

Evaluation of the infertile couple

By Kaylen M. Silverberg MD

Infertility affects about 15 percent of the reproductive-age population in the United States, or about 7.3 million couples. As our ability to diagnose and successfully treat infertility has improved so rapidly, more and more infertile couples are presenting to physicians' offices seeking assistance.

Let's review the four basic steps of the infertility evaluation:

- Evaluation of ovulation.
- Evaluation of the male factor.
- Evaluation of the uterus and fallopian tubes.
- Evaluation of the peritoneal cavity (laparoscopy), in certain cases.

Evaluation of ovulation

Irregular ovulation and the lack of ovulation are common, accounting for 30-35 percent of all cases of infertility. Several methods are available for evaluating ovulation. Basal body temperature (BBT) charting is the least expensive but most inconsistent method. It requires the woman to take her temperature every morning upon awakening and is based on the fact that the progesterone production that occurs after ovulation causes the basal temperature to rise by about one degree. A temperature chart that goes up and stays up for about 10-14 days from the middle of the cycle until shortly before the next period starts suggests that ovulation has occurred. Although inexpensive, BBT charting may incorrectly identify the time of ovulation by up to three to four days and also provides only "after the fact" information. Therefore, it cannot be effectively used to optimally time intercourse or other fertility treatment. BBT charting has also been demonstrated to correlate poorly with more accurate tests of ovulation, such as ultrasound or even urine detection kits.

A second method of ovulation detection involves measurement of the surge of luteinizing hormone (LH), which actually causes the egg to be released from the ovary. Although LH is made throughout the menstrual cycle, its secretion increases markedly 36-40 hours before ovulation. This increase can be detected in the urine using a variety of over-the-counter kits. As ovulation usually occurs within 24-36 hours after detection of the LH surge in the urine, these kits can be used to effectively time intercourse or other treatments.

Detection of an increase in serum progesterone during the second half of the menstrual cycle offers a third method of ovulation evaluation. During the first half of the menstrual cycle, progesterone production is minimal. The LH surge causes the blood progesterone level to gradually rise, and it peaks about seven days after ovulation. Therefore, a blood sample obtained around that time can effectively document ovulation. Unfortunately, however, a progesterone level also only provides "after the fact" information.

The fourth and most informative method of ovulation evaluation involves the use of ultrasound monitoring. Transvaginal ultrasound allows your physician to monitor the growth and subsequent release of the egg. When used together with an LH detection kit, it provides confirmation of ovulation, as well as a way to effectively time intercourse or other treatment.

Evaluation of male

About 30-40 percent of infertility is due to abnormal sperm production or function. The test most commonly performed to evaluate male fertility is the semen analysis. The definition of a normal semen analysis was changed by the World Health Organization in 2006 to the following:

- A sperm concentration of at least 20

million sperm/cc of semen.

- At least 50 percent of the sperm should be "motile" or actively swimming.
- At least 30 percent should have a normal shape.

As sperm production can fluctuate significantly from day to day, one abnormal semen analysis requires a second examination before the diagnosis of male factor infertility can be made with certainty.

Evaluation of uterus and fallopian tubes

Fallopian tubes can become damaged as a result of previous pelvic infection, endometriosis or previous abdominal or pelvic surgery. The primary test of tubal patency is the hysterosalpingogram (HSG). This test represents a cornerstone of the infertility evaluation and involves the injection of dye through the cervix, into the uterus, and then into the fallopian tubes. The procedure is monitored with low dose X-ray and occasionally causes mild cramping. The HSG is an effective method of diagnosing blockage anywhere along the fallopian tube as well as uterine structural abnormalities, such as endometrial polyps or fibroids.

Evaluation of peritoneal cavity

The final step in the basic infertility evaluation is laparoscopy — a procedure that involves the passage of a small telescope through the belly button into the abdomen to rule out anatomic abnormalities, such as endometriosis or scar tissue, which could adversely affect fertility. Endometriosis, which is defined as the presence of uterine lining cells outside of the uterus, has been reported to occur in 25-65 percent of women with infertility. Symptoms of endometriosis may include signifi-

cant cramping with menstrual periods, pelvic pain, and/or pain with intercourse. Unfortunately, however, these symptoms do not correlate well with severity of the disease, and frequently women with significant endometriosis do not have symptoms at all — other than infertility. Endometriosis can adversely affect fertility in several different ways, and is usually easy to treat.

In addition to endometriosis, pelvic adhesions, or scar tissue, may also significantly reduce fertility. Usually resulting from a previous infection or surgical procedure, adhesions can distort the anatomic relationship between the ovary and the fallopian tube, impairing or preventing pickup of the egg. Laparoscopy affords an opportunity to both evaluate and treat any abnormalities that are encountered during this simple outpatient procedure. Based on data from our practice, we no longer consider laparoscopy to be an essential part of the fertility evaluation. Rather, we recommend it only when there is a history of a previous pelvic infection or previous pelvic surgery, an abnormality seen on ultrasound, or when the patient complains of increasingly severe pain with periods or pain with intercourse.

Unlike most medical conditions, infertility is curable. Data from large studies suggest that 80-88 percent of infertile couples who seek care from a reproductive endocrinologist and follow the treatment plan successfully conceive. The basic infertility evaluation is easy to perform and usually identifies the specific cause(s) of infertility. Successful, cost-effective treatments can then be employed to allow us to accomplish our goal of turning couples into families.

■ Kaylen M. Silverberg, MD, Texas Fertility Center, 6500 N. MoPac Blvd., Suite 1200, Austin, 78731. Telephone: 451-4694; Web site: www.txfertility.com.

Take home a health club

Do you want to be fit and healthy? What's your excuse?

- "I don't have time to work out at a club."
- "Clubs are crowded and expensive."
- "I don't look good in workout clothes."

Perhaps you could work out at home at your pace and on your schedule? Just 30 minutes every other day on a Schwinn exercycle and two sessions of lightweight lifting will give you a complete fitness program.

University Cyclery has AirDynes, IC bikes, Bowflex and Re-

cumbents, all with three-year electronic and 30-year frame warranties, and a knowledgeable staff to help you make your selection.

The shop will service your Schwinn equipment, if needed, and you'll be fit and healthy and proud to show off the new you.

A prescription from your physician for an exercycle will make your purchase tax-free.

University Cyclery is located at 2901 N. Lamar Blvd. Telephone: 474-6696.



New Patients Welcome • Adults and Children

Cedar Fever, Hay Fever, Asthma & Sting Allergies

Allen K. Lieberman, MD

Board Certified in Pediatrics and Allergy & Immunology

William C. Howland III, MD

Board Certified in Internal Medicine and Allergy & Immunology

Main Office • 10801 N. Mopac Bldg 2, Ste 150

South Office • Injections Only

345-7635

www.nosneezes.com

**Allergy
& Asthma
Center of Austin**