

What is Cycle Day 3?

What testing should I expect to have done?

A woman's menstrual cycle is measured from the first day of her period (blood flow, not spotting), so Cycle Day 3 is the third day of her period. When a woman is undergoing a fertility work-up, Cycle Day 3 is the day she has blood work performed to check the levels of three important levels: follicle stimulating hormone (FSH), luteinizing hormone (LH) and estradiol (E2).



FSH is secreted by the pituitary gland. It stimulates the production of estradiol (estrogen) and eggs (oocytes) during the first half of the menstrual cycle. The eggs begin to grow in their individual fluid sacs, or follicles, which is the first step in the ovulation process. High levels of FSH are an indication of poor ovarian reserves; in other words, the quality and quantity of eggs is low. This does not necessarily mean that pregnancy is impossible, but it may be more difficult to achieve.

The FSH blood test is used to help diagnose problems with sexual development, menstruation, and fertility. It can be used to diagnose or evaluate polycystic ovary disease, ovarian cysts, irregular vaginal bleeding and infertility.

The LH blood test measures the amount of luteinizing hormone, which is also secreted by the pituitary gland. In women, LH levels rise at mid-cycle; within 24 to 36 hours, ovulation occurs. Higher-than-normal levels of LH indicate several disorders, including ovarian failure and polycystic ovary disease.

Estradiol is the most important form of estrogen. It is primarily made in and released from the ovaries, adrenal cortex and the placenta, and it is responsible for the growth of the breasts, outer genitals, uterus, fallopian tubes and vagina.

These three hormones can all be checked with a simple performed on Cycle Day 3. Normal value ranges for the FSH, LH and E2 tests may vary among different laboratories, so it's important to get an accurate interpretation of the results from your fertility specialist.

Day 21 Testing

On Day 21 of your cycle, your fertility specialist may want to check the levels of progesterone and estradiol (E2) in your system and the thickness of your endometrium (uterine lining).

Day 21 testing checks a woman's progesterone level to confirm that ovulation has occurred. It is done on the 21st day of the menstrual cycle (Day 1 is the first day of flow, not including any spotting). A low Day 21



progesterone level suggests the cycle was anovulatory (no egg was produced). If no egg is produced, pregnancy cannot be achieved.

The timing of ovulation, and the associated peak in progesterone, is related to the subsequent menstrual period, not the preceding one. In an average cycle of 28 days, the time between ovulation and the next period is about two weeks, so progesterone is measured about seven days before the expected period, or on Day 21. However, if a woman's cycle is longer or shorter than 28 days, the testing day will be adjusted accordingly. For example, a woman with a 35-day cycle would be tested for progesterone on Day 28.

Serial estradiol (E2) levels are often measured for monitoring superovulation in [intrauterine insemination \(IUI\)](#) and [in vitro fertilization \(IVF\)](#) treatment cycles.

If you are not ovulating, there are steps that can be taken to help release the eggs, including drugs. Your fertility specialist will discuss these options with you.

An [ultrasound](#) exam is also used to measure your uterine lining to determine if it is thick enough for a fertilized egg to implant.

SHG | Sonohysterogram

SHG is shorthand for sonohysterogram, a saline infusion sonogram (also known as SIS) that is performed in the office. This procedure begins like a [transvaginal ultrasound](#) with the addition of a slow introduction of saline into the uterus. SHG is used to evaluate uterine abnormalities and the endometrium (uterine lining) as well as other disorders.



SHG is a noninvasive procedure that does not involve the radiation and contrast dye used in a [hysterosalpingogram](#) or HSG.

Fertility problems are sometimes caused by polyps, fibroids or adhesions (bands of tissue) inside the uterus. SHG can detect all of these conditions and minimize the need for invasive diagnostic procedures like biopsies and dilation and curettage (D&C). Patients with active pelvic inflammatory disease (PID) should not undergo SHG.

The SHG is performed in the days following the end of menstruation and before ovulation occurs, which allows for optimum viewing of the uterine walls. Due to cramping associated with SHG, patients are told to take ibuprofen just before the procedure. Patients should receive specific instructions for their physician's office. The SHG is performed at the clinic and is usually completed in about 15 minutes.

The saline highlights any irregularities in the uterus, including fibroids, polyps, scar tissue and other abnormalities, giving the physician a better idea of their size. This information is then used to develop a course of treatment for the patient.

HSG is a low-risk procedure that may cause mild spotting and cramping that usually responds well to ibuprofen. Patients are advised to report any post-procedure abnormal bleeding, abdominal pain or fever to their doctor.

HSG | Hysterosalpingogram

Hysterosalpingography, or HSG for short, is an X-ray procedure used to evaluate the status of a woman's fallopian tubes, the two structures that carry eggs from the ovaries to the uterus. It is also used to make sure that the uterine cavity has a normal shape and size and to identify uterine malformations, adhesions, polyps or fibroids. These types of problems may cause painful menstrual periods or repeated miscarriages.



The HSG procedure, which lasts five to ten minutes, is performed at the clinic. It is scheduled during Days 5 to 9 of a woman's menstrual cycle (Day 1 is the first day of bleeding), in the window of time between the end of the period and ovulation. Because some menstrual-like cramping is to be expected from an HSG, patients are advised to take 400-800 mg of ibuprofen (Motrin, Advil, or Alleve) an hour prior to the test to help relax the uterus.

At the time of your HSG, your cervix will be cleaned and a thin, soft catheter will be threaded through the vagina and into the uterine cavity. Contrast dye will be connected to the catheter. Using a machine placed over your abdomen, a radiologist will inject a dye into your uterine cavity and through your fallopian tubes.

The HSG is a very accurate test to document tubal patency. Occasionally the dye used during the procedure pushes through and opens a blocked tube. In other patients, dye does not spill through the fallopian tubes at all. If your tubes are blocked, or if you have a uterine polyp or fibroid, your RMACT physician will review your hysterosalpingogram findings and future treatment with you.

Basal Antral Follicle Count

The Basal Antral Follicle Count test is a [transvaginal ultrasound](#) study that measures a woman's ovarian reserve, or her remaining egg supply. The ovarian reserve reflects her fertility potential.

Unlike men, who produce sperm on an ongoing basis, females are born with a lifetime supply of eggs in their ovaries. When a girl reaches puberty, her eggs are released on a monthly basis; by the time a woman reaches menopause, her egg supply (and potential fertility) is exhausted.



An antral (resting) follicle is a small, fluid-filled sac that contains an immature egg. The follicles can be seen, measured and counted on Cycle Days 2, 3, and 5 by using ultrasound. The number of antral follicles varies from month to month.

The Basal Antral Follicle Count, along with the woman's age and [Cycle Day 3](#) hormone levels, are used as indicators for estimating ovarian reserve and the woman's chances for pregnancy with in vitro fertilization. In other words, the antral follicles are a good predictor of the number of mature (dominant) follicles in a woman's ovaries that can be stimulated by medications leading up to IVF. The number of eggs retrieved correlates directly with IVF success rates.

When an average to high number of antral follicles (eight or more) are visible on the ultrasound, fertility specialists expect to be able to retrieve a good number of eggs and the pregnancy rates are higher than average. If few antral follicles appear, a poorer response is expected and the IVF cycle could be cancelled to try for better results the following month.

Ovarian Reserve: Anti-Müllerian Hormone (AMH)

Anti-Müllerian hormone (AMH) is a hormone secreted by the small follicles in a woman's ovaries. It has emerged as a new and better way to measure ovarian reserve that is becoming more commonly used. Ovarian reserve is a concept that correlates the number and quality of eggs that are available in the ovaries. Basically, it measures "how much gas is left in the tank?"

There are other ways of measuring ovarian reserve, such as age, cycle day 3 FSH levels, basal antral follicle counts and seeing how well the ovaries respond to fertility medications. These are useful tests that help your physician evaluate and counsel you regarding your treatment options. AMH has emerged as an important tool that has very specific advantages over the other tests: it can be measured at any point of the menstrual cycle (not just on day three of your period, like FSH) and does not require a sonogram (like basal antral follicle count). A woman can also have her AMH tested while still on birth control pills.

While no single test is perfect, nor cannot it predict with 100% accuracy what is going on in your body, AMH has become one of the most reliable and useful tools for your fertility specialist to use to help outline your choices about fertility treatments and potential for success.

CCCT

The Clomiphene Citrate Challenge Test (CCCT) is used to determine if a woman has a good ovarian reserve, or egg supply. This can be crucial to fertility.

The fertility drug clomiphene citrate (Clomid, Milophene, Serophene) is a pill that's taken orally to induce ovulation, the process of egg maturation and the release of more than one egg in every cycle. Multiple eggs increase the chances of fertilization and pregnancy. Your [fertility specialist](#) monitors the effect of this medication on the ovaries using an ultrasound.



Clomiphene citrate is also used to regulate ovulation in a woman prior to intrauterine insemination or artificial insemination and to treat low sperm counts in men.

The CCCT measures a number of different hormones involved in the ovulation process, including FSH (follicle stimulating hormone), LH (luteinizing hormone) and estradiol.

The CCCT is administered over several days. Patients are asked to call the clinic on Day 1 of their period to set up an appointment. On Day 3, they are given a blood test to measure the levels of FSH, LH and estradiol. On Day 5, they begin a 5-day course of clomiphene citrate. On Day 10, they return to the clinic for another FSH/LH/estradiol blood test.

Test results are usually available within a few days. Your fertility specialist will review them with you and your partner.

Genetic Testing

It is estimated that genetics are a contributing factor in up to 10 percent of couples who experience infertility or recurrent pregnancy loss, so it stands to reason that genetic testing has the potential to help many of those couples in their quest to have a family.

Genetic testing examines DNA, which has been called the “chemical database” that carries instructions for the body’s functions and can reveal gene changes that may cause illness or disease, including [infertility](#). Since both men and women can have fertility issues, they can all benefit from genetic testing.



Identifying a genetic cause for your infertility can help you make the right decision on how to proceed by choosing the treatments that are most likely to help.

Additionally, genetic testing is advised before you have children if you or your partner has a family history of a genetic disorder, such as sickle cell anemia, Tay-Sachs disease or cystic fibrosis. Such testing can reveal if either or both of you carry a copy of an altered gene that would put a child at risk of developing the disorder.

A Board-Certified Reproductive Endocrinologist would make suggestions as to what blood tests should be ordered, which in most cases will follow the American College of Obstetrics and Gynecology (ACOG)'s recommendations.