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CYCLIC CHANGES IN THE BREAST.

Each breast has 15 to 20 sections, called lobes. They are arranged like the petals of a daisy.

Each lobe has many smaller structures called lobules. These end in dozens of tiny bulbs that can produce milk.

The lobes, lobules, and bulbs are all linked by thin tubes called ducts.

These ducts lead to the nipple in the center of a dark area of skin called the areola. There are no muscles in the breast, but muscles lie under each breast and cover the ribs.

Each breast also contains blood vessels and vessels that carry lymph. The lymph vessels lead to small bean-shaped organs called lymph nodes. These lymph nodes are found in clusters under the arm, above the collarbone, and in the chest. They are also many in many other parts of the body.

Breast development is a vital part of a woman's reproduction. Breast development happens in certain stages during a woman's life: first before birth, again at puberty, and later during the childbearing years. Changes also happen to the breasts during the menstrual cycle and when a woman reaches menopause. Breasts begin to form while the unborn baby is still growing in the mother's uterus. This starts with a thickening in the chest area called the mammary ridge or milk line. By the time a baby girl is born, nipples and the beginnings of the milk-duct system have formed.

Breast changes continue to happen over a woman's life. The first thing to develop is lobes, or small subdivisions of breast tissue. Mammary glands develop next and consist of 15 to 24 lobes. Mammary glands are influenced by hormones activated in puberty. Shrinkage (involution) of the milk ducts is the final major change that happens in the breast tissue. The mammary glands slowly start to shrink. This often happens at the age of 35. As a girl approaches her teen years, the first visible signs of breast development begin. When the ovaries start to produce and release (secrete) estrogen, fat in the connective tissue starts to collect. This causes the breasts to enlarge. The duct system also starts to grow. Often these breast changes happen at the same that pubic hair and armpit hair appear.

Once ovulation and menstruation begin, the maturing of the breasts begins with the formation of secretory glands at the end of the milk ducts. The breasts and duct system continue to grow and mature, with the development of many glands and lobules. The rate at which breasts grow is different for each young woman.

FEMALE BREAST DEVELOPMENT STAGES AND DESCRIPTION

Stage 1: Preteen. Only the tip of the nipple is raised.

Stage 2

Buds appear, and breast and nipple are raised. The dark area of skin around the nipple (the areola) gets larger.

Stage 3

Breasts are slightly larger, with glandular breast tissue present.

Stage 4

The areola and nipple become raised and form a second mound above the rest of the breast.

Stage 5

Mature adult breast. The breast becomes rounded. Only the tip of the nipple is raised.

Each month, women go through changes in the hormones that make up the normal menstrual cycle. The hormone estrogen is produced by the ovaries in the first half of the menstrual cycle. It stimulates the growth of milk ducts in the breasts. The increasing level of estrogen leads to ovulation halfway through the cycle. Next, the hormone progesterone takes over in the second half of the cycle. It stimulates the formation of the milk glands. These hormones are believed to be responsible for the cyclical changes that many women feel in their breasts just before menstruation. These include swelling, pain, and soreness.

During menstruation, many women also have changes in breast texture. Their breasts may feel very lumpy. This is because the glands in the breast are enlarging to get ready for a possible pregnancy. If pregnancy does not happen, the breasts go back to normal size. Once menstruation starts, the cycle begins again. Many healthcare providers believe the breasts are not fully mature until a woman has given birth and made milk. Breast changes are one of the earliest signs of pregnancy. This is a result of the hormone progesterone. In addition, the dark areas of skin around the nipples (the areolas) begin to swell. This is followed by the rapid swelling of the breasts themselves. Most pregnant women feel soreness down the sides of the breasts, and nipple tingling or soreness. This is because of the growth of the milk duct system and the formation of many more lobules. By the fifth or sixth month of pregnancy, the breasts are fully capable of producing milk. As in puberty, estrogen controls the growth of the ducts, and progesterone controls the growth of the glandular buds. Many other hormones also play vital roles in milk production. These include follicle-stimulating hormone (FSH), luteinizing hormone (LH), prolactin, oxytocin, and human placental lactogen (HPL). Other physical changes happen as well. These include the blood vessels in the breast becoming more visible and the areola getting larger and darker. All of these changes are in

preparation for breastfeeding the baby after birth. By the time a woman reaches her late 40s and early 50s, per menopause is starting or is well underway. At this time, the levels of estrogen and progesterone begin to change. Estrogen levels dramatically decrease. This leads to many of the symptoms commonly linked to menopause. Without estrogen, the breast's connective tissue becomes dehydrated and is no longer elastic. The breast tissue, which was prepared to make milk, shrinks and loses shape. This leads to the "saggy" breasts associated with women of this age.

Women who are taking hormone therapy may have some of the premenstrual breast symptoms that they had while they were still menstruating, such as soreness and swelling. But if a woman's breasts were saggy before menopause. This will not change with hormone therapy.

CYCLIC CHANGES IN CERVIX.

Cervix, lowest region of the uterus; it attaches the uterus to the vagina and provides a passage between the vaginal cavity and the uterine cavity. The cervix, only about 4 centimeters (1.6 inches) long, projects about 2 centimeters into the upper vaginal cavity. The cervical opening into the vagina is called the external os; the cavity running the length of the cervix is the Endocervical canal; the opening of the endocervical canal into the uterine cavity, the internal os. The Endocervical canal transports sperm into the uterine cavity, allows the escape of blood from the uterus during menstruation, and supplies mucus (a thick lubricating protein) to the female reproductive tract. During childbirth the canal is greatly stretched (see parturition). An important part of tracking your fertility is getting to know your cervix, as it can provide interesting information about where you're at in your fertility cycle.

As the lower part of the uterus (womb) that projects into the vagina, the cervix does an important job in your monthly cycle

Every woman has a different 'normal', but certain changes in your cervix throughout the month indicate when you may be ovulating.

Alongside your Basal Body Temperature (BBT), Cervical Mucous (CM) and tracking your menstrual cycle, notes on cervical changes should be integral to your fertility diary. Noting just a few words of how it feels ('open', 'dry', and 'tight') may help clarify when you ovulate after a few months of tracking. When you start your period (Day One of your cycle), there's no need to feel your cervix for changes, as you're clearly menstruating.

Once your bleeding stops, you may have a few days (possibly up to a week) as a 'pre-fertile' phase. This is the time from when the bleeding finishes and when the fertile phase begins.

During the pre-fertile phase, the lining of the uterus starts to thicken, regenerating after the period has finished. At the same time, a group of eggs in the ovaries start to ripen.

Feeling your cervix at this time, it should feel relatively low, firm and only slightly moist (or even dryish) and tightly closed when compared to other times in the menstrual cycle. After your pre-fertile phase, you move into the fertile phase of your cycle, which is when you really want to start noting any changes in your cervix, particularly if you're having trouble tracking your cervical mucous (CM).

As oestrogen levels increase, a woman's uterus and cervix start to produce a special fertile mucous which is capable of protecting the man's sperm and helping them survive for up to three to five days in the woman's body. The fertile mucus sits in the opening of the woman's cervix and lines her uterus and fallopian tubes. The mucus acts as a continuous stream to transport sperm up into a woman's fallopian tubes, in readiness for when an egg is released. Once the woman releases an egg (or ovulates) it only survives for around 12 to 24 hours.

The fertile phase is also called the follicular or proliferative stages, as the egg is still maturing and the lining of the uterus continues to thicken. A woman's fertile phase usually starts about three to five days before ovulation, until the egg is released.

If you feel your cervix it should be higher, softer, wetter and slightly more open when compared to the previous days.

During ovulation, your cervix will now be at its highest point and may even be difficult to reach. It should feel very wet, soft and open. It is approximately four centimeters long, approximately half of which extends into the vaginal canal; however, the length of the cervix can be affected by age and childbirth, along with individual (genetic) variations.

The uterine cervix produces mucus that aids in carrying sperm from the vagina to the uterus, where it can fertilize an egg if the woman is ovulating. When the woman isn't ovulating, the cervical mucus thickens and serves as a barrier to keep sperm out of the uterus.

MENSTRUAL CYCLE

Each month during the years between puberty and menopause, a woman's body goes through a number of changes to get it ready for a possible pregnancy. This series of hormone-driven events is called the menstrual cycle.

During each menstrual cycle, an egg develops and is released from the ovaries. The lining of the uterus builds up. If a pregnancy doesn't happen, the uterine lining sheds during a menstrual period. Then the cycle starts again. A woman's menstrual cycle is divided into four phases:

- Menstrual phase
- Follicular phase
- Ovulation phase
- Luteal phase

The length of each phase can differ from woman to woman, and it can change over time.

Menstrual phase.

The menstrual phase is the first stage of the menstrual cycle. It's also when you get your period.

This phase starts when an egg from the previous cycle isn't fertilized. Because pregnancy hasn't taken place, levels of the hormones estrogen and progesterone drop.

The thickened lining of your uterus, which would support a pregnancy, is no longer needed, so it sheds through your vagina. During your period, you release a combination of blood, mucus, and tissue from your uterus.

You may have period symptoms like these:

- cramps (try these home remedies)
- tender breasts
- bloating
- mood swings
- irritability
- headaches
- tiredness
- low back pain

On average, women are in the menstrual phase of their cycle for 3 to 7 days. Some women have longer periods than others.

The follicular phase starts on the first day of your period (so there is some overlap with the menstrual phase) and ends when you ovulate.

It starts when the hypothalamus sends a signal to your pituitary gland to release follicle-stimulating hormone (FSH). This hormone stimulates your ovaries to produce around 5 to 20 small sacs called follicles. Each follicle contains an immature egg.

Only the healthiest egg will eventually mature. (On rare occasions, a woman may have two eggs mature.) The rest of the follicles will be reabsorbed into your body.

The maturing follicle sets off a surge in estrogen that thickens the lining of your uterus. This creates a nutrient-rich environment for an embryo to grow. The average of follicular phase last for about 16 days. It can range from 11 to 27 days, depending on your cycle.

Ovulation phase.

Rising estrogen levels during the follicular phase trigger your pituitary gland to release luteinizing hormone (LH). This is what starts the process of ovulation.

Ovulation is when your ovary releases a mature egg. The egg travels down the fallopian tube toward the uterus to be fertilized by sperm.

The ovulation phase is the only time during your menstrual cycle when you can get pregnant. You can tell that you're ovulating by symptoms like these:

- a slight rise in basal body temperature
- thicker discharge that has the texture of egg whites

ovulation happens at around day 14 if you have a 28-day cycle — right in the middle of your menstrual cycle. It lasts about 24 hours. After a day, the egg will die or dissolve if it isn't fertilized.

Luteal phase

After the follicle releases its egg, it changes into the corpus luteum. This structure releases hormones, mainly progesterone and some estrogen. The rise in hormones keeps your uterine lining thick and ready for a fertilized egg to implant.

If you do get pregnant, your body will produce human chorionic gonadotropin (hCG). This is the hormone pregnancy tests detect. It helps maintain the corpus luteum and keeps the uterine lining thick.

If you don't get pregnant, the corpus luteum will shrink away and be resorbed. This leads to decreased levels of estrogen and progesterone, which causes the onset of your period. The uterine lining will shed during your period.

During this phase, if you don't get pregnant, you may experience symptoms of premenstrual syndrome (PMS). These include:

- bloating
- breast swelling, pain, or tenderness
- mood changes
- headache
- weight gain
- changes in sexual desire
- food cravings
- Trouble sleeping.

The luteal phase lasts for 11 to 17 days. The average length

Trusted Source Is 14 days.

Every woman's menstrual cycle is different. Some women get their period at the same time each month. Others are more irregular. Some women bleed more heavily or for a longer number of days than others.

Your menstrual cycle can also change during certain times of your life. For example, it can get more irregular as you get close to menopause.

One way to find out if you're having any issues with your menstrual cycle is to track your periods. Write down when they start and end. Also record any changes to the amount or number of days you bleed, and whether you have spotting between periods.

Any of these things can alter your menstrual cycle:

Birth control. The birth control pill may make your periods shorter and lighter. While on some pills, you won't get a period at all.

Pregnancy. Your periods should stop during pregnancy. Missed periods are one of the most obvious first signs that you're pregnant.

Polycystic ovary syndrome (PCOS). This hormonal imbalance prevents an egg from developing normally in the ovaries. PCOS causes irregular menstrual cycles and missed periods.

Uterine fibroids. These noncancerous growths in your uterus can make your periods longer and heavier than usual.

Eating disorders. Anorexia, bulimia, and other eating disorders can disrupt your menstrual cycle and make your periods stop.

Here are a few signs of a problem with your menstrual cycle:

- You've skipped periods, or your periods have stopped entirely.
- Your periods are irregular.
- You bleed for more than seven days.
- Your periods are less than 21 days or more than 35 days apart.
- You bleed between periods (heavier than spotting).

If you have these or other problems with your menstrual cycle or periods, talk to your healthcare provider.