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INFERTILITY

Many couples who want to have a child are not able to do so. About 15% of couples in the United States are infertile. Couples may be infertile if they have not been able to conceive after 12 months of having sex without the use of birth control. If you and your partner are trying to have a child and can't, you may want to have an infertility evaluation. Tests can be done to find the cause of the problem. Based on the results of these tests, treatment may be needed.

Conception - For healthy, young couples, the odds are about 20% that a woman will conceive (become pregnant) during any one menstrual cycle. This figure starts to decline in a woman's late 20s and early 30s and decreases even more after age 35. A man's fertility also declines with age, but not as early. Ovulation is the release of an egg from one of the ovaries. In an average 28-day menstrual cycle, ovulation occurs about 14 days after the first day of your last period. Once an egg is released, it is able to be fertilized for about 12–24 hours. Conception can occur if you have sex during or near the time of ovulation.

Testing - Infertility may be caused by more than one factor. Some causes are easily found and treated, while others are not. In some cases, no cause can be found in either partner. The decision to begin testing depends on a number of factors. These include the age of the couple and how long the couple has been trying to get pregnant. The basic workup of an infertility evaluation can be finished within a few menstrual cycles in most cases. The workup includes:

- Physical exam
- Medical history
- Semen analysis
- Check for ovulation
- Tests to check for a normal uterus and open fallopian tubes
- Discussion about how often and when you have sex

Basic Workup for the Man - A semen analysis is a key part of the basic workup. It may need to be done more than once. The sample is obtained by masturbation. It can be obtained at home and brought to the hospital laboratory. The semen sample is studied in a lab for: number, shape, movement, signs of infection. Depending on the results the man may be referred to an urologist (a doctor with special skill in treating problems of the urinary tract). The urologist will perform an exam, and tests may be done.

Basic Workup for the Woman - The workup begins with a physical exam, including pap test, blood tests and health history. The health history will focus on key points:

- Menstrual function, such as irregular bleeding and pain
- Pregnancy history
- Sexually transmitted disease (STD) history
- Birth control

Tests: There are many ways to see if ovulation occurs. Some tests are done by the woman, and others are done by the doctor.

- *Urine Test*. A way to predict ovulation is by using a urine test kit at home. This test measures luteinizing hormone (LH), a hormone that causes ovulation to occur. If the test is positive, it means ovulation is about to occur.
- *Basal Body Temperature*. After a woman ovulates, there is a small increase in body temperature. To measure basal body temperature, a woman takes her temperature by mouth every morning before she gets out of bed and records it on a chart. This record should be kept for 2–3 menstrual cycles to see if ovulation occurs. The urine test noted above is usually preferable.
- *Blood Test*. After a woman ovulates, the ovaries produce the hormone progesterone. A blood test taken in the second half of the menstrual cycle can measure progesterone to show if ovulation has occurred.
- *Endometrial Biopsy*. The lining of the uterus (endometrium) changes at ovulation. Sometimes a biopsy (a sample of the tissue) is done in this area to find out whether and when ovulation has occurred. A small plastic tube is inserted into the vagina and through the cervix. A sample of the lining is taken to check for ovulation and tissue response. This sample is studied in a lab.

Procedures: Other tests may be done to look at a woman's reproductive organs. These tests check if the uterus is normal and tubes are open. The tests you have depend on your factors and symptoms. You may be given pain relief for some of these procedures:

- *Hysterosalpingography (HSG)*. This test is an X-ray that shows the inside of the uterus and fallopian tubes. In most cases, it is done right after the menstrual period. A small amount of dye is placed in the uterus through a thin tube inserted through the cervix. Then, an X-ray is taken. The fluid outlines the inside of the uterus and shows (by a spill of the fluid out of the tubes) whether they are open.
- *Transvaginal Ultrasound*. Ultrasound uses sound waves to produce images of pelvic organs. The device is inserted into the vagina. This checks the ovaries and uterus.
- *Hysteroscopy*. A thin telescope-like device, called a hysteroscope, is placed through the cervix. The inside of the uterus is filled with liquid to provide more information. With the hysteroscope, the doctor can see the inside of the uterus. During this procedure, the doctor can correct minor problems, get a sample of tissue for study, or decide whether another procedure is needed.
- *Laparoscopy*. A small telescope-like device, called a laparoscope, is inserted through a small cut at the lower edge of the navel. The tubes, ovaries, and uterus are then checked. The doctor can look for pelvic problems, such as endometriosis or scar tissue. Fluid is placed into the uterus to see if the fluid spills from the ends of the tubes. This shows if the tubes are open or blocked.

Treatment - If the problem is linked to lifestyle, there are things you can do to help. For instance, you may need to change when and how much you have sex. You may need to lose or gain weight or stop smoking. You may need to avoid being exposed to certain chemicals or substances. Medical treatment may be needed to help you become pregnant. If so, you should be aware of what is involved. Some treatments require a great deal of expense and effort from both partners. You may want to check your health insurance to see if you are covered.

Ovulation Induction - If the woman does not ovulate, she may be given certain medications to cause (induce) ovulation to occur. She also can be given medication to increase (stimulate) the number of eggs released. The medication used most often is clomiphene citrate. It is a pill given by mouth to cause an egg to be released in women who have problems with ovulation. A number of treatment cycles may be needed, and dosage and medication may need to be altered.

If pregnancy does not occur after several treatment cycles of clomiphene citrate, medication may be given by injection. This medication is called human menopausal gonadotropin (hMG). It stimulates the ovaries to mature and produce eggs. Blood tests and ultrasound often are used to monitor hMG treatment.

Most women who take ovulation-induction drugs respond to the treatment and begin to ovulate regularly. If no other problems need treatment, more than half become pregnant within 6 cycles. If a woman still hasn't started ovulating, she may have special tests done to find out why.

Surgery - Surgery may be done to open tubes or repair other problems of the reproductive organs. It may be done to remove growths such as polyps or fibroids. Surgery also may be done to remove scarring that occurred as a result of a previous surgery, infection, or endometriosis. If endometriosis is found, surgery may be done to treat it. Success rates depend on the nature and extent of the problem.

Assisted Reproductive Technologies - Assisted reproductive technology (ART) includes treatments that involve a lab treating and using human eggs and sperm or embryos to help an infertile couple conceive a child. Following are some of the ART treatments available to couples trying to conceive:

Insemination. This is placing sperm in a woman's vagina or uterus using a small syringe and catheter, around the time of ovulation. In most cases, the sperm are treated and ‘washed’ to increase the chances for fertilization. The woman's partner or a donor may provide the sperm for insemination. It depends on the nature of the problem.

In Vitro Fertilization. With in vitro fertilization (IVF), eggs from the woman and sperm from a man are fertilized outside the body in a lab. The fertilized egg then is placed in the woman's uterus to grow. For IVF, the eggs are removed from the ovary just before ovulation. Medication most often is used to cause more than one egg to mature. Eggs may be removed by laparoscopy or by inserting a needle into the ovary with ultrasound guidance. The eggs then are combined with sperm and watched to see if fertilization occurs. A few days later, one or more fertilized eggs (embryos) are placed in the woman's uterus through her vagina. This is called embryo transfer. The unused fertilized eggs can be frozen and stored for later use. **Gamete Intrafallopian Transfer**. Gamete intrafallopian transfer (GIFT) is an option similar to IVF. During laparoscopy, a mix of eggs and sperm is injected into the fallopian tube, where fertilization may result. **Intracytoplasmic Sperm Injection**. With intracytoplasmic sperm injection (ICSI), one sperm is placed directly into an egg to fertilize it and then placed in the woman's uterus to grow.

Other Choices - You and your partner should give careful thought to all your options. You may want to think about other choices, such as adoption or child-free living. Discuss your feelings with your partner. Sometimes counseling can help to sort out these feelings. Support groups with other infertile couples also may help.

Don’t hesitate to ask any questions.