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## Egg count test

There are several tests to detect the number of eggs a woman has at the time she wants to become pregnant. However, screening for fertility-related hormones is a non-invasive test that is performed with a simple blood draw and provides reliable information about a woman's reproductive status.It is usual that the study of female fertility includes a blood test where the levels of hormones such as FSH, LH, Estradiol, Antimullerian and inhibin B. Based on the results obtained, you can determine the ovarian reserve of women.How does ovarian reserve evolve?A woman is born with a set number of eggs, known as the follicular ovarian reservoir follicular, and this does not increase with age. On the contrary, this number decreases throughout their reproductive life until it reaches zero at menopause.That is why it is necessary to find out how the ovarian reserve is at the time when the woman wants to get pregnant, as it gives us information about the chances of getting pregnant naturally or if she will need the help of assisted reproduction.Number of eggs at birthFrom the time the eggs begin to form in the foetus until the girl reaches reproductive age, the number of primordial follicles decreases drastically until the ovarian reserve is constituted.20th week of fetal development during pregnancythe female fetus has about 6 million immature eggs produced in ovogenesis, contained within primordial follicles. This will be the maximum number of primordial follicles you will have in your lifetime.Birth of the childthe number of primordial follicles has already decreased to 1-2 million.First menstruation or menarchethe number of primordial follicles has dropped to 500,000. At this time, what is known as follicular recruitment begins.Number of follicles in the female before birth to pubertyFollicular recruitmentIn each menstrual cycle 1,000 follicles begin to mature, of which only 20 will mature into antral follicles. In response to the gonadotropins, one will become a pre-ovulatory follicle, and will expel the egg from inside it into the fallopian tubes, where it can be fertilized by a sperm. The remaining follicles that do not reach the pre-ovulatory stage are lost, a process known as atresia.Ovarian reserve decreases with ageWith each menstrual cycle, about 1,000 follicles are lost from a woman's ovarian reserve as a result of a subtle, biologically controlled process of ovarian deterioration. That is why age is a determining factor for the achievement of pregnancy.When a woman begins the process of looking for a pregnancy, she does not know the state of her ovaries and her ovarian reserve, as this does not necessarily have to be the same in women of the same age. There are young women with diminished ovarian reserve compared to older women.Lack of information when seeking pregnancyThanks to the analysis of certain sex hormones in the blood, it is easy to respond to these women and check their reproductive status. In addition, this analysis is also used by assisted reproduction specialists to decide which is the most appropriate treatment for each woman. If a woman has a good ovarian reserve, she could try fertility treatment using her own eggs. However, if the patient has a low ovarian reserve, it would be best to opt for donor eggs. If you would like more detailed information, we recommend you visit the following article: How Many Eggs Does a Woman Have? - Your Egg Count by Age.Hormones that are detected in the bloodThe hormones that regulate a woman's menstrual cycle are markers of ovarian reserve. These include follicle-stimulating hormone, luteinizing hormone, antimullerian hormone and estradiol.Blood hormone test to determine ovarian reserveThe following is a list of each of them and how they allow the measurement of the number of eggs.AntimüllerianAnti-Müllerian hormone or AMH is considered the most important hormone for measuring ovarian reserve, because unlike the others, this hormone does not vary throughout the menstrual cycle. Therefore, the blood test can be done at any time for the determination of antimullerian hormone.AMH is expressed in granulosa cells in the ovaries throughout a woman's reproductive life, from puberty until she reaches menopause. 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High estradiol values at the beginning of the menstrual cycle are related to a low ovarian reserve, although it is not one of the best markers to measure the number of eggs.For more information about this hormone, you can visit the following article: What are estrogens - types, functions and drugs.FAQs from usersBy José María Sánchez Jordán M.D. (gynecologist). Having an ovarian reserve marker is essential to know the possibilities we have when starting an ovarian stimulation cycle.Fortunately, we have a marker which is the Anti-Müllerian Hormone (AMH) which gives a constant value independent of the time of the cycle. The hormone that provides information on ovarian reserve is AMH, although we normally carry out a joint study with ultrasound of antral follicle count and AMH values. Read moreCan treatment delay the decline in ovarian reserve?By Concha Leal Cariñena M.D. (gynecologist). 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Females are not capable of producing eggs in adulthood, but are born with a number of eggs already established for the rest of their reproductive life. The opposite is true for men, who are able to produce spermatozoa de novo in a process known as spermatogenesis.At what age is it recommended to do a blood test to assess the number of eggs?By Marta Barranquero Gómez B.Sc., M.Sc. (embryologist). There is no ideal age for assessing ovarian reserve and the number of eggs available in a woman. This hormone analysis is usually carried out when a woman has problems in achieving pregnancy and goes to a fertility centre. A blood test to determine hormone levels is essential in the study of a woman's fertility.However, any woman can undergo a blood test to check her condition and the number of eggs available at any given time.Is it possible to achieve pregnancy with a diminished ovarian reserve?By Zaira Salvador B.Sc., M.Sc. (embryologist). 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It doesn't predict egg quality (or the health of your eggs) or tell your provider how many eggs you have.Ovarian reserve testing involves measuring follicle-stimulating hormone (FSH) and anti-mullerian hormone (AMH) with a blood test. A transvaginal ultrasound measures antral follicle count (AFC).Follicle-stimulating hormone (FSH)FSH is a hormone that controls the growth of eggs in your ovaries. Your pituitary gland (located in your brain) releases FSH to make a follicle grow in your ovary. A follicle is a small, fluid-filled sac that contains your eggs. These follicles release estrogen, which tells your pituitary gland to make more or less FSH. Your provider will measure FSH levels around the third day of your menstrual cycle.Anti-mullerian hormone (AMH)AMH is a hormone produced by the follicles in your ovaries. Your follicles contain your eggs, which means the higher the AMH level, the more eggs you're estimated to have. AMH levels decrease with age because your egg count also decreases with age. Unlike FSH, AMH can be measured at any point in your cycle. AMH levels less than 1 nanogram per milliliter (ng/mL) may mean your supply is declining, it but doesn't predict your ability to get pregnant.Antral follicle count (AFC)AFC is the portion of ovarian reserve testing performed by transvaginal ultrasound. It's a way for your provider to count the number of follicles in your ovaries. Your follicles are where your eggs develop. Your provider will typically count your follicles in the first four days of your menstrual cycle.It's important to know that your healthcare provider uses your test results as just one data point among many others to gauge your fertility.What factors affect ovarian reserve?Many factors affect ovarian reserve. Your age is generally the biggest factor.You're born with all the eggs you'll ever have. Some people are born with more eggs than others. By the time you start menstruating as a teenager, you've already lost millions of eggs. During a typical menstrual cycle, several eggs will grow in an attempt to be the dominant, mature egg that gets released during ovulation. So, even though your body releases one egg each month, it loses thousands of eggs per year.The other factor healthcare providers consider is egg quality. Egg quality refers to the health of your egg.Other factors that could cause your egg count to decrease are:History of ovarian surgery or an issue with one or both ovaries.Chemotherapy or radiation therapy.History of severe pelvic infections.Family history of early menopause.Are there any risks of ovarian reserve testing?No, there aren't any risks to ovarian reserve testing. It's a safe test that involves drawing blood from a vein in your arm and performing a transvaginal ultrasound.What are the limitations of ovarian reserve testing?Ovarian reserve testing provides insight into how you'd respond to fertility treatment, but it doesn't tell the entire story. While ovarian reserve testing can be an indicator of egg count, it doesn't tell your provider how healthy those eggs are. For example, a person could have normal ovarian reserves, but lower-quality eggs that don't fertilize during IVF cycles. Once a person reaches 35, studies show egg quality also starts to decline.There are other factors that affect fertility that are unrelated to egg count or quality. Healthcare providers perform ovarian reserve testing as a part of fertility testing to help them get a sense of your overall fertility. Women are born with ~1 million potential eggs (in the form of ovarian follicles), but that's all the eggs we'll ever have. Unlike skin cells or blood cells, which regenerate, our bodies aren't able to make more egg cells. So our ovarian reserve is like a "bank" that doesn't take deposits—and we're withdrawing from it with each passing month. By puberty, a woman's egg count might be 1 million; at 25, maybe 300,000. Then, around 35, the decline starts to get a bit steeper until all eggs have been depleted (menopause). Source: Wallace W, Kelsey T. Human Ovarian Reserve from Conception to the Menopause. PLoS ONE 2010; 5(1).” under the text and image (screenshot attached) When we're young, our ovaries are full of egg follicles, waiting to mature; we call this an egg's "primordial" or "sleeping" state. During each menstrual cycle, a certain number of these follicles are activated to prepare for ovulation, but just one egg takes center stage to mature and be released from the ovary. The understudy follicles, on the other hand, are "reabsorbed" by the body (and effectively lost). Doctors estimate that while our bodies may naturally ovulate only 400 times in our lives, we lose upwards of 1,000 follicles—potential eggs—per month, and that loss accelerates as we get older. During egg freezing, we use medication to prompt those otherwise lost eggs to mature, allowing your body to produce multiple eggs in one cycle. Egg freezing doesn't lower your body's natural egg count; it simply makes use of more of the eggs you already have. There are two good ways to measure egg count: an antral follicle count and an AMH (anti-Müllerian hormone) test. During an antral follicle count, a doctor uses ultrasound to count the visible follicles. Each follicle contains an immature egg that could potentially mature and ovulate. This test gives an idea of not only total egg count, but also of how many eggs a woman might be able to freeze during one cycle. This test is most meaningful at the beginning of a woman's menstrual cycle. AMH, on the other hand, is a protein hormone produced by special cells inside the follicles. The level of AMH in the blood can help doctors estimate the total number of follicles inside the ovaries, and therefore a woman's total egg count. Because AMH levels stay basically stable throughout a cycle, the blood test can be performed at any time. A typical AMH level for a fertile woman is 1.0-4.0 ng/ml, but, depending on age, many women will be higher or lower than this range. Or contact us to chat with a fertility advisor