OLSON CENTER FOR WOMEN'S HEALTH

overview

Women's Health Overview

Infertility Care: Taking the First Step

For many patients with infertility, one of the hardest parts of the journey is stepping through our door. That first step, to begin the process of diagnosis and/or treatment, is one that I often talk with my patients about in recognition of their bravery, as well as with providers initiating infertility care as part of their practice. Thoughtful and intentional testing consideration and treatment selection are truly critical to optimizing infertility care outcomes for all.

As with all aspects of medicine, education is central to delivering timely, evidence-based care. For example, highlighting the incidence of infertility is critical. One in 8 couples will experience this condition. In the female physician community, that number jumps to 1 in 4. How does this statistic stand up to other more commonly recognized diseases? Another condition with ~12% incidence, or 1 to 8 lifetime risk, is female breast cancer.

While the two have very different long-term outcome risk profiles, given the potentially life-threatening risk of any cancer, infertility has been well documented to significantly impact mental and emotional health, relationship stability, and modification of lifelong goals.

To deliver excellent care for patients with this under-recognized disease process, one of the first steps that any provider can take is opening the door to discuss with our patients in a sensitive, open-ended way. For example, phrases such as, "Well, when are you going to have kids?" or "I'm surprised you haven't called with a positive pregnancy test yet" are both seemingly benign ways to get to the same information. But sadly, these are examples of questions that may leave a silently struggling patient feeling insecure and ashamed. Adopting an open-ended approach to such inquiries is recommended. An example could be, "Tell me what your 5- and 10-year life goals look like: personal, relationship or otherwise."

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Quick Facts About Infertility

Infertility is NOT an inconvenience; it is a disease of the reproductive system that impairs the body's ability to perform the basic function of reproduction.

Infertility affects men and women equally.

25% of infertile couples have more than one factor that contributes to their infertility.

In approximately 40% of infertile couples, the male partner is either the sole cause or a contributing cause of infertility.

Irregular or abnormal ovulation accounts for approximately 25% of all female infertility problems.

While vital for some patients, in vitro fertilization and similar treatments account for less than 3% of infertility services, and about (or approximately) seven hundredths of one percent (0.07%) of U.S. health care costs.

Men and women who smoke have decreased fertility.

Source: *ReproductiveFacts.org from the American Society for Reproductive Medicine*

From the chairman

In this edition of our newsletter, we are pleased to introduce our newest faculty member in the Department of Obstetrics and Gynecology, Lynda Harris, PhD. Dr. Harris is a scientist we were fortunate enough to recruit from the University of Manchester in England. She adds an important dimension to our research efforts due to her interest in improving pregnancy outcomes.

The fact that we are treating two patients simultaneously (the mother and the developing baby), sometimes with different problems, is not lost on Dr. Harris. In the past, drug therapy has been limited due to the movement of drugs across the placenta and undesirable side effects or complications for the fetus. The technology that Dr. Harris is studying in the mouse model allows treatment of the placenta while not affecting the fetus. If it can be applied to the human condition, this model offers us an exciting opportunity of moving research from the bench to the bedside. We look forward to watching her work progress.

Of course, before placental development, conception must first occur. Allow me to introduce Elizabeth Weedin, DO, reproductive endocrinology and infertility specialist. Dr. Weedin's article in this issue will help to increase awareness of infertility.

By sheer happenstance, I was a resident in OB-GYN in Portsmouth, Va., when the first IVF baby was born at Eastern Virginia Medical School. For the history buffs amongst our readers, the date was Dec. 28, 1981. At that time, being a third-year resident, I was more interested in surviving than I was in history being made. The success of this branch of our specialty has truly been miraculous to watch.

Carl V. Smith, MD, FACOG
Chairman
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Women's Health Overview

Newsletter is published quarterly for health care professionals and the general public with special interest in women's health issues by the Olson Center for Women's Health.

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research news

Developing New Medicine for Common Pregnancy Complications

Pregnancy complications such as preeclampsia and fetal growth restriction often result in babies being born too small or too early. Preeclampsia is a life-threatening condition when a pregnant person suddenly develops high blood pressure and protein in their urine. It affects 1 in 25 pregnancies in the U.S. and requires immediate delivery of the baby.

Fetal growth restriction, as the term implies, is when a baby grows too slowly in the womb and is well below its expected weight. It affects 1 in 20 pregnancies. Being born too small or too early leaves babies at serious risk of infections and breathing difficulties which often requires special care in the Newborn Intensive Care Unit. In the longer term, these babies are at higher risk of learning difficulties and as adults, are more likely to suffer from heart disease and diabetes. If not closely monitored, preeclampsia and FGR can also cause stillbirth, which is the death of the baby in the womb at or after 20 weeks of pregnancy.

In the U.S., 1 in 175 pregnancies ends in stillbirth, equating to more than 21,000 losses each year. Altogether, more than 350,000 families are affected by these complications annually; no medicines are available to treat them. All doctors can do is monitor the baby and decide when the best time is for delivery.

Drug companies consider pregnancy a high-risk, low-return area. They fear expensive lawsuits if their products cause serious side effects or harm to the developing baby. Because of this, no new medicines have been produced to treat pregnancy complications for many years. To address this, I am working with my colleagues at the University of Nebraska Medical Center to develop safe treatments to increase the baby's growth, reduce the risk of stillbirth and improve lifelong health in the baby.

In many cases, the underlying cause of preeclampsia and FGR is a placenta that doesn't work properly.

The placenta, also known as the afterbirth, is the organ that develops inside the womb with the baby, providing it with the nutrients and oxygen it needs to grow. If the placenta isn't working well, it cannot support the baby's growth, and complications occur. My approach is to use targeted nanoparticles to deliver drugs directly to the placenta to help it work more effectively. The nanoparticles act as tiny hollow packages in which drugs are hidden so that they only work when they arrive in the placenta and are prevented from crossing into the baby. This method, which we have shown works in mice, ensures that the drug only treats the cause of the problem — the placenta — which can simply be discarded after delivery of the baby.

Contributed by Lynda Harris, PhD
UNMC Department of OB-GYN

Wonderful World of the Placenta:
How it Works, What Can Go Wrong, and Using Nanomedicines to Fix It
Olson Center and UNMC College of Nursing Webinar Series
Tues., Feb. 14, 2023 | 12 – 1 p.m. on Zoom | Lynda Harris, PhD

Dr. Harris will discuss the various roles of the placenta and its importance in regulating fetal growth. This presentation is free and is open to the community; 1.0 ANCC nursing credit available free of charge. To register, email courtneyl.smith@unmc.edu or call 402.559.6618.

Infertility Care continued from page 1

Alternatively, one could consider starting with a statement acknowledging the incidence and opening the door of communication, "One thing I talk with all of my female patients about is the risk of infertility, as it is much more common than people think. Is that something you would like to discuss during your visit today?" Furthermore, starting the discussion with single or unpartnered patients is equally important, as fertility preservation is an underutilized but important avenue of reproductive health care.

In transitioning from awareness to action, we must recognize that there are many doors to open in the "testing hallway" and experiencing "analysis paralysis" with which test to order can be real. As an infertility specialist, my suggestion to anyone considering making infertility testing part of their practice is first to consider what options may be available in your office and what the patient experience is anticipated to be. Can you obtain labs quickly on short notice? For example, is it possible to order labs on day three of the period cycle, or might it be better to select a test for egg count that isn't cycle-day specific, such as an anti-mullerian hormone (AMH) level? Is there a radiology department where you can order a hysterosalpingogram (dye test to check if the fallopian tubes are open)? Does your local lab offer/have experience with semen analysis (sperm testing)? Oftentimes opening these testing doors in an office where the patient is most comfortable is a very natural first step in the direction of infertility care. Alternatively, referring to subspecialists for testing from the outset is acceptable if that is preferable for any reason. The treatment transition is another hurdle for many patients and one that is riddled with myths and misconceptions. Due to the lack of widespread insurance coverage for infertility treatment, the concern regarding the financial impact of care can be a significant barrier for some patients.

For this facet of the care profile, getting sound information from your local infertility specialist is of tremendous importance in developing a personalized treatment plan. Additionally, knowledge is power and meeting with an infertility specialist can help delineate real-life expectations.

Lastly, in the era of social media communications, I often remind my patients that comparison is the thief of joy and advise them to use these resources wisely. While social media can be an incredible tool for connection, support, and facilitation of information delivery, it can also be a slippery slope to unfair personal judgments on perceived lack of success and/or amplification of unhealthy feelings. Each patient's journey is their own and every person deserves individualized support for all aspects of their infertility care profile. The time is now to take the first steps in highlighting the importance of infertility care through increasing awareness, streamlining testing, and decreasing delays to appropriate treatment.

For more information on infertility, plan to attend the Jan. 17, 2023 Olson Center Brown Bag, where Dr. Weedin will go into greater detail on the incidence, diagnosis and treatment of infertility.

Contributed by Elizabeth Weedin, DO, MS, FACOG
Heartland Center for Reproductive Medicine

Turning Up the Volume on Infertility – Identifying and Facilitating Efficient and Effective Care

Olson Center Brown Bag Lecture Series

Tues., Jan. 17, 2023 | 12 – 1 p.m. on Zoom | Elizabeth Weedin, DO, MS, FACOG

One out of every 8t couples may deal with infertility sometime during their reproductive years. While not all causes are determined, there are risk factors for infertility. Dr. Elizabeth Weedin will discuss common conditions that can lead to infertility, what patients should be considered for early testing, and when treatment is warranted. Common myths about infertility side effects will also be discussed. To register for this virtual presentation, please email OlsonWHRC@unmc.edu or call 402.559.6345.

The presentation is free and is open to the community; if 1.0 ANCC nursing credit hour is requested, the charge is $10.

What is a **UTI?**

A urinary tract infection is when bacteria invade any part of the urinary tract, including the urethra, bladder, ureters and kidneys.

UTIs are among the most prevalent infections, occurring in approximately 40% of women. Many common causative bacteria of UTIs naturally inhabit the colon; therefore, the proximity of the female anatomy contributes to the prevalence of UTIs in women. Women also have a relatively short urethra (approximately 4cm in length), making it very easy for the bacteria to reach the bladder. Additional risk factors that play a role in the prevalence of UTIs in women include sexual intercourse, use of diaphragms or contraception, pregnancy, loss of estrogen associated with menopause, pelvic organ prolapse and urinary incontinence. Certain medical conditions such as diabetes mellitus, multiple sclerosis, and a history of kidney stones also predispose women to UTIs.

UTIs are classified by their location within the urinary tract. Upper urinary tract infections are within the ureters or kidney, and lower urinary tract infections are found within the urethra and bladder. When bacteria enter the urethra and ascend or travel to the bladder, this causes inflammation of the bladder lining. This inflammation is known as cystitis.

Common signs and symptoms of a UTI include:

- Painful urination
- Urinary frequency/urgency
- Inability to empty the bladder completely
- Urinary hesitancy
- Cloudy and/or bloody urine

Accurate diagnosis of a UTI consists of a urinalysis and urine culture. A urinalysis is the first step in diagnosing a UTI and helps to correlate the patient's symptoms with the initial findings on a urinalysis, such as blood, white blood cells or nitrites. However, because other conditions can cause the same results on a urinalysis, confirming a UTI by obtaining a urine culture that identifies the type(s) of bacteria in the urine allows for adequate and appropriate treatment.

Prevention of UTIs begins with lifestyle habits. Simple measures such as adequate fluid and fiber intake and proper hygiene practices help prevent UTIs. Performing behaviors that promote bladder emptying, such as proper toileting techniques and double voiding, can assist with prevention.

Proper toileting techniques can help women empty their bladder more completely by sitting up straight on the toilet, with knees slightly higher than your hips (can use a footstool) and with hands on your knees, relax the pelvic muscles and empty your bladder.

Remember, do not push! Double voiding is sitting for a longer period after the initial void (urination) and waiting for a second bladder contraction to occur, which also empties the bladder more completely.

The use of probiotics and cranberry supplements have been researched, and there is evidence to support that these provide prevention for UTIs, however, they are not considered a treatment. Vitamin C promotes urine acidity, which has been identified as promoting a preventive effect against UTIs. Vitamin C causes the urine to become acidic, making bacterial growth in the bladder difficult. D-mannose is a naturally occurring carbohydrate found in many types of fruits and vegetables and works by making it difficult for bacteria to adhere to the bladder wall. Finally, for women who lack estrogen, using estrogen vaginal cream has proven effective in preventing UTIs.

Treatment of UTIs consists of the use of antibiotics. First-line treatment includes one of three antibiotics: nitrofurantoin, bactrim or fosfomycin. Other common antibiotics include amoxicillin and keflex. Women who have recurrent UTIs — more than two in six months or three in a year — may benefit from a daily low-dose antibiotic for three to six months. Some women will experience recurrent UTIs following intercourse. If this is the case, your provider may prescribe a low-dose antibiotic to take after sex.

If left untreated, the bacteria in the bladder can travel up the ureters and reach the kidneys, causing swelling and inflammation of the kidneys. A kidney infection is known as pyelonephritis. This is a more severe infection and can have severe consequences. Symptoms suggestive of a kidney infection include flank, abdominal or groin pain, nausea, vomiting, fever and fatigue. If these symptoms occur, contact your provider as soon as possible.

Contributed by Jennifer Cera, DNP, APRN-NP, WHNP-BC
UNMC Department of OB-GYN
Division of Urogynecology

Let's Talk About **Seasonal Affective Disorder**

The fall and winter months can be challenging times for folks, especially in the Midwest. No, I'm not talking about Nebraska football. A big part of it has to do with the shortening of days.

Seasonal affective disorder or SAD, is a type of depression that, as the name implies, seems to follow a seasonal pattern. It appears to be directly related to reduced sunlight during the colder months. Not only do we spend more time indoors during the fall and winter, but we also tend to cover up our bodies when outside. Add to this the fact that the sun sets earlier (and we're beset by regular snowfall), and we tend to have limited opportunities to bask in the sun.

We're not lizards, so why is this important? For one, sunshine on our skin helps promote the production of vitamin D, a crucial nutrient that aids in the absorption of calcium, which strengthens our immune system. Just as importantly, our diurnal rhythms, our sense of night and day, are reliant on the presence or absence of light. Our body runs on an internal clock called the circadian rhythm. This triggers the start of each day, as we wake up in the morning and experience that first burst of light. When this happens, our body stops producing melatonin, and it begins a cascade of processes to increase metabolism and provide us with much-needed energy for activity.

However, in the absence of sufficient light, our body can continue to produce melatonin when it's not supposed to (which is only at night). This can dramatically affect our metabolic activity, sleep cycles, and mood, leading to SAD.

When this happens, we may start to see things like:

- Oversleeping, usually by an hour or more each day
- Having considerably more difficulty getting up in the morning
- Feeling tired all the time
- Experiencing increased appetite, especially for sugar or complex carbohydrates
- Losing interest in things previously enjoyed
- Withdrawing from other people or social engagements

Because SAD is believed to be caused by this hormonal reaction mediating the circadian rhythm, it can affect many other biological processes also tied to hormones, including sleep, appetite, and even sex drive. Notably, SAD is diagnosed up to four times more frequently in women, partly due to increased sensitivity to hormonal changes and the more pronounced social disruption SAD can cause for women compared to men.

Fortunately, there are many effective strategies to mitigate the effects of SAD:

1. **Light therapy.** A physician can prescribe a lightbox and provide instructions on how to use it for treatment for SAD. Lightboxes provide artificial sunlight, and are most effective when you first wake up in the morning. The most beneficial lightboxes provide at least 10,000 lux. Typical treatment, allowing the light to shine on you but not staring directly at it, may only be needed 20 to 30 minutes each day.
2. **Jump-start your physiological activity.** Get your body going with at least moderate exercise first thing in the morning. By intentionally increasing your heart rate and respiration, your body takes this as a cue to "wake up." Making morning exercise part of your routine helps your body to begin to expect this need for energy right when you wake up, too.
3. **Pay attention to the signs.** If you're starting to lose energy, lose interest, or want to withdraw from others, take this as a cue to be even more intentional about scheduling enjoyable activities. Sometimes it's easier to halt the cycle before it spins up.
4. **Talk with your doctor.** There are a variety of prescriptions and over-the-counter medications that can assist in the short-term with the symptoms of SAD.

Contributed by Jerry Walker III, PhD, ABPP, MSCP, CMPE
Nebraska Medicine Department of Psychology Services

How to set weight-loss goals in the **new year**

As the new year begins, countless people consider setting resolutions or goals for the year. Many of these goals center around weight loss, but they're often forgotten in a month or two. Below are some tips for keeping to those goals.

Be realistic! It would be amazing if we could safely lose 50 pounds in a month, but this isn't realistic. With lifestyle changes, you can expect the rate of weight loss to be 0.5 to 2 pounds per week.

Start with gradual changes. When we want to make a change, it can be tempting to try to overhaul our whole life. This can be great at first, but demoralizing if we cannot continue this in the long term. Pick two to three things that you really want to focus on for the month of January, and set a time to check back in on your goals – more on this below.

Avoid fad diets. There are diets out there that promise dramatic weight loss. In some cases, these diets can help with weight loss short-term but are impossible to do long-term. I strongly advise against any diets that involve avoiding an entire food group. As you make lifestyle changes, ask yourself how you'll be doing with these in one month, one year, and five years.

Make sure you're setting SMART goals. SMART stands for: Specific, Measurable, Achievable, Realistic and Time. If you haven't heard of SMART goals before, feel free to look them up. They're an awesome way to set strong goals.

Check back in on your goals and be forgiving of mistakes. I love to stress to patients that the new year is NOT the only time you can set goals. When you first settle on the two to three things you want to focus on for weight loss, write them down and set a time to check back in with yourself. I suggest having check-ins at the start of every month. At that point, see how you're feeling about your goals. Are you feeling comfortable with everything you've tried so far? If so, add two to three new goals to work toward more habits. If you feel like you're not meeting your current goals, check in with yourself to see what could be holding you back. Try to avoid beating yourself up. Weight loss is a lifelong journey, and check-ins can help you to get back on track. Life is excellent at throwing curveballs at us, but making a choice to recommit to yourself and your goals will pay off in the long run. Feel free to set new goals that are easier to achieve. For example, say that you've decided to walk for 60 minutes every day, but your schedule has been too crazy to allow for this. For a revised goal, maybe aim for 60 minutes five days a week or perhaps 30 minutes every day. Positive change will help in the long run, and working toward goals that won't discourage you is key.

With that said, when should weight loss medication be an option? If you want to help make the weight loss process a little easier, ask your primary care doctor whether weight loss medication could be an option for you. You're also welcome to check in with the Nebraska Medicine Bariatrics Center. We have a variety of programs to help support patients in their personal weight loss journeys. We have several doctors who are experts in weight-loss medications.

Contributed by Kimberly Sharp, MMN, MNT, RDN
Nebraska Medicine Clinical Nutrition

OLSON CENTER FOR WOMEN'S HEALTH

Mission Statement
The Mission of the Olson Center for Women's Health is to provide a national comprehensive health science center at the University of Nebraska Medical Center. Based in the Department of Obstetrics and Gynecology, the center enables UNMC to make distinctive strides in education, research, and service through innovative approaches to women's health issues.

Want More Information?
Visit our website: **OlsonCenter.com**

Learn more about our health care providers, services, and programs available at the Olson Center for Women's Health. Our website also offers women's health information. Here are a few topics:
- Breastfeeding
- Breast Health and Disease
- Cardiovascular Health
- Gastrointestinal Health
- Gynecologic Health
- Incontinence
- Reproductive Endocrinology/Infertility
- Pregnancy
- Wellness

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The Olson Center for Women's Health Welcomes **Jessica Gering, APRN-NP**

Jessica Gering, APRN-NP, is a nurse practitioner with more than 10 years of experience in women's health. She comes to the Olson Center from Heartland Women's Healthcare in Papillion, Neb., where she has served alongside Kristi Peterson, MD. Jessica has a passion for caring for women through all stages of life. She enjoys educating women about the importance of reproductive health while assisting them through life changes. Jessica sees a variety of women's health patients. She can provide routine annual exams, acute gynecologic care, prenatal care, contraception and menopausal care. Jessica graduated with honors from Clarkson College in Omaha, Neb., as a family nurse practitioner. She also received her undergraduate training at Clarkson College and served as a registered nurse in labor and delivery, neurology and medical-surgical units.

Jessica lives in Gretna, Neb., with her husband, Macs, and their three children, Lucas, Vivian and Emma. She enjoys reading, traveling, playing volleyball, and attending her kids' sporting events in her free time. We are fortunate to have Jessica on the Olson Center team!

in this issue

University of Nebraska Medical Center