



MALE INFERTILITY: MALE FACTOR

Infertility is a problem for 1 out of 5 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 age 30 or has a significant past medical history of irregular periods or previous pelvic infections, the infertility evaluation and tests may be started earlier.

Any couple embarking on an infertility workup 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 helps to know what is ahead, to be informed and aware of how it will feel, and to understand what the doctor is hoping to find.

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

The nature of the infertility workup 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 may become 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 do not 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 largely over if the semen analysis is normal since there is little additional testing usable beyond semen analysis. In contrast, he may see his wife having to go through various tests that 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 an 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, 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 of sexual intercourse and previous venereal disease is crucial in the evaluation.

PHYSICAL EXAMINATION

A physical examination of the male is usually accomplished 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 may be performed.

MEDICAL EVALUATION OF THE MALE

A. Semen Analysis - This is the first and most informative test performed on the male. An analysis can be performed anytime because a man is not cyclic as women are. Abstinence from intercourse for 24 to 48 hours before the analysis is suggested. Abstinence for a longer period than 2 days is not necessary. For the semen analysis, the doctor will ask the man to masturbate a specimen into a clean container. This can be done at home and kept at body temperature and delivered to the lab for evaluation if it can be delivered within 60 minutes of collection. The laboratory then 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 also will 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% to 60% with good morphology. Normal volume is 2 to 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 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 a problem, other tests on the semen will be undertaken. 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.

Several additional tests may be performed on the male if the semen analysis is not normal. Evaluation for a varicocele is accomplished 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 (varicose veins of the testicle) causes poor circulation that ultimately inhibits normal sperm production.

In the event of a subfertile semen analysis, a small biopsy of one or both testicles may be suggested. This procedure is performed 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 (the tube that conducts sperm from the testicle to the penis) indicated by the presence of normal testicular tissue yet little or no sperm in the ejaculate.

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 to determine if a blockage exists and, if it does, where the blockage may be.

Once an infertility workup is underway it is important that the couple get the results of each test as they are done. Couples should ask their doctor(s) for explanations of all test results. 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 and results. This is especially important if the workup has been going on for a long time or if there is a male factor problem as well as a female one that is being treated by two different doctors. It is easy to feel helpless and powerless during an infertility workup. Good communication with your doctor(s) can help alleviate some of these feelings.

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