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*Obstetrics • Gynecology • Medical Aesthetics
Fertility • Menopause • Urinary Incontinence
Advanced & Minimally Invasive Female Surgery*

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Infertility Patient Workup Information

The incidence of couples seeking treatment for infertility is increasing and our practice has a passionate commitment to helping our patients achieve fertility. Infertility is medically defined as not achieving a pregnancy after 12 months of unprotected intercourse. Studies have shown that after six months of unprotected intercourse pregnancy rates are significantly decreased. In a study of over 5,000 American couples, 50% conceived in 3 months, 72% in 6 months and 85% in 12 months. The time to initiate the evaluation for infertility depends on the couple's history, the age of the female partner, to a much lesser extent the male partner's age and individual preferences. Our practice recommends initiating a workup for all women over 35, who have not become pregnant after six months; and possibly sooner for women over 40. Women with a known history of gynecological problems, like endometriosis, previous surgery and amenorrhea should seek treatment sooner. Please understand that individual insurance plans will have different criteria and coverage for the workup and treatment of infertility; despite our recommendations.

A history of male factors that may affect fertility or an abnormal semen analysis would warrant a referral to the Urologist. A couple under 30 years of age should start their focus on fertility with timed intercourse and conservative measures for 12 months before seeking a fertility evaluation. Men with no sperm also called azoospermia need to be referred to the Urologist for a karyotype and examination as well as for fertility reasons. Each laboratory will use different cutoffs for what is considered a normal semen analysis. The World Health Organization cutoff for sperm concentration is the simplest with a minimum of 20 million sperm/ML and 50% motility. Each laboratory has a protocol for general, strict criteria or 24 hour semen analysis. Sub-fertile males can be identified with sperm counts under 40 million/ML, motility under 60% that does not persist over time with adequate direction, speed and normal sperm head and tail morphology.

An initial evaluation will include an extensive history and physical examination. Details will be needed regarding previous pregnancies, medical and surgical conditions, a sexual history, and lifestyle information. Particular attention will be noted regarding the patient's body mass index, thyroid exam, evidence of excess testosterone, screening for tumors and cysts in the pelvis as well as cervical abnormalities or changes in mobility of the pelvic organs. The initial evaluation includes a semen analysis of the male partner. Blood tests to evaluate the baseline ovarian reserve with an FSH (normal <15, range 5-25mIU/ML) and estradiol level (normal <50-75) on day #3 will be ordered or a Clomid challenge test is recommended for women over 35-37. Women with predictable cyclic menses most often have regular ovulation with normal hormone concentrations when tested for FSH, LH, prolactin and testosterone. Ovulation is triggered by an LH surge. The LH surges approximately 38 hours before the egg is released. Patients can detect this LH surge with over-the-counter urinary test kits which are colorimetric assays which turn blue or pink color approximately 24 hours before ovulation. Ovulation can be assumed to occur

on the day after the surge and menses should be expected to occur 14 days +/- 2 days after ovulation. These urinary test kits are approximately 80% helpful and may miss the surge. A progesterone level will be ordered in the mid luteal phase which is approximately 7 to 9 days after ovulation or 7 days before your next menstrual cycle is expected. Definitive ovulation can be confirmed by an elevated serum progesterone level above 10. Draw a progesterone level on day number 18 to 24 days after the onset of menses; we prefer to have the progesterone level drawn on day 21 +/- a day. Normal progesterone concentrations after ovulation in the mid luteal phase range between 6 to 25 ng/ml. A single low progesterone level is not definitive of luteal phase defect as the cause of infertility; since LH is released in pulses to elevate the progesterone level.

The endometrial lining must also have a healthy physiologic response to appropriate hormone stimulation to be receptive to implantation. The uterine lining can be evaluated by ultrasound, sonohysterogram, or hysteroscopy. The visual, imaging or tissue evaluation of the uterine lining is performed as clinically indicated and not routinely performed for an infertility evaluation. We do not rely on basal body temperature charts since they are only 25% accurate and we stopped performing post coital tests in early 90s. The data does not support routine cultures for mycoplasma and ureaplasma or antibody testing for infertility; though many IVF labs wish to have the test performed.

A hysterosalpingogram (HSG) will be ordered to assess patency of the fallopian tubes and provides the added benefit to fertility from the effects of tubal flushing. Please refer to the patient information sheet on HSG. Pelvic adhesions from endometriosis, pelvic inflammatory disease, appendicitis or previous surgery may cause tubal infertility by interfering with egg pickup by the fallopian tubes.

A prolactin (hormone produced in the pituitary gland) level will need to be drawn to rule out hyperprolactinemia; when you have been fasting for 8 hours, are relatively unstressed and have not had any breast examination or stimulation 8 hours before. A TSH can be drawn any time to screen for thyroid disease and additional testing may include a PCOS panel, a Clomid challenge test, chlamydia titer and ultrasound for antral follicle counts or anatomical changes.

Laparoscopy may be indicated to surgically evaluate the female pelvis for adhesions based on a patient's medical history, symptoms of dysmenorrhea, pelvic pain or the hysterosalpingogram result. Studies have shown a significantly higher proportion of infertile women (38%) have endometriosis than fertile women (5%); when examined by laparoscopy. Approximately one third of women with endometriosis have no signs or symptoms of the disease and 85% of early-stage endometriosis patients will have no abnormalities detected on the hysterosalpingogram. The use of laparoscopy to treat infertility in the absence of symptoms is controversial since laparoscopy has only been proven to enhance fertility in women with advanced endometriosis.

We quite often see patients for consultation who we determine to have other gynecological problems that need to be addressed. Before we proceed with any fertility workup or treatment of infertility, all gynecological evaluation and treatments need to be completed. Uterine fibroids are the most common pelvic tumor in women. Fibroids that are located in the uterine cavity, submucosal or distorting the cavity are associated with lower pregnancies and implantation rates.

Congenital anomalies of the uterus with a septum have the poorest reproductive outcomes and recurrent pregnancy losses. Endometriosis is the growth of endometrial lining tissue outside the uterine cavity. This damages the ovarian tissue, produces distortion from pelvic adhesions, and releases hormones and chemicals which impair normal fertility. Congenital malformations and previous surgery to the cervix may result in scarring that affects the ability of the cervix to produce normal mucus. Cervical infection and antibodies in the cervical mucus can also impair normal sperm migration or viability. Inherited or acquired hypercoagulable states of the immune system lead to immunologic rejection of early pregnancies and recurrent miscarriage. Less than 5% of infertile couples have been shown to have karyotype abnormalities causing infertility. Unexplained infertility is a diagnosis given to couples after a complete evaluation does not reveal the cause.

Patients also need to review the preconception/family-planning patient education handout to identify risk factors before pregnancy. Patients with a BMI greater than 27 need to lose weight. Losing just 5 to 10% of body weight will restore ovulation in over 50% of women with polycystic ovarian syndrome. Women with a low BMI under 17, have eating disorders, strenuous exercise, or psychogenic stress need to gain weight and address any eating disorders. Women who have endometrial polyps should have them removed when undergoing an infertility treatment in absence of abnormal bleeding.

This overview is provided for all patients and may not apply to your condition. Your tests and treatment plan will be individualized as results return. Please use this package of information as a reference and bring us any questions at our next visit.