

**THE ROLE OF THE OB/GYN IN THE WORKUP AND TREATMENT OF INFERTILITY**



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The OB/GYN has the primary role in the initial workup of infertile couples as the first physician usually consulted about family planning. The OB/GYN usually begins the workup and is often involved in medical or surgical treatments. The OB/GYN also refers the patient to a reproductive endocrinologist for advanced and specialized treatments. ***The purpose of this article is to provide the OB/GYN with a few tips, which can be helpful in the initial workup, and counseling of infertile couples.***

Infertility is usually defined as the failure to conceive after twelve months of unprotected intercourse. In most situations, there is no reason to begin the workup before one year, with a few notable exceptions. ***Among these exceptions are relatively advanced maternal age > 37, history of amenorrhea or irregular menstrual cycles, history of previous abdominal surgery, such as an appendectomy, presence of signs and symptoms suggestive of endometriosis, and suspicion of male factor.***

The infertility workup consists of several basic clinical evaluations.

1. **Semen analysis:** The semen analysis should be the first test performed under all circumstances because "Male Factor Infertility" accounts for at least 40% of all infertility causes. This test is available at most commercial laboratories and is relatively inexpensive. The OB/GYN can also send the patient to one of the IVF centers, which is preferable because of their greater experience in diagnosing subtle semen abnormalities.

Most IVF centers use strict morphology criteria and the OB/GYN should not be alarmed by low reported percentages for normal morphology. (Good prognosis: Normal morphology  $\geq$  8% by strict criteria and  $\geq$  35% by WHO criteria.) A semen analysis that reveals borderline parameters (concentration, motility and morphology) should be repeated after at least three weeks as many factors can interfere with concentration and motility.

Patients with azospermia (no sperm), oligospermia (low sperm concentration) and asthenospermia (low motility) should be referred to a reproductive endocrinologist for evaluation and treatment.

2. **Basal Body Temperature Chart:** This test is still a convenient and inexpensive method to document ovulation. The health care provider should carefully counsel the patient on how to take and monitor her temperature with a basal body thermometer. Patients who find it difficult to keep a temperature chart can utilize one of the commercially available ovulation predictor tests; however, this is more expensive and unnecessary in most patients.



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- 3. Hysterosalpingogram (HSG):** The HSG checks for tubal patency and uterine anomalies and should be performed after menses, but before ovulation (ideally, on days 5 – 10 of a 28-day menstrual cycle). Routine antibiotic prophylaxis is not necessary, but should be given to patients with suspected previous pelvic inflammatory disease.

Patients with a documented hydrosalpinx by HSG should be placed on antibiotics for 7 – 10 days after the procedure and care should be taken not to inject an excessive amount of dye as this can cause severe pelvic infection.

The presence of uterine anomalies, such as a uterine septum or suspicion of an endometrial polyp, does not necessarily mean that the patient needs to have corrective surgery and a reproductive endocrinologist should be consulted. In young patients  $\leq 33$  years of age, the HSG can be therapeutic as pregnancies are not uncommon within 2 – 3 months after the procedure in patients with patent tubes and in the absence of other significant factors.

- 4. Post Coital Test (PCT):** This test should be performed in the preovulatory period (days 12 –14 of a 28-day cycle) and patients can use an ovulation predictor test for optimal timing. Patients should be instructed to have intercourse within 12 –24 hours of the office visit (the night before or the morning of) and the mucus can be easily collected with a tuberculin syringe (without the needle).

The presence of active motile sperm (the exact number is unimportant) is usually reassuring. The OB/GYN and the patient should not be alarmed if the test is abnormal as this is a very nonspecific test and correlation with future fertility is poor. Improper timing (too early or too late) is the most common cause for an abnormal PCT.

- 5. Endometrial Biopsy:** The endometrial biopsy checks for a luteal phase defect, an uncommon cause of infertility, but a common cause for recurrent miscarriages. It should be performed 1 – 3 days before expected menstruation. The biopsy should be performed and interpreted by an experienced physician (pathologist and/or reproductive endocrinologist) who is accustomed to interpreting the test results. A single progesterone assay in the luteal phase is not an adequate test to diagnose a luteal phase defect.

- 6. Diagnostic Laparoscopy:** The laparoscopy is usually performed to check for pelvic adhesions and / or endometriosis and often times treatment is possible during the procedure. It is important for the patient, and the OB/GYN, to be aware that the presence of patent tubes by HSG does not rule out pelvic pathology.

The laparoscopy is usually the last part of the evaluation and should be performed by a reproductive endocrinologist or an OB/GYN with adequate experience in laparoscopic surgery so that existing pathology, such as pelvic adhesions, tubal blockage or pelvic and ovarian endometriosis can be treated during the diagnostic procedure. There are other important tests that the OB/GYN should consider in some patients. They include:



## *“Early Referral of Infertile Couples to a Specialist Results in Improved Outcomes and More Cost Effective Therapy”*

- 1. Tests for ovarian reserve:** Ovarian reserve can usually be assessed by measurement of cycle day 3 hormonal levels of FSH, LH and Estradiol. It is important to remember to order all three hormonal levels as poor ovarian reserve can be diagnosed by any of the following:
  - High FSH (usually greater than 9 mIU/ml.)
  - High FSH / LH ratio ( $\geq 2.5$ ) even in the presence of a normal FSH.
  - High E2 level ( $> 60$  pg/ml).A clomiphene challenge test can also be performed, but is usually better done and interpreted by the reproductive endocrinologist.
- 2. Vaginal Ultrasonography:** A vaginal ultrasound can detect many abnormalities, which cannot be detected by a routine pelvic examination. These include the presence of uterine fibroids, endometrial polyps, hydrosalpinx, paratubal cysts, and ovarian endometriomas. The ultrasound examination should be performed by a reproductive endocrinologist or OB/GYN with extensive experience in interpreting vaginal ultrasonography.
- 3. Sono-hysterography:** This test can also be done by a radiologist or reproductive endocrinologist to evaluate the endometrial cavity. We perform this procedure at our Fairfax office.

### ***When should the patient be referred to a reproductive endocrinologist for advanced treatments such as gonadotropin stimulation and / or IVF?***

The OB/GYN should refer the patient to a reproductive endocrinologist for the following conditions:

- 1. Male Factor Infertility.**
- 2. Clomiphene citrate ovulation or conception failure. (Failure to ovulate with 150 mg/day for 5 days or failure to conceive after 6 ovulatory cycles)**
- 3. Patients Requiring Gonadotropin Stimulation and Intrauterine Insemination.**
- 4. Female Age > 33 Years as Fertility Can Decline Rapidly.**
- 5. Patients with Poor Ovarian Reserve, Regardless of Age.**
- 6. Moderate or Severe Endometriosis.**
- 7. Significant Tubal Factor such as Cornual Blockage, Hydrosalpinx, or Severe Pelvic Adhesions.**
- 8. Laparoscopic Surgery (in case the OB/GYN is not comfortable with laparoscopic techniques) and Surgery for Uterine Anomalies.**
- 9. Candidates for Egg or Sperm Donation.**
- 10. Recurrent Miscarriage Patients.**



## Jones Institute Northern Virginia/DC Center's Success Rates

We believe in providing couples the technology most likely to result in pregnancy while considering other factors such as cost and personal circumstances. Most of our patients do not require in vitro fertilization and become pregnant on less technical therapies such as intrauterine insemination or medical/surgical intervention. As a Eastern Virginia Medical School facility, we only offer treatments approved by our institutional review board that are thoroughly documented as safe, effective, and ethical.

In some cases, such as male factor infertility, IVF is the only viable option available that will result in a child genetically related to both parents. Our approach to all couples is highly individualized and based upon the specific diagnosis and likely outcome.

Our Fairfax program success rates are illustrated in the graph below. These rates are impressive, especially since we do not pre-screen patients with the clomiphene citrate challenge test. We also treated many patients in older age groups.

We report our success rates to the Center for Disease Control and the Society for Assisted Reproductive Technology (SART) for audit and approval. New reporting guidelines require much more detailed reporting of cycle success rates and the results for all United States programs can be viewed at the CDC Web site.



Success Rates Graph Goes Here

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The Jones Institute Northern Virginia/DC Center in Fairfax offers the full spectrum of treatments for infertility patients. I am available to consult with you on your challenging infertility cases and feel that the best patient care is delivered when the specialist and OB/GYN work closely as a team.

We offer infertility diagnostic and treatment services in a caring and compassionate environment and believe that personalized care is critical to optimal patient care.

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