Woman's menstrual cycle

Alice,

You've mentioned a lot in this service about a woman's menstrual cycle, and the risks involved with unprotected sex. Details that you have mentioned include, for example, the high risk of pregnancy (i.e., as a result of unprotected sex or failed contraception) during the "fertile period" of a woman's cycle. What I would like to know is: what (typically) are the various stages in the cycle (e.g., ovulation followed by menstruation, etc.), when do they typically occur in the cycle, and, most importantly, WHEN are the (typical, of course) fertile and infertile (minimum chance of pregnancy) parts of the cycle?

-Wanting to better understand what my partner goes through

Answer

Dear Wanting to better understand what my partner goes through,

The monthly menstrual cycle is one of the key physiological functions of the female body. The average length of the menstrual cycle is 28 days, although 21 to 35 day cycles are common and considered normal or regular. The day bleeding starts is counted as the first day of a given cycle. The menstrual cycle is controlled by hormones released by the hypothalamus, the pituitary, and the ovaries. Each cycle has four stages: the menstrual phase, the preovulatory phase, the ovulation phase, and the postovulatory phase.

When menstrual bleeding has ended, the preovulatory phase begins. A hormone from the hypothalamus stimulates the anterior pituitary, which produces large amounts of follicle stimulating hormone (FSH) and small amounts of luteinizing hormone (LH). As the pituitary gland secretes FSH, which in turn stimulates the ovary, an ovarian follicle begins to mature. The ovarian follicle produces increasingly higher levels of estrogen. In response to estrogen stimulation, the uterine lining thickens with increased numbers of blood vessels and uterine glands.

In the ovulation phase at midcycle, the ovum (an egg) is released as LH production surges and FSH output decreases. The pituitary hormones (FSH and LH) that control the output of ovarian hormones (estrogen and progesterone) are, in turn, regulated by the level of ovarian hormones through a negative feedback mechanism. Thus, the increased level of estrogens depresses FSH production. Ovulation (the rupture of the follicle and release of an egg) occurs around midcycle. Some, but not all, women feel a twinge or cramp in the lower abdomen or back, sometimes with vaginal secretion, perhaps spotted or tinged with blood. This is called
Mittelschmerz ("middle pain"). Following ovulation, the follicle transforms into the corpus luteum ("yellow body"), which produces the hormone progesterone. A few women have headaches, gastric pains, or sluggishness during this time, while others feel better—it's definitely an individualistic experience.

In the postovulatory phase, the secretion of progesterone begins to rise. Under the combined influence of estrogens and progesterone, the endometrium (the lining of the uterus) continues to develop and the uterine glands secrete nutrient materials. The endometrium is now ready to receive and sustain the fertilized ovum, if fertilization has occurred. The levels of ovarian hormones then remain high and the uterine lining is maintained intact through pregnancy. If pregnancy doesn't occur, the high levels of estrogens and progesterone gradually fall.

Below a certain level of hormonal support, the uterine lining can no longer be maintained and begins to slough off, initiating the menstrual phase of the cycle. The monthly shedding of the uterine lining that is accompanied by menstrual blood is called menstruation, or a period. As levels of ovarian hormones drop, their inhibiting effect on the pituitary hormones is lifted. FSH and LH production now begins to rise, and a new cycle starts.

Most women ovulate once a cycle about fourteen days before the next menses is due. However, women have been known to ovulate at any time during their cycle, including during menstruation, although this is unusual.

In terms of conception, fertility depends on three factors: a healthy egg, healthy sperm, and favorable cervical mucus. The egg lives for twelve to twenty-four hours and then disintegrates if not fertilized. Healthy sperm travel through strands of fertile cervical mucus, which is produced a few days before ovulation. In the presence of favorable cervical mucus, which guides and nourishes the sperm, they can survive as long as five days within the body. Otherwise sperm die very quickly and never reach the egg.

When estimating the fertile time, one can consider all of the signs that occur in the body. A natural birth control option, the Symptothermal or fertility awareness method, teaches women to recognize these signs. They include cervical mucus changes, feelings associated with ovulation, basal body temperature changes that occur after ovulation, and regularity of menstrual patterns. For most women, the fertile time begins after menstruation and ends with disintegration of the egg to the next menstruation. Calculating precisely when these events occur is impossible, but a close approximation can be made.

Alice!

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