FEMM™

Ovulation A Sign of Health

Most of us associate the word “ovulation” with pregnancy. But it’s much more than a marker of fertility. Ovulation signals that all the hormones in a woman’s body are working as they should. It’s a key marker of a woman’s overall health.

Ovulation at Different Stages in Life

Most people think of ovulation as a singular event that happens one day a month. But ovulation affects a woman’s entire cycle, and it changes as she goes through different seasons of life. This entire process is known as the ovarian continuum.

The first part of the ovarian continuum happens during childhood. Young girls are anovulatory, meaning that they do not ovulate, although their follicles are already developed. Usually between the ages of 6-8, hormones

start to change, preparing for puberty. Between 12 and 13, girls have their first period and ovulate for the first time. During the first few years of puberty, it's normal to have some anovulatory cycles.

In a reproductive-aged woman, the cycle begins when Follicle-Stimulating Hormone (FSH) is released. FSH selects a follicle inside the ovary. That follicle produces estrogen. The estrogen, in turn, stimulates the release of luteinizing hormone (LH). LH helps to mature the follicle and egg, and with the help of progesterone, causes the follicle to rupture. When the follicle ruptures, an egg is released into the fallopian tubes—that's ovulation.

After ovulation, the empty follicle (called the corpus luteum) produces even more progesterone. If fertilization doesn't happen, the corpus luteum will dissolve within 11 to 17 days. Estrogen and progesterone levels drop, which causes the uterine lining to shed. That's your period, and it's the beginning of a whole new cycle.

Reproductive-aged women should have a cycle that's 24-36 days long, with a period and a sufficiently long luteal phase (time after ovulation). If a woman is pregnant or breastfeeding, she will not ovulate, which is normal.

Once she hits her forties, a woman's ovaries will decline from peak capacity, and she will enter perimenopause about four years before her last period. Heavy bleeding and irregular cycles are more common during this time. When she hits menopause, she will stop ovulating.

How Ovulation Impacts Your Whole Body

There are four main reproductive hormones: FSH (follicle-stimulating hormone), estrogen, LH (luteinizing hormone), and progesterone. These hormones interact with over a dozen other hormones each cycle. The brain acts as the control center for all of them, coordinating their activity 24/7.

Reproductive hormones are also interconnected with other systems of the body. For instance, when your body makes a hormone like estrogen, it requires support from the adrenal glands and thyroid. When your body needs to eliminate excess reproductive hormones, it relies on the liver and gallbladder.

Additionally, reproductive hormones like progesterone and estrogen have tasks other than preparing the body for pregnancy. They're vital for the health and maintenance of your brain, bones, blood sugar levels, mood, and more.

Many types of hormones affect both ovulation and overall health, including prolactin, cortisol, insulin, glucose, and adrenal hormones. When ovulation fails to occur, it means that these vital hormones aren't performing their jobs properly.

Dr. Pilar Vigil, Director of the Reproductive Health Research Institute, has done years of research on ovulation and its connection to a woman's health. In a paper entitled "Ovulation, a sign of health," she writes:

“The first sign of an underlying health problem is often an abnormality in ovulation followed by irregular cycles.”[1]

How to Know if You’re Ovulating

When it comes to evaluating our cycles, we tend to focus on menstrual bleeding. But bleeding only tells a small part of the story.

Contrary to popular belief, getting your period does not mean that you’re ovulating. Cycles with bleeding can be anovulatory. Other physical signs (called biomarkers) more reliably indicate ovulation. The most important of these is cervical fluid.

When a woman’s estrogen starts to rise before ovulation, she will produce thick, gummy cervical fluid. When the fluid changes to a clear, crystalline, stretchy quality, that means that ovulation is about to happen. The cervical fluid has a specific purpose—to provide a “highway” for sperm to travel to the egg. So it makes sense that it would appear right around the time that a woman is most fertile. When ovulation finishes, cervical fluid dries up, and a woman is in her infertile period, the luteal phase.

No cervical fluid at all, or continuous fertile fluid, usually indicate an abnormal cycle and an absence of ovulation. Generally, three or more anovulatory cycles in a year or two consecutive irregular cycles should be investigated with a healthcare provider.

Types of Ovulatory Dysfunction and Their Causes

When you’re not ovulating, it usually indicates a hormonal imbalance. The root causes of these imbalances run the gamut from genetic, stress, metabolic conditions/nutrition imbalance, and drugs to chronic and autoimmune diseases and tumors. A few common causes include:

- Insulin resistance: a condition in which cells can’t respond to insulin as they should and thus can’t regulate blood sugar. Insulin resistance is often associated with obesity.
- Polycystic Ovary Syndrome (PCOS): an ovarian disorder characterized by no ovulation or infrequent ovulation, an excess of the androgen hormone, and (sometimes) cysts in the ovaries
- Hyperandrogenemia: an excess of the androgen hormone
- Hypothyroidism: the thyroid gland doesn’t make enough thyroid hormone
- Hyperprolactinemia: excessively high levels of the hormone prolactin in the blood

The good news is that many of these imbalances can be effectively treated or managed with a combination of medication and lifestyle changes.

Charting: An Invaluable Tool for Tracking Ovulation

You can use the FEMM app to monitor whether you’re ovulating or not. By tracking biomarkers like cervical fluid and bleeding, you can start to recognize patterns and gain valuable insight into your body.

Charting is incredibly useful for several reasons. It helps you to be prepared for the onset of your period. If you are trying to achieve or avoid pregnancy, tracking your ovulation will help you know when your fertile window is. Most importantly, your biomarkers will help indicate whether you're healthy or not.

Irregular biomarkers—such as heavy bleeding or too much or too little cervical mucus—can indicate a deeper health problem. As Dr. Vigil points out:

"Often, healthcare providers have focused on regularizing bleeding patterns, without paying attention to ovulation in reproductive age women. The fact that women have biomarkers that enable them to recognize ovulation and hence which stage of the ovarian continuum they are in, allows them to evaluate their own health."[2]

It's especially important to help teen girls learn how to chart so that they can catch and fix any hormonal imbalances early. According to Dr. Vigil:

"Because the conditions that alter ovulation during adolescence will only worsen if a correct diagnosis is not made, identifying ovulatory abnormalities can allow for early treatment of underlying health problems."[3]

The Key to Understanding Your Health

Your body is composed of many different systems that work together to maintain your health. The reproductive and endocrine (hormone) systems affect all other systems throughout your body.

Because of the interdependence of all these systems, the health of your monthly cycle is a great indicator of your total health. And the key sign of whether your cycle is healthy? Ovulation.

The more that women of all ages understand about ovulation, the more they can care for their fertility and health.

Footnotes:

1. Vigil P, Lyon C, Flores B, Rioseco H, Serrano F. Ovulation, a sign of health. Linacre Q. 2017 Nov;84(4):343-355. doi: 10.1080/00243639.2017.1394053. Epub 2017 Nov 27. PMID: 29255329; PMCID: PMC5730019.
2. *Ibid*.
3. *Ibid*.