Infertility: Evaluation and Initial Management
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Treating the infertile client with competence and compassion is within the scope of practice for advanced practice clinicians. However, due to both a lack of emphasis on infertility treatment in many advanced practice education programs and confusion regarding diagnosis and treatment by many practitioners, infertility is often undertreated by these providers. A basic infertility evaluation, patient counseling, and prescriptive therapy with oral ovulation-inducing agents by a knowledgeable practitioner is cost-effective and may result in successful pregnancy in women who otherwise may not be adequately and quickly treated prior to referral to a reproductive endocrinologist. A diagnosis of infertility is often stressful and frustrating for a couple. Midwives and advanced practice nurses are uniquely qualified to provide both compassionate care and competent treatment during this time. This article provides the clinician with an overview of infertility diagnosis, evaluation, and initial management with lifestyle modifications and oral ovulation-inducing agents.

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INTRODUCTION

Although practitioner awareness of and training in infertility management has increased over the past 25 years, infertility may be undertreated by certified nurse-midwives/certified midwives (CNMs/CMs) and women’s health nurse practitioners (WHNPs). Primary infertility is defined as the inability to achieve conception after one year of frequent, unprotected intercourse in women aged under 35 years and after 6 months in women aged 35 years and older, while secondary infertility refers to women who have achieved a pregnancy previously but who are having difficulty conceiving or carrying a pregnancy to term. Women with known infertility risk factors (eg, endometriosis, polycystic ovary syndrome, history of pelvic inflammatory disease) and women who report a history of irregular menses may be deemed infertile and treated more promptly.

Infertility is a complex, multifactorial disorder that significantly affects physical, psychosocial, and economic aspects of patients’ lives. Common causes of infertility include male factors, female factors, and unexplained infertility. Major causes include sperm abnormalities, ovulation dysfunction, and fallopian tube obstruction. Male factors account for 35% to 40% of infertility cases, female factors account for 40%, and unexplained causes account for 10%. Causes of female infertility include oligo-ovulation disorders, tubal damage, damage from endometriosis, and uterine abnormalities. Maternal age also is a contributing factor in female infertility, with fertility rates 15% to 19% lower in women aged 30 to 34 years than in women aged 18 to 29 years; 26% to 46% lower in women aged 35 to 39 years; and up to 95% lower in those aged 40 to 45 years. According to the most recent data from the United States Centers for Disease Control and Prevention, 1.5 million married women aged 15 to 44 years have ever sought medical services for infertility.

A diagnosis of infertility often constitutes a life crisis in couples, evoking feelings of loss, isolation, depression, and grief. In addition, advanced infertility treatment can be quite costly, with in vitro fertilization averaging $12,400 per cycle and one intrauterine insemination cycle averaging $865 in the United States. Furthermore, many insurance companies do not cover the cost of infertility services. Performing an initial infertility evaluation and providing initial management of infertility is within the scope of practice of advanced practice clinicians. In addition, CNMs/CMs and WHNPs have been taught to validate patients’ feelings of depression, grief, guilt, shame, inadequacy, and social isolation. Advanced practice clinicians also are uniquely positioned to provide more cost-effective care and can educate women about cost-effective ways to optimize fertility, including lifestyle modifications, natural procreative methods, and the use of ovulation predictor kits. The purpose of this article is to present an overview of infertility diagnosis, evaluation, and initial management. This information will provide clinicians with the knowledge needed to obtain the initial evaluation and manage care using natural procreative methods, clomiphene citrate (Clomid), letrozole (Femara), or intrauterine insemination (IUI) for 3 to 6 months prior to referring the patient to a reproductive endocrinologist.

EVALUATION

Infertility is most often a “couple’s diagnosis,” and a thorough evaluation for both partners should be initiated. However, single women and lesbian couples also seek childbearing services. Lesbians may choose to become parents through many different methods, although the method of donor insemination is increasing in popularity. Partner exclusion by providers is a common problem encountered by lesbians, and partners of lesbians should be included in preconception, infertility, or adoption discussions.
Figure 1. Oral Ovulation Induction Treatment Algorithm

The figure is a treatment algorithm for a basic infertility evaluation and treatment plan. The algorithm guides the practitioner through obtaining history and providing treatment options, including patient teaching, ovulation-induction agent treatment, intrauterine insemination treatment, and referral.

Abbreviations: HSG, hysterosalpingogram; IUI, intrauterine insemination; IVF, in vitro fertilization; REI, reproductive endocrinology; SA, semen analysis.
A thorough history and physical should be obtained in order to classify women seeking care into one of 2 infertility groups. Women who have tubal disease, who have already tried oral ovulation induction medications or other infertility treatments (intrauterine insemination and/or in vitro fertilization), who have confirmed endometriosis, who have a history of 3 or more spontaneous abortions, and/or who have partners with known male factor infertility should be referred to a specialist in reproductive endocrinology. Women who have not previously tried oral ovulation-induction methods, who have polycystic ovary syndrome, who have anovulatory cycles, and/or who have unexplained infertility may be treated for infertility for 3 to 6 months before referral. This evaluation and treatment may be undertaken by advanced practice clinicians.

History

A thorough history is important to the management of the infertile couple/woman. Couples should be interviewed together and individually, as individual interviews may provide practitioners with important facts that one partner may not wish to disclose to the other. If the practitioner obtains a thorough history, typically the underlying cause of infertility will present itself or suggest a diagnosis of unexplained infertility.

The practitioner should determine the duration of infertility as well as the results of any previous evaluations or treatments, including whether either partner has conceived with another partner. Duration is essential to the proper diagnosis of infertility. For example, if a couple has been trying to conceive for 12 months, but one partner has been out of the country for 6 of those 12 months, then the couple has only been trying to conceive for 6 months consecutively. The history and outcome of previous evaluations or treatments can aid the practitioner in determining which tests should be ordered and when, as well as whether, immediate referral is indicated.

Menstrual history may aid in determining ovulatory status. Regular monthly cycles with breast tenderness, ovulatory pain, and/or bloating are suggestive of ovulation. A history of dysmenorrhea may be suggestive of endometriosis, while a history of amenorrhea may be suggestive of anovulation. A thorough evaluation of menstrual history should be obtained, including cycle length and characteristics.

When obtaining a medical history, the practitioner should ask the woman about abnormal hair growth, weight gain, acne, signs of hypothyroidism or hyperthyroidism, pelvic or abdominal pain, medical problems, and current medications. It is very important to determine whether there is a history of exposure to diethylstilbestrol, pelvic inflammatory disease, sexually transmitted infection(s), and/or abnormal Papancolau test results and subsequent treatment. Chlamydia trachomatis infection is associated with increased likelihood of tubal damage, while procedures for cervical dysplasia may have affected cervical integrity and/or mucus production. The practitioner also should know the prior method of contraception, particularly if the woman has used a method that delays return to fertility (eg, depot medroxyprogesterone acetate [Depo Provera]).

Surgical and obstetric history should be obtained. Women should be asked about a history of ectopic pregnancy, cesarean birth, or dilation and curettage (D&C). Sexual history is very important, and patients should be asked about frequency of intercourse, timing of intercourse, dyspareunia, and sexual dysfunction (eg, premature ejaculation, impotence).

A thorough family history should be obtained and should include asking about family members with a history of infertility, birth defects, mental retardation, or genetic anomalies. Women and their partners should be asked about family history of the following genetic diseases: cystic fibrosis, sickle cell disease, Tay-Sachs disease, and thalassemia. All of these diseases are autosomal recessive diseases, and none of them are curable. Although being a carrier of one of these diseases may not impact fertility, it is important to determine whether the offspring of the couple being counseled might inherit one of these diseases so that they may be referred for genetic counseling before starting infertility treatment if they so choose. In addition, it is important to mention that infertility is expected in males with cystic fibrosis, while women with cystic fibrosis often have a higher incidence of infertility. Women may be asked about a family history of polycystic ovary syndrome or endometriosis. Finally, an immunization history may be obtained at this visit.

Couples with infertility frequently do not understand the role their social history and lifestyle may play in their ability to conceive. Lifestyle certainly may affect fertility, and modifications may be necessary. Women and men should be asked about age, diet, weight and/or weight changes, exercise, stress, occupation, caffeine intake as well as tobacco, alcohol, and recreational drug use. Couples also should be asked about exposure to environmental toxins, including pesticides and/or occupational toxins.

It is important to ask whether the woman has been monitoring ovulation either by basal body temperature charts or by ovulation predictor kits. Timing of intercourse is crucial and may be the difference between a positive and negative pregnancy test.

Physical Examination

The physical examination is targeted to assess for potential causes of infertility. The practitioner should calculate the woman’s body mass index (BMI) and fat distribution. Abdominal obesity has been associated with insulin resistance, and extremes in BMI have been associated with a reduction in fertility. The woman should be assessed for possible endocrine disorders. The clinician should look for abnormalities of the thyroid gland, galactorrhea, and signs of androgen excess (eg, hirsutism, acne, male pattern hair loss). Findings may be suggestive of hyperthyroidism or hypothyroidism, polycystic ovary syndrome, hyperprolactinemia, or an adrenal disorder.

A thorough bimanual examination should be completed. Tender, palpable nodes in the posterior cul-de-sac, uterosacral ligaments, and rectovaginal septum may indicate endometriosis, while tenderness or masses in the adnexa or posterior culde-sac may be found in women with endometriosis or chronic
pelvic inflammatory disease. The uterus should be palpated for irregularity, enlargement, or lack of mobility. Such findings may be suggestive of uterine fibroids, endometriosis, pelvic adhesive disease, or uterine anomaly. These findings necessitate referral to a specialist in reproductive endocrinology.

The vaginal and cervical structures should be assessed for any structural abnormalities or atypical discharge. Findings could suggest infection or cervical abnormalities that contribute to infertility.

During this visit, the practitioner may offer to verify the patient’s rubella immune status, check varicella status and/or titers, check HIV status, and make certain the patient is taking a prenatal vitamin that contains docosahexaenoic acid and at least 400 mcg of folic acid.

DIAGNOSTIC TESTING

If a male partner is involved, a semen analysis is an essential component of the infertility work-up and should be completed early in the evaluation. This should be explained to couples as a cost-saving measure. It saves couples from undergoing unnecessary treatments and using resources that could have been allocated to more effective treatments. The semen sample may be collected following 2 to 7 days of abstinence, although 2 to 3 days is the preferred window, and the sample should be delivered to the laboratory within one hour of collection. If the practitioner’s office does not have an andrology laboratory, the patient can be referred to a urology office or infertility clinic. The sperm count should be greater than 39 million sperm per ejaculate, have at least 1.5 mL volume, and have at least 40% total motility and 32% progressive motility in order to be adequate. If the semen analysis is abnormal, the practitioner should repeat the test at least 4 weeks after the initial test results were obtained and before referring the man to a urologist or male reproduction specialist.

Ovulatory function should be assessed. The most widely used laboratory assessment for evidence of ovulation is the midluteal phase serum progesterone level. The progesterone level should be obtained approximately one week before menstruation is expected. This means that for a woman with a typical 28-day menstrual cycle, the progesterone level would remain the same on day 10, while the day 3 estradiol levels, progesterone concentration may be measured at 5-day intervals from 7 days before the earliest expected date of menstruation until menstruation begins. A serum progesterone level of greater than 3 ng/mL is evidence of ovulation, while a serum progesterone level concentration less than 3 ng/mL indicates that the woman should be evaluated for anovulation. Other tests that may be done based on the woman’s history include serum prolactin, thyroid stimulating hormone, luteinizing hormone (LH), follicle stimulating hormone (FSH), androgen levels, lipid levels, and measures of glucose intolerance.

An alternative way to determine whether a woman has ovulated is to have her use an over-the-counter urinary ovulation predictor kit. These kits are effective at predicting the timing of the LH surge prospectively, however, they are often not useful if the woman has a condition associated with elevated LH levels. In this case, the kit cannot detect an LH surge. Women with polycystic ovary syndrome (PCOS), premature ovarian failure, and menopause may have elevated LH levels and may have a false positive reading or an undetectable surge. Serum progesterone testing is indicated in patients who do not show an LH surge. The practitioner could also order serial follicular monitoring ultrasounds to assess ovulation, although this can be expensive.

The most cost-effective method for detecting retrospective ovulation is the measurement and charting of basal body temperature (BBT). However, interpretation of the chart may be difficult. It is important to teach the proper method of measuring. The woman should take an oral temperature every morning before she rises from bed or has anything to eat or drink and should record her temperature in the chart. Body temperature rises approximately 0.5°F in the luteal phase of the menstrual cycle, and in a typical menstrual cycle, this temperature rise occurs one to 2 days after the LH surge of ovulation and remains for 10 days. Basal body temperature measurement may be used to identify ovulation retrospectively but is not as reliable as serum progesterone testing or ovulation prediction kits in identifying ovulation.

A day 3 FSH level (day one is the first full day of menstruation), days 3 and 10 estradiol levels, and a clomiphene citrate challenge test to evaluate ovarian reserve should be ordered for all women with risk factors for premature ovarian failure. These include age over 35, family history of early menopause, unexplained infertility (normal menstruation and normal semen analysis), previous ovarian surgery, smoking, and poor response to fertility drugs. It is important to distinguish here between measures of ovulation and measures of ovarian reserve. While measures of serum progesterone can indicate whether ovulation has occurred, progesterone measures cannot provide information about the size and quality of the follicular pool, or ovarian reserve. Women with poor ovarian reserves may still be ovulatory. Ovarian reserve tests are adequate for predicting poor responses to infertility treatment. The clomiphene citrate challenge test requires oral administration of 100 mg clomiphene citrate daily on menstrual cycle days 5 through 9 and measurement of FSH levels on cycle day 3 and day 10, along with day 3 estradiol levels. An optimal day 3 FSH level is less than 10 mIU/mL, and the FSH level should remain the same on day 10, while the day 3 estradiol level should be less than 80 pg/mL. If the levels are above these values, the woman likely has an impaired ovarian reserve and should be referred to a reproductive endocrinology specialist.

A hysterosalpingogram may be obtained to evaluate tubal patency and to assess the uterine cavity. This test is typically performed 2 to 5 days after menstruation ends to avoid interference from menstrual tissue and disruption of potential fertilization and implantation. Women with abnormalities should be referred to specialist care.

MANAGEMENT

Once the preliminary diagnosis is made, it is time to develop a treatment plan. It is important for the practitioner to establish open and clear communication with infertility patients, including what evaluation will be done and that treatment will be provided for a finite period of time before they are referred for additional care.
Ovulation Prediction and Coitus

Couples are often uninformed about the sexual frequency needed to achieve conception. The couple must understand how to time coitus with ovulation. The practitioner should provide the couple with information about natural procreative technology and/or information about ovulation prediction kits to effectively predict ovulation and enhance chances for conception.

The “fertile window” is 5 to 6 days before the first day one of ovulation, with the peak time for conception being one to 2 days prior to ovulation. Daily intercourse throughout the fertile window is recommended. Women have multiple choices for tracking ovulation. One of the best methods for tracking ovulation is to track changes in vaginal discharge. Estrogen is secreted in increasing amounts 5 to 6 days before ovulation, and this secretion results in estrogenic discharge, which is clear, stretchy, and slippery. Tracking changes in cervical and vaginal discharge is cost-efficient, and studies show that women from diverse cultural and education backgrounds can be taught this method and accurately identify estrogenic discharge. It is recommended that women learn how to interpret and document discharge from a trained teacher. Two well-researched, effective methods of fertility charting are the Billings Ovulation Method and the Creighton Model Fertility Care System. Both of these methods prospectively identify the complete fertile window and can be applied to any cycle length. These methods may be used for family planning and also may aid the provider of infertility management in determining when and which diagnostic laboratory tests to order based on the cycle day. The clinician may provide pen and paper methods of charting in addition to or in conjunction with these methods.

The fertile window also may be tracked through the use of ovulation predictor kits, which are sold over the counter. These kits test urine for the LH surge that typically occurs approximately 18 to 36 hours prior to ovulation, although it is important to note that the LH surge could occur anywhere from 16 to 48 hours prior to ovulation. A positive result indicates an LH surge. These kits indicate the most optimal segment of the fertile window (1-2 days prior to ovulation) but only indicate a segment of the fertile window. Women should begin testing urine with the kit approximately 2 to 3 days before the expected LH surge. This would mean that a woman with a 28-day cycle could begin testing on cycle day 11 or 12. It should be noted that women with certain conditions may have high LH levels, and these kits may indicate false positives or fail to detect a surge. For those women, serum progesterone testing and/or follicular monitoring ultrasound to detect a dominant follicle is indicated. A serum progesterone level should be obtained 7 days after a positive ovulation predictor kit test.

Women should be mindful about using computer or mobile applications to ascertain ovulation. Computer applications that predict ovulation rely on the values that a patient enters and thus are prone to human error. In addition, ovulation is a dynamic process. There are normal variations in cycle lengths, especially during the follicular phase. A normal cycle ranges from 21 to 35 days, with the majority of women experiencing 24 to 35-day cycles. Women should be educated that, due to this variance in cycle length, ovulation does not necessarily occur 14 days after the start of menstruation. If a woman assumes that she ovulates the 14th day of every month, she may significantly decrease her chances of conceiving. In addition, if her cycle length varies from month to month, correct prediction of ovulation by a computer application is less likely, as this method is a type of calendar method and has decreased reliability.

When a woman is checking for ovulation by BBT charting, she should understand that once her temperature rises, she has already ovulated, as the temperature rise occurs one to 2 days after the LH surge. If she does not understand this, she is missing her most fertile window and the most critical time to have intercourse. Charting BBT may provide her with retrospective information about her menstrual cycle patterns, but BBT is not a significantly reliable method of tracking ovulation.

Lifestyle Modifications

Social history and lifestyle factors may greatly influence conception success rates. Women with BMIs greater than 27 or a waist circumference greater than 40 inches should be advised to lose at least 5% of body weight. More than 30% of women in the United States are overweight (BMI 25-29.9), and more than 35% are obese (BMI > 30). Obesity is associated with menstrual irregularity, infertility, and increased risk of miscarriage. A BMI lower than 17 is also linked to decreased fertility, and women with low BMIs, eating disorders, and/or strenuous exercise regimens may have impaired ovarian function. For obese women with PCOS, achieving a weight reduction of 5% to 10% of body weight is often sufficient to restore ovulation. Achieving a BMI range of 20 to 25 is optimal for fertility, and other lifestyle modifications that improve fertility include smoking cessation, reducing alcohol intake to fewer than 4 drinks per week, and reducing caffeine intake to fewer than 250 mg per day.

Alternative Modalities

Acupuncture and traditional Chinese medicine (TCM) are sometimes used to augment Western medical practices in treating infertility. Evidence supporting the use of acupuncture support is increasing. Traditional Chinese medicine also is used to help normalize menstruation and aid in ovulation for women with PCOS or anovulatory cycles. However, more randomized trials are necessary to determine the efficacy of TCM.

Oral Ovulation-inducing Agents

Two drugs are used primarily in the initial treatment of infertility. Clomiphene citrate is the criterion standard of treatment, has been used for decades, and has an ovulatory success rate of 70% to 80% in properly selected women. Women with amenorrhea are more likely to respond to this drug, while response declines with increasing age and increasing BMI. Clomiphene citrate is cheap and easy to take, but
Women may be advised to start clomiphene citrate. It causes maximum suppression of estrogen levels and does not have a negative effect on the endometrial lining or cervical mucus. Letrozole is currently FDA approved only for initial adjuvant therapy for treatment of breast cancer in post menopausal women. However, it is often used off-label for ovulation induction, but evidence for its usage is accumulating.

**Clomiphene Citrate**

Clomiphene citrate works as an anti-estrogen on the central nervous system, which increases the pulse frequency of FSH and LH and causes a moderate gonadotropin stimulus on the ovary, overcoming the ovulatory disturbances in the ovary. Its mechanism of action on the ovary increases the number of follicles that could achieve ovulation, enhances the likelihood of pregnancy by increasing the number of oocytes available for fertilization, and overcomes the possible subtle defect in ovulatory dysfunction. Basically, the drug binds the estrogen receptors in the pituitary gland, which blocks those receptors from detecting circulating estrogen levels. However, this action also may negatively affect endometrial development and cause cervical mucus to become thick and tacky, making it difficult for sperm travel. Clomiphene citrate is indicated for anovulatory women and women with ovulatory infertility who are normogonadotropic, normoprolactinemic, and euthyroid. Women may be advised to start clomiphene citrate on cycle day 3 or 5, according to their schedules and availability, and to take the daily dose at the same time of day for 5 consecutive days. Limiting its use only to days 5 through 9 of the menstrual cycle may help reduce the risk of multiple gestation. Clomiphene citrate may delay the LH surge and cause ovulation to happen a couple of days later than it would in a typical cycle, so it is recommended that women monitor their cycles with ovulation prediction kits or natural procreation methods in order to time intercourse effectively. Treatment begins with a dose of 50 mg and may be titrated to 100 mg for 5 days if ovulation does not occur with the first cycle treatment. Although the dose may be titrated in 50 mg increments to a maximum of 250 mg, the majority of women will conceive with 50 mg or 100 mg; if conception is not successful at these doses after 3 cycles of clomiphene citrate, letrozole therapy or referral to specialty care is indicated. The practitioner should assess for ovulatory response with a midluteal progesterone level in order to avoid unnecessary repetition of clomiphene citrate cycles. Women also should be counseled about common side effects and risks associated with this drug. Hot flashes occur in 10% to 20% of women. Some women experience bloating, nausea, pelvic discomfort, or breast tenderness. There is a risk of conceiving multiple pregnancies due to multiple follicular development. In pregnancies that occur among women taking clomiphene citrate, 6% to 10% are multiple gestations, although the vast majority of these pregnancies involve twins. Anecdotally, women often report feeling extremely moody while on the medication. If a woman complains of pain, she may have developed an ovarian cyst. A transvaginal ultrasound should be obtained, and if a cyst is documented, another cycle should not be initiated until the cyst has resolved. The risk of severe ovarian hyperstimulation with clomiphene citrate use is very uncommon.

If a couple with normal semen analysis, a normal uterine cavity, and patent fallopian tubes on a hysterosalpingogram has not conceived after 3 cycles, letrozole may be initiated, or the couple may be referred to a reproductive endocrinology specialist.

**Letrozole**

Letrozole is an aromatase inhibitor that converts androgens to estrogens, specifically androstenedione to estrone and testosterone to estradiol. Letrozole was first developed to suppress estrogen production in women with breast cancer, although it has been used off-label in the last decade to induce ovulation. It causes maximum suppression of estrogen levels during the follicular phase of the menstrual cycle, allowing for rapid clearance of letrozole prior to the critical stage of fertilization and embryogenesis. Letrozole has a very short half-life, and women must be adequately reassured that letrozole will be out of their systems prior to implantation, as the pill packaging warns that it should not be taken if trying to conceive. A large study showed no difference in the prevalence of congenital malformations between those who used clomiphene citrate and those who used letrozole. Aromatase inhibitors have an added benefit of not causing cervical mucus thickening or a reduction in the thickness of the endometrial lining, despite estrogen levels being much higher in clomiphene citrate than letrozole cycles, and they also have the added benefit of causing monofollicular maturation, reducing the risk of multiple gestations. This allows practitioners who do not have ready access to ultrasound monitoring to manage a woman's cycle adequately with minimal risk of ovarian hyperstimulation or multiple gestation.

Letrozole should be given as an oral 5-mg dose for 5 days from days 3 to 7 of the menstrual cycle. Ovulation may occur earlier with letrozole than with clomiphene citrate. Use of an ovulation prediction kit will help the woman not to miss a critical window of fertility. Some studies have shown that letrozole was successful in PCOS patients who did not respond to clomiphene citrate.

**Intrauterine Insemination**

Intrauterine insemination involves depositing sperm directly into the uterus. Recent studies indicate that the use of IUI with naturally occurring cycles is not as clinically effective as combining IUI with an ovulation induction agent, such as clomiphene citrate. Some-sex couples or single women can experience the process of trying to conceive using donor sperm. There are 3 options for conceiving by donor insemination: fresh sperm from a known donor, frozen sperm from a known donor, and frozen sperm from an unknown donor. It should be noted that fresh sperm is associated with higher success rates. It may take several cycles for the woman or couple to conceive, so multiple vials of sperm will need to be purchased. They also
should consider whether they want to have children in the future and the ability to use the same donor. Some clinics offer sperm storage for future use, so people may buy a number of vials of sperm to be kept frozen and stored at the clinic for a yearly storage fee. The conception rates of donor-inseminated cycles vary, ranging anywhere from 9% to 30% per cycle, depending on factors such as maternal age, sperm motility, and use of ovulation-induction agents.\(^9\)

Sperm must be prepared specifically for IUI insemination.\(^4,5,6\) Because IUI-prepared sperm live in the uterus for only 6 to 10 hours, insertion must be close to the time of ovulation.\(^5,6\) It may be inserted from the last day of fertile mucus to the 6 hours following the transition to creamy mucus or 18 to 36 hours after the first positive LH surge.\(^5,6\)

**SUMMARY**

Most providers find it difficult to treat women and couples with infertility due to the amount of suffering they endure in their desire to conceive and bear a child. The emotional overlay that affects patients physically and psychologically must be dealt with when treating fertility complaints. Women often define themselves by their infertility, and because of this, recognizing that infertility treatment involves more than physical treatment is essential for the practitioner. It is an honor to treat women's gynecologic health, and an important aspect of that is treating women's fertility needs. Advanced practice clinicians certainly are able to start the assessment, the initial evaluation, and the treatment plan. Most importantly, due to training in the holistic paradigm, midwives and WHNPs are uniquely qualified to address all aspects of patient care, including patients' psychosocial wellness.

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**CONFLICT OF INTEREST**

The authors have no conflicts of interest to disclose.

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