

minnesota

# MEDICINE



## BRINGING HOME *baby*

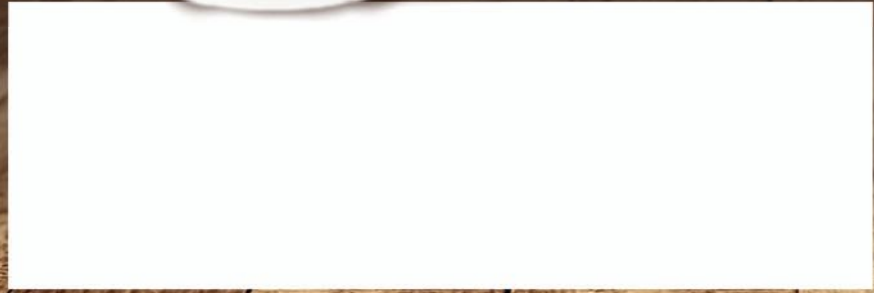
Who will do the deliveries in rural Minnesota?

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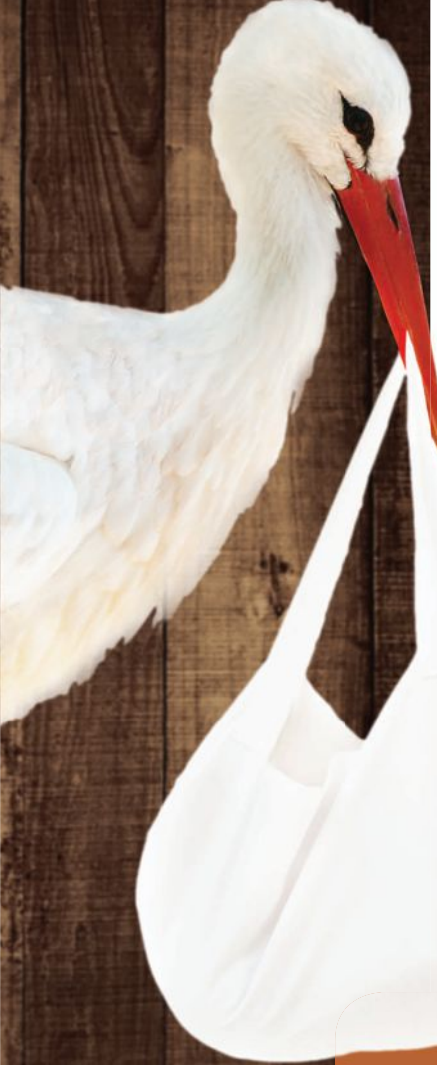
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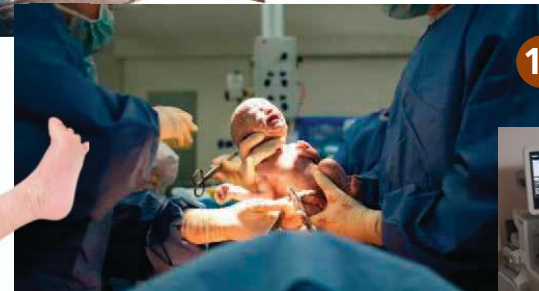
MINNESOTA MEDICAL ASSOCIATION

# MARCH 2012

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Photo by Scott Walker

Although the physiology of the female genital tract hasn't changed in millennia, treatment sure has.

# Labor Reforms

**M**y wife and I ate fried fish the night before our first child was born. So naturally, we blamed the little café overlooking the Zumbro River for her upset stomach that came on during the night. By 7 a.m., naifs that we were, we realized that the queasiness represented the onset of labor.

As we prepared to leave for the hospital, in a startling display of ESP, my father called to ask how we were doing. We made the mistake of telling him that we thought Carolyn was in labor, so for the next 18 hours, sometimes hourly, my father called the delivery room to check up on us. The world was low-tech in 1977. There were no cell phones, so no minute-by-minute text messages from me. My wife had one ultrasound during her pregnancy, which was primitive by today's standards. Like all new parents, we were clueless about the ramifications of parenthood; but unlike most expectant parents today, we did not know what "flavor" our child would be. When I held that baby girl in my hands at 12:05 a.m. (just in time to be born on her inquisitive grandfather's birthday), she was the first human I loved instantly.

Thirty years later, that baby girl lay on a table getting the 21-week ultrasound of her first pregnancy. Our entire family had come for the "ultrasound party" that would reveal what flavor our grandchild would be. The ultrasound technician worked hard to oblige the onlookers with an answer to the gender question. The images were startling. Not only did they reveal that the October arrival would be a girl, but they also showed an almost eerie 3-dimensional view of a very human face, although in retrospect I'm not sure it much resembled that of the active 4-year-old currently scurrying around my daugh-

ter's house. When my daughter went into labor, we got frequent updates from my son-in-law by email followed by a cell phone snapshot minutes into Nola's life.

The pinnacle of obstetric technology in our family was my daughter-in-law's experience. A survivor of Hodgkins disease and a stem cell transplant, she needed the the best obstetrics had to offer in 2010. One Sunday, when we were visiting her and my son, a package arrived containing the drugs necessary to prepare her body to receive an embryo from a donated egg and in vitro fertilization. This miracle of technology was followed by the miracle of success on the first try and then a miracle named Zinnia, who currently toddles around carrying her precious books and stuffed animal, Lancelot.

I haven't been in a delivery room since 1982, when our last child was born, so the articles in this issue have been a revelation for how far the specialty of obstetrics and gynecology has come. Perinatologists not only diagnose but also treat diseases in fetuses; obstetric anesthesia has been honed to a refined science, with lots of options for the laboring mother; and gynecologists now perform Houdini-like removal of uteri through laparoscopic incisions, sending patients home the day of surgery. Although the physiology of the female genital tract hasn't changed in millennia, treatment sure has.

Yet with all this glitz, obstetricians are still a bit shaky about predicting when babies will arrive. Likely future advances will eliminate the guess work and new parents can focus on the miracle when it comes.

.....  
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Photos by Steve Wewerka

■ Birth Centers

## A Home for Births

*By opening a freestanding birth center, perinatologist Steve Calvin is determined to make maternity care more satisfying for women and cost effective.* | BY KIM KISER

Standing on a sidewalk on Chicago Avenue in south Minneapolis, Steve Calvin, M.D., is at the intersection of high-tech and high-touch health care. Behind him is the 100-year-old Victorian home he bought two years ago and turned into a freestanding birth center—a place where women can deliver their babies in much the same tradition as their great grandmothers. Across the street, a crane is busy at work on construction of the Mother-Baby Center on the campus of Children’s and Abbott Northwestern hospitals—a place where women will have access to some of the most sophisticated maternal and neonatal services in the Twin Cities.

Although setting up a birth center across the street from two tertiary care

hospitals could seem ill-conceived, the project is well thought out. As a maternal-fetal medicine specialist who has worked at Abbott Northwestern for 23 years, Calvin has attended to some of the most challenging pregnancies and deliveries. Over the years, he observed that most mothers and babies didn’t need the kind of care a hospital could provide. He notes, for example, that 80 percent of women who have a hospital delivery get an epidural block. “Epidural blocks have been a godsend for many women; but there are concerns that we’re overdoing it,” he says, adding that it may make them unable to feel the urge to push. “If a mom is in pain, the nurse says, ‘Let me call the anesthesiologist and get an epidural,’ rather than sits down with them and says, ‘You’re at

8 cm and you’ll soon be complete and able to push.’”

Not only do those women get an intervention they may not want or need, they (and their insurance companies) are saddled with the bill for the procedure. According to the U.S. Agency for Healthcare Research and Quality, the facility fee alone for an uncomplicated vaginal birth in a Minnesota hospital in 2009 averaged \$8,094—a figure that has climbed steadily over the years. Add in any complications and the total can skyrocket to more than \$20,000. “If we keep on the same path, we’re going over a fiscal cliff,” Calvin says.

He began to think that the system needed to do a better job of serving women who want a more natural option and that pregnancy care could be less fragmented and less costly than it currently is. With that in mind, he came up with the idea for the Minnesota Birth Center. As its medical director, he’ll take a more hands-off approach, empowering certified nurse midwives to help women who are having uncomplicated pregnancies give birth without unwanted interventions.

Steve Calvin, M.D., at the Minnesota Birth Center in south Minneapolis. The birth center is located across from Abbott Northwestern Hospital and Children's Hospitals and Clinics of Minnesota, two tertiary-care facilities.

He hopes the model will inspire others to change the way they provide maternity care as well. "The current system is not designed to meet the needs of low-risk mothers," he says. "It is designed to be safe, and it's designed to avoid disaster. But every mother is looked at as a potential complication."

If this sounds unusual coming from a specialist whose career has centered on caring for the most complicated of the complex, it is. No other physician, let alone a maternal-fetal medicine specialist, in Minnesota has been involved in setting up a birth center outside a hospital.

By opening the birth center, Calvin is trying to create a model of care he sees as a marriage between an accountable care organization and a health care home: A certified nurse midwife would coordinate a mother's prenatal care; help the woman do such things as stop smoking, start exercising, and eat better; help her navigate the health care system; explain the results of tests and the changes happening to her body; assist during birth; and follow her to the hospital if a complication occurs. All that would be included in a packaged price that he estimates would be about 10 to 20 percent less than the cost of a hospital delivery alone. Specialists would provide additional services for a set price, if needed, and be responsible for managing the costs associated with that care.

"It's been a big leap and a big risk," he admits, joking that his wife refers to the birth center as the "401k house," as they used their retirement funds to purchase and renovate it.

### Birth of a Birth Center

Opening a birth center wasn't in the 57-year-old Calvin's retirement plans, however. In fact, after 30 years of night calls and the stress of dealing with the potential for life-threatening complications, he was ready to slow down.

In addition, he was initially skeptical

of the birth center concept. When a midwife friend approached him a number of years ago about establishing a birth center near Abbott Northwestern, his initial response was "No way. It shouldn't be outside the hospital."

But his perception changed when the American Congress of Obstetricians and Gynecologists released a statement in 2008 saying that it considered hospitals, birth centers within hospital complexes, and freestanding accredited birth centers to be appropriate places for births. He considered setting up a birth center in a medical building attached to Children's; but the midwives he worked with insisted that mothers would still view it as being in the hospital. "You almost have to be physically separate," he says.

That became possible in 2010, when the state of Minnesota passed legislation licensing freestanding midwife-run birth centers, provided they are accredited by the national Commission for Accreditation of Birth Centers (CABC). That same year, two freestanding birth centers opened in Minnesota—Health Foundations Family Health and Birth Center in St. Paul and Morning Star Women's Health and Birth Center in St. Louis Park.

On his way to and from the hospital,

**"The current system is not designed to meet the needs of low-risk mothers."**

—Steve Calvin, M.D.

Calvin kept passing the dilapidated Victorian at 2606 Chicago Avenue thinking of possibilities. The location couldn't be better: If a woman went into labor and suddenly had problems, she would be two minutes away from the hospital. "If a woman is in Red Wing and has problems, it would take an hour to get her to a tertiary care facility," he says.

Calvin started seriously considering the idea of buying the house, which was abandoned, and turning it into a birth



The home at 2606 Chicago Avenue had been declared abandoned by the city of Minneapolis when Calvin purchased it. "Transients were living in it, there were needles on the floor. It was a very sad place," Calvin says. "The house has since been reborn."

center. But could he get the necessary zoning changes to use it for that purpose? Could the property be configured in a way that an ambulance could easily get in and out? Most important, could he get his colleagues to support his idea? Calvin explains that in many parts of the country, neonatologists are the most vocal opponents of freestanding birth centers.

"They kill many of these ideas," he says.

But when he approached his colleagues at Minnesota Neonatal Physicians, they were supportive. "The concern that neonatologists and pediatricians have, in general, is that you cannot predict every problem of a newborn," says Bonnie Landrum, M.D., a neonatologist with that group. "We have concerns about children being delivered away from a place where they can have a medical intervention. What's ideal about

his center is that it's right across from Abbott Northwestern and Children's, so the location is ideal if an unanticipated problem occurs."

In fact, some of the neonatologists at Children's have even agreed that if there were a nonemergency situation in which a midwife had questions about a baby, they would walk across the street and take a look at no cost. "That really got the attention of insurers," Calvin says. "Not only do you have neonatologists who aren't opposing this, but they're saying 'We'll help you facilitate this.'"

### Bending the Cost Curve

Since Calvin completed renovation of the house in late 2011, he has hired two nurse midwives, including a midwife director. He also has been giving tours to prospective obstetricians (Associates in Women's Health has agreed to provide ob services to women who need additional care), anesthesiologists, his maternal-fetal medicine colleagues, representatives from self-insured employers and trade unions, representatives from the CABC, and others. "If you put a birth center across from a Level 3 perinatal center, it gets people's attention," he says, adding that the birth center has received provisional accreditation as well as licensure from the state.

As he walks through the first floor, he shows off the hub of the facility—its two birthing suites (he anticipates they will begin seeing mothers later this month), an exam room with ultrasound equipment, and a bedroom for the midwife on call. The second floor is composed of a kitchen and dining area, lounge, and offices; the unfinished basement and attic will be turned into classrooms and a place to house midwives-in-training. When the

center is fully staffed, he anticipates some 200 to 240 births will take place there each year. "That's more than some small hospitals do," he says.

Calvin's current challenge is to develop a pricing mechanism for services. Thus far, he has had discussions with Children's, Allina Health, which owns Abbott Northwestern, and obstetrics and anesthesia groups about establishing a set price for facility and professional fees if a mom needs a c-section.

"This idea will bend the cost curve or challenge it," says Charles Lais, M.D., head of obstetrics and gynecology at HealthPartners, who has worked with Calvin over the years and has toured the birth center.

But the current system works against his pricing concept.

Insurers currently pay a fixed amount for deliveries, regardless of the amount of care a woman needs. "We've built our L&D units to accommodate the illest of the ill. If you don't need much care, it costs the same amount as if you need a fair amount of care," Lais says. "We sort of spread the money around." As a result, hospitals make money on women with uncomplicated deliveries. On top of that, physicians

and facilities add on charges for extra ultrasounds, extra lab tests, epidurals, and other services.

Because the birth center doesn't have to have all the high-tech equipment, operating facilities, and staff that a hospital has to support, the overhead is much lower and, therefore, the price will be lower. "You don't have to support a nursery or a kitchen. You need minimal laundry facilities, you're not supporting a skilled nursing staff," Lais says. "That cuts a huge amount of the cost."

He says Calvin's idea is prompting obstetricians to think about how they might better serve patients, drop the cost of

"If you put a birth center across from a Level 3 perinatal center, it gets people's attention."

—Steve Calvin, M.D.

One of the birth center's two birthing suites.



care, and at the same time improve quality. “Doing all three things is the kind of work we should be doing,” Lais says.

Calvin knows that all too well. Two years ago, he worked with Rep. Jim Abeler to introduce “pregnancy care home” legislation, in which money would be given to “care teams,” rather than insurers, to manage the care of women who were covered by state-funded health programs. Women would be able to switch care teams if they were unhappy with their care or concerned about the team’s outcomes. “The state currently pays for about 38 percent of pregnancy care,” Calvin says, adding that such a change would go a long way toward saving taxpayer dollars. But the bill stalled in committee.

However, payers are starting to take note. (Currently, Medica and HealthPartners pay for care at accredited birth centers.) Calvin says he has gotten support from one major insurer and from several self-insured employers for the idea of paying a package price for pregnancy care for low-risk mothers. He believes once one insurer or employer starts offering this option to women, others will follow.

In the meantime, Calvin isn’t waiting for payers to climb on board. “My view has been ‘Let’s just move toward this system. Let’s create our future rather than wait for someone else to tell us what to do,’” he says. ■

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A growing number of ob/gyns are becoming laborists, physicians who specialize in delivering babies.

■ Hospital Medicine

# Delivery Specialists

*The hospitalist trend catches on in ob.*

| BY CARMEN PEOTA

Delivering babies has been only a portion of what ob/gyns traditionally do, according to Phillip Rauk, M.D., program director of the University of Minnesota's ob/gyn residency program. But that may be changing. For a small-but-growing number of ob/gyns called "laborists," delivering babies is not just part of what they do, it's all they do.

Akin to hospitalists, laborists care for maternity patients during their hospital stay and then pass the care of the patient back to their primary physician when they are discharged. The concept is attributed to Louis Weinstein, M.D., who in a 2003 article in the *American Journal of Obstetrics and Gynecology* argued for a new way of practicing obstetrics that would improve patient safety and alleviate physician burnout.

The idea appears to have caught on. The website obgynhospitalist.com, which tracks opportunities and provides resources for laborists, lists 152 ob/gyn hospitalist programs in the United States. None are in Minnesota, according to the Central Association of Obstetricians and Gynecologists.

The model appears to work best in hospitals that have about 2,000 births a year. The hospital hires or contracts with physicians to provide ob coverage, often in several 12- or 24-hour shifts a week.

Advocates say that hospitals and patients benefit from having laborists on staff because of improved patient safety and coverage, and that ob/gyns appreciate no longer having to juggle hospital work and private practice. Results of a survey of ob/gyns published in the *American Journal of Obstetrics Gynecology* in 2010 found laborists have a higher rate of career satisfaction than other ob/gyns.

Rauk says that most ob/gyns choose their specialty because it allows them to provide both primary and surgical care and build long-term relationships with their patients. But he acknowledges the appeal of specializing in deliveries. "It can be the most rewarding part of it, the most exciting, the most joyous," he says. "It's an option for physicians who really just like that aspect of what we do." ■

■ Workforce

# Women's Work?

*Obstetrics/gynecology struggles with the gender question.* | BY CARMEN PEOTA

"SEEKING BC/BE OB/GYN TO JOIN FOUR OTHER FEMALE OB/GYN PHYSICIANS IN MULTI-SPECIALTY GROUP."

Although this employment ad doesn't explicitly state that males need not apply, the implication of the posting is clear—the practice is looking for a female provider. "Presumably, they wouldn't say they won't accept men. But they list the gender of the people in the practice," notes Daniel Breikopf, M.D., director of the obstetrics and gynecology residency program at Mayo Clinic, of ads like this one.

Such subtle wording is becoming more common in advertisements for ob/gyn providers these days. And it begs the question: Will there be a place for men in the specialty in the future?

Nationally, 90 percent of those going into the field that specializes in the care of females are females themselves. In Minnesota, 31 out of 35 residents in the University of Minnesota's residency program are women as are three-fourths of the residents in Mayo Clinic's program. Although there are still twice as many males as females in practice, the gender make-up will reverse itself in 20 years if residency trends continue, according to an analysis by the California-based research group VIMO.

Feelings are mixed about whether that is a good thing. On one side are those who insist the practical reality is that female patients want female ob/gyns, and it's only natural, as the specialty deals with the most intimate of women's issues.



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Nationally, 90 percent of medical school graduates who go into obstetrics/gynecology are women.

gest that gender matters. How much is not clear. A 2002 study published in the *Journal of Women's Health Gender-Based Medicine*, for example, found that 61 percent of New York women surveyed preferred a female provider and that gender was as important in choosing an obstetrician as experience or cost. But another 2002 study, this one published in the *American Journal of Obstetrics and Gynecology*, found that although 53 percent of women who had just delivered a baby or undergone gynecologic surgery preferred a female provider, only 25 percent considered gender to be one of the most important factors in selecting a physician.

Breitkopf, who has been in academic medicine since he did his own residency 14 years ago, says he thinks there are clear indications that women prefer female ob/gyns. "There are statistics that show that women will fill

her group have a harder time filling their schedules than the women, and that her schedule and those of the other female providers are "packed" as a result. "Women want to see women," Mattson says matter-of-factly, noting that a woman is in a vulnerable state when she is naked in a doctor's office.

She says her group, which includes four male providers, has lost obstetric patients when they discover they may be seen by a male provider when it comes time to deliver their babies. At Mayo Clinic, Lessard says the gender of the provider is less of an issue. She says all patients are informed that if they come in during labor or with another issue that requires immediate attention, they will be cared for by the on-call physician regardless of gender. "If a female patient chooses to see females-only in clinic, that's their discretion," she says. "But they don't have that choice in labor." She says the key is being up front about this during the initial visit.

Ken Crabb, M.D., who has been in private practice in St. Paul for three decades, says it's simply the reality now that women prefer to receive ob/gyn care from women. "A man setting up an office as an ob/gyn now isn't going to draw anywhere near the number of patients that women will." Crabb says he had no problem filling his schedule when he began his practice but that things have changed, particularly in the last 10 years. Now, his patients tend either to be those he's had long-term or those who are referred to him by the female nurse practitioner he works with. "She gets

On the other are those who think the specialty will suffer if men disappear from it altogether.

However, no one disputes the fact that change is underway and that there are multiple reasons for it.

### A Matter of Patient Prerogative

To be clear, men are not being excluded from ob/gyn residency programs. The reality is that the number of men applying to them has fallen. For example, 76 percent of the applicants to Mayo's program last year were women. "That's pretty typical for recent years," Breitkopf says.

So why are fewer men opting for the field? In some ways, the answer seems obvious. "It all boils down to the fact that more females are entering medicine compared with 20 to 30 years ago," says Collette Lessard, M.D., a third-year ob/gyn resident at Mayo. As more women en-

tered medical school, many became interested in women's health. As more women began to specialize in women's health, patients realized they had a choice about whether to see a man or a woman.

"If you were to ask a female patient what they prefer—male or female—if they don't know anything else about the

**"It all boils down to the fact that more females are entering medicine compared with 20 to 30 years ago."**

—Collette Lessard, M.D.

physician, that may be their initial gut instinct—to prefer a female," she says. "If they get a recommendation from a trusted source, male or female may not be an issue unless there are cultural reasons."

Research does seem to sug-

gest that gender matters. How much is not clear. A 2002 study published in the *Journal of Women's Health Gender-Based Medicine*, for example, found that 61 percent of New York women surveyed preferred a female provider and that gender was as important in choosing an obstetrician as experience or cost. But another 2002 study, this one published in the *American Journal of Obstetrics and Gynecology*, found that although 53 percent of women who had just delivered a baby or undergone gynecologic surgery preferred a female provider, only 25 percent considered gender to be one of the most important factors in selecting a physician.

Breitkopf, who has been in academic medicine since he did his own residency 14 years ago, says he thinks there are clear indications that women prefer female ob/gyns. "There are statistics that show that women will fill her group have a harder time filling their schedules than the women, and that her schedule and those of the other female providers are "packed" as a result. "Women want to see women," Mattson says matter-of-factly, noting that a woman is in a vulnerable state when she is naked in a doctor's office.

more new [patients] than I do,” he says.

Crabb says male medical students need to know the “facts of life” about ob/gyn. “If you’re male, you’re going to have a hard time developing a general ob/gyn practice because of your gender.”

Mattson points out that men in ob/gyn are at greater risk than women for being accused of inappropriate behavior. “They have to go in with a nurse,” she says. For that reason alone, Mattson thinks it’s very hard for men to practice ob/gyn nowadays. “I can’t even imagine why a man would go into this field.”

### The Value of Gender Balance

Those concerns didn’t put off third-year University of Minnesota ob/gyn resident James Pate, M.D. “There’s such a strong need for providers in every specialty that there will always be jobs available.” His plan is to specialize in caring for patients with atypical gender experience.

Like most men and women who go into ob/gyn, Pate says the appeal of the specialty is that it offers physicians the chance to do both primary care and surgery.

Pate actually thinks it’s a good thing that nine out of 10 of his colleagues in ob/gyn residencies are female. “In the past, all of medicine was heavily dominated by men,” he says. “Having the majority of providers [be female] makes sense. They are women, and they care about women and want to provide excellent health care to women.” But he believes both males and females bring a perspective to practice that’s valuable. “Both our female colleagues and our patients appreciate the male presence,” he says. He’s even heard patients say that men are more gentle with pelvic exams than female doctors.

Breitkopf says that the women in the residency program at Mayo want to see gender balance in the field as well. Fourth-year resident Staci Tanouye, M.D., is one. “I know it’s moving toward becoming women-oriented,” she says of the specialty. “At the same time, I don’t think we should lose out on having both genders serving our population. It’s important to maintain balance.” ■



Photo by Steve Wewerka

Cole Greves, M.D., is one of 32 maternal-fetal medicine specialists in Minnesota.

### ■ Maternal-Fetal Medicine

## Risk and Reward

*Once specializing in the care of high-risk moms, maternal-fetal medicine specialists are now focusing more on the care of their babies before birth.* | BY ADRIENNE FOLEY

Maternal-fetal medicine specialist Cole Greves, M.D., says obstetricians often regard their work as 95 percent joy and 5 percent sheer terror. Greves, who practices with Minnesota Perinatal Physicians in Minneapolis, is one of those physicians who even enjoys the challenges that come with the latter—situations that could result in loss of a pregnancy or complications after birth. “Being able to intervene when the baby is a fetus and aid in a positive outcome, there’s nothing like it,” he says.

As a perinatologist or maternal-fetal medicine specialist, Greves focuses on the medical and surgical needs of both the mother and the fetus in high-risk pregnancies. He often cares for women who have underlying medical conditions such as diabetes, heart disease, or hypertension that can place them at risk for complications during pregnancy; who are having conjoined twins, triplets, and higher-order multiple births; or whose fetuses have complications ranging from genetic conditions that could alter the outcome of a pregnancy to nongenetic abnormalities that may be appropriate for intrauterine intervention. “There’s a whole array of either physical birth defects or metabolic defects in the fetus as well as the mother that might require our care,” says Daniel Landers, M.D., director of maternal-fetal medicine at the University of Minnesota.

The need for physicians who can care for such women has risen dramatically as more women give birth later in life, as medicine is allowing women who previously may not have been able to go through a pregnancy because of underlying medical conditions to

do so, and as the legal climate has called for additional caution on the part of ob/gyns and family physicians who care for pregnant women. And the demand for their services is expected to grow. “We’re not going to be a field that will require fewer physicians or shrink any time in the future,” says William Block, M.D., director of fetal therapies at Minnesota Perinatal Physicians.

## From Mother to Child

Maternal-fetal medicine began to emerge as a subspecialty of ob/gyn in the 1970s, according to Landers. At the time, the field was known as perinatology. The name eventually was changed to reflect the evolution of the field.

“There’s been a lot of change in the past 20 years or so,” Landers says. “We were focused more on maternal critical care, whereas now that focus has shifted to taking care of fetal complications.”

Landers says that today’s technology allows maternal-fetal medicine specialists to perform interventions that couldn’t be done before such as intrauterine transfusions, draining cavities of the fetus, or performing heart procedures *in utero*. “All of this was unheard of 20 years ago,” he says.

Physicians pursuing maternal-fetal medicine must go through three years of fellowship training after completing an ob/gyn residency. They then become eligible for board certification.

Today, there are 77 maternal-fetal fellowship programs in the United States, two of which are in Minnesota. The University of Minnesota’s program began in 2004; Mayo Clinic’s started in 2006.

Maternal-fetal medicine fellowship programs typically include clinical and research components. “The idea is that perinatologists train on the frontiers of this advancing specialty, ideally setting some of the standards of care,” says Greves, who has been in practice as a maternal-fetal medicine specialist for two years. His fellowship training saw the advent of fetal therapies such as fetoscopic laser ablation therapy and intrauterine therapies for treating fetal lung masses and neural tube defects.

Although the field of maternal-fetal

## The Field Develops

- 1972** Maternal-fetal medicine is established as a subspecialty
- 1973** First fellowship program is established
- 2001** The field is growing, and 65 new specialists are certified by the American Board of Obstetrics and Gynecology
- 2004** First fellowship program is established in Minnesota
- 2012** The United States has 1,860 certified maternal-fetal medicine specialists; 32 are in Minnesota

.....  
Sources: American Congress of Obstetrics and Gynecology; American Board of Obstetrics and Gynecology; Daniel Landers, M.D.

medicine is growing, the number of practitioners is still relatively small when compared with the overall number of board-certified ob/gyns. There were 31,147 ob/gyns certified by the American Board of Obstetrics and Gynecology in 2009. As of January 2011, there were only 1,860 board-certified maternal-fetal medicine specialists in the United States. “The job opportunities are tremendous,” Block says.

## A Consulting Role

Maternal-fetal medicine specialists typically receive calls from obstetricians, family physicians, and nurse midwives whose patients present with underlying maternal conditions, pregnancy complications, or fetal concerns outside their area of expertise. In some cases, they may co-manage the patient’s care in conjunction with the patient’s primary care provider. “General obstetricians know that we’re able to take the extra time to investigate the problem and come up with an evidenced-based management plan that either we can carry out or that the ob/gyn can implement with our recommendations and oversight,” Greves says.

Landers adds that the medical and legal climate for obstetrics may also contribute to referrals. “With the legal climate for obstetrics being a high area of concern, general obs who encounter complications want to be able to consult with a subspecialist who can advise or reassure them in their care,” he says.

Not surprising, maternal-fetal medi-

cine specialists are more often located in large metropolitan areas, which can make it challenging for women in greater Minnesota to receive care. To make services more convenient, the University of Minnesota and Fairview Health Services are piloting a telemedicine initiative to connect women in rural areas with maternal-fetal medicine specialists in the Twin Cities (see “Rural Remedies”).

## Fetal Interventions

Although maternal-fetal medicine initially placed more emphasis on the care of mothers, advances in technology and demand for fetal interventions have redirected the focus. Block has witnessed this shift in his own practice; he estimates that 70 percent of his caseload is now fetal-related, compared with 25 percent 10 years ago.

Block is one of a handful of perinatologists qualified to perform *in-utero* surgeries. He completed a fellowship in Belgium in 2008, where he trained in fetoscopy and laser therapy for twin-to-twin transfusion syndrome, when one twin receives too much blood and the other too little through vessels within their shared placenta. The condition occurs in about 3 percent of all twins. If untreated, the mortality rate for both twins is nearly 95 percent.

Previously, such cases were treated by removing amniotic fluid from the sac around the fetus receiving the extra blood. However, according to Block, this resulted in only a 40 percent survival rate for either twin. In the late 1990s, a tech-

nique called fetoscopic laser ablation therapy (FLAT) was developed in which the perinatologist inserts a small scope into the uterus, studies the placenta, and then uses a laser fiber to coagulate the vessels that communicate.

Just five years ago, only three centers in the country performed FLAT. Block was instrumental in bringing the therapy to Minnesota; he performed the first procedure here in 2008. FLAT allows for survival of one twin in as many as 90 percent of cases. “So it doubles the odds that moms will at least get one baby,” he says.

Open fetal surgeries that have been done in recent years include fetal transfusions, placement of shunts, and neural tube defect repairs. “We’re seeing a lot of development in things like neural tube defect repairs in some of the open fetal surgery programs,” Block says. “That’s where some of the latest advancements are starting to occur.”

“General obs who encounter complications want to be able to consult with a subspecialist who can advise or reassure them in their care.”

—Daniel Landers, M.D.

## The Future

The University of Minnesota’s Landers believes research and technological developments will continue to advance maternal-fetal medicine. He predicts that they will be able to diagnose fetal conditions earlier and manage more of them *in utero*, that genetic testing will become more advanced, and that amniocentesis, which is now used to detect many of those conditions, will become obsolete. Block anticipates that intrauterine surgical capabilities will become even less invasive, significantly improving outcomes for both women and their babies. Greves says he hopes that

over the next decade, new research will enable maternal-fetal medicine specialists to more effectively treat conditions such as pre-eclampsia, preterm labor, and preterm premature rupture of membranes.

Such advancements will continue to provide maternal-fetal medicine specialists with great highs and lows. “Probably the greatest high would be delivering a set of twins on whom you’ve operated months before when you knew they were critically ill, and then turning that condition around and seeing the mom carry home two healthy babies,” Block says. “That’s a hard thing to top. That’s a good day.” ■

## Rural Remedies

Although there is probably enough work in the region to keep two maternal-fetal medicine specialists busy, Patricia O’Day, M.D., is the only one practicing in northern Minnesota.

O’Day, who works for Essentia Health in Duluth, estimates that 60 percent of her patients come from the Duluth area, but the rest drive from all over northern Minnesota, Wisconsin, and Michigan to see her. O’Day also hits the road once a month to see patients at the Essentia clinic in Brainerd. She also has traveled as far as Grand Rapids, Ely, and Spooner and Hayward, Wisconsin, to see patients.

O’Day says traveling to other sites isn’t always feasible because of the need for advanced diagnostic equipment. “The vast majority of what maternal-fetal medicine physicians do in an outpatient

setting is prenatal diagnosis or ultrasound. You need a high-quality ultrasound machine and a sonographer who is excellent at doing only obstetrics and abnormal obstetrics,” she says.

Instead of traveling to reach patients, physicians at the University of Minnesota Medical Center are using telemedicine and technology to deliver maternal-fetal medical care to patients outstate.

A pilot project that began at the Grand Itasca Clinic in Grand Rapids last year has now expanded to the Fairview Mesaba Clinic in Hibbing. Future sites in Minnesota and North Dakota are being considered.

Patients arrive at their local clinic for an ultrasound. A high-definition camera attached to the machine transmits high-resolution images back to a physician in the Twin Cities. The physician consults with the technician, then the techni-

cian turns the camera on the patient for a face-to-face consultation with the physician using a Skype-like connection (physicians can bill for this as an office consult).

The service is a convenience for patients, who don’t have to drive hours to the Twin Cities to see a specialist, often to find out there’s no problem, and it’s improving the quality of care for rural women, says Daniel Landers, M.D., director of maternal-fetal medicine at the University of Minnesota.

And for those women with high-risk pregnancies who might need an ultrasound once or twice a week, telemedicine allows them to remain at home during their pregnancy rather than relocate to the Twin Cities. “It’s kind of revolutionizing rural medicine and the level of care that can be provided,” Landers says.—Trout Lowen

■ Hospitals

# New Addition

Nine months from now, babies born with serious health issues at Abbott Northwestern Hospital in Minneapolis won't have to take a trip through an underground tunnel to get to the neonatal ICU across the street at Children's Hospitals and Clinics of Minnesota.

The two hospitals are constructing a new \$50 million, 96,000-square-foot Mother Baby Center that will combine Abbott's labor, delivery, and newborn nurseries with Children's neonatal ICU and special care nursery.

The idea for the center was conceived when Abbott Northwestern officials began looking at ways to upgrade the hospital's labor and delivery facilities. "The facilities needed an upgrade, but we also wanted to look at the patient experience," says Michael Slama, M.D., a practicing obstetrician and president of the center. "We don't want mothers and babies to be separated."—Kim Kiser

## Welcome to the World

- Name:** Mother Baby Center
- Date of Birth:** December 2012
- Born to:** Abbott Northwestern Hospital and Children's Hospitals and Clinics of Minnesota
- Vitals:**
  - 44 postpartum beds • 11 high-risk antepartum beds • 13 labor and delivery rooms • 3 operating rooms • Newborn nursery and 31-bed special care nursery
  - Neonatal intensive care unit with 44 private patient rooms

Artist's rendering of the Mother Baby Center in Minneapolis.



Courtesy of Children's Hospitals and Clinics Minnesota

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# BRINGING

By Trout Lowen

## WHO WILL DO THE DELIVERIES IN RURAL MINNESOTA?

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**B**y the time he finished his residency in 1981, Robert Bösl, M.D., had received more than 100 solicitations from towns all over Minnesota, all of which were eager for him to set up shop as a family doc and begin delivering babies and caring for them and their families. Bösl chose the tiny town of Starbuck because of its newer hospital, its reputation for high-quality medical care, and its location on a scenic lake.

As a full-spectrum primary care physician, Bösl could afford to pick and choose his practice location. His services were in high demand. They still are. Like much of the rest of the country, Minnesota has struggled for decades with a shortage of primary care physicians in rural areas and, especially, physicians who provide obstetric care.

But 30 years ago, it was assumed that every rural family physician would offer ob care and that every rural hospital would have on staff a family physician or general surgeon skilled in providing cesarean sections. Those assumptions no longer hold to be true.

The number of rural family physicians who provide ob care has fallen by at least 25 percent over the last 20 years, according to the report “Trends in Obstetrical Care in Rural Minnesota” published in

# HOME baby

2008 by the Minnesota Academy of Family Physicians. In 2007, Libby M. Wagner, M.D., then a University of Minnesota medical student, surveyed 102 rural hospitals.

There are multiple reasons for the decline: Some family physicians are no longer willing to put in the extended hours on call; others have been deterred by the high cost of malpractice insurance; and some say that with the aging of the population outstate, there is not enough demand for ob services to make an ob practice viable.

Physicians need to be involved in a certain number of deliveries each year to keep up their skills and confidence, says Macaran Baird, M.D., head of the department of family medicine and community health at the University of Minnesota Medical School. “Usually 20 to 50 a year is enough to do it. The more the better.”

For women in rural areas, the lack of ob services often means having to drive long distances for routine deliveries and even longer distances for specialty care. Women having high-risk pregnancies may even have to relocate to an urban center before delivering, say maternal-fetal medicine specialists in the Twin Cities and Duluth.

Bösl has witnessed the shortage of ob care first-hand. He is the only family physician who does c-sections in an area that covers half of Pope County and all of Stevens County. The nearest ob/gyn is 25 miles away in Alexandria. Even though he is one of seven family physicians who provide ob care at Stevens Community Medical Center in Morris, Bösl is the only one who does c-sections. And although

the hospital has a general surgeon on staff, Bösl spends many nights and weekends on call when the surgeon isn't available, providing surgical backup for the other family physicians and nurse midwife.

“That's what it takes,” Bösl says. “I've been stubborn enough or whatever that I've not backed off on hard work. Is that a healthy way to live? Probably not. But it's just the way I am.”

Because of concern about the lack of ob care in greater Minnesota, the governor-appointed Rural Health Advisory Committee has made it one of its priority issues and last year established the Rural Obstetric Services Work Group. The work group, made up of physicians, nurse-midwives, representatives from rural hospitals and clinics, and state health officials, will be meeting this year to develop recommendations for improving access to and the quality of ob care in rural areas.

## A Thinning Network of Providers

One of the work group's first tasks has been to compile information on the number of providers serving rural Minnesota and the type of care they provide.

According to a state health department review of licensing board data and surveys, licensed providers offering ob services in all of Minnesota include 605 family

physicians, 529 ob/gyns, 511 general surgeons, and 187 certified nurse midwives (there are other midwives as well). Primary care physicians provide the bulk of ob care in most outstate regions, while ob/gyns provide more of the care in the Twin Cities metropolitan area and southeastern Minnesota, near Mayo Clinic.

Half of all Minnesota counties have no practicing ob/gyns, according to the state's data. Several others have three or fewer ob/gyns for every 10,000 women ages 15 to 44 years. Midwives provide a small segment of obstetric care in every region of the state, and certified nurse practitioners provide prenatal care in many areas.

Primary care physicians now are providing less of the care than in the past. In 1986, 84 percent of family physicians with privileges at Minnesota's rural hospitals provided ob care. That number had fallen to 81 percent by 1996 and to





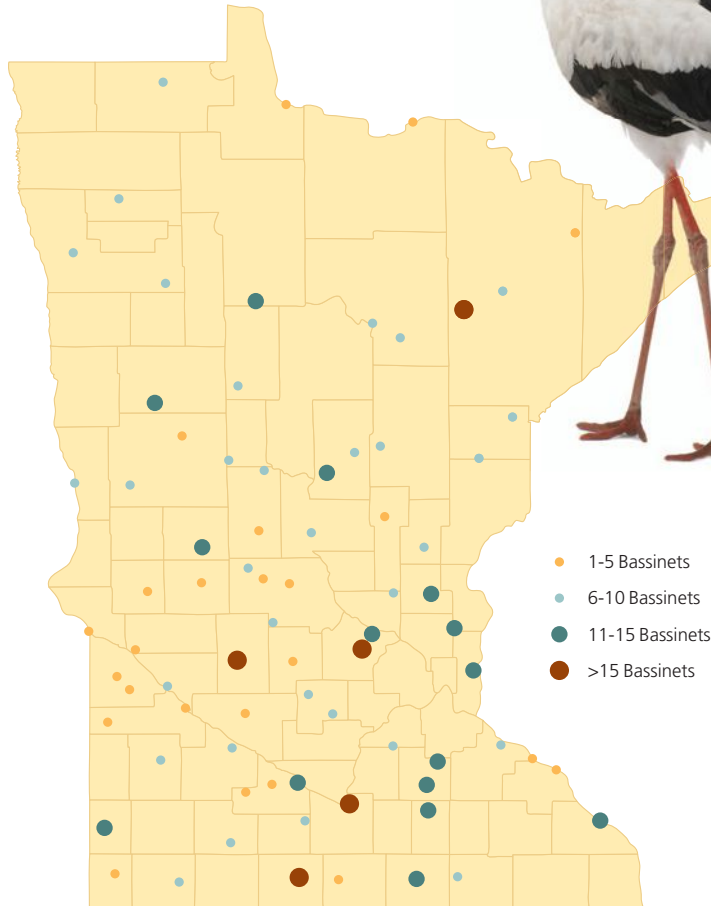
# RURAL OBSTETRICS



© Eric Isselee - Fotolia.com

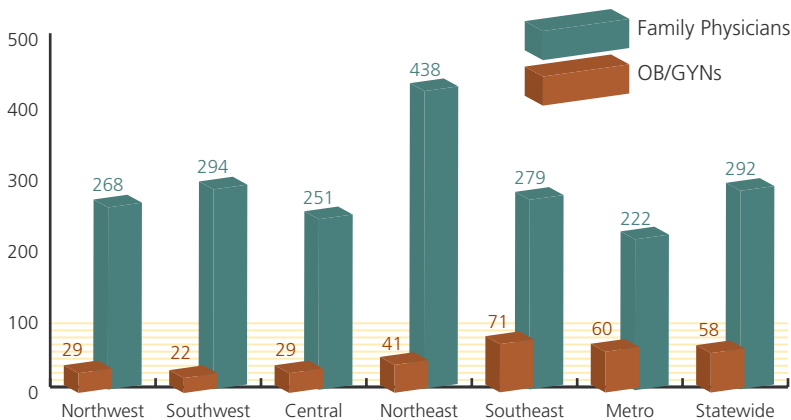
## RURAL HOSPITALS OFFERING OB CARE

The number of bassinets at the state's rural hospitals that offer ob care ranges from two to 26.



Source: Minnesota Hospital Association

## PHYSICIANS PER 100,000 WOMEN (AGES 15-44)



Source: Minnesota Office of Rural Health and Primary Care

64 percent by 2006, according to the Wagner survey.

The situation isn't likely to improve much in the near future. According to a survey of 2010 graduates of the University of Minnesota's eight family medicine residency programs, fewer than half said they intended to provide maternity care, and just three said they would perform c-sections. The numbers were slightly lower among 2008 and 2009 graduates. "We're not producing as many people, whether urban or rural, who want to include obstetrics in their family medicine or general surgery skills," Baird says.

Increasingly, residents in family medicine and general surgery are eschewing obstetrics because of the long hours and the middle-of-the-night calls to attend deliveries. "You can do a lot of good and have a rewarding career and not have to do all the work that goes along with delivering babies. Those who do have a highly rewarding experience, but its taxing in personal ways," Baird says.

The cost of malpractice insurance is another deterrent. Before he merged his practice with Stevens Community Medical Center four years ago, Bösl estimates he was doing about 10 deliveries per year and that the revenue he received from doing them wasn't enough to cover the cost of his malpractice premium. As a hospital employee, he no longer has to pay for malpractice insurance.

## A Changing Population

Some physicians who might provide ob care don't because the closest hospital doesn't have a trained staff or lacks the necessary equipment for neonatal care because of the low volume of births in the area.

According to the study by Wagner, nearly 30 percent of hospitals in communities with 10,000 or fewer residents have discontinued obstetric care in the last 30 years. The most frequently cited reason for terminating ob care was an aging community, followed by insufficient technology, an inability to keep nursing and support staff adequately trained, family physicians retiring, fewer family physicians choosing

to practice obstetrics, and too few deliveries.

One of the issues the Rural Health work group will look at this year is the number of births needed to support rural ob programs, says Paul Jansen, a Department of Health researcher who is in the process of compiling data on providers. “It’s a viability question,” he says. “How much demand does there need to be? And how much competition can there be?” Jansen adds that some hospitals have chosen to maintain services despite low numbers because they believe they are providing an important service to their community, among other reasons.

## The Pipeline

The work group is also looking at ways to increase training opportunities in ob for medical students, residents, and practicing physicians.

Minnesota has several programs that offer obstetric training for medical students and residents, and one fellowship in advanced obstetrical care. The state has 11 family medicine residency programs, eight of which are affiliated with the University of Minnesota. Five of those are in the metro area, and three are in greater Minnesota (Duluth, Mankato, and St. Cloud). All include an ob component. Minnesota also has one nurse-midwife training program, which graduates eight to 10 students a year.

The state also has three general surgery training programs. Mayo Clinic has the largest with 11 slots, followed by Hennepin County Medical Center with seven, and the University of Minnesota with six. They provide obstetrics training as a “rare exception,” Baird says.

Of the University of Minnesota Medical School campuses, Duluth’s does the most to emphasize obstetric training during medical school. First-year students can participate in a longitudinal elective that pairs them with a physician preceptor and patient in the Duluth area. Students follow the patient through prenatal care, labor, delivery, and a postpartum visit, and receive classroom instruction on every aspect of the pregnancy and birth. They also

“We’re not producing as many people, whether **urban or rural**, who want to include obstetrics.”

—Macaran Baird, M.D.

have the opportunity to practice delivering a baby using Noelle, a birthing simulator.

Ruth Westra, D.O., M.P.H., chair of the Duluth medical school campus, says the idea behind the longitudinal program was to increase students’ comfort with obstetrics early in their education in the hope of influencing their career choice. “The intent was to make sure that people were not ... steered away from family medicine because they were hesitant about the obstetrical portion.”

About 16 students are chosen by lottery each year to participate in the program. More students apply, but enrollment is limited by the number of preceptors willing to participate. When the program began in 1999, it had 30 slots. The number has dropped because there aren’t as many physicians doing ob care who can mentor students, Westra says.

Second-year students at Duluth complete an ob rotation as part of the Clinical Community Medicine course. Each student attends two deliveries in Duluth hospitals. First- and second-year students on the Twin Cities campus receive no clinical ob training. Third- and fourth-year students can participate in rural or international electives with ob components, including the Rural Physician Associate Program (RPAP), a nine-month option for third-year students interested in rural medicine. About half of all RPAP students complete a six-week ob/gyn clerkship either in Duluth or the Twin Cities; the other half complete the requirements for the clerkship with rural ob/gyn specialists or family physicians, says RPAP Director Kathleen Brooks, M.D. RPAP doesn’t try to steer students toward obstetrics any more than it tries to steer them toward any other non-primary care specialty. “When a graduate does not pursue primary care,

we are pleased when they end up in rural medicine in other disciplines,” Brooks says.

## Advanced Training

To ensure more family physicians are qualified to provide ob care, residency programs may have to offer additional ob electives, Baird says. Hospitals and medical groups also may want to offer signing bonuses to physicians willing to complete additional obstetric training during residency.

The 30-year-old Duluth Family Medicine Residency program has a strong emphasis on obstetrics. Residents in the program participate in an average of 150 births. The program accepts 10 residents per year. Since its inception in 1977, it has produced 301 graduates, 117 of whom currently practice in rural Minnesota. Most provide obstetric care. Residents in other family medicine programs who have a strong interest in obstetrics can gain sufficient experience, according to Baird, but do so less often.

New rules established by the Accreditation Council on Graduate Medical Education that take effect next year will require family medicine residents to perform 80 deliveries—twice as many as before—to be qualified to do obstetrics.

The new rules essentially create two tracks in family medicine, Baird says, allowing students who are interested in obstetrics to get more experience with deliveries. “It allows you to distribute the deliveries toward the [residents] who want to do them,” he explains.

They don’t address c-section training, however. Residents must complete at least 50 c-sections to qualify for privileges at a hospital. Few do. “A few people do 60 or 70 c-sections during their three-year fam-

ily medicine residency and may leave as a qualified candidate, but that's uncommon," Baird says.

Third-year residents in the Duluth program are often among those opting to receive advanced c-section training. In the last five years, the Duluth residency program has trained 17 physicians to perform c-sections, says faculty member Andrew Snider, M.D.

The Duluth-based Essentia Health Obstetrics Fellowship Program also allows practicing physicians to hone those skills. The year-long fellowship, created in 2008 by a group of obstetricians and family and emergency physicians in the Duluth area, is designed to provide advanced training in high-risk and surgical deliveries. The program is open to any physician post-residency who wants additional obstetric training, says James Koberstein, M.D., an ob/gyn who helped develop the fellowship.

Fellows receive 16 weeks of training in normal and high-risk obstetric care, including operative deliveries. Most do between 50 and 70 c-sections, Koberstein says. In addition, they receive training in trauma and emergency care and are given opportunities to learn about ultrasound, genetics, endometrial biopsies, IUD placement, colposcopy, and breast health.

The Duluth fellowship is one of only 29 such fellowships in the country and one of five in the Upper Midwest. The year-long program draws applicants from across the country. Since it started, two fellows have come from the Duluth family medicine residency program, including Snider, the current fellow. Snider says he wasn't able to get as much ob training as he needed during residency because of the birth of his twin sons. "It seemed overwhelming to try to do residency, as hard as residency is, and then help my wife care for twin boys during my third year when

the bulk of your c-section training comes."

Snider will start work at the Essentia clinic in Ashland, Wisconsin, next October after finishing the fellowship. He will be one of two physicians at the clinic qualified to perform c-sections. The other physician, who also will join the practice in October, is currently a resident in the Duluth family medicine program. The Ashland clinic only recently began offering obstetric care, Snider says.

The three other physicians who have completed the Duluth fellowship are all in rural practice, two in Minnesota and one in Wisconsin. Although there is enough interest in the fellowship among physicians, Koberstein says there are no plans to expand the program because of the limited number of patients.

"We're trying to do our part, one fellow at a time," he says. **MM**

Trout Lowen is a freelance writer in Minneapolis.



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# Through a *Different Lens*

By Lindsay Byrnes, M.D.

Becoming a mother herself changes one physician's view of her patients.

**M**y patient is gone. I don't know where. I fear she is dead or on the streets. The only thing I am sure of is how incredibly sad her life was when I knew her.

I met her on the pediatric ward, as she was barely in her teens. She had been transferred from the intensive care unit where she was recovering from postpartum sepsis and other complications. Days before, she had delivered a baby girl.

From the time of her arrival, her behavior was difficult. It went beyond adolescent insolence or the effect of illness. She screamed, cursed, and refused any medications or treatments the nurses offered. Rather than providing security and reassurance, my patient's mother was often absent; when she was present, she was usually intoxicated. Strangely, she found antagonizing her daughter entertaining. When the room went silent, it usually signaled that they had gone downstairs to smoke together. None of us wanted to blame the girl, given the obvious lack of parenting and her medical condition, but dealing with her was trying. My disdain grew every day, with every interaction.

Sadly, she is only one of many teen mothers I have cared for during my residency. We know the societal impact of teen pregnancy, and we know that we have

failed to find solutions to the problem. Having a child when one is still a child oneself is a problem. That cannot be denied. I have always had very strong feelings about this, as many of us do. I have met many young mothers in the nursery with their newborns and delivered my congratulations and encouragement through gritted teeth. I have felt frustration and pity, even anger toward these girls. I have blamed them for not taking responsibility for preventing the pregnancy, which I assumed was unwanted. Of course, I made assumptions without knowing the circumstances of the conception. In my mind, I justified my feelings by assuming that the baby's life would be made unnecessarily difficult.

**I** have been thinking about these mothers a lot lately. You see, I am a new mother. And my perspective has changed.

Motherhood has been an inexplicable experience. I have felt misery, anxiety, exhilaration, fear, and so much love it seems my heart would break. I now understand that this occurs no matter your age. I can only imagine these feelings being amplified when one also has to worry about having enough food to eat or a home that is safe, or is experiencing any of the other stressors that are so often present in the

lives of these young mothers.

Tragically, my patient's daughter died during the hospitalization. My patient didn't cry. She didn't speak. The cursing and yelling ceased. She left the hospital shortly afterward.

Certainly, the baby's death saddened me at the time, but the girl's loss is more visceral to me now. I wish I could speak to her again. I owe her more compassion than I expressed at the time. Surely she had the same dreams about her little one while she lay in bed at night feeling her kick. Surely she had the same tears well up in her eyes when she was given her baby to hold for the first time. As I sit in my warm nursery, I look at my healthy young son, and I cry for my patient, that young mother.

**MM**

Lindsay Byrnes is an internal medicine/pediatrics resident at the University of Minnesota. She wrote this as part of an elective. She says: "It grew from my newfound perspective when I became a mother. I recalled an experience taking care of a teenaged mother who had lost her baby. I have always thought of myself as a compassionate person, and yet there were times during my residency when I lost my way with difficult patients. In writing this essay, I recognize an ugly part of myself. I hope that by writing, I will remember that compassion is the foremost responsibility of a physician."

# The Hard Choices that *Living Requires*

By Nikki Solberg

A lesson about life and death that won't be forgotten.

*“No woman wants an abortion as she wants an ice cream cone or a Porsche. She wants an abortion as an animal caught in a trap wants to gnaw off its own leg.”*

—Frederica Mathewes-Green

Gyn Special Services is tucked away in a forgotten area of the hospital. There are no signs pointing to its location. It lies in the middle of a long corridor that doesn't get much traffic. From there, you then walk down a short hallway to another door where you must ring the buzzer to gain access. Once inside, the waiting room is much like any other, with the exception of the floor-to-ceiling glass separating you from the staff.

Patients arrive early in the morning and begin the daylong process of preparing for their “procedure.” They are brought behind the glass partition to small exam rooms, where an ultrasound determines the gestational age of the fetus and if they have a multiple or single pregnancy. They are given a brief physical exam to ensure that they are healthy and then are taken to a room where their blood is drawn and they are asked about their medical history. The women then gather as a group to listen to a nurse explain the procedure. Questions are asked and answered; the patients then return to the waiting room.

At first the women, ranging from teenagers to grandmothers, appear to have nothing in common—except the desire to

not be pregnant. As the day progresses, I begin to see these women and their pregnancies in an unexpected light. I begin to sense that the spectrum of their love, loss, hopes, and dreams is even broader than appearance suggests. I watch and listen as a teenager argues with her mother about her poor sense of humor, and as an older woman sheds a tear as she explains that she can't carry this pregnancy to term because she already has grandchildren to take care of. The most poignant moment for me, however, comes at 2 p.m.

As a medical student, I am put in charge of performing the ultrasound. I feel elated as I locate the fetus and bring it into clear view. My attending reassures me that I am doing a fine job. I watch the heart flutter and the legs kick. Then I notice that the legs are kicking an object—the dilator. Suddenly I remember why I am there. I watch as the suction is completed and the products of conception are examined: two arms, two legs, and a torso. We are done. I walk out with a renewed respect for life and the hard choices that living requires. **MM**

Nikki Solberg is third-year student at the University of Minnesota Medical School.



MINNESOTA  
MEDICAL  
ASSOCIATION

# THE PHYSICIAN ADVOCATE

News about Policy, People, and Politics

## MMA, AMA Support Physicians in Avera Marshall Lawsuit

The MMA and the AMA Litigation Center are supporting the medical staff and its executive committee at Avera Marshall Regional Medical Center in Marshall, Minnesota, in their lawsuit against the hospital.

The suit was filed in Lyon County by Steve Meister, M.D., chief of staff, and Jane Willett, M.D., chief of staff-elect. They allege that the Avera Marshall Regional Medical Center administrators and board of directors have repeatedly disregarded and violated the medical staff bylaws and

taken actions to prevent them from fulfilling the normal duties of medical staff leadership, including appointing and re-appointing physician applicants to the medical staff, calling and holding meetings of the medical executive committee, appointing physician members to the medical staff quality improvement committee, and conducting medical staff investigations and peer-review proceedings.

They argue that the medical staff bylaws constitute a contract between the medical staff and the hospital and that

they have rights and responsibilities according to the bylaws. The hospital's administrators and the board of directors disagree and recently voted to unilaterally repeal the medical staff bylaws and replace them with a new set of bylaws, effective April 1.

"Our main concern is the role and use of the medical staff in the governance process," says Robert Meiches, M.D., CEO of the MMA.

Meiches says the medical staff needs a certain degree of autonomy to protect standards of patient care.

**"Our main concern is the role and use of the medical staff in the governance process."**

—Robert Meiches, M.D.

The MMA Executive Committee voted unanimously in February to support the medical staff in order to protect the rights of the physicians in the case as well as all physicians, particularly with regard to quality-of-care decisions. The action is consistent with the MMA's goal of advancing professionalism in medicine.

Meister and Willett are seeking a declaratory judgment that medical staff bylaws constitute a contract between the medical staff and the hospital; a ruling on the rights and responsibilities of the medi-

cal staff and other parties as set for in the bylaws; and an injunction to prevent the hospital's administration from violating the terms of the bylaws in the future.

The MMA sought support from the Litigation Center in hopes that combined backing will highlight the significance of this case in the eyes of the court and prevent a negative legal precedent from being set.

Attorneys for Avera Marshall have filed a motion to have the case dismissed. The motion hearing is scheduled for March 21. ■



# MEET A MEMBER

Janette Strathy, M.D. | BY LISA HARDEN

As an obstetrician/gynecologist and advocate for women's health, Janette Strathy, M.D., practices both medicine and diplomacy.

Strathy, a Park Nicollet Health Services physician, estimates she has delivered approximately 4,500 babies during her 30-year career, becoming a "granddoc" two years ago when she delivered the baby of a patient she delivered. She also has testified before the Minnesota Legislature on behalf of the MMA about issues related to women's health including extending hospital stays after delivery, exempting pregnancies with fatal fetal anomalies from portions of the Women's Right to Know Act, accrediting birthing centers, expanding access to ob/gyn care, and licensing lay midwives.

"It is important for the MMA to be out front on specialty issues because they affect patients and patients' health, and that's what we are all about," she says.

In 2009, Strathy spoke against a proposal that would require women on Medical Assistance to give birth at birthing centers because of the risk to women's and infants' health if complications occurred.

That requirement was removed from a bill to license freestanding birthing centers in Minnesota. "Even in low-risk pregnancies, there is a small-but-real risk that something could happen during delivery at a birthing center and the patient may not be able to get to a hospital in time," she says. "Women should be able to choose to give birth in a hospital after weighing all the risks and benefits of their personal situation."

In 2006, she worked with the MMA and lawmakers on an amendment to the Right to Know Act that removed language requiring physicians to discuss adoption as an alternative to abortion and a father's responsibilities in cases where a fetus has a birth defect that is incompatible with survival after birth.

"We were able to work with legislators and physicians on both sides of the abortion issue and pass a nonpartisan law," she says. "If you are respectful, you can have a dialogue with someone you disagree with and find ways you can agree."

Strathy has brought her consensus-building style to a number of leadership positions during her career. She has

served as chair of the Clinical Board of Governors and as a member of the Board of Directors for Park Nicollet Health Services; president of what is now the Minnesota Section of the American Congress of Obstetricians and Gynecologists; assistant secretary and district VI vice chair of the American Congress of Obstetricians and Gynecologists; and a member of former U.S. Rep. Jim Ramstad's Health Care Advisory Committee. She also has served on the board of MEDPAC, the MMA's political action committee, and on the MMA's Legislative Committee.

"Ob/gyns must be able to think on their feet, yet they often also must sit on their hands," she says, noting that obstetric emergencies require quick decisions and action, yet natural labor is a gradual process that requires patience. Strathy brings that balanced approach to leadership. "Sometimes you want to make a decision quickly; but usually it takes time to



Janette Strathy, M.D.

Photo by Steve Weverka

## MMA Tackles Independent Practice Concerns

Independent medical practices won't go away; but they won't look the way they did in Marcus Welby's day. That was the message American Medical Association president-elect Jeremy Lazarus, M.D., delivered at a recent MMA-sponsored event that brought together about 90 physicians and administrators from independent medical groups across Minnesota.

"It's fair to say our practices are not what they were when I started in 1972," Lazarus said, flashing a photo of the iconic TV doc on the screen. "The practice of medicine is much more competitive than it ever has been. To compete, we need to be more savvy and business-minded. We need to change the way we practice so we

can survive in this new market."

Lazarus, a psychiatrist with a solo practice in Denver, explained that according to 2010 Medical Group Management Association data, 65 percent of physicians are now hired by hospital-run practices. "Two-thirds of the physicians in this country are still in smaller group practices,



gather all the data and input necessary to make the right decision.”

Strathy now dreams of transitioning from doing full-scope ob/gyn work to obstetrics only. She is interested in a career as a laborist, a hospital-based physician whose only job is to deliver babies. “I absolutely love my job, and delivering babies is the best part.” ■

## AT A **GLANCE**

### MEDICAL SCHOOL

Mayo Medical School, 1981

### RESIDENCY

Mayo Graduate School of Medicine, 1981-85

### CURRENT PRACTICE

Ob/gyn at Park Nicollet Health Services, St. Louis Park

### INTERESTS/HOBBIES

Downhill skiing, canoeing, camping, hiking, and flying airplanes



George Schoephoerster, M.D., of St. Cloud (center in white coat) is joined by Phil Stoyke, M.D., of St. Paul (right) and Mark Liebow, M.D., of Rochester (far right) as they speak with Rep. Steve Gottwalt (R-St. Cloud) (left) about Minnesota's health insurance exchange.

Photo by Steve Weverka

## White Coats Converge on Capitol

Physicians from across Minnesota gathered at the state Capitol last month to visit with their lawmakers during the MMA's Day at the Capitol. They heard from Edward Ehlinger, M.D., Minnesota's commissioner of health, before meeting with legislators. “It was a valuable experience meeting with two of my legislators,” said Julie Anderson, M.D., of St. Cloud. “Hopefully this day will serve as a reminder that physicians care about the health needs of our state and that we have an extremely important role to play in health reform.” ■

but I think those numbers will be rapidly changing,” he said.

In Minnesota, the trend is even more pronounced. According to a survey by the MMA Independent Medicine Task Force, about 37 percent of Minnesota's physicians are in independent practices and 40 percent of the MMA's members are independent physicians.

Lazarus said one reason for the shift away from independent practice is the fact that payments from insurers are not keeping up with the rising cost of medical practice. He explained that difficulty negotiating with payers has drawn a num-

ber of physicians into larger organizations. “They [rather than the individual physician] can deal with the negotiations, the billing, the payment,” he said.

In addition, the changing health care environment raises a number of questions for independent groups: Should they become part of an ACO? Can they implement health information technology without spending a lot of money or experiencing too big a hit to productivity? How do they cope with the changes coming with ICD-10? “The Affordable Care Act has been a sea change we haven't seen in the past, so it's fair to have anxiety

about how things will be in the future,” Lazarus said.

After Lazarus spoke, audience members listed priority issues independent physicians face including administrative burdens, contract negotiations, and ability to compete in the marketplace.

The MMA's Independent Medicine Task Force will review those concerns and recommend to the Board of Trustees ways the MMA can support independent practices. ■



**VIEWPOINT**

| by Lyle Swenson, M.D.

**Listening and Learning**

**A**s my time as MMA president nears its mid-point, I wanted to reflect on what I've been hearing from the physicians of Minnesota. My hope is that the discussions I have had and will have this year with practices around the state will help me and the MMA focus on what is important to Minnesota physicians.

I am gratified to learn that the physicians I've talked to are most concerned about being able to provide their patients with the best possible care. Most of the day-to-day issues that trouble them relate to their ability to do a good job taking care of their patients. Sometimes that becomes difficult when the issues they confront threaten their professional lives and their ability to stay in practice. Here are some of the issues that I have heard:

- **Reimbursement.** This is mainly a problem of poor reimbursement by the Medicaid program. Reimbursement is often so low that it doesn't cover the cost of care. It also is a problem with Medicare, where reimbursement is tied to the Sustainable Growth Rate (SGR) formula and is projected to be cut by an ever-larger amount each year while practice expenses keep going up. Given the current federal and state budget situations, it is difficult to believe that reimbursements will rise in the near future.
- **Regulatory requirements.** From HIPAA, EMRs, e-prescribing, and mandatory data collection and reporting to maintenance of certification requirements, many physicians are frustrated with the number of administrative tasks they are required to perform. Additional requirements not only cost money but leave us with less time to care for patients.
- **Health care reform.** Many physi-

cians feel they have very little input into how the business of health care is being changed. They feel their voices are not being heard. They are concerned about the complexity and pace of health care reform and the increasing uncertainty that reform efforts create, with the unpredictable effects of new initiatives such as health insurance exchanges and accountable care organizations.

- **Other issues.** The high costs of medical school, declining support for graduate medical education, workforce issues—especially the disincentives for young physicians to choose primary care specialties, the difficulties physicians encounter when starting a new practice, lack of progress on tort reform, and problems with physician-hospital relationships, to name a few.

**The physicians I've talked to are most concerned about being able to provide their patients with the best possible care. Sometimes that becomes difficult when the issues they confront threaten their professional lives and their ability to stay in practice.**

The MMA offers physicians an opportunity to come together and raise their voices to address the issues that affect them most. Physicians and the MMA staff are working diligently on all these issues and more. Here are a few of the efforts we are making on behalf of Minnesota physicians:

Lyle Swenson, M.D.  
MMA President

Photo by Steve Wewerka

- We are doing our part to convince federal legislators to repeal the SGR and develop more predictable and fair system for reimbursing physicians for taking care of Medicare patients. At the state level, we continue to advocate for better reimbursement from Medical Assistance.
- We are following the state's progress on Provider Peer Grouping data collection and reporting to ensure that the data is meaningful and that it can be reviewed and if necessary modified before publication so that quality and cost data are accurate and helpful to patients. We also want to make sure that these efforts will not result in administrative and financial hardships for physician practices.
- We are working closely with the physician representatives on the governor's task forces on health care reform and the health insurance exchange to ensure that physicians have a voice on these efforts at the state level.

I will continue to meet with physicians around the state during my time as your president so that I can understand what is most important to you, and then speak to these issues for the benefit of the physicians of Minnesota and our profession. ■

## Feds Investigate PMAP Payments

With a federal investigation looming, a joint session of the House Health and Human Services Finance and Reform committees heard testimony in February about the need for additional state oversight of public program payments to health plans.

At the heart of the three-and-a-half-hour session were questions about the flow of public funds to insurance plans to pay for the state's Prepaid Medical Assistance Program (PMAP). The state allocates more than \$3.5 billion each year to PMAP.

Critics have charged that too much of that money has gone into health plan reserves. They also have argued that the Department of Human Services (DHS) overpriced health plan payments for Medical Assistance to cover health plans' losses associated with the old General Assistance Medical Care program.

"What is frustrating for the physicians we represent is that the money going to health plans has increased every year, but payments for physician services have been flat or gone down. That just doesn't make sense," says Eric Dick, MMA man-

ager of state legislative affairs.

A federal investigation into the issue was announced at the joint hearing.

State legislation has been introduced to increase oversight and accountability of health plan payments. Sen. Sean Ni-enow (R-Cambridge) and Rep. Carolyn Laine (DFL-Columbia Heights) have

**"Money going to health plans has increased every year, but payments for physician services have been flat or gone down. That just doesn't make sense."**

—Eric Dick, MMA manager of state legislative affairs

both introduced bills (SF 1824/HF 2241) that would require an annual independent audit of the public managed care programs, require health plans to submit real-time encounter data to DHS, and prohibit DHS from contracting with an actuary who also performs work for the health plans. The issues raised at the hearing will continue to be discussed in the coming weeks as lawmakers debate these bills.

In addition, U.S. Rep. Michele Bachmann appeared at the state Capitol last month, calling for closer scrutiny of the state's Medicaid accounting. Bachmann said she plans to introduce legislation at the federal level requiring independent third-party auditors to review Medicaid's recordkeeping. ■

## MMA to Help Craft BMP Legislation

In response to a two-part series in the *Minneapolis Star Tribune*, in which the Minnesota Board of Medical Practice (BMP) was criticized for lack of transparency about physician disciplinary actions, Rep. Jim Abeler (R-Anoka) has asked the MMA to work with him to craft legislation that would require the BMP to provide additional information that would allow the public to make more informed choices about their physicians.

The *Star Tribune* articles pointed out that the BMP did not fully disclose information about doctors who have been

disciplined in other states, had malpractice claims filed against them, or lost their hospital privileges because of surgical mistakes or other problems. The BMP provides reports on disciplinary action it has taken against doctors on its website.

Abeler would like to see all health-related licensing boards in Minnesota disclose gross misdemeanor or felony convictions in the last year, malpractice judgments in the last 10 years, and any disciplinary actions taken by other state licensing boards.

The MMA supports providing patients with relevant information; however,



## What Happened to Resolution 202?

Every year, important issues are brought forward for discussion by the MMA's House of Delegates during the Annual Meeting. But what happens to those resolutions that are adopted?

Now there's an easy way to follow resolutions from adoption through implementation: the MMA's Resolution Tracker. The tracker is an online tool that provides complete information about the resolution, its status, and the steps the MMA is taking to complete the work. Progress on each resolution will be updated quarterly. ■

On the **web...**  
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[WWW.MNMED.ORG/RESTRACKER](http://WWW.MNMED.ORG/RESTRACKER)



it does not consider malpractice data to be an indicator of a physician's competence or quality.

"We have told Rep. Abeler that we share his goal of ensuring that all health licensing boards are focused on protecting the public," says Dave Renner, MMA director of state and federal legislation. "But disclosing information that may not help them determine competency and is potentially damaging to a health care professional's reputation does not help anyone." ■

## MMA to Pursue Changes to Peer Grouping Law

The MMA intends to pursue changes to the Provider Peer Grouping law to address long-standing concerns about how the results will be used.

“Provider peer grouping in its current form is not achievable,” says MMA CEO Robert Meiches, M.D. The MMA has long believed that the Legislature over-reached with its intended goals, given the limitations of the data available for analysis and the relative immaturity of current analytical methods.

The MMA has communicated its intent to the Department of Health.

Meiches notes that the MMA’s biggest concern is use of the results. The law that created the program currently calls for them to be used by the public to compare hospitals and clinics on quality and cost and by health plans and the state to design payment policies and provider networks.

Meiches noted that the MMA could support such uses if clinics have an opportunity to validate the results with patient-level data. “Given the complexity of the project, the relative immaturity of the methods, the potential for data errors, and the proposed high-risk uses of the data, physicians must be afforded the opportunity to verify the accuracy of their performance results,” he says.

Under the current law, all patient-identifying information is removed from the data that are assembled for the analysis. If patient privacy concerns preclude any changes to the law, the MMA would like to see the state continue to collect the data but use it instead to provide geographic or population-based analyses of utilization and delivery. Such analyses would not identify specific hospitals or clinics but could shed light on care patterns and drive improvement. ■

Janet Silversmith, MMA director of health policy, provided background information for a February 9 Minneapolis *Star Tribune* editorial, which called for the state to move forward with the peer grouping program.

## Thorson Testifies on Workforce Issues

MMA Board Chair David Thorson, M.D., testified before members of the Minnesota Health Care Reform Task Force’s Workforce Work Group in February about primary care workforce issues.

“Given our aging population with greater health care needs, the expected retirement of baby boom-era physicians, the time it takes to educate and train a physician, and the financial and other challenges that discourage medical students from pursuing a career in primary care, we are concerned about access to care for Minnesotans in the future,” he said.

Thorson said the MMA would encourage the state to take the following actions:

- Work to increase the supply of primary care physicians by restoring money for residency training at hospitals and clinics, improving the financial incentives for medical students who choose primary care careers, and pursuing opportunities to recruit primary care physicians through the National Health Service Corps and other avenues;
- Support further adoption of the health care home model; and
- Increase Medical Assistance payments for primary care services.

Finding solutions to physician workforce issues is consistent with MMA’s goal of making Minnesota the healthiest state in the nation.

The Governor’s Health Care Reform Task Force is expected to develop a comprehensive set of recommendations by late 2012. ■

## Get Ready for CG-CAHPS

Minnesota’s Statewide Quality Reporting and Measurement System requires physician practices to collect patient experience data using the Clinic and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) survey beginning in 2013. But clinics must take several steps this year to prepare. To help you, the MMA and MN Community Measurement are sponsoring an hour-long webinar, “Using CG-CAHPS Data to Improve Your Patient’s Experience,” on April 4.

The webinar will outline the state requirements for contracting with certified vendors who will collect and submit data, provide insights from practices that have used CG-CAHPS surveys, and offer tips for using the data to help your patients. Go to [mnmed.org/measure](http://mnmed.org/measure) (see the Webinar section) to register. ■

## SGR Fix Coming?

Congressional conferees reached a deal in February on a short-term fix to the flawed Sustainable Growth Rate (SGR) formula to prevent a 27 percent Medicare pay cut scheduled to take effect this month. At the same time, a permanent fix may be in the works, as President Barack Obama's 2013 budget included a commitment to work with Congress to fix the SGR formula.

Reductions in several programs, including the Medicaid disproportionate share payments to hospitals, Medical bad debt payments to hospitals, and the prevention fund created by the Affordable Care Act, will offset the cost of the short-term SGR fix, which will freeze Medicare payments at current levels through 2012.

"We are happy to see that the MMA's and the AMA's messages about the need to permanently fix the SGR are being heard by the administration and being included in the 2013 budget," says Dave Renner, the MMA's director of state and federal legislation. "We now must watch to see how this permanent fix takes place." ■



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## Court Clarifies How Long State Can Retain Bloodspots

A Hennepin County District Court judge, in January, granted the Minnesota Department of Health's (MDH) request for an emergency protective order (EPO) that allows the department to retain bloodspots obtained during newborn screening for 71 days while they test for heritable genetic disorders and then to destroy the bloodspots.

The EPO was necessary because the Minnesota Supreme Court did not specify the length of time that the department could legally retain the

samples in its Bearder opinion, which stated only that the health department may test the samples for heritable and congenital disorders, record and report those test results, and maintain a registry of positive cases for the purpose of follow-up. Department officials determined that those acts could be carried out within 71 days.

Bloodspots may be retained longer if parental consent is obtained. The Minnesota Medical Association is an advocate of newborn screening. ■

## Dementia Webinar Available to Members

Missed the MMA's recent webinar, "Confronting the Dementia Explosion?" You can now access it online.

The webinar features neurologists Ronald Petersen, M.D., from Mayo Clinic, and J. Riley McCarten, M.D., from the University of Minnesota Medical Center, Fairview. Topics include providing earlier screening and care, treating Alzheimer's disease as a chronic condition, and integrating dementia care with treatment of other conditions.

To access the webinar, go to [www.mnmed.org/Events](http://www.mnmed.org/Events); find the "Past Webinar" section, and click on "2012—Confronting the Dementia Explosion." This material is for members only, so once you click on the presentation, you will be asked to login to see the materials. ■



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## Crack the Reimbursement Code

Help your coders and billers learn to successfully manage your practice's reimbursement systems, while preparing for ICD-10 at "Cracking the Code," the MMA's sixth annual coding, billing, and reimbursement conference, May 7 and 8 at the Ramada Plaza in Minneapolis. ■



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Brainerd Dispatch writer Jodie Tweed accepts the award from MMA member James Dehen, M.D.

## Excellence in Journalism Award Presented

The MMA/Minnesota Medical Association Foundation's Excellence in Medical Journalism Award for 2011 was presented to Jodie Tweed, a writer for the *Brainerd Dispatch*, for her story in *HealthWatch* magazine, "Infertility: Heartache and Hope." This award is given annually for an outstanding article, series, or other reporting in print or electronic media that contributes to a better public understanding of medicine and health in the state of Minnesota. ■

## In Smoking Cessation, We're Not Above Average

Minnesota received an overall grade of "C-" on the American Lung Association's 2012 smoking report card.

The State of Tobacco Control report, which grades the federal government and each of the states on key tobacco-control and prevention measures, evaluated the state's efforts on four measures. Minnesota received a "C" for having a cigarette tax of \$1.56 a pack. The state earned a "D" for cessation coverage because of the lack of a private insurance mandate for covering cessation programs and for spending just \$1.73 per smoker on the state telephone quit line. That's much lower than the Centers for Disease Control and Prevention's (CDC) spending recommendation of \$10.53 per smoker. Minnesota received an "F" in tobacco prevention and control

spending, which stems from low funding of tobacco-control programs. Minnesota spends slightly more than one-third of the CDC-recommended level. The state did receive an "A" for smoke-free air because of laws that prohibit smoking at work sites, schools, child care facilities, restaurants, bars, and retail stores.

The report highlights the negative impact of the Minnesota Legislature's 2011 decision to sell bonds against future funds from the state's 1998 tobacco settlement to help balance the budget. This leaves the state with as little as 40 cents on the dollar for smoking-cessation efforts. ■

### TOBACCO CONTROL VICTORIES LAST YEAR

- Defeating bills that would have eased penalties for retailers who sell tobacco products to minors
- Maintaining some state tobacco funds and the Statewide Health Improvement Program
- Laying the groundwork to define "little cigars" as equivalent to cigarettes

# Twenty-First Century Women's Health Care

A new model is emerging—one that integrates both conventional and alternative medicine and emphasizes disease prevention.

By Diana Drake, M.S.N., W.H.N.P., and Carolyn Torkelson, M.D.

Conventional thinking about women's health care is evolving. This evolution is being driven by a triad of influences: the fact that women are the most frequent users of alternative therapies, that the population is aging, and that there is now a strong mandate for preventive medicine. Obstetrics and gynecology have historically been the foundation of women's health care, and most female patients have viewed their ob/gyn provider as their primary caregiver during their reproductive years. There is now a strong impetus for broadening that perspective beyond ob/gyn and beyond the reproductive years.

## Complementary and Alternative Medicine Use

The increased demand for complementary and alternative medicine (CAM) therapies is likely the biggest factor driving changes in women's health care. Complementary and alternative medicine generally refers to a diverse set of healing therapies or practices that fit with the philosophy of holistic care.<sup>1</sup> Today, four out of 10 adults use a CAM therapy. As a nation, we spent more than \$33.9 billion on these services in 2007.<sup>2</sup> National Institutes of Health reports consistently show that women are the majority of CAM users.<sup>2</sup> According to estimates derived from the 2007 National Health Interview Survey, CAM usage is highest among females between 30 and 69 years of age.<sup>2</sup> In addition, 55% of the adult male and female respondents stated they believed their health would be improved if conventional medical treatments were combined with CAM.<sup>2</sup>

Not surprising, in the last two decades, a newer model of health care, integrative medicine, has emerged.<sup>3,4</sup> Integrative medicine practitioners look at the whole person—body, mind, and spirit—and use appropriate therapies, both conventional and alternative, to improve the health of an individual. They address the fundamentals of lifestyle and self-care and emphasize the therapeutic relationship between themselves and their patients.<sup>5</sup> These practitioners also recognize that there are mul-

iple causes of disease and multiple routes to healing.<sup>6</sup>

Although all health care providers are aware of the growing interest in CAM, those who care for women may be most attuned to this trend. Physicians providing care to pregnant women, for example, are increasingly being asked to assess the safety and efficacy of the CAM modalities their patients are using.<sup>7</sup>

Regardless of what physicians may think of CAM therapies, they agree that it's important to discuss CAM use with patients.<sup>8</sup> Yet among the percentage of women who use CAM, an estimated 60 percent to 70 percent do not inform their medical provider when they are receiving concomitant care.<sup>4,9</sup> This may increase the potential for unforeseen interactions between various treatments and medications, especially among older patients who may be using more prescription drugs and have chronic diseases.<sup>10-12</sup> Taking an integrative approach may improve communication with patients and prevent adverse outcomes such as herb/drug reactions.<sup>11,13-15</sup>

Providers of ob/gyn and other care for women have always needed to consider the social situations, belief systems, and life struggles of their patients. Now, they need to consider what their patients believe and are practicing with regard to CAM. Ultimately, the goal is for patients to have better outcomes and be more satisfied with their care.<sup>16,17</sup>

## The Aging of the Population

The second factor influencing the direction of women's health care is the fact that the population is growing older.<sup>18</sup> The nation's median age rose from 35.3 years in 2000 to 37.2 in 2010; in seven states the median age is 40 or older.<sup>19,20</sup> The latest U.S. Census data show that the number of people age 65 and older is increasing rapidly; an estimated one in five people will be 65 or older by 2035.<sup>20</sup> The average life expectancy for women is now 85 years.

As the percentage of women living long, productive lives

grows, so will the need for health care that optimizes and sustains good health. Thus, rather than focusing women's health care primarily on pregnancy or menopause, providers should focus more on well-being and disease prevention over a lifespan. We should view women's health as a lifelong continuum, rather than as a series of episodic or fragmented events, and work to help patients reach the highest levels of wellness all along the way.<sup>21</sup>

### Prevention: The Common Denominator

With the Affordable Care Act, preventive care has been positioned as the foundation of the U.S. health care system. The Institute of Medicine's 2011 report on the Affordable Care Act states "... the focus on preventive services is a profound shift from a reactive system that primarily responds to acute problems and urgent needs to one that helps foster optimal health and well-being."<sup>22</sup> Improving well-being and preventing or delaying the onset of disease ought to be components of women's health care.

It is important to target messages about the importance of prevention to women because they are more likely to be the primary decision makers about health care for themselves and for their families. In addition, female patients need to be encouraged to have a healthy lifestyle that prevents disease. Obstetrics/gynecology practitioners can be effective partners in educating and preventing heart disease and other chronic health problems that are prevalent in an aging population.<sup>23</sup>

### A Model for Change

The search for a practice model that addresses CAM usage, the aging population, and prevention of chronic diseases is not unique to women's health care. Physicians have long looked for ways to improve on conventional treatments and approaches.<sup>4</sup> Multiple practice models may emerge as a result of these forces, from the solo clinician who is knowledgeable and open to CAM approaches to the group practice that provides a one-stop shop for patients who want both CAM and conventional services.

If we are to adequately serve women today and in the future, we need to look for ways to take an integrative approach to care, offering both traditional ob/gyn care alongside other healing modalities. New models of care must address the evolving needs of the CAM user, take into consideration the fact that the population is aging, and focus on the importance of preventive care. Providers who address this triad of issues will ultimately offer their patients safer, more cost-effective care. And patients will be more satisfied with their care. For those reasons, we need to broaden our perspective on women's health care beyond what has traditionally been offered in obstetrics and gynecology and create systems and settings that will empower patients and engage them in their health throughout their lives. **MM**

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# Reassessing Hysterectomy

By Elizabeth A. Stewart, M.D., Lynne T. Shuster, M.D., and Walter A. Rocca, M.D., M.P.H.

■ Hysterectomy is widely used for treating a variety of gynecologic conditions. Most hysterectomies are elective and are performed to treat benign indications for which there are other effective alternatives. Observational studies are increasingly highlighting the effects of hysterectomy and concomitant oophorectomy on a variety of long-term health outcomes including fracture risk, pelvic floor dysfunction, all-cause mortality, cardiovascular disease, and neurologic function. Individualizing therapy and discussing appropriate alternatives to hysterectomy is an important responsibility for all health care providers.

Attention became focused on the overuse of hysterectomy during the 1990s, when the Agency for Healthcare Research and Quality sponsored research and conferences on this topic. These forums highlighted the fact that there were clear differences in hysterectomy rates based on a variety of nonmedical factors including the geographic location of the patient, the race of the patient, and the sex of the gynecologist performing the surgery.<sup>1</sup> Both scientific and lay publications continue to discuss this important issue. Yet despite intensive assessment, the rate of hysterectomy continues to be high, with only a small decline happening in the last few years.<sup>2</sup>

During the past two decades, alternatives to hysterectomy have emerged. Treatment options for benign uterine diseases now include novel medical and surgical therapies.<sup>3</sup> Moreover, an increasing amount of data suggest there are long-term consequences of hysterectomy, with or without con-

comitant removal of the ovaries. Thus, it is puzzling why hysterectomy is still so commonly used for treating benign gynecologic disorders.

This article reviews the published data regarding hysterectomy and its sequelae, and discusses the growing number of alternatives to hysterectomy.

## Prevalence and Indications

The lifetime risk of hysterectomy for a woman in the United States is 45%.<sup>2</sup> Hysterectomy remains the second most commonly performed surgical procedure for women of reproductive age, second only to cesarean section.<sup>4</sup> The rate of hysterectomy has undergone a slow decline, from 7.1 per 1,000 women in the 1980s to 5.0 per 1,000 in recent years.<sup>2</sup> However, it is done far more often than many other commonly performed surgeries. For example, according to National Hospital Discharge Summary data, 569,000 women underwent hysterectomy in 2006 compared with 168,000



## Reassessing Hysterectomy

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### Educational objectives:

- To educate primary care providers about
- 1) the long-term health consequences of hysterectomy
  - 2) alternative treatments for uterine fibroids and abnormal uterine bleeding

**Target audience:** Primary care physicians

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men who underwent prostatectomy and 341,000 men and women who underwent appendectomy, including incidental appendectomy.<sup>5</sup>

Multiple studies indicate the use of hysterectomy varies widely by geographic region and provider characteristics. There are also racial disparities. Black women have a higher rate of hysterectomy and an increased risk of complications from hysterectomy than white women.<sup>6</sup> Based on the increasing racial diversity of the U.S. population, the rate of hysterectomy is expected to continue to climb through 2050.<sup>7</sup>

Most hysterectomies are elective. Uterine leiomyomas (uterine fibroids) are cited as the most common indication for hysterectomy, accounting for approximately one-third of all hysterectomies performed.<sup>2</sup> Abnormal uterine bleeding is the next most common indication, accounting for approximately 16% of hysterectomies, while gynecologic cancers account for less than 8% of all hysterectomies.<sup>2</sup> Fibroids and abnormal uterine bleeding thus account for five times as many hysterectomies as all gynecologic cancers combined. Interestingly, these are the two indications for which we have made the most progress in developing alternative treatments.

### Outcomes of Gynecological Surgery

There has been remarkably little investigation into the long-term outcomes of hysterectomy, particularly given its widespread use. Studies limited to one year of follow-up consistently show that hysterectomy outcomes are good, with a low risk of complications and improved quality of life. However, findings from the few longitudinal studies that have been conducted suggest that there may be long-term consequences. Some studies report favorable symptom relief and quality of life improvement at five to eight years, whereas others raise concern about long-term risks related to dementia and cardiovascular disease.<sup>8-11</sup> Moreover, experts argue that many outcomes of hysterectomy require 20 to 30 years to manifest.<sup>12</sup>

Investigation into how hysterectomy might modify other disease processes has

been conducted using Rochester Epidemiology Project (REP) data. These studies have linked hysterectomy to long-term health consequences including pelvic floor dysfunction and fracture risk, as well as dementia, depression, and Parkinson's disease.<sup>13-17</sup>

Most of the attention to long-term risk of morbidity and mortality after hysterectomy has centered on prophylactic bilateral salpingo-oophorectomy (BSO) at the time of hysterectomy. As recently as 2006, data showed that the rate of oophorectomy or salpingo-oophorectomy either alone or with hysterectomy was approximately 73% of the rate of hysterectomy (14.0/10,000 versus 19.1/10,000).<sup>5</sup>

The rationale for elective BSO at the time of hysterectomy has been twofold: BSO would decrease the risk of ovarian cancer, and once a woman reached menopause, her ovaries were no longer hormonally active and, thus, no longer useful. Both suppositions are flawed. First, research has shown that hysterectomy with BSO puts women at greater risk for mortality from conditions and diseases far more common than ovarian cancer. Although ovarian cancer can be difficult to diagnose, it is a relatively rare disease. When considering mortality risk for more common diseases including coronary artery disease and hip fracture, a decision analysis model favored retention of the ovaries until at least age 65 for women with an average risk for ovarian cancer.<sup>18</sup> Similarly, in a large nationwide cohort study, hysterectomy alone performed in women younger than 50 years of age increased the risk of cardiovascular disease later in life, and there was additional risk among those who undergo oophorectomy.<sup>11</sup> Second, the notion that the ovaries are no longer useful after menopause has been shown to be flawed as well. Although ovarian estrogen production plummets after menopause, the ovaries continue to make substantial amounts of androgens.<sup>12</sup> These ovarian androgens undergo peripheral conversion to estrogens and may have direct beneficial effects on mood and libido.<sup>12</sup> Recent REP studies have focused attention on the long-term risks of removal of the ovaries

with or without hysterectomy.<sup>15,16,19,20</sup>

Even hysterectomy with ovarian conservation has been shown to have significant effects on ovarian function, resulting in earlier menopause.<sup>21-23</sup> Moreover, losing one ovary early in life appears to be associated with a significant increase in risk for dementia late in life.<sup>24</sup> This challenges conventional gynecologic thought that the loss of one ovary would not have serious medical consequences. In fact, it appears there may be a stepwise increase in dementia risk for women who have undergone hysterectomy alone, hysterectomy with unilateral oophorectomy, and hysterectomy with BSO.<sup>9,15,24</sup> In summary, the removal of either ovary or of the uterus may have far-reaching health consequences. Therefore, the surgical removal of female reproductive organs should be considered carefully.

### Alternative Treatments for Uterine Fibroids and Abnormal Menstrual Bleeding

Because of the accumulating data regarding the long-term effects of hysterectomy, it seems prudent to use alternatives when possible. Abnormal uterine bleeding and uterine fibroids are two indications for which more alternatives to hysterectomy exist than ever before. For women with uterine fibroids, an assessment of their symptoms (heavy or prolonged menses, bulk-related symptoms secondary to uterine enlargement or both) is the first step in determining the appropriate alternative to hysterectomy.<sup>3,25</sup> Additionally, determining the size, number, and location of fibroids as well as the woman's plans for future pregnancies is important in selecting a therapy.<sup>3,25</sup> Finally, since menstruation ceases at menopause and fibroids also shrink, a woman's age and distance from menopause is also a consideration in choosing a therapy. For women with heavy or prolonged menses, whether or not they have fibroids, the treatment options are similar.



### ■ Treatments for Heavy Menstrual Bleeding

Treatment should be considered for women who experience seven or more days of menstrual bleeding or for women who have a normal cycle length but heavy menstrual bleeding. Heavy menstrual bleeding is bleeding that is sufficient to cause frequent use of double sanitary products or the need to change pads or tampons hourly, the need for adult diapers, or frequent staining of clothing or bedding. Women with such bleeding may develop iron-deficiency anemia from chronic blood loss.

The first treatment option involves the use of contraceptive steroids (birth control pills, patches, or vaginal rings), long-acting progestational agents (Depo-Provera or Implanon), or medicated intrauterine devices (Mirena). All of these are relatively simple to use and have the advantage of being reversible if a woman desires future pregnancy. There is even some data to suggest that long-acting progestins are associated with a decreased risk of uterine fibroids.<sup>26,27</sup> Although the use of contraceptive pills for heavy menstrual bleeding has been extensively studied, little research is available on the relative advantages or disadvantages of transdermal or transvaginal therapy for fibroids or heavy bleeding.

Antifibrinolytic medicines are a new option for women in the United States. Tranexamic acid (Lysteda) has been used outside this country for decades but was only recently approved for use in the United States by the Food and Drug Administration (FDA).<sup>28</sup> Tranexamic acid is an oral agent that can slow menstrual bleeding. It only needs to be taken during menses and is not contraindicated in women who wish to maintain fertility. Although prescribing information indicates that the drug is associated with an increased risk of thrombosis, clinical studies have not convincingly demonstrated this side effect.

Another option is minimally invasive surgery. Hysteroscopic myomectomy is performed when fibroids are located within the endometrial cavity or extend

less than 50% into the myometrium. This procedure is safe for women who want future pregnancies and is sometimes employed when infertility or recurrent miscarriage is the primary or sole fibroid symptom.

If the fibroid is intramural, or if the uterus is structurally normal, an endometrial ablation may help control bleeding. With this technique, the endometrium is destroyed using an instrument placed inside the uterus. Endometrial ablation should not be done for women who want future pregnancies and may not be optimal for women at high risk for endometrial cancer, since 100% destruction of the endometrium is not guaranteed. Although this procedure originally required advanced surgical skills, newer devices allow general gynecologists to perform it.

### ■ Treatments for Bulk Symptoms With and Without Heavy Menses

Many women with fibroids also have symptoms caused by the size of the fibroids. Fibroids are often the size of a tennis ball or grapefruit, and a few may grow as large as a basketball. Thus, large fibroids may press on the bladder causing urinary symptoms, on the bowel causing constipation, or on the spine causing back pain.<sup>3,25</sup> For women with bulky fibroids, shrinking, softening, or removing them is needed for symptom relief.

Gonadotropin-releasing hormone (GnRH) agonists are effective therapy for women with fibroids who experience both bulk and bleeding symptoms because these drugs induce amenorrhea and cause volume reduction. However, they cause severe hypoestrogenic symptoms, lead to bone loss, and can result in the fibroid returning to pretreatment size when discontinued.<sup>3</sup> Thus, GnRH agonists should be used primarily short-term for preoperative therapy, for women late in the perimenopausal transition, or for women who require short-term treatment while undergoing care for other medical conditions (eg, chemotherapy for cancer).

For women with fibroids on the outer surface of the uterus, laparoscopic or robotic myomectomy is a minimally

invasive option. Laparoscopic and robotic technology allow for increased mobility of the surgical instrument and better approximation of suturing techniques than in open surgeries. Although abdominal myomectomy is still sometimes performed, particularly when a woman is trying to become pregnant, most women choose less-invasive surgical options.

Two FDA-approved procedures are now available for treating larger or more complicated fibroids in a minimally or noninvasive manner. The first, uterine artery embolization (UAE), also called uterine fibroid embolization, is widely used for controlling fibroid symptoms. A small incision is made in the groin, and, using fluoroscopic guidance, both the right and left uterine arteries are catheterized.<sup>3</sup> Embolic agents are then infused to block the blood flow to the uterus. Because fibroids have a richer blood supply than normal uterine tissue, they typically are devascularized and regress following embolization while the myometrium is usually spared.

Randomized clinical trials comparing UAE to surgery have been conducted in Europe and showed similar short-term outcomes and complication rates.<sup>29</sup> Uterine artery embolization is associated with less blood loss, a quicker return to work, and less pain than surgery; but a subset of women undergoing the procedure will at a later date require hysterectomy.<sup>29</sup> And there are data to suggest that UAE can detrimentally affect ovarian reserve. Earlier studies suggested that a subset of women would develop amenorrhea in response to therapy, and more recent studies examining serum markers of ovarian reserve suggest that UAE causes changes in ovarian function similar to hysterectomy.<sup>30</sup> Thus, tracking long-term outcomes for UAE will be as important as it is for hysterectomy and oophorectomy.

The newest fibroid therapy is magnetic resonance-guided focused ultrasound surgery (MRgFUS or FUS). Treatment takes place with the woman lying prone in an MRI machine. While the MR provides real-time image guidance, high-intensity ultrasound waves are transmitted through the abdominal wall, where they

converge and cause coagulative necrosis to destroy the fibroid.<sup>31,32</sup> Each individual fibroid can be treated separately with this procedure without injuring the myometrium. Focused ultrasound surgery allows for outpatient treatment with light sedation; women can usually return to work after one or two days. This fibroid-specific approach may hold advantages both for women who want future pregnancies and for long-term preservation of ovarian function. Thus, early series of pregnancy outcomes appear good, and the transient amenorrhea seen following UAE has not been reported following FUS.

Research into the development of alternatives to hysterectomy is ongoing. New pharmacologic agents including aromatase inhibitors and progesterone receptor modulators are being studied, and now some comparative effectiveness research of alternatives to hysterectomy is being carried out in the United States. In fact, Minnesota women are able to participate in a National Institutes of Health-funded randomized clinical trial comparing UAE and MRgFUS (NCT00995878, clinicaltrials.gov).

**Conclusion**

Hysterectomy remains a one-size-fits-all remedy for gynecologic conditions, despite its clear limitations. It is critical to continue to develop better alternatives to hysterectomy and to investigate its long-term consequences as well as those of its alternatives. In the meantime, providing women with information to determine the most appropriate treatment options for their particular gynecologic concern is a key responsibility for primary care providers, gynecologists, and other health care professionals.

**MM**

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# Recognizing and Treating Ovarian Cancer

By Bobbie S. Gostout, M.D., Deirdre R. Pachman, M.D., and Rebecca Lechner

■ Ovarian cancer is the fifth-leading cause of cancer-related death among women and is the deadliest gynecologic cancer. The mortality rate associated with this disease is attributed in part to the fact that it is often not diagnosed until its later stages. Although no definitive screening test for this form of cancer yet exists, a recent consensus statement offers guidance to help physicians identify women who may have the disease. This article describes the importance of and means for early diagnosis of ovarian cancer, reviews treatments, and discusses the role of both the primary care physician and the gynecologic oncologist with regard to this disease.

As an avid distance runner, the 53-year-old woman was used to dealing with physical aches and pains. So for several months, she tolerated nagging abdominal pain before she visited her primary care physician. He suggested she take an over-the-counter heartburn medication. But the medicine didn't bring relief; nor did it ease another symptom—an ever-increasing waistline, something that was unusual for the otherwise trim athlete. She soon began noticing other symptoms—fatigue, bowel problems, and discomfort during intercourse, which she attributed to hormonal changes and aging. But several months later, when she got to the point of only being able to comfortably wear pants with an elastic waistband, she knew it was time to further address the issue.

After hearing her concerns, her physician conducted a pelvic exam and ordered an ultrasound for the following week. Days later, when her pain became in her words “relentless,” her physician did another pelvic exam, this time following it up with orders for an immediate CT scan.

The CT scan showed a large mass, and ovarian cancer was suspected. At that point, the patient's care was transitioned from her primary care physician to a gynecologic oncologist. Days later, she underwent surgery and was found to have stage IIIC epithelial ovarian cancer.

## The Symptoms of Ovarian Cancer and Early Detection

Cases like this one, in which there is a gap between the time when the woman first experiences symptoms and the time she is diagnosed, are all too common. In fact, fewer than 20% of ovarian cancer patients are diagnosed at an early stage.<sup>1</sup> Although survival rates continue to improve, ovarian cancer remains the fifth-leading cause of cancer-related death among women and is the deadliest gynecologic cancer.

Although there is no screening test for the disease, there

are warning signs. Research is showing that women with ovarian cancer are far more likely than members of the general public to experience four identifiable symptoms:<sup>2,3</sup>

- Bloating,
- Pelvic or abdominal pain,
- Difficulty eating or feeling full quickly, and
- Urinary problems such as increased urgency or frequency.

Awareness of these symptoms is important, as they are seen in women with early-stage as well as late-stage disease, a fact that is significant because women with an early-stage diagnosis have a 70% to 80% survival rate, whereas the overall five-year survival rate for all women with ovarian cancer is 46%.

In 2007, the American Cancer Society, the Gynecologic Cancer Foundation (now the Foundation for Women's Cancer), and the Society for Gynecologic Oncology released the first national consensus statement on the early warning signs of ovarian cancer. That statement advises women who experience any of the four symptoms almost daily for more than a few weeks to visit their health care provider and undergo a pelvic examination, transvaginal ultrasound, and CA125 measurement. If that evaluation shows worrisome findings, the next step is referral to a gynecologic oncologist.

## Treatment

Surgery is typically the first step in the management of ovarian cancer; it also provides the medical team with a definitive diagnosis. Total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAH/BSO) are the most common procedures.<sup>1</sup> Usually, the surgeon removes the omentum and regional lymph nodes as well for the purposes of tumor-staging. Additional surgery such as bowel resection and peritoneal stripping is often required to remove sites of tumor spread. Tumor debulking allows for more effective treatment of residual microscopic or visible disease with chemotherapy.

Tumor patches that are larger than 1 cm in diameter portend a worse prognosis, and patient survival is not measurably improved by surgery if residual tumor patches are larger than 2 cm in diameter. Patients with residual tumor nodules smaller than 1 cm have the best chance of achieving remission and tend to remain in remission for longer periods of time.

For all but the lowest-grade, lowest-stage tumors, chemotherapy follows surgery. The standard first-line chemotherapy for women with ovarian cancer includes platinum agents such as carboplatin and cisplatin and taxanes such as paclitaxel and docetaxel. Typically, women receive intravenous therapy with a combination of these drugs once every three weeks for a total of six doses.<sup>4</sup>

Recently, there has been a movement toward intraperitoneal (IP) chemotherapy, in which chemotherapeutic agents are infused directly into the peritoneal cavity, for women with stage III and stage IV ovarian cancer. Although IP chemotherapy has higher acute toxicity, recent studies have shown it to be associated with higher progression-free and overall survival rates.<sup>4</sup>

### Progress in Patient Survival

Although no one has yet discovered a cure for ovarian cancer, the cumulative benefits of breakthroughs, both large and small, have improved survival rates for patients.

In 1996, the platinum and taxane combination described earlier was shown to prolong life by 14 months as compared with earlier treatments.<sup>5</sup> Today, 16 years after that report, taxanes plus platinum remain the standard of care; however, multiple additional cytotoxic agents have been shown to be effective in treating ovarian cancer. These agents, including liposomal doxorubicin, gemcitabine, topotecan, etoposide, ifosfamide, and newer taxanes, help patients achieve remission after recurrence and control active disease. Biologic agents targeting VEGF (bevacizumab) and the dual inhibitor of EGFR and HER-2 (lapatinib) are the most recent pharmacologic advances. Along with progress in surgical technique and optimization of the timing and application of surgical resection for ovarian cancer, these agents have contributed to better tumor control.<sup>4</sup>

The many advances in treatment have clearly made a difference in the survival rates of women with ovarian cancer. Analysis of SEER data from 1973 through 2000 shows a two-year gain in life expectancy. Most of that gain was the result of improved survival for patients who are not cured of their cancer. However, a small increase in the percentage of patients cured (from 12% to 14%) also contributed to the observed gain in life expectancy.<sup>6</sup>

### Efforts to Improve Early Diagnosis

Important to improving the survival of women with ovarian cancer is finding ways to ensure earlier diagnosis. In our state, the Minnesota Ovarian Cancer Alliance works to raise awareness of symptoms among women, while also educating medical students and primary care providers about the symptoms and the benefits of referral to a gynecologic oncologist if ovarian cancer is

suspected.

It is hoped that one day there will be a screening test that can detect early-stage disease. Efforts to screen for early stage ovarian cancer thus far have focused on ultrasound and blood tests, especially CA125 measurement. These two modalities were used in the national prospective clinical trial known as the Prostate, Colorectal, Lung, and Ovarian (PLCO) Cancer screening trial. Enrollment in this trial began in 1993 and continued through 2001, with 13 years of follow up planned. Women in the intervention arm were offered annual transvaginal ultrasound and CA125 screening, while controls received usual medical care. The primary endpoint of the trial was cancer-specific mortality for each of the four cancers. Harmful effects related to screening were also analyzed. Results for the ovarian cancer screening component were reported in 2011.

With more than 34,000 women in each arm of the study and a median follow-up of 12.4 years, the PLCO trial is by far the most comprehensive investigation into the value of screening for ovarian cancer. Unfortunately, screening did not affect the death rate from ovarian cancer. There were 118 deaths caused by ovarian cancer in the experimental group and 100 in the usual care group (relative risk for ovarian cancer mortality 1.18, 95% CI 0.82-1.71).<sup>7</sup>

The findings from this trial should not, however, be interpreted as evidence that early detection does not improve prognosis. Rather, the results show that the stage at diagnosis was not significantly affected by the screening methods employed, demonstrating the urgent need for better screening methodology. Importantly, the PLCO trial also does not address the value of screening high-risk women, and the results should not be extrapolated to conclude that screening is futile in that population.

### The Special Case of High-Risk Women

One of the greatest opportunities for life-saving intervention in ovarian cancer is with high-risk women. Hereditary breast and ovarian cancer syndromes account for at least 10% of ovarian cancer cases, and recent studies suggest that the proportion may be much higher.<sup>8</sup> Lynch syndrome is another hereditary condition associated with increased risk for colon, uterine, and ovarian cancer.

Affected women can dramatically reduce their chances of developing ovarian cancer. Therefore, primary care providers should be alert to families with women affected by premenopausal breast cancer, men affected by breast cancer, and women affected by a combination of breast and ovarian cancer. Familial clustering of colon and or uterine cancer should also prompt the medical team to consider ovarian cancer risk. Genetic counseling can help women from these families understand their risks and their options including genetic testing for BRCA1 and BRCA2 mutations and for Lynch syndrome.

Women from high-risk families should be informed about options to reduce their risk of ovarian cancer including use of birth control pills, and, when childbearing is complete, tubal li-

gation (effective for BRCA1 mutation carriers) or risk-reducing salpingo-oophorectomy (RRSO). RRSO has been shown to reduce the risk of ovarian cancer by as much as 85% in high-risk women.<sup>9</sup> For women who are not ready for surgical intervention, twice yearly screening using ultrasound and CA125 testing is recommended beginning at age 35.

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**A Role for Both Primary Care and Specialist Physicians**

Primary care physicians and specialists have an important role to play in preventing and reducing mortality associated with ovarian cancer. Women often present first to their primary care physician with new symptoms or health concerns. Therefore, primary physicians are key to the early diagnosis of ovarian cancer. This can be difficult, however, as symptoms such as bloating, pelvic/abdominal pain, difficulty eating or feeling full quickly, and urinary symptoms can be quite common in women and have many causes. However, new symptoms that persist beyond a few weeks should be taken seriously and prompt further evaluation with a rectovaginal exam, transvaginal ultrasound, and a CA125 test. Primary care physicians also play a vital role in identifying women who are at high risk for ovarian cancer and initiating appropriate screening. Finally, the primary care physician should refer patients to a gynecologic oncologist when they suspect ovarian cancer.

Two decades of research confirm better outcomes when the initial surgery for ovarian cancer is performed by a gynecologic oncologist rather than another specialist. A 2006 study found varying patterns of surgical care for women with ovarian cancer throughout the United States. From a sample of more than 10,000 women in nine states undergoing surgical treatment for ovarian cancer, researchers found that the main factors in receiving the right surgical treatment were women being treated by a gynecologic oncologist and the sheer number of cases he or she performed each year.<sup>10</sup> Yet a survey of more than 3,200 physicians found that the majority of primary care physicians report that they do not direct women with suspected ovarian masses to

gynecologic oncologists.<sup>11</sup> One meta-analysis found that women whose surgeries were performed by gynecologic oncologists had a median survival time that was 50% greater than that of women whose surgeries were performed by general gynecologists or other surgeons who were not experienced in optimal debulking procedures.<sup>12</sup>

Physicians now have more resources than ever for learning more about ovarian cancer (see Resources for Physicians). And in Minnesota, gynecologic oncology expertise is available within a few hours drive for most women.

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**Conclusion**

Many women are finding reasons for hope after an ovarian cancer diagnosis. Survival times continue to increase, and more women than ever are experiencing remission. For those who experience a recurrence, some are able to manage it with updated therapies and agents. This includes the 53-year-old patient described at the beginning of this article. After a recurrence in 2002, she has been cancer-free for nearly 10 years. She continues to thrive more than 12 years after her diagnosis.

**MM**

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**Resources for Physicians**

**Foundation for Women's Cancer** ([www.wcn.org](http://www.wcn.org)). A national group founded by the Society of Gynecologic Oncology that provides research, education, and training and promotes public awareness about gynecologic cancers. Their website includes a "find a gynecologic oncologist" feature.

**Minnesota Ovarian Cancer Alliance** (<http://mnovarian.org>). Besides providing medical education for Minnesota health care providers, the Minnesota Ovarian Cancer Alliance also makes available research funding with the ultimate goal of developing an early detection test, and finding better treatment and a cure for ovarian cancer.

# The Evolution of Minimally Invasive Gynecologic Surgery

By Jon S. Nielsen, M.D., FACOG

■ Since the 1980s, minimally invasive procedures have made inroads into gynecologic surgery. This article describes the progression of technological developments that have led gynecologists to attempt and master more and more minimally invasive surgical techniques over the last 30 years. It describes the minimally invasive gynecologic surgeries that are done today and reviews evidence that shows these procedures lead to faster recovery, fewer complications, and better outcomes.

The magnitude of the improvements and progress made in gynecologic surgery during the past 30 years is phenomenal. Approaches to surgery allow for smaller incisions, faster recovery, better cosmesis, and fewer complications. Minimally invasive surgery, in which procedures are performed through tiny openings rather than large incisions, has made inroads in all surgical specialties but probably not to the extent seen in gynecologic surgery. Gynecologic procedures that are done using minimally invasive techniques today include laparoscopic hysterectomy, pelvic organ prolapse repair, treatment of urinary incontinence, endometrial ablation, and sterilization. This article traces the changes in gynecologic surgery since the early 1980s, focusing on how minimally invasive techniques, specifically laparoscopic hysterectomy, have changed practice and outcomes.

## Back to the '80s

When I look back on the early 1980s, I remember the angst I experienced doing my first laparoscopic procedures. Video endoscopy was new, and operating while watching a monitor was both foreign and difficult. I even remember playing video games to try to improve my technical abilities. With practice and better optics and instruments, we were soon able to use this technique to push the envelope and do ovarian cystectomies, oophorectomies, and challenging endometriosis surgeries. We learned, for example, that if the ovarian cortex was not sewn up after cystectomy, the ovary actually healed better and had fewer adhesions.

The next breakthrough was the laparoscopically assisted vaginal hysterectomy (LAVH). Harry Reich, M.D., a pioneer in the field of laparoscopic surgery, published the first article on LAVH in 1989.<sup>1</sup> In the early procedures, significant tissue divi-

sion was carried out from above and the procedure was finished from below. Patients seemed to have less pain, and the procedure was occasionally done on an outpatient basis. Whereas vaginal hysterectomy was previously considered the minimally invasive answer to abdominal hysterectomy, LAVH was starting to be viewed as an even better option.

Technology continued to fuel advances in minimally invasive surgery during this period. Magnified images created with videoendoscopy made more complex procedures possible. New devices that used bipolar electricity allowed for dividing and coagulating tissue without the need for suturing. Laser technology was introduced; but it did not live up to initial expectations, and its utility diminished mostly because it was expensive and unable to treat tissue as completely as electrical energy. Other tools, such as hemostatic clips, stapling devices, and improved suturing equipment made additional advances in minimally invasive surgery possible.

In 1987, French surgeon Philip Mouret performed the first laparoscopic cholecystectomy, an event that arguably revolutionized general surgery. During the late '80s and early '90s, gynecologists, including myself, who were proven laparoscopists were recruited to help general surgeons become familiar with laparoscopic instrumentation. The rest is history. Laparoscopy became the standard for many surgeries, challenging gynecologists to further develop and advance this technique.

## The '90s and the Laparoscopic Hysterectomy

The early 1990s saw the advent of the true laparoscopic hysterectomy. Germany's Kurt Semm and the United State's Harry Reich and Thomas Lyons pioneered early procedures. Most general gynecologists scoffed at these surgeons, claiming that they were endangering patients. But they continued to innovate

and were able to develop excellent and reproducible outcomes that set the stage for the present-day laparoscopic hysterectomy.

During the late '90s and early part of this century, a number of new tools and ancillary devices allowed surgeons to perform laparoscopic hysterectomy. These included the harmonic scalpel and advanced bipolar devices as well as tools such as electromechanical tissue morcellators, which allowed for removal of the uterus and fibroids through the laparoscopic port, and retrieval bags, which allowed piecemeal removal of masses through a small port without intraperitoneal dissemination.

Other factors had an effect on this surgical approach as well. Historically, the cervix was often left in place during a hysterectomy because it was difficult to remove and because total hysterectomy was associated with increased infections and operative complications. In the 1950s, when cervical cancer was the leading cause of cancer death in women, significant efforts were made to remove the cervix at the time of abdominal hysterectomy. As more women had regular gynecologic exams and Pap smears, cervical cancer became less of a concern and the cervix was not removed nearly as often as it was in the past. Several studies have documented ease of performance, shorter operative time, easier recovery for the patient, more rapid return to work and normal activities, less intraoperative blood loss, and fewer operative complications with laparoscopic supracervical hysterectomy.<sup>2,3</sup> Procedural benefits include the fact that the operative dissection does not get as close to the ureters as total laparoscopic hysterectomy, the vagina is not entered, and the utero sacral ligament complex of the vaginal vault support is not altered. Detractors of this procedure note occasional cyclic bleeding from the cervical remnant and the fact that cervical cancer is still possible.<sup>4,5</sup>

As surgeons mastered the laparoscopic supracervical hysterectomy, they moved on to the total laparoscopic hysterectomy. This procedure was more technically demanding but possible because of advances such as the Koh cup, a device attached to the cervix that the surgeon could use as a template for separating tissues in the appropriate planes. Closure of the vaginal opening after removal of the cervix became the focus of many innovators, and new suturing devices and techniques were developed. Barbed sutures were perfected, eliminating the need to tie knots.<sup>6,7</sup>

Learned discourse about the pros and cons of laparoscopic supracervical hysterectomy and total laparoscopic hysterectomy continues. In addition, some surgeons still vociferously endorse vaginal hysterectomy as an appropriate minimally invasive alternative to abdominal or laparoscopic hysterectomy. In a recent article in the *American Journal of Obstetrics and Gynecology*, Gendy et al. reported that recent randomized trials showed a slightly faster recovery with total laparoscopic hysterectomy as opposed to vaginal hysterectomy.<sup>8</sup> Which procedure to use comes down to the physician's and patient's preference.

During the last 10 years, the consensus among the ob/gyn societies has been to replace the abdominal hysterectomy with a less-invasive procedure whenever possible. Many articles, including a recent one by Nieboer et al., have documented the im-

proved quality of life after laparoscopic hysterectomy as opposed to abdominal hysterectomy.<sup>9</sup> Despite such findings, abdominal hysterectomy is still commonly done. Wu and colleagues reported in 2007 that the rate of abdominal hysterectomy stood at 66%, vaginal hysterectomy at 22%, and laparoscopic hysterectomy at only 12%.<sup>10</sup>

In a recent survey, a group of U.S. gynecologists were asked what type of hysterectomy they would choose for themselves or their spouses. Ninety-two percent chose the laparoscopic or vaginal approach over the abdominal approach.<sup>11</sup> Although surgeons recognize the benefits of minimally invasive surgery, they may be unable to offer the procedure to their patients because of lack of training or experience. This presents a challenge because as patients become aware of various options for hysterectomy, they may seek other surgical opinions.

### The da Vinci Robot

In 2005, the da Vinci robotic assistance device was approved by the Food and Drug Administration for use in gynecologic procedures. The system, which had proven successful for prostate removal, offered high-definition, three-dimensional viewing; instruments with distal ends that mimic the intricate movements of the human hand; and ergonomic superiority. Experienced laparoscopic surgeons immediately recognized it as a tool that would allow previously "open" procedures to be done laparoscopically, and they began using it for procedures such as colposcopy and complex myomectomy, which require extensive suturing. In addition, Rabischong et al. pointed out that the da Vinci system was helpful in treating obese endometrial cancer patients, as it led to fewer problems with abdominal wounds, which could delay adjuvant chemotherapy.<sup>12</sup> The makers of the da Vinci system began marketing it as potentially helpful for nearly all laparoscopic procedures, especially hysterectomy. In 2010, data from Intuitive Surgical, the maker of the robot, suggested more hysterectomies were done in that year than prostatectomies.

There is little controversy about the value of the da Vinci system for advanced laparoscopic procedures; but many are beginning to question its use in more routine cases because of the cost.

Calculating overall costs of minimally invasive procedures is often difficult. Although the costs directly related to the surgery may be higher, the shorter hospital stay and the quicker return to work (referred to by many as the "societal costs") may result in overall cost-effectiveness. A recent study of 15,404 cases compared total abdominal hysterectomy with the minimally invasive alternatives (vaginal and laparoscopic hysterectomy) and found that the latter were associated with shortened hospitalizations, reduced infection, and decreased cost (\$4,000 less for the vaginal approach and \$2,000 less for the laparoscopic approach).<sup>13</sup> Robotically assisted cases generally cost more because they take longer than cases done without the robot. A 2010 *New England Journal of Medicine* review of cases that have been done since 2005 reported an average of \$1,600 in additional costs per robot case compared with cases done without the device.<sup>14</sup> A *Journal of*



*Minimally Invasive Gynecology* article from 2010 suggested use of the robot increased costs by \$2,000 per case, mainly because of OR time.<sup>15</sup> Analyzing the cost differences between minimally invasive and traditional surgery also is tricky because minimally invasive procedures use disposable instruments that allow for faster, more efficient operations but usually drive up the overall cost. Surgeons must be good stewards of resources but at the same time should demand and make a case for the tools they need to get the best result for the patient.

### The Present and Future

In spite of all the previously mentioned developments in gynecologic surgery, use of laparoscopic approaches for hysterectomy has not increased as much as would be expected. Barriers to adoption include the steep learning curve for such procedures, increased OR times, inadequate surgical volumes, and technical difficulties. Charles Miller, a recent president of the American Association of Gynecologic Laparoscopists, in a July 2010 *OBG Management* article pointed out that we have had to settle more for evolution than revolution when it comes to moving toward minimally invasive procedures.<sup>16</sup> This may eventually lead to certain gynecologic surgeons specializing in these procedures, a trend that is clearly happening, judging by the growth of minimally invasive and urogynecology/pelvic floor repair fellowships. At the same time, obstetrical groups are designating some of their surgeons as advanced laparoscopic surgeons.

Meanwhile, new procedures are being considered. Laparoscopic surgery through the umbilicus, which is described as a single-incision technique, is being explored in many arenas but thus far has gained little traction. Improved cosmesis and less pain are potential benefits, but technical issues involving instrumentation, cost, and the learning curve have limited its adoption.<sup>16</sup> Natural orifice transluminal surgery has received coverage in the media but is not being used much clinically.<sup>17</sup> The idea of going through the vagina to do a cholecystectomy does not seem practical. Use of “needlescopic” instruments, which are very thin and allow for laparoscopic surgical maneuvers without the need to place a trocar instrument, also leads to better cosmesis and reduced pain. A transabdominal magnetic anchoring system that controls an intra-abdominal laparoscopic camera is another technology that holds promise.<sup>18</sup> Cooperation between surgical specialties has led to innovations such as using a surgical hernia-tacking device to aid in mesh anchoring during laparoscopic colposacropexies.<sup>19</sup> In addition to technological developments, centers of excellence for minimally invasive surgery are developing.

### Conclusion

The advances in minimally invasive approaches to gynecologic surgery over the past 30 years have been staggering. The goal is clearly to make minimally invasive surgery the norm, not the exception. That leads me to a story about a patient with pelvic organ prolapse who recently returned to my practice apologizing and explaining that she just wasn't ready for surgery when she saw

me eight years ago, even though she knew she needed it. Knowing what had transpired during those years and thinking that outpatient laparoscopic colposacropexy was the best procedure for her, my response was, “Maybe it is better that you waited.” **MM**

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# Safe and Individualized Labor Analgesia

## A Review of the Current Options

By Katherine W. Arendt, M.D., Jennifer A. Tessmer-Tuck, M.D., and James R. Hebl, M.D.

■ Although some women want to experience childbirth without medications, most women in the United States labor with an epidural or spinal analgesic. Epidurals provide relatively consistent pain relief, are long-lasting, can be titrated according to the analgesic needs of the mother, and can be bolused for procedures such as forceps, vacuum, or cesarean delivery. But they can have undesirable side effects including lower-extremity motor block, hypotension, urinary retention, and pruritus, and they may increase the risk for a slightly prolonged labor, a forceps or vacuum delivery, and fever during labor. This article describes the current thinking regarding labor analgesia and how anesthesiologists and obstetricians can help women have a birth experience that is both safe and satisfying.

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There are few days in a woman's life more important than the day she gives birth. Anticipation of the event has been building for months, and she's been told that the joy she will experience will be unmatched. However, many laboring women experience less pleasant emotions as well, including fear. Fear of unanticipated complications, of the unknown, and of pain are common, especially for those giving birth the first time.

For many women, epidural analgesia provides relatively consistent pain relief. A few natural childbirth proponents believe epidural analgesia during labor undermines the empowering nature of childbirth.<sup>1</sup> For some women, this may be true: Giving birth without medication is akin to running a marathon in that it produces a euphoric feeling of joy that can outweigh the physical pain of the preceding hours of labor. For others, however, the pain of childbirth is frightening and undesired. When it comes to providing women with pain relief during labor, anesthesiologists and obstetricians must work together to help each woman make an informed and safe choice.

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### Labor Analgesia Options

There are a number of nonpharmacologic options for labor analgesia including aromatherapy, music therapy, massage, maternal movement and positioning, biofeedback, respiratory autogenic training, and continuous labor support from a nurse, doula, or midwife. The analgesic benefits of hypnosis, acupressure, acupuncture, hydrotherapy, and sterile water injections have been documented in the literature.<sup>2-8</sup> Hypnosis

involves various focusing techniques to achieve a state of concentration in which a parturient is relatively unaware of, but not entirely blind to, her surroundings. Acupressure, acupuncture, or electro-acupuncture involves massaging, needling, or electrically stimulating particular acupoints. Women receiving electro-acupuncture therapy during labor have been found to have greater concentrations of beta-endorphin ( $P=0.037$ ) and 5-hydroxytryptamine ( $P=0.030$ ) than controls.<sup>9</sup> Hydrotherapy involves the use of water for pain relief. Laboring and/or birthing in a bathtub of warm water helps alleviate pain for some women. Some pediatricians are concerned with this method because of the potential risk of infection to the newborn.<sup>10-13</sup> However, some studies have shown that with proper sterilization and technique, water births are safe.<sup>5,14</sup> Sterile water injection, which involves intradermally injecting four small (0.1 mL) papules of sterile water in a square pattern several centimeters above the sacrum, has been shown to be effective in decreasing pain associated with "back labor," which often occurs when a fetus presents in the occiput posterior position.<sup>15-18</sup>

Pharmacologic labor analgesia options include intravenous opioids, inhaled anesthetic agents (eg, nitrous oxide, which is popular in the United Kingdom), single-shot intrathecal opioids and/or local anesthesia (ie, spinal analgesia), continuous epidural analgesia, or a combined spinal-epidural technique.

Epidural labor analgesia techniques are effective in reducing labor pain.<sup>19</sup> Labor epidurals have several characteristics that obstetricians and anesthesiologists consider ideal: 1) They provide relatively consistent pain relief; 2) they have a long du-

ration of action; 3) they can be titrated according to the analgesic needs of the mother as labor progresses; 4) they can be bolused for procedures performed by the obstetrician (eg, forceps or vacuum delivery); and 5) they can be used for a cesarean delivery if required, preventing the need for general anesthesia. Because of their significant analgesic efficacy, most women in the United States labor with an epidural or spinal analgesic. The most recent Centers for Disease Control and Prevention data show that across 27 states, 61% of all laboring women (and nearly 70% of white women) receive some form of neuraxial analgesia (ie, spinal, epidural, or combined spinal-epidural) during labor and delivery.<sup>20</sup>

### Side Effects and Safety of Labor Epidurals

Labor epidurals can have undesirable side effects, and these have been the subject of much research (Table). Potential consequences include lower extremity motor block, hypotension, urinary retention, and pruritus. Epidurals may put women at increased risk for a slightly prolonged labor, a forceps or vacuum delivery, and fever during labor. The risk of lower-extremity motor block has been reduced during the past decade by the addition of opioids (eg, fentanyl) to the local anesthetic infusion, decreasing the local anesthetic concentration in this infusion, initiating the block with a dose of intrathecal fentanyl (ie, using a combined spinal epidural technique), and utilizing patient-controlled or timed intermittent boluses of the combined local anesthetic-opioid infusion mixture.<sup>21</sup> Despite these improvements, most hospitals in the United States still ask that parturients remain in bed once epidural analgesia is initiated.

Hypotension that may result from the sympathectomy associated with the block can be minimized by appropriate patient positioning (ie, left uterine displacement), the administration of intravenous fluids, and the use of vasopressor medications such as ephedrine and phenylephrine. Pruritus (especially with intrathecal opioid administration) and urinary retention may be bothersome as well, with the latter resulting in women requiring intermittent bladder catheterization throughout labor. However, a properly functioning epidural significantly reduces the discomfort associated with this procedure.

Research examining the effects of neuraxial labor analgesia on the progress of labor is difficult to conduct for a number of reasons. In order to carry out a randomized controlled trial (RCT) examining the effects of epidurals on the prolongation of labor and the likelihood of cesarean delivery (CD), researchers would need to randomize women to a control group that receives no labor analgesia. In studies that have attempted to do this, the crossover or dropout rate is high, as women who have been randomized to the control group and have prolonged, difficult, or complicated labor often request and receive an epidural. Furthermore, even if control subjects receive an alternative form of labor analgesia (eg, intravenous opioids), the fact that neuraxial analgesia is superior to other forms of labor analgesia results in high crossover rates leaving only those women who experience uncomplicated, functional, and rapid labors in the control group.

### Table

#### Epidural Labor Analgesia

##### Benefits

- A nearly pain-free birth experience
- A greater chance of avoiding general anesthesia should urgent obstetric procedures be required
- Reduced respiratory stimulation
- Reduced cardiovascular stimulation
- Less maternal sedation when compared with intravenous opioid analgesia
- Very little to no neonatal sedation (especially when compared with intravenous opioid analgesia)
- Reduced plasma epinephrine and norepinephrine levels

##### Side Effects and Risks

- Motor block often resulting in the inability to ambulate during labor
- Potential for hypotension, urinary retention, and pruritus
- Potential for gradual elevation of core body temperature
- Potential for treatable fetal bradycardia upon initiation of block\*
- Slight prolongation of second stage of labor and potentially increased risk of forceps or vacuum delivery
- Risk of postdural puncture headache (estimated rate of 1.5%)†
- Very small risk of spinal hematoma, nerve damage, total spinal anesthesia, local anesthetic toxicity, meningitis or epidural abscess

\*Mardirossoff C, Dumont L, Boulvain M, Tramèr MR. Fetal bradycardia due to intrathecal opioids for labour analgesia: a systematic review. *BJOG*. 2002;109(3):274-81; Albright GA, Forster RM. Does combined spinal-epidural analgesia with subarachnoid sufentanil increase the incidence of emergency cesarean delivery? *Reg Anesth Pain Med*. 1997;22(5):400-5; Van de Velde M, Teunkens A, Hanssens M, Vandermeersch E, Verhaeghe J. Intrathecal sufentanil and fetal heart rate abnormalities: a double-blind, double placebo-controlled trial comparing two forms of combined spinal epidural analgesia with epidural analgesia in labor. *Anesth Analg*. 2004;98(4):1153.

†Choi PT, Galinski SE, Takeuchi L, Lucas S, Tamayo C, Jadad AR. PDPH is a common complication of neuraxial blockade in parturients: a meta-analysis of obstetrical studies. *Can J Anaesth*. 2003;50(5):460-9.

Finally, any patient who crosses over from the epidural to the control group does so because her labor occurs so quickly that there is no time for epidural placement.

It is not surprising, therefore, that some RCTs suggest that women who labor with epidural analgesia have prolonged labors and are more likely to have operative deliveries than women who labor without neuraxial analgesia.<sup>22,23</sup> To further stack the deck against epidural outcomes, Alexander and colleagues have demonstrated that higher levels of pain during early labor may be associated with a greater likelihood of CD.<sup>24</sup> As a result, the women most likely to have dysfunctional labor may be requesting epidural placement earlier in the course of labor.

Despite these findings, obstetric anesthesiologists and obstetricians have demonstrated through a series of well-designed investigations that modern epidural labor analgesia does not appear

to increase the risk of CD. One RCT did show a greater rate of CD in patients receiving epidurals,<sup>23</sup> but a subsequent “intent-to-treat analysis” was published that suggested no difference in the CD rate between the epidural and control groups.<sup>25</sup> Furthermore, it has been shown that no dose-effect exists. In other words, low- and high-dose neuraxial techniques result in similar CD rates.<sup>26-29</sup> In addition, there does not appear to be a relationship between women who get their neuraxial analgesia early in labor and their likelihood to proceed to CD.<sup>30-33</sup> Finally, and perhaps most compelling, sentinel event or impact studies looking at CD rates in practices that initiate an epidural analgesia service show no increased CD rate after their patient population begins receiving labor epidurals;<sup>34,35</sup> and in studies in which epidural rates slowly increase, CD rates do not follow suit.<sup>36</sup> Therefore, although natural childbirth proponents may claim that epidurals are one of the causes of the much-publicized increasing rates of CD in the United States, careful analysis of the data indicates that epidural use is likely not contributing to this rise.

Epidurals may, however, be associated with prolonged labor. A meta-analysis of RCTs suggests that the first stage of labor may be prolonged by 42 minutes and the second stage by 14 minutes in women who have received epidural analgesia compared with those who have not.<sup>37</sup> These RCTs, however, are once again plagued with crossover and dropout problems. Patients with longer labors often want an epidural. Furthermore, the clinical significance of such prolongation is likely minimal—particularly since parturients who have had an epidural are generally comfortable. Many experts believe that the reason for the prolonged first stage of labor may be due to the fact that at complete dilation, the parturient is comfortable and does not alert the obstetric team that she is transitioning. In contrast, patients who have not had an epidural experience greater somatic pain as the baby begins descending into the vagina. This, in turn, alerts the obstetric team to check her cervical dilation earlier, thus shortening the length of the first stage of labor. Many anesthesiologists agree with published data regarding the prolongation of the second stage of labor, as obstetricians often anecdotally note that women with epidurals may need more coaching on how to effectively push because of diminished sensation and, perhaps, the presence of motor block.

Finally, epidurals may also be associated with increased rates of operative vaginal delivery (eg, forceps or vacuum extraction). The studies examining whether there is such a relationship are fraught with difficulties. First of all, it is important to note that many of these RCTs have considered operative vaginal delivery as a secondary outcome.<sup>25</sup> Second, an obstetrician may be more likely to proceed with a forceps or vacuum delivery if the patient’s perineum is numb from an epidural. Lastly, many of the studies that show increased rates of forceps and vacuum-assisted delivery with epidural analgesia use a 0.25% bupivacaine epidural infusion, which is a greater concentration than modern day epidural infusion mixtures of 0.0625% to 0.125% bupivacaine with 2 mcg/mL of fentanyl.<sup>38</sup> This is important, as studies com-

paring high- and low-dose bupivacaine infusion concentrations have shown that as we increase the concentration of bupivacaine in epidurals, we increase our rates of forceps and vacuum-assisted deliveries.<sup>28,39</sup> As a result, anesthesiologists work to minimize the amount of local anesthetic as much as possible while still achieving satisfactory pain control for the laboring mother.

For women who labor longer than six hours, studies indicate that elevation of core body temperature may occur among those who have had epidurals,<sup>40,41</sup> resulting in neonates being more likely to undergo a sepsis work-up and antibiotic treatment.<sup>41</sup> Women with infection or dysfunctional and prolonged labor may be more likely to request an epidural and subsequently more likely to develop a fever.

Finally, all neuraxial techniques (epidurals, spinals, and combined spinal epidurals) can cause fetal bradycardia 15 to 45 minutes after initiation of the block. This is thought to be the result of a decrease in plasma epinephrine levels that occurs at the time of pain relief.<sup>42,43</sup> Fortunately, CD rates have not been found to be greater in women who experience fetal bradycardia with neuraxial analgesia.<sup>44-46</sup> Treatment measures for fetal bradycardia include repositioning, maternal oxygen administration, a crystalloid fluid bolus, discontinuing oxytocin administration, intravenous ephedrine administration, and, when necessary, sublingual or intravenous nitroglycerin or intramuscular terbutaline.

Epidural analgesia during labor is remarkably safe. Unintentional dural puncture may be the most common complication; it is reported to occur at a rate of 1.5% of all epidurals placed and can lead to a low CSF pressure headache.<sup>47</sup> Other complications such as intravascular injection of local anesthetic, bleeding into the epidural space, infection resulting in meningitis or an epidural abscess, or nerve damage from needle trauma or local anesthetic toxicity to nervous tissue are exceedingly rare.

## Benefits of Epidural Labor Analgesia

The pain of childbirth varies widely among women. Most consider delivering a child highly painful, with nulliparous women who have had no childbirth training indicating McGill questionnaire pain scores just less than those associated with digit amputation and far greater than scores for cancer pain, postherpetic neuralgia, and phantom limb pain.<sup>48</sup> Although the inherent benefits of mitigating such pain seems self-evident to many, there are demonstrated physiologic benefits, too.

The pain of childbirth causes stimulation of the maternal respiratory and circulatory systems. The pain can cause such a strong respiratory stimulus that marked hyperventilation can occur during contractions followed by compensatory hypoventilation. The hyperventilation can result in respiratory alkalosis, decreasing the transfer of oxygen to the fetus. Compensatory hypoventilation can worsen in cases in which mothers receive systemic opioids; these can result in maternal and fetal hypoxemia if oxygenation is not monitored and hypoxia is not treated.

Plasma epinephrine and norepinephrine levels increase by up to six times during painful labor.<sup>49</sup> Elevated epinephrine is as-

sociated with weaker uterine contractions and more painful and prolonged labor.<sup>50,51</sup> This increase in epinephrine is mitigated by epidural labor analgesia.<sup>43</sup> Further, the elevated catecholamine levels cause even greater cardiovascular stimulation than typical labor. As a result, anesthesiologists and obstetricians recommend that patients with significant cardiac disease receive epidural analgesia during labor.

### Maternal Satisfaction and Labor Analgesia

The priorities of anesthesiologists and obstetricians are maternal safety, fetal safety, and maternal satisfaction with the birth experience. Sense of control is a major factor that contributes to a woman's perceptions of her birth experience.<sup>52</sup> For example, women whose goal was to give birth without medication and were successful in doing so were more satisfied with their birth experience than women who wanted to have a nonmedicated birth but in the end chose epidural analgesia, even though they reported significantly lower pain scores.<sup>53</sup> Anesthesia and obstetric providers must be committed to communicating openly and honestly with laboring patients and offering a multitude of analgesic choices when available.

Concern about labor pain is an important predictor for labor dissatisfaction in primiparas,<sup>54</sup> with poor pain control being associated with a negative birth experience.<sup>52</sup> Listening to Mothers II, a national survey of postpartum women, found that while women wanted to play an active role in decisions about their labor, they often felt they were not included and were not adequately counseled on the risks and benefits of obstetrical procedures—including labor analgesia.<sup>55</sup> In another study, patients considered their birth experience negatively if they did not have a choice in pain relief (OR 2.9, 95% CI 1.91-4.45) or were dissatisfied in coping with their pain (OR 4.9, 95% CI 2.55-9.40), regardless of which techniques were offered or used.<sup>56</sup>

Physicians must understand that women have a variety of reasons for choosing (or avoiding) specific interventions when giving birth—including labor analgesia. Spiritually, emotionally, physically or culturally, a nonmedicated birth experience holds significant value for many parturients. However, through education, empathetic communication, and technically excellent care, we can assist our patients in achieving a birth experience that is both safe and satisfying. **MM**

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# Cost Effectiveness in Obstetrics and Gynecology

## The Levonorgestrel Intrauterine System

By Lisa Mattson, M.D., FACOG

■ Use of evidence-based practices that are both cost-effective and acceptable to patients is now a focus in health care. Considerable cost savings can be realized by reducing unintended pregnancies and improving control of menstrual-related morbidity. The levonorgestrel intrauterine system (LNG-IUS), often referred to by its brand name Mirena, has been approved by the Food and Drug Administration both for contraception and for treating abnormal uterine bleeding. The device has been available in the United States since 2000 and has been used in Europe since 1990. Despite the fact that several evidence-based guidelines include use of the LNG-IUS, it remains underutilized in this country. This article reviews the benefits of the LNG-IUS as they pertain to women's health and to the cost of health care.

It is estimated that 49% of pregnancies in the United States are unintended.<sup>1</sup> In half, women were using some form of birth control during the month before conception.<sup>1</sup> Clearly, there is a need for better methods of contraception. Because long-acting reversible contraceptives eliminate the need for women to remember to take a daily pill or interrupt intercourse, they hold great promise for decreasing the number of unintended pregnancies. Long-acting reversible contraceptives include IUDs and contraceptive implants. These devices require insertion and removal by a health care provider. Once in place, they provide contraceptive benefits for three to 10 years.

The Institute of Medicine has suggested that methods for decreasing unintended pregnancies be included in a list of national priorities for comparative effectiveness research, as health care costs related to pregnancy are significant.<sup>2</sup> In 2009, the U.S. Agency for Healthcare Research and Quality reported the aver-

age facility charge for labor and delivery in Minnesota ranged from \$8,094 for an uncomplicated vaginal birth to \$20,301 for a complicated delivery via cesarean-section.<sup>3</sup> These figures do not include the cost of anesthesia services, additional newborn care, or additional maternal provider charges. There also are significant socioeconomic consequences of an unintended pregnancy, especially for adolescents or unemployed women. It behooves us all to minimize the number of unintended pregnancies and to do so in an effective, affordable, and patient-centered manner. Use of long-acting reversible contraceptives may help move us toward this goal.

### The Levonorgestrel Intrauterine System

The levonorgestrel intrauterine system (LNG-IUS), often referred to by its brand name Mirena, is just one of the long-acting reversible contraceptives available to women. It has a T-shaped polyethylene frame that releases 20 µg

of progestin (levonorgestrel) daily for up to five years. This hormone works within the uterine cavity, with minimal systemic absorption. Most women using the LNG-IUS feel the way they would if they were not on any hormonal birth control. Although we still do not understand its exact mechanism of action, LNG-IUS is believed to exert its effects preconceptually to prevent fertilization.<sup>4</sup> The presence of the IUD promotes a foreign-body reaction within the uterine cavity, creating an environment that is hostile to sperm and ova.<sup>4-10</sup> Studies have failed to detect any transient increases in human chorionic gonadotropin,<sup>11,12</sup> and tubal flushing has not identified sperm or fertilized eggs in the fallopian tubes of IUD users.<sup>8,10</sup> In addition, progestins are known to thicken cervical mucus and prevent the passage of sperm,<sup>13,14</sup> and invoke histologic changes in the endometrium that serve to inactivate the endometrial lining and keep it thin.<sup>15,16</sup> Pregnancy rates with LNG-IUS are similar to those with tubal ligation at 1/1,000 to 5/1,000.<sup>4,17</sup> Contraceptive benefits are realized immediately, and the LNG-IUS can be removed at any time by a qualified health care provider if pregnancy is desired or the patient cannot tolerate the device for any reason. After five years, it should be removed. A new one can be inserted immediately.

The LNG-IUS is an excellent option for women who have trouble remembering to use other forms of birth control such as pills, patches, rings, condoms,

and injectables;<sup>18</sup> women who do not use their birth control properly; women with a contraindication or an aversion to systemic hormones; or women with inadequate access to health care.

Despite evidence that suggests most women are good candidates for the LNG-IUS, it is not widely used. Fears regarding IUDs abound among patients and physicians alike. In the past, IUDs have been linked to increased risk of pelvic inflammatory disease, which increased the risk of female infertility and resulted in malpractice claims. More recent studies have not found any increased risk of infection in IUD users except for a small increased risk during the first 20 days.<sup>19</sup> Other studies have found a decreased risk of progression to pelvic inflammatory disease.<sup>20</sup> Thickening of the cervical mucus by the progestin may provide a barrier to ascending infection.

Intrauterine devices have historically been associated with an increased risk of ectopic pregnancy; but data have shown there are fewer ectopic pregnancies among women who use the LNG-IUS compared with women who use no contraception.<sup>21,22</sup> However, it should be noted that if a pregnancy occurs, it is more likely to be an ectopic and not an intrauterine pregnancy.

There is also no evidence to suggest any increased risk of tubal infertility in users of contemporary IUDs,<sup>20</sup> and women can be reassured that there is usually rapid return of fertility following removal of the IUD.<sup>23</sup> For this reason, nulliparous and adolescent women are also considered to be good candidates for an IUD.<sup>24</sup>

Women with co-existing medical problems often are not good candidates for hormonal contraception, and many of these women need to take special precautions before getting pregnant. Use of an IUD can buy time for women who need to optimize their chances of having a successful pregnancy.

Use of an IUD also can minimize complications or exacerbations of underlying medical problems. It is an excellent choice for women with coagulopathies because it has a minimal impact on hormone levels that may increase the risk of deep

venous thrombosis.<sup>25-29</sup> It is also ideal for smokers, particularly those older than 35 years of age who have been on hormonal contraception and are seeking an alternate form of birth control. Women with seizure disorders, who are obese, and who have gallbladder disease, hypertension, HIV, and diabetes are also good candidates for this contraceptive method.<sup>25,26,30</sup>

Successful insertion can usually be accomplished in the office and at any time during the menstrual cycle, assuming a pregnancy test is negative. It is easiest to insert near the end of or right after the patient's period, when the cervix is softer and more pliable. Inserting it after a majority of the endometrium has been sloughed off may also minimize irregular bleeding. Taking ibuprofen prior to insertion can minimize discomfort; in addition, some providers may choose to do a paracervical block to prevent pain. Adolescents and nulliparous women may experience more discomfort; but NSAID use and cervical softening with misoprostol before the appointment may facilitate insertion.<sup>24,31-33</sup> The IUD also may be inserted after miscarriage, abortion, or immediately postpartum.<sup>34</sup>

The LNG-IUS is one of the more cost-effective forms of birth control. In one study, only the copper IUD and vasectomy were found to be less expensive.<sup>35</sup> In one study involving 1 million women in a California publicly funded family planning program, IUDs and contraceptive implants were found to be the most cost-effective birth control options, with cost savings of \$7 for every \$1 spent on services and supplies.<sup>36</sup>

### **The LNG-IUS and Abnormal Uterine Bleeding**

Abnormal uterine bleeding is one of the more frequent causes for clinic and emergency department visits by women. It has been estimated that women with abnormal uterine bleeding lose 3.6 weeks of work per year.<sup>37</sup> A unique aspect of LNG-IUS is its ability to decrease uterine bleeding. The local effect of progestin decreases endometrial proliferation resulting in decreased bleeding and even amenor-

rhea in some women. Studies have found a 74% to 94% decrease in blood loss, a 0.5 to 1.6 g/dL increase in hemoglobin, and a 50% to 60% decrease in the need for hysterectomy in women who use the LNG-IUS.<sup>38,39</sup> Although hysterectomy is the definitive treatment for abnormal uterine bleeding, it is more costly and is associated with more serious side effects than LNG-IUS and is irreversible.<sup>40</sup> Approved by the FDA for abnormal uterine bleeding in 2010, the LNG-IUS improves the user's quality of life, decreases bleeding, preserves reproductive function, and allows her to avoid the risks and costs associated with surgery.

The LNG-IUS also compares favorably with endometrial ablation but costs less. Both endometrial ablation and the LNG-IUS decrease bleeding with comparable patient satisfaction at one year. Whereas, insertion of the LNG-IUD is an in-office procedure that does not require additional equipment, ablation may need to be done at a hospital or outpatient surgery center and requires special equipment and assistance from support staff. In addition, the patient will need to use an additional form of birth control. The cost of the LNG-IUS is difficult to determine, as there is considerable variation across the country; but the American Congress of Obstetricians and Gynecologists recently put the cost of the LNG-IUS at \$703, excluding physician fees.<sup>37</sup> An in-office ablation costs roughly \$2,500; the cost increases to nearly \$5,000 when the procedure is done in an ambulatory surgery center. The cost of ablation is more if anesthesia is needed, if a D&C or hysteroscopy is also performed, or if it is combined with a sterilization procedure.

Another more compelling reason to consider the LNG-IUS over ablation is the fact that the IUD can be removed; in such cases, ablation remains an option. If ablation doesn't work, an IUD is no longer an option, and a woman is more likely to need a hysterectomy.



## Other Noncontraceptive Benefits of the LNG-IUS

The LNG-IUS's effect on the endometrium may make it an option for treating other gynecologic problems.<sup>30,38,39</sup> It also has been found to decrease bleeding in women with fibroids and adenomyosis, enough so that it should be considered before proceeding with more expensive treatments or hysterectomy.<sup>41-44</sup> It may also decrease pain that is associated with periods and reduce retrograde menstrual flow that may be the cause of some of the pain associated with endometriosis.<sup>43</sup> Larger studies are needed in these areas; but given the ease of insertion and removal of the IUD, it may be a viable first option, before GnRH agonists and surgery.

Several studies have found evidence that the LNG-IUS decreases the risk of endometrial hyperplasia.<sup>45</sup> Women with risk factors for endometrial cancer (obesity, hypertension, and diabetes) may benefit from the LNG-IUS if they are in need of birth control and/or reduction in menstrual bleeding. It may also be helpful for women otherwise considering postmenopausal hormone therapy.<sup>46</sup> The Women's Health Initiative suggested a decreased risk of breast cancer and other health problems in women who were only using estrogen. If the progestin activity in the LNG-IUS decreases the risk of endometrial hyperplasia, it may allow some women to use estrogen only for their menopausal symptoms and decrease their risk for breast cancer, osteoporosis, and colon cancer. The LNG-IUS has not received FDA approval for endometrial protection; but it is approved for this purpose in the United Kingdom.

A recent epidemiological study published in *Lancet Oncology* suggested a reduced risk of cervical cancer among IUD users. Among 20,000 women, there was a strong and consistent inverse relationship between IUD use and cervical cancer. This relationship was not affected by duration of use, with protection at 10 years being comparable to protection at one year. The IUD did not decrease the likelihood of HPV infection among these women, suggesting that the IUD may

interfere with HPV progression to cancer.<sup>47</sup> It is hypothesized that the reactive, chronic, low-grade inflammatory response that may be responsible for the LNG-IUS's contraceptive mechanism may also be responsible for altering the oncogenic potential of HPV in cervical cells.

## Limitations of the LNG-IUS

Not all women will benefit from the LNG-IUS. Since its use does not change the systemic levels of hormones, ovarian function will remain unchanged in premenopausal women. Thus, some women with the IUD may still have significant pain with ovulation. The normal menstrual cycle involves the formation of one or more follicles in the ovary. It is normal for these to measure 2.0 to 2.5 cm; these are considered follicles and not "cysts," which are often interpreted as pathologic.<sup>48</sup> Ovulation often results in a "blister" on the ovary. This is normal, but if it enlarges or bursts, it can cause pain. Therefore, women with a history of painful ovulation, large ovarian cysts, or with an increased risk of ovarian cancer may benefit more from hormonal contraception that suppresses ovulation.

Women with endometriosis may still have pain as endometrial implants in the pelvis may respond to the estrogen production from the ovaries; and women with significant mood fluctuations related to their cycle or cyclic headaches/migraines may continue to have problems with the LNG-IUS. However, it is possible that the decreased bleeding, decreased cramping, and maintenance of a stable hemoglobin may minimize these cyclic symptoms. The LNG-IUS will decrease bleeding but will not regulate a woman's cycle or make it more predictable. Bleeding will occur at the same time it would have occurred if there was no contraception; but the bleeding should be lighter. Women with the LNG-IUS may still experience perimenopausal symptoms and have hot flashes, night sweats, and mood changes. However, those who have undergone hysterectomy and still have their ovaries, who have undergone endometrial ablation or tubal ligation, or who use any

nonhormonal contraceptive method may also experience some or all of these same symptoms.

Cost is another limitation. Although use of the LNG-IUS appears to be cost-effective, up-front costs make it prohibitive for some smaller clinics to keep it in stock and for some patients to afford. Therefore, efforts need to be made to decrease the initial cost of the device.

## Summary

The LNG-IUS has profound potential for improving women's health; yet it is still only used by 6% of women in this country. The evidence has established its cost-effectiveness and utility as a contraceptive and as a tool for reducing abnormal uterine bleeding. Studies continue to find potential advantages for its use in the prevention or treatment of endometriosis, adenomyosis, fibroids, endometrial cancer, and cervical cancer, and in postmenopausal hormone therapy. As health care providers, we need to re-examine what we learned about IUDs in medical school and acquaint ourselves with the benefits of contemporary devices. We then need to pass on our knowledge and help dispel the myths and fears that may exist in our patients' minds in order to provide them with high-quality care. **MM**

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# Reducing Liability in Obstetric Care

What physicians can do to improve patient outcomes and lessen their chance of being sued.

By Peggy Wagner

■ **Case 1.** A 37-year-old woman at 26 weeks gestation arrived at the hospital with cramping. There were no contractions noted, and baseline fetal heart rate was 120 to 130. A diagnosis of urinary tract infection was made, and the patient was admitted for observation. Throughout the night, the patient continued to have pain. The nurses called her physician multiple times to report the increasing pain and received orders for pain medication. The nurses expected the physician to come in but did not specifically request that. The patient delivered a 995g infant with Apgar score of 2-2-4 and severe neurological impairment. The patient sued the physician, alleging failure to diagnose preterm labor. The case settled for more than \$1 million.

■ **Case 2.** A 34-year-old wanted a natural delivery with her second child and was adamant about refusing electronic fetal monitoring. After noticing meconium-stained amniotic fluid, her physician urged her to consider monitoring, which she refused. The baby was delivered naturally with no heart rate or respirations and was diagnosed with severe neurological deficits. The patient sued the physician. She stated that she had not understood the risk and that she would have agreed to the monitor had she known. The medical record lacked documentation of the informed refusal conversation. The case settled for more than \$1 million.

plied during the underwriting process. The credits and debits are determined by and dependent on the individual practitioner's experience. This is why premiums may change in years when rates do not.

Although professional liability rates for physicians practicing obstetrics in Minnesota are lower than in most areas of the country (Table 1), they have continued to rise over the years. For a better understanding of the reasons for the increase, it is helpful to look at historical claims experience. The Physician Insurers Association of America (PIAA) has been collecting data on member organizations' claims since 1985 and now has data on close to 300,000 claims in which a physician was the defendant. According to the PIAA, obstetrics/gynecologic surgery is a specialty with both a high number of claims and a high percentage of claims that result in payment to the patient (Table 2). Cases involving infants with brain damage have extremely high economic damages associated with them. The average indemnity for these cases is \$525,563. In a recent Connecticut case in which there was an allegation that a delay in a cesarean-section caused a brain injury, the jury awarded \$58.6 million to the plaintiff. A jury recently awarded \$23.2 million in a similar case

Obstetrics has long been associated with high medical malpractice risk. There are a number of reasons for this. Catastrophic injuries can occur with little notice of impending disaster, and injuries to infants have lifelong implications. The cost of their ongoing medical care can be staggering. Cases involving newborns often evoke significant emotion and empathy among jurors, resulting in more verdicts against physicians and larger awards than those

for other specialties.

Professional liability rates for physicians practicing obstetrics reflect both the risk and the claim experience. Rates are set by the state in which a physician practices and are based on the claim experience, indemnity award amounts, and cost of defense within each state or within a specific geographic area within a state. These rates are the base from which premiums are determined. The amount of an individual physician's premium is based on credits or debits ap-

in Minnesota.

The frequency of claims and the indemnity amounts are key drivers of rates for professional liability insurance. That only 35% of obstetrics/gynecologic surgery claims result in an indemnity payment indicates that the majority of these claims are defensible. There are a number of ways to improve patient safety and mitigate the risk of having a traumatic outcome. These efforts should be the focus of physicians and labor and delivery units everywhere.

**Communication is Key**

Communication breakdowns tend to underlie a large number of professional liability claims. In a 2010 study on malpractice in obstetrics, 20% of cases involved communication failures between providers involved in prenatal care.<sup>1</sup> Joint Commission findings related to sentinel event data identified communication as a factor in 68% of the reported perinatal events between 2004 and the third quarter of 2011.<sup>2</sup>

The cases described earlier illustrate how communication breakdowns can have disastrous results. In the first, the problem occurred when the nurse failed to ask the physician to come in and evaluate the patient. Physicians receiving calls from nurses should expect to learn about the following: who is calling, the reason for the call, the patient’s pertinent history and current complaint, details about the patient assessment, the severity of the concern, and actions the caller would like taken. If all of these components are not communicated, the physician should ask for more information. The conversation should close with the physician asking if the action he or she intends to take is what the caller expected.

In the second case, the communication failure was about the use of a fetal heart monitor. As patients become more involved in making decisions about their health care, it is essential that they understand the implications of various options. Patients need to be presented with a description of any procedure recommended, the reason for proposing it, information

Table 1  
**Specialty Rates Effective July 1, 2011**

State	Internal Medicine	General Surgery	Obstetrics
Minnesota	\$4,906	\$14,717	\$22,484
Arizona	\$7,484	\$30,515	\$41,737
California	\$8,673	\$29,081	\$30,463
Colorado	\$13,518	\$58,108	\$60,407
Florida	\$24,478	\$97,911	\$97,911
Illinois (Chicago)	\$40,862	\$96,189	\$127,748
New York	\$24,862	\$90,242	\$128,268
North Carolina	\$8,964	\$35,740	\$41,672

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Table 2  
**Claim Comparison for Specialties Listed by Average Indemnity Cumulative Data—1985 through June 30, 2010**

Specialty	Closed Claims	% Paid	Total Indemnity	Average Indemnity
Neurosurgery	5,845	28.43%	\$537,325,130	\$323,300
Neurology-nonsurgical	4,042	21.87%	\$285,691,190	\$323,180
Radiation therapy	2,459	28.34%	\$210,082,821	\$301,410
Obstetric/gynecologic surgery	34,013	35.12%	\$3,497,835,975	\$292,853
Pediatrics	7,274	27.89%	\$554,666,324	\$273,369
Pathology	1,761	28.68%	\$127,468,795	\$252,413
Cardiovascular diseases-nonsurgical	4,823	18.56%	\$224,910,471	\$251,297
Anesthesiology	9,681	31.92%	\$719,999,809	\$233,010
Cardiovascular and thoracic surgery	7,603	23.58%	\$404,962,302	\$225,857
Gastroenterology	3,002	18.79%	\$115,507,295	\$224,286

Source: Physician Insurers Association of America

about the benefits of the procedure and the risks involved if it is not done, and alternatives. In addition, all facets of the conversation need to be documented. The patient does have the right to make a decision that goes against their provider’s recommendation. If that occurs, the documentation should also include the patient’s stated reason for refusal.

**Mitigating Risk**

There are a number of steps that obstetrics providers can take both to mitigate their risk of being sued and to improve their ability to defend a claim. One is to

communicate clearly regarding use of electronic fetal heart monitoring, which is used in labor and delivery rooms around the country. When the language used to describe fetal heart patterns and events differs, the interpretation of critical events also differs. The person communicating should use only the consensus nomenclature endorsed by major obstetrical professional organizations (the American Congress of Obstetrics and Gynecology; the Association of Women’s Health, Neonatal and Obstetric Nurses; American College of Nurse-Midwives in the case of obstetrics). Terms such as “nonreassuring” may

mean different things to different people. In order to develop a common lexicon, it is helpful for all team members (physicians, midwives, and nurses) to train using the same educational tool or program. Consistent use of language results in all team members having greater clarity about a patient's condition.

Another way to reduce risk is to develop specific protocols for handling crises and practice using them. Simulation exercises provide such opportunities. Roles of team members should be well-defined, and the procedures should be clearly delineated. This is especially important in labor and delivery departments with large staffs because it is unlikely that a specific group of people will always be working together. Simulation allows team members to better understand their roles and how they can work together. Drills should be done for a number of scenarios including maternal emergencies, shoulder dystocia, neonatal resuscitation, and emergency c-section. Simulation is most effective when all staff members, including physicians, participate.

Other training that focuses on the cognitive and interpersonal skills needed to manage high-risk situations is also valuable. Two programs that are widely used are Crew Resource Management in Healthcare (see [www.saferhealthcare.com/crew-resource-management/crew-resource-healthcare](http://www.saferhealthcare.com/crew-resource-management/crew-resource-healthcare)) and TeamSTEPPS (<http://teamstepps.ahrq.gov/>). Both provide tools for improving communication, leadership, and patient safety within organizations. Simulation in conjunction with team training and clear communication strategies can build reliability into an organization.

Good documentation has become a critical factor in defending claims. With electronic medical records, patient information is readily available at the point of care, which improves the quality of care and reduces risk. However, using electronic records can open up new areas of risk that need to be considered. For instance, most organizations have a policy on when having an addendum to the medical record is appropriate; but how to

add the addendum in an electronic environment may need to be spelled out. Staff compliance with electronic documentation policies needs to be monitored regularly.

Generally, the same principles for documentation apply to the electronic record as to the paper record. All care provided needs to be documented, and documentation must be complete, accurate, objective, concise, and timely. This includes documentation of phone conversations with patients and follow-up care recommendations. Electronic templates should be used consistently; and all staff should have a clear understanding of when to add narrative or describe abnormal findings.

## Conclusion

Although the liability risk remains high for physicians practicing obstetrics, by taking simple steps and using existing tools, they can improve the care they provide and achieve better outcomes for patients, minimize their risk of being sued for malpractice, and increase the likelihood that they can be well-defended if they are sued. Optimizing their clinical skills, developing a strong team, communicating effectively, having excellent documentation, and building positive rapport with patients will go a long way toward preventing bad outcomes for mothers and babies that lead to litigation. **MM**

Peggy Wagner is vice president for risk management for MMIC Group.

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# I Don't Know

By Sara Olmanson, M.D.

What did you sense?  
Why did the movements stop?  
*I don't know.*

On ultrasound we took pictures of your beautiful son.  
His steady heart beat was not right. Why?  
*I don't know.*

Was there something that could have been done?  
Some lab or imaging that could have changed the outcome?  
*I don't know.*

Why did your son's heartbeat slow,  
Drifting downward in an eerily steady pattern?  
*I don't know.*

Whisked into the sterile OR, confused and disturbed,  
Why did this happen?  
*I don't know...*

The ghostly white neonate delivered without a drop of blood.  
Where had his blood gone?  
*I don't know.*

What would his name have been?  
What color would his eyes have been?  
*I don't know.*

Why has another couple chosen to intentionally  
Lose their little girl just because of her extra 21?  
*I don't know.*

How did the surgeon feel as she watched this  
Baby's heartbeat stop?  
*I don't know.*

The simian crease and sandal feet dismembered,  
Were shown as proof, how does one process the event?  
*I don't know.*

What would her name have been?  
What color would her eyes have been?  
*I don't know.*

Sara Olmanson is in her first year of the Duluth Family Medicine Residency Program.