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EVALUATION AND TREATMENT OF MALE INFERTILITY

Infertility is currently a problem for one out of five couples presently trying to have children. If after a year of trying to conceive a couple is not successful, a basic infertility evaluation may be started. However, if the female partner in the couple is over thirty or has a significant past medical history of irregular periods or previous pelvic infections, the infertility evaluation and tests can be started earlier.

Any couple embarking on an infertility work-up does so with some fear and reluctance. Some of the common concerns are: What is ahead? How painful is it? How expensive is it? And, What will the doctor find out? The whole world of doctors offices, x-ray departments and hospitals is stressful for many people. It often helps to know what is ahead, to be informed and aware of how it will feel and what the doctor is hoping to find.

The infertility work-up itself follows a fairly specific sequence. A complete work-up or evaluation of the woman usually takes three or four cycles to complete. This is because certain tests have to be done at specific times in the menstrual cycle. The cost of a complete work-up can be as high as \$3,000 if a laparoscopy is indicated. Insurance coverage varies. Some insurance plans do cover various tests relating to infertility; others do not.

The nature of the infertility work-up necessitates that it become a priority in your daily life. Suddenly, there are specific days that you must have intercourse. In certain tests you even have to report to the doctor's office a specific number of hours after intercourse. As a result, spontaneous lovemaking becomes difficult. Vacations and business trips become low priority. Schedules have to be made to fit the demands of the testing cycle. Many women find it hard to take time off from work, especially if they don't want it known that they are undergoing an infertility evaluation. It is a stressful time. Both husband and wife are being tested and scored. There is a feeling of "pass or fail" and a real sense of despair if a test comes back showing questionable or negative results. Women often feel frightened and violated by the infertility tests. Men often feel helpless. For the husband, testing is over if the semen analysis is normal. In contrast, he may see his wife having to go through various tests which can be painful and frightening. This understandably can upset both members of the couple. Added to this worry and uncertainty is the lingering fear of what the doctor will find. What if they indeed find an answer, but a discouraging one? Suffice it to say that deciding to start an infertility workup is a big decision.

The following is an overview of the tests involved. You may want to use it to understand what may be required medically or as a tool to double-check that you have had all the tests.

Initial Appointment

Some infertility specialists like to see the couple together for the first appointment. This provides a opportunity for the couple to establish good communication with the doctor. It also is an opportunity to evaluate what, if anything, has been done and what will be needed in the future. The doctor will be able to explain tests to the couple and will give them a time frame in which he or she hopes to complete the evaluation.

The doctor will take a very careful medical history from the male. He or she will also want to know about the medical history of the immediate family. Attention will be paid to details concerning previous surgery, infections, chronic illnesses, and hospitalizations. Background information on smoking, alcohol intakes and medications and exposure to environmental or occupational toxins will be requested. Of course, a reproductive history from both partners will be needed. Details about the types of birth control practiced will be obtained. In addition, any history of previous pregnancies should be discussed. Information about frequency and nature sexual intercourse and previous venereal disease is crucial in the evaluation.

Physical Examination

A physical examination of the male is usually done on the first visit... The physical exam will include an examination of the genital organs, with the doctor noting size, position and condition of the penis and testes. A rectal exam is done to determine the size and consistency of the prostate gland and seminal vesicles. The doctor will also note the development of secondary sex characteristics. Again, routine blood and urine tests will be done.

Medical Evaluation of the Male

A. Semen Analysis - This is the first and most informative test done on the male. An analysis can be done any time because a man is not cyclic as women are. Abstinence from intercourse for 48 hours before the analysis is suggested. Abstinence for a longer period than two days' is not necessary. For the semen analysis, the doctor will ask the man to masturbate a specimen into a sterile container. This can be done at home and kept at body temperature and delivered to the lab for evaluation. Then the laboratory will examine the specimen under a microscope looking for the number of sperm present, how fast the sperm are swimming (motility) and the shape of the sperm (morphology). The doctor will also check the total volume of the specimen and its viscosity (thickness).

A fertile semen specimen should have at least 20 million sperm, with at least 50% of the sperm motile and 50-60% with good morphology. Normal volume is 2-5 cc. A semen analysis should be repeated at least once, because all of these levels fluctuate. It is also a good idea to repeat a semen analysis periodically if the infertility investigation of the couple is lengthy, as these levels can change over a long period of time.

If the semen analysis indicates that there may be an infertility problem, other tests on the semen will be done. The semen will be checked for the presence of fructose, a special kind of sugar produced in the epididymis. If it is absent this may mean there is a blockage in the ductal system but that sperm production may be normal. In addition, the semen may be checked for unusual clumping or agglutination that could indicate an immunologic response, or a so-called sperm antibody condition. Some physicians also order a new test called the "zona free hamster egg test" to check that the sperm are, in fact, able to penetrate the outer layer of the hamster egg which is very similar in structure to a human egg.

1. Several additional tests may be done on the male if the semen analysis is not normal.
2. Evaluation for a varicocele is done by palpating the scrotum while the man is

bearing down or coughing. The link between the presence of a varicocele and infertility is not clearly understood. The most common theory is that the presence of a varicocele causes poor circulation which ultimately inhibits normal sperm production.

3. In the event of a subfertile semen analysis, a small biopsy of both testicles may be done. This procedure is done in a hospital under local or general anesthesia. The testicular tissue is examined in the laboratory. This test can tell the doctor if there is an absolute infertile state with no sperm-producing tissue present, or blockage in the vas **deferens** indicated by the presence of normal-testicular tissue yet little or no sperm in the ejaculate.
4. Finally, if a blockage in the vas **deferens** is suspected during a testicular biopsy, a **vasography** can be done to pinpoint the area of the blockage. This is an x-ray study in which dye is injected into the vas **deferens** and a series of x-rays are taken.

Once an infertility work-up is underway it is important that the couple get the results of each test as they are done. Couples should ask their doctors for explanations if need be. It is your body and you have a right to know what is being discovered. Sometimes it is wise to make a consultation appointment with your doctor if you feel confused or upset about the tests end results. This is especially important if the work-up has been going on for a long time or if there is a male factor problem as well as a female one, which is being treated by another doctor. It is easy to feel helpless and powerless during an infertility work-up. Good communication with your doctor can help alleviate some of these feelings.