

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Menstrual cycle

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Objectives

- By the end of this lecture the student will be able
- Define the Menstrual Cycle
- Explain the phases of it
- Explain the type of it

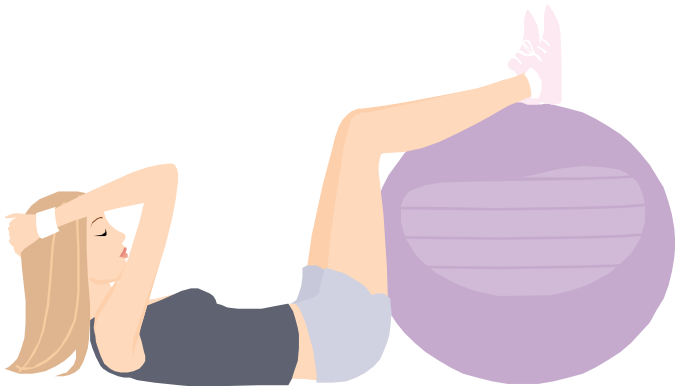
Menstrual Cycle

- Cyclic uterine bleeding starts by age 13 and continues until age 45-50
- Menstrual cycle length may vary between 21-35 days
- Duration of the menstrual period lasts from 3-7 days
- Average menstrual flow is 40-80 ml

Menstrual Cycle



Menstruation is casting away of blood ,tissue ,and debris from the uterus as inner sheds ,it is variable in amount and duration



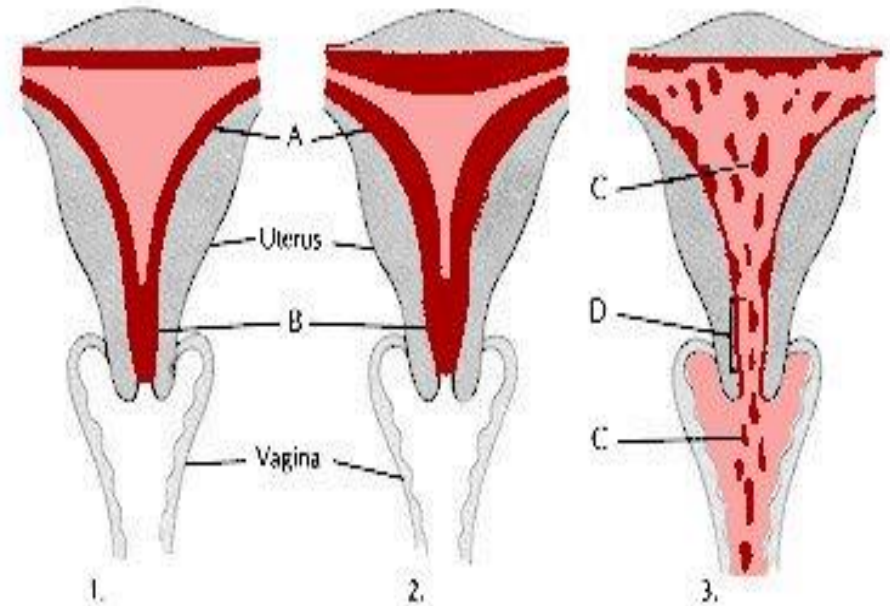
Three Phases during Menstrual Cycle

Proliferative Phase:

Preparing for Ovulation - endometrium begins to grow after menstruation.

Secretory Phase: Preparing for Implantation - endometrium is becoming ready for the implantation of a blastocyst.

Menstrual Phase: If no implantation occurs, the endometrium breaks down and is discharged in menstruation.



Proliferation Phase: Preparing....


Proliferation Phase starts in the **anterior pituitary gland** □

with the release of **FSH** (follicle stimulating hormone)

FSH goes to the ovaries and causes the ovarian graafian □

follicle (OVUM) to develop/mature & ripen.

Follicle begins to mature - releases **ESTROGEN** □



Estrogen causes the uterine lining to thicken in preparation of the ovum (egg) and causes the ovum to ripen and enlarge. □

When estrogen levels get high enough they cause the release of **LH** or luteinizing hormone □

Secretory Phase: Ovulation

Secretory Phase---extends from the day of ovulation to about 3days before the next menstrual period. □

LH causes the release of the ovum or **OVULATION** □

PROGESTERONE. □

After ovulation, a large amount of progesterone is produced. □


Progesterone causes the uterine lining to thicken in preparation for implantation of a fertilized ovum. □

Menstrual Phase: NO BABY



No fertilization of the ovum occurs in the fallopian tubes and the ovum deteriorates. □

If fertilization and implantation does not occur, progesterone and estrogen levels decrease □



The hypothalamus secretes gonadotropin-releasing hormone (GnRH) that stimulates the anterior pituitary to secrete FSH

Menstruation begins which marks the first day of the new menstrual cycle.

Rising levels of FSH trigger the beginning of the next phase, called the proliferative phase

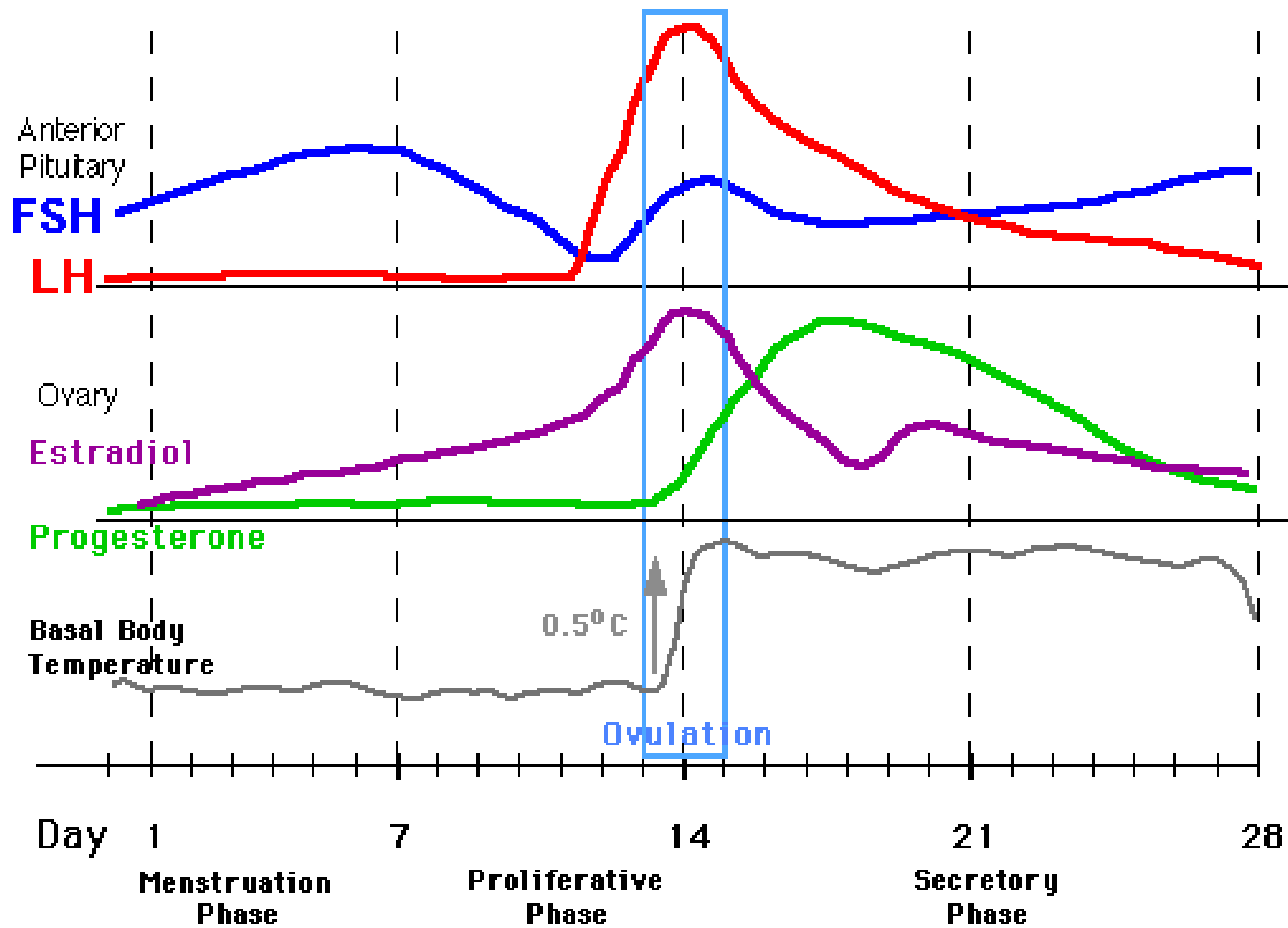
The Ovarian Cycle

The normal ovulatory cycle is divided into two phases □
called the follicular and luteal phases.

Different levels of hormones are released. □

Follicular Phase: is initiated from the day bleeding □
stops and finishes with a midcycle surge of LH.

Luteal Phase: this is initiated with the mid-cycle □
surge of LH which coincides with ovulation and ends
with the first day of onset of the period.



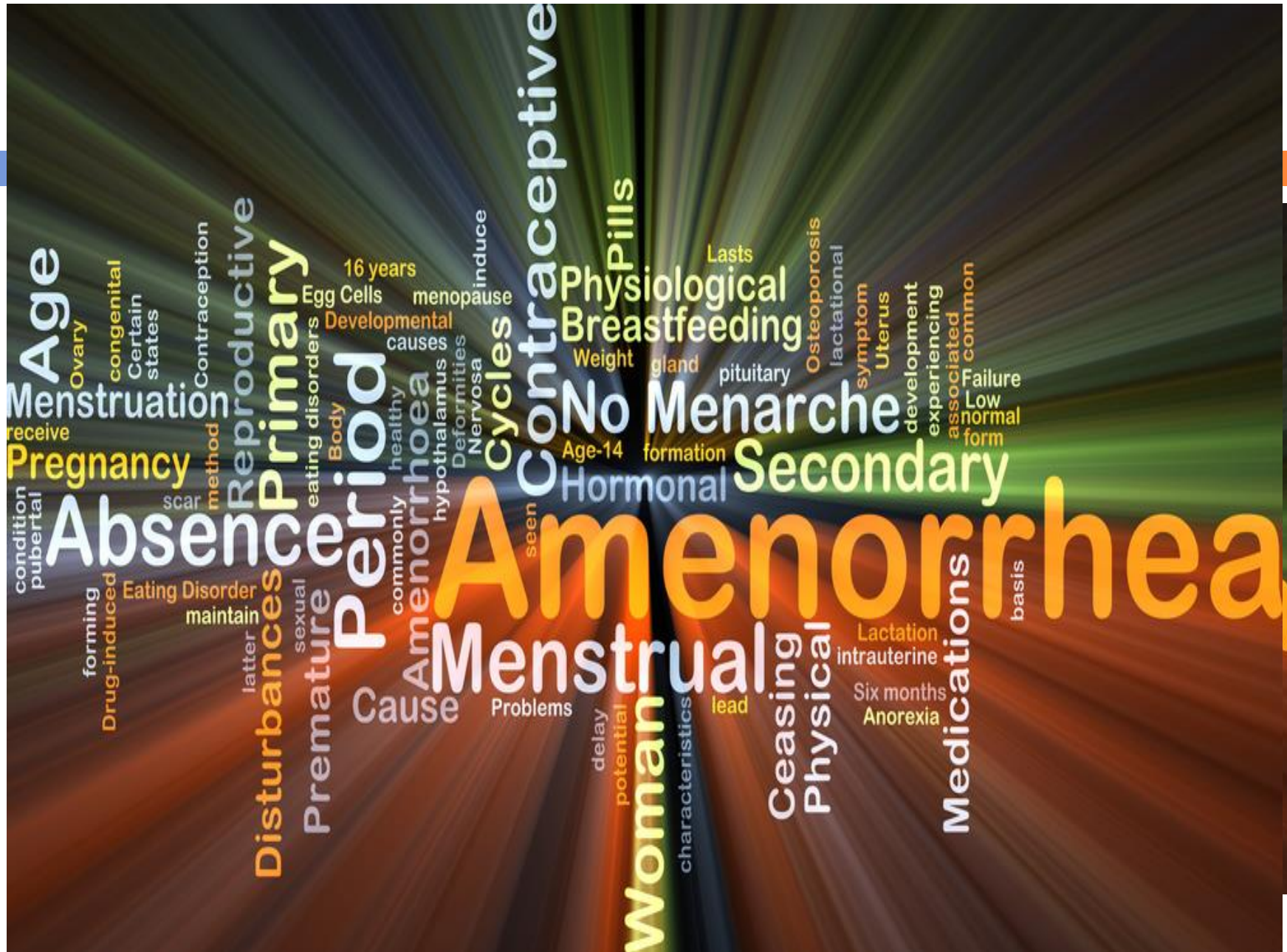
Menstrual Disorders

Dysmenorrhea—painful menstruation. □

Amenorrhea—absence of menstruation. □

Polymenorrhea —menstrual cycles is less than 21 days. □

Oligomenorrhea —menstrual cycle is more than 35 days □



Amenorrhea Cessation of Menstruation

2 Types Primary & Secondary

Primary Amenorrhea


-No menstruation by the age of 14 years accompanied by failure to grow properly or develop secondary sexual characteristics.

-No menstruation by age of 16 when growth and sexual development are normal.

1-outflow tract disorders
(imperforate hymen)

Secondary Amenorrhea

Secondary absence of menses for six months (or greater than 3 times the previous cycle interval) in a woman who has menstruated before



The most common cause of secondary amenorrhea in reproductive age women is pregnancy and this should always be excluded by physical exam and laboratory testing for the pregnancy hormone HCG.

taht gnideelb lamronba si **Metrorrhagia** □
ton si taht ro sdoirep neewteb srucco
noitaurtsnem htiw detaicossa

Oligomenorrhea



generally refers to infrequent menstruation. it is menstrual periods occurring at intervals of greater than 35 days, with only four to nine periods in a year.

Oligomenorrhea can be a result of prolactinomas (adenomas of the anterior pituitary). It may also be caused by thyrotoxicosis, hormonal changes in per menopause.

Menorrhagia

- is the name given to heavy and prolonged menstrual periods that disrupt a woman's normal activities
- Average blood loss during menstruation is around 30 to 40 milliliters.
- Menorrhagia is a loss of over 80 milliliters of blood in one cycle.

Dysmenorrhea

- ❖ **The term** is derived from the Greek words(**dys**), meaning difficult/ painful/abnormal , and (rrhea), meaning flow.
- ❖ **Dysmenorrheal refers to painful menstruation.**
- ❖ It may affect more than **half** of menstruating women
- ❖ Uterine contractions occur during all periods, but in some women these cramps can be frequent and very intense

Premenstrual Syndrome - PMS

PMS often occurs after ovulation. □

Over 150 symptoms have been reported that have been related to PMS. □

Treatment includes counseling, □

medications, dietary changes, regular exercise. □





AND THE VILLAIN STILL PURSUES HER.