were upset with her for being charged around $100 for something as simple as a medication refill where they had to come in office. However, the cost
of the visit is related to what percentage of the deductible the patient has to pay. “I can’t change the price because [the patient] hasn’t met their deductible,” she says. “So we have to educate our patients.”

Rowe creates simple videos she uploads to a YouTube channel on topics such as telemedicine and wellness tips, each no longer than a couple of minutes. “You’re going to repeat that same information 20 times per day. Just put it out there, and make it accessible, and you can have partners share it,” she says, adding that even if a physician is not tech savvy or doesn’t have the time, it’s not complicated to get help creating them.

**Consider an insurance/concierge hybrid**
With deductibles increasing to all-time highs, Rowe says people who are not managing a significant illness or expecting surgery are unlikely to ever meet their health plan’s deductibles. Her practice has a hybrid concierge plan for these patients.

If she sees a patient for a physical and labs, they may end up paying $1,000, she says. However, she says, if a patient signs up for her concierge plan for $100 per month, the patient knows exactly what services they’re getting, and get better access, as well.

She says that physicians shy away unnecessarily from concierge or self-pay plans because they believe that only wealthy people can afford them. In her practice, she says, most of her concierge patients are working-class people.

Rowe contends that people who use a high-deductible health plan can afford a concierge doctor because they’re unlikely to ever meet their deductible anyway. “I guarantee you’re not going to see that much in medical care most years,” she says.

Paula Muto, MD, FACS, a vascular surgeon in Lawrence, Mass., and the founder of UberDoc, which helps patients find specialists, agrees that doctors should have some form of self-pay offering because it works in both the physician’s and the patient’s favor. “It is usually cheaper for a patient with a high-deductible to pay cash for a procedure. You’re never going to reach your deductible anyway.”

Physicians get paid immediately without going through the hassles of billing, coding, or denials, she points out. Muto suggests cash pay also creates greater transparency. She says that bringing it back to cash leads the physician talk to the patient honestly not just about their care itself but about the cost of their care. “If deductibles are here to stay, we must be transparent,” she says.

**Think twice before you diagnose**
For James Wilk, MD, an internist who works for the University of Colorado in Denver, high-deductible plans have changed the way he orders diagnostic tests.

He admits that he didn’t know the cost of some of the tests he orders until patients complained about financial hardship, or worse, refused to get the tests, leading to worsening or untreated conditions. “So this person is walking around with probable but undiagnosed asthma because the cost of the test is so high that they couldn’t get it,” Wilk explains.

“I think twice about how necessary some diagnostic workups are. Instead of doing a bunch of tests, sometimes I’ll just plan a three- or four-step kind
When owner relationships fall apart

Though starting a new practice is exciting, smart owners should prepare for the worst.

by ERICKA L. ADLER, JD

Physicians often enter into practice ownership arrangements on the best of terms with colleagues. Unfortunately, there are many times when such rosy relationships turn sour. For this reason, regardless of how “friendly” an arrangement may begin, it is essential the parties sign a proper document in advance that sets forth how they will address disputes and how the arrangement can be terminated and/or dismantled, if necessary.

Because emotions often run high when relationships fall apart, having a written document can help resolve a situation more quickly and hopefully with minimal legal fees.

Here are four issues to consider when drafting an agreement among owners:

1 How to walk away
Can a physician owner simply elect to walk away from the relationship? Many documents do not allow somebody to simply leave or dissociate from the relationship, which can cause the parties to be stuck without a viable resolution.

I always recommend that exit strategies outline:

1. The length of notice an owner must provide before leaving. I typically suggest at least 6 months to allow for proper transition. This provision should also outline whether an owner can be voted out by other owners, how that process would work, and what vote count is required.

2. The document should specify whether the entity or remaining owners must buy out the departing physician. If there are related entities (real estate or other companies), they should all be tied to the same outcome, unless the parties intentionally decide otherwise.

3. If the departing physician is to be paid, calculation of payment should be detailed. An agreement between the owners can provide for a purchase price that varies based on the reason for departure, the amount of notice provided by the departing physician, and

2 What the parties can and can’t do
The document between owners of a practice should clearly outline what appropriate restrictions will be placed on a departed physician. Can the physician use a similar trade name? Can he or she solicit practice patients, staff, vendors, or others? What can either party say about the reason for the split?

3 Founder’s provision
If one physician is the senior member of a relationship, the parties may also consider a founder’s provision. This provision requires the parties try good faith efforts and/or mediation to resolve their differences, but then allows the practice’s founder to declare irreconcilable differences. The founder retains the practice while the other party must depart.
In these circumstances, I also like to clarify the amount of notice, whether the covenant will apply, and the purchase price, among other considerations. This approach is not intended to unfairly treat the non-founding party. Instead, it sets a road map in advance for how the situation will be fairly handled.

4 Dispute resolution

Having a specific process to resolve disputes can also be helpful to the parties. For example, requiring a certain number of meetings to discuss an issue, specifically identifying a trusted adviser to mediate disagreements, and other similar guidelines can sometimes lead to a surprisingly positive outcome.

Many physicians who are angry with their partners do not do a great job of expressing themselves and will turn to legal counsel before really trying to work things out. As with marriage, communication is key, and any partnership requires effort.

Physicians may enter into practice relationships with the best of intentions, but sometimes things do not go as planned. Having a document where the parties discuss various scenarios in advance and plan for the worst possible outcome protects everyone involved.

Ericka L. Adler, JD, has practiced in the area of regulatory and transactional healthcare law for more than 20 years. She represents physicians and other healthcare providers across the country in their day-to-day legal needs, including contract negotiations, sale transactions, and complex joint ventures. She also works with providers on a wide variety of compliance issues such as Stark law, Anti-Kickback Statute, and HIPAA.

DISCLOSURE: The author reports no potential conflicts of interest with regard to this article.

High-deductible health plans

He says that simply ranking patients by their propensity to pay may not be very effective because there may be multiple reasons ranging from:

- They don’t have enough money
- They don’t check their mail often
- They don’t speak English
- The bill is incorrect/ not what they expected and patients don’t know how to get a corrected bill

He recommends that practices use artificial intelligence-based programs that draw from basic demographic information and user data to assess more accurately why patients aren’t paying. For example, he says, if a patient received their bill digitally and clicked on it three times but never paid, it might warrant sending a text asking if they are having trouble understanding the bill, and then connects them to a live chat function.

Additionally, he says, physicians should automate the billing process to make it easier for patients to pay. “We strongly believe that it shouldn’t take longer than 20 to 30 seconds to pay your bill, similar to the Amazon Prime experience,” Otto says.

Patients just want an easy, convenient and quick way to pay, he says, and it’s up to physicians to offer these.

“Reducing friction makes happier patients, and also increases cash flow,” Otto says.

Jordan Rosenfeld is the author of eight books and is a contributor for Medical Economics.

DISCLOSURE: The author reports no potential conflicts of interest with regard to this article.

FROM THE PAGES OF Medical Economics
**Vesicovaginal fistula after hysterectomy**

**CONTINUED FROM PAGE 53**

- H/H 12.8 g/dL/40.2%
- UA 3+ protein; red blood cell (RBC) count 25-50 per high-power field (HPF); WBC: 50-100 per HPF

The patient was treated with rehydration and an oral gastric tube. A Foley catheter was placed with the recorded urine output: 0009 = 800 cc; 0809 = 800 cc; 24 hours = 1600 cc. The next day her BUN was 22 mg/dL and Cr 1.41 mg/dL. The patient’s primary care physician (PCP) was consulted on Hospital Day 1. He documented that the patient began eating and was tolerating a normal diet and voiding normally. He confirmed that dehydration led to the increased BUN and Cr. A discrepancy was found in two notes: the PCP documented, “She has not had dysuria, hesitancy, or frequency.” A nurse documented, “Loss of bladder control. Started October 17 [2 days post-operatively].” On Hospital Day 2 of the readmission there was leaking around the Foley catheter. It was replaced with clear urine returned. An intravenous pyelogram (IVP) had been ordered on admission but was cancelled with a note about the elevated Cr. The patient improved clinically with normalization of her BUN and Cr. She was discharged on Hospital Day 4.

**Follow-up**

Eleven days postoperatively (6 days after rehospitalization) the patient was seen with complaints of urinary urgency and some difficulty controlling her urine. UA revealed 2+ leukocytes and was positive for nitrates. The patient was diagnosed with a urinary tract infection (UTI) and urgency and treated with sulfamethoxazole/trimethoprim and tolterodine.

On evaluation 1 week later, she was unable to control her urine. Entering the possibility of a vesicovaginal fistula (VVF), the gynecologist referred the patient to a urologist. She patient was seen 12 days later (18 days after surgery). The urologist documented, “Urinary incontinence since her surgery.” Exam revealed a cystocele and a rectocele, with no obvious fistula. UA revealed 2+ leukocytes. An IVP revealed delayed extrusion of contrast into the vagina. On cystoscopy approximately 5 weeks after the initial surgery, the urologist found a dime-sized eschar, with fluid entering the vagina. A large eschar was found in the vagina, near the cuff. The patient was referred to a university hospital for management of VVF.

### VVF repair

The patient was seen 3 months later (4 months after the original surgery) by the university urologist, who confirmed presence of a 10-mm VVF. Approximately 4 weeks later, the patient underwent laparotomy, cystotomy, and excision of VVF, approximately 1.5 cm from the right ureter. Pathology revealed fibrosis and chronic inflammation. Areas of marked chronic inflammation with extensive granulomatous inflammation with foreign body type giant cells were identified. The patient had an uncomplicated postoperative course and, after passing a voiding trial, had her indwelling catheter removed.

### The trial

A suit was filed claiming:

- Failure to communicate treatment options to patient
- Failure to perform diagnostic tests
- Failure to perform surgery within the standard of care (SOC)
- Failure to detect bladder injury at surgery
- Failure to provide adequate postoperative care
- Premature discharge from hospital

The plaintiff’s expert was critical of the preoperative work-up, specifically lack of an endometrial biopsy or hysteroscopy for abnormal uterine bleeding (AUB), particularly noting the patient’s increased risk of endometrial hyperplasia or cancer due to morbid obesity. The expert also stated that magnetic resonance imaging should have been performed to diagnose adenomyosis, which he felt was the primary cause of the patient’s AUB. He testified that a hysterectomy should not have been the recommended option. Rather, less invasive approaches, such as endometrial ablation or UAE, should have been performed, eliminating risk of VVF. Further, the patient should have had better glucose control, as her preoperative glucose (random = 170 mg/dL) placed her at greater risk of poor wound healing. He expressed no concerns about the surgical technique or a breach of the SOC from the time of original postsurgical discharge until she was readmitted. He stated the ileus was a result of urine leakage into the peritoneal cavity. He
admitted that bladder spasms are a known transient phenomenon after a hysterectomy. He testified that there was a thermal injury to the bladder, worsened by poor glucose control. However, he could not state that a fistula would not have developed if the patient’s elevated blood sugar had been aggressively treated.

The plaintiff testified that she had not requested a hysterectomy. However, the defense attorney countered with the patient-completed intake form that stated her reason for the original gynecologic visit was, “Annual exam and talk about hyst.” The patient also testified that she leaked all over herself beginning the day after surgery, not substantiated by chart documents.

The defendant testified the patient desired hysterectomy and removal of both ovaries. He discussed treatment options on two separate office visits prior to surgery, further discussing hormone replacement following hysterectomy and BSO. The defendant admitted he did not have cystoscopy privileges.

The defense expert testified that although it was appropriate to discuss endometrial ablation and UAD with patients, it is not necessary to encourage their use. Hysterectomy is within the SOC for definitive therapy for menorrhagia. The expert stated that the patient was not a suitable candidate for endometrial ablation, due to her adenomyosis and relatively young age, which both predisposed to treatment failure. Further, the woman’s morbid obesity placed her at risk for endometrial hyperplasia and cancer. Although endometrial sampling is recommended prior to surgery for AUB, this oversight had no impact on the ultimate outcome.

The defense expert testified that the procedure described in the operating notes comported with the SOC. Although cystoscopy was not performed, it is acknowledged that some hospitals, as in this case, do not grant general gynecologists cystoscopy privileges. The expert stated that the postoperative care rendered was appropriate, as was discharge timing. This expert testified that there was no substantiated evidence that a random glucose < 200 mg/dL leads to poor surgical healing.

The defense expert stated that the care rendered during the patient’s initial rehospitalization was appropriate, with timely diagnostic procedures and consultations. With an elevated Cr, it was appropriate to cancel the ordered IVP. With rehydration, rapid resolution of the elevated BUN and Cr did not support a ureteral injury or peritoneal accumulation of urine. Outflow of clear urine from the Foley catheter did not support presence of a VVF. Further, even if a fistula had been diagnosed at that time, treatment would have been postponed.

At her initial postoperative office visit, the defendant reasonably diagnosed bladder control issues due to bladder spasms and a UTI, with appropriate treatment rendered. At the subsequent visit he appropriately considered a VVF and referred the patient appropriately to urology for further evaluation and treatment, with appropriate care rendered.

The verdict
With less than an hour’s deliberation, the jury rendered a defense verdict.
Content Licensing for Every Marketing Strategy

Marketing solutions fit for:
Outdoor | Direct Mail | Print Advertising | Tradeshow/POP Displays | Social Media | Radio & TV

Leverage branded content from Contemporary OB/GYN to create a more powerful and sophisticated statement about your product, service, or company in your next marketing campaign. Contact Wright's Media to find out more about how we can customize your acknowledgements and recognitions to enhance your marketing strategies.

For information, call Wright’s Media at 877.652.5295 or visit our website at www.wrightsmedia.com
**NEW JERSEY**

**OB/GYN Hospitalist Openings at Penn Medicine Princeton Medical Center!**

Practice at a leading academic teaching hospital ranked among the top 10 hospitals in New Jersey! TeamHealth has excellent opportunities for a full-time OB/GYN hospitalist and a full-time OB/GYN Medical Director to join our OB/GYN hospitalist program in Plainsboro, New Jersey at Penn Medicine Princeton Medical Center.

We ask that you be a board certified OB/GYN and possess a current New Jersey license with an active and current covering clinician in the event of an emergency. Other requirements include ability to partner with nursing and support in-house call coverage for community clinicians, a willingness to drive patient safety and quality initiatives; insurability for malpractice insurance; at least 3 years of active practice; and a successful track record. TeamHealth is the industry leader in providing integrated hospital-based services. This is an employed position with an excellent salary and full benefits package including: medical, dental, 401(K), wellness, life insurance, CME and professional liability insurance with tail coverage.

To learn more about this and other opportunities, contact Heather Scott at 954.835.2844, heather_scott@teamhealth.com, or www.teamhealth.com/join.

---

**ILLINOIS**

Join our large, multi-disciplinary team of OB/GYNs, CNMs, Fam Med Providers, and CNPs as a specialist/consultant at Erie Family Health Centers in Chicago. Erie performed 2,300 deliveries last year, ranking #1 in IL and top 10 in the country for births by a Federally Qualified Health Center.

Work with OB/GYN and Family Medicine residents and medical students at our partner hospitals. Participate in a full spectrum practice where you function as a consultant, not a primary care physician. All Erie sites qualify for NHSC with a HPSA score of 17.


---

**NATIONAL**

Delivering quality of care, and quality of life.

“I took this job two years ago simply to increase my work-life balance.

But the job has become a mission.”

- Dr. Todd Bashuk, OBHG Medical Director of Operations

Visit us at the ACOG Annual Meeting in Nashville - booth #722!

---

**UTAH**

Intermountain is frequently referenced nationally as one of the leaders in delivering high quality/low cost healthcare. Intermountain Healthcare needs OB/GYN’s in multiple cities throughout Utah. Contact: Physician Recruiting, 800-888-3134, physicianrecruit@imail.org, http://physicianjobsutah.org
Reach your target audience.

Our audience.

Women’s health professionals. Contact me today to place your ad.

Joanna Shippoli
Account Manager
440-891-2615
joanna.shippoli@ubm.com

To obtain additional information about products and services advertised in this issue, use the contact information below.

This index is provided as an additional service. The publisher does not assume any liability for errors or omissions.

Companies featured in this issue

CHG HEALTHCARE
Weatherby ................................................................. 33
www.weatherbyhealthcare.com

COOPER SURGICAL
Paragard................................................................. CV2-01
www.coopersurgical.com

KARL STORZ ENDOSCOPY
Minilaparoscope.................................................. 03
www.karlstorz.com

LABCORP........................................................................... CV4
www.nexplanon.com

ONSITE MAMMOGRAPHY
Onsite Mammography ........................................ 07
www.onsitemammography.com
CASE DISSECTION

Vesicovaginal fistula after laparoscopic hysterectomy

Preoperative events
A 40-year-old G3P3003 in for her annual exam complained of heavy, painful periods, which had previously failed to respond to treatment with cyclical progestins. She requested a hysterectomy. Her exam revealed a moderately enlarged uterus. Her weight was 250 lb, with a body mass index of 42.9 kg/m². Ultrasound revealed a 12.3 x 5.0 x 7.03-cm uterus, 1.9 x 1.6 x 1.9-cm fibroid, and 18-mm endometrium. The woman’s left ovary had an exophytic area, thought to be a paraovarian cyst.

Five weeks later, the patient returned for a consultation about treatment. In addition to hysterectomy, the physician discussed uterine artery embolization (UAE), leuprolide acetate, and myomectomy. The patient chose a hysterectomy. The preoperative consent had the “standard” risks of surgery, including damage to surrounding tissues, and listed the discussed alternatives to surgery. Pertinent preoperative labs revealed hemoglobin and hematocrit (H/H) 12.4 g/dL and 41.2%, respectively, and random blood glucose 173 mg/dL. Blood urea nitrogen (BUN) and creatinine (Cr) levels were normal. Urinalysis (UA) showed trace bacteria.

Hospitalization
Six days after the preoperative appointment, the patient underwent laparoscopic hysterectomy with bilateral salpingo-oophorectomy (BSO). A uterine manipulator with a paracervical ring was used for uterine manipulation. A bipolar sealing device was used for salpingo-oophorectomy and management of the uterine arteries. A circumferential vaginal incision was made with an L-shaped electrosurgical hook. The cuff was closed vaginally, as the laparoscopic needle drivers were broken. No evidence of bleeding or bladder injury or leakage was found on laparoscopy after cuff closure. A vaginal pack was placed postoperatively. Cystoscopy was not performed. The operating time was 96 minutes, with 75 cc of blood loss.

While in the postoperative area, the patient was noted to have blood-tinged urine that cleared within 30 minutes. On postoperative Day 1, she was doing well, with 2000 mL of urine output after surgery and a stable blood count. The vaginal pack was removed, and she was discharged. Pathology revealed a 231-g uterus, with mild chronic endocervicitis, proliferative endometrium, and adenomyosis. Both ovaries were normal with a hydatid cyst of Morgagni.

Readmission
Three days later the patient was readmitted with an ileus, dehydration, and acute renal failure. She had tachycardia (119-131 bpm), a distended abdomen, and rare bowel sounds. An abdominal x-ray revealed an ileus.

Admission labs revealed the following:
- BUN 37.0 mg/dL (7-18 mg/dL)
- Cr 3.39 mg/dL (0.8-1.30 mg/dL)
- BUN/Cr ratio 11 (12-18)
- Glucose 330 mg/dL (70-99 mg/dL)
- White blood cell (WBC) count 16,600 cells/mL (4000 -11,900)

FOR MORE LEGALLY SPEAKING
TURN TO PAGE 48

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.
Enhancing patient outcomes, managing costs, and optimizing delivery of care.

The value of care: CANCER PREVENTION

From screening to diagnosis, treatment decisions, and surveillance, LabCorp supports the continuum of care. Our advanced technologies enable clinicians to detect and define the disease more accurately for informed treatment decisions, including hereditary breast and ovarian cancer testing (BRCA 1/2), VistaSeq® hereditary cancer panels, cervical cytology, colorectal and thyroid screening.

Value beyond testing. LabCorp’s full-service offerings, specialty test options, genetic counseling programs, cost estimator, and coast-to-coast patient service centers set our value apart and put your patients at the heart of our efforts to improve health and improve lives.

For more information, please visit www.labcorp.com/value-care-cancer