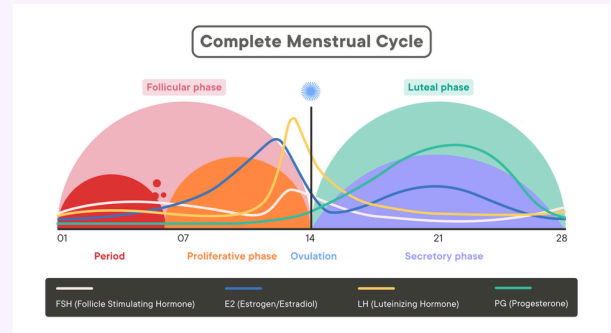


# REPRODUCTION FOR THE ELITE ATHLETE

## Understanding the Menstrual Cycle

- 1 Follicular Phase:**
  - A developing follicle produces estrogen.
  - Estrogen triggers a surge in luteinizing hormone (LH) from the brain.
- 2 Ovulation:**
  - The surge in LH causes the follicle to release an egg
- 3 Luteal Phase:**
  - Progesterone levels increase to thicken the uterine lining
  - If the egg is not fertilized:
    - Progesterone levels drop
    - This drop in progesterone leads to the shedding of the uterine lining, resulting in menstruation.

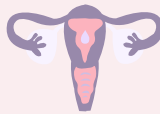


## Ovarian Reserve and Egg Health

- Age and Fertility: Fertility typically peaks in the 20s and early 30s. As age advances, the ability to conceive decreases, and the risk of miscarriage increases significantly after age 35.

### Ovarian Reserve Testing

- Anti-Mullerian Hormone (AMH):
  - 4 ng/ml: High (possible PCOS)
  - <1 ng/ml: Low
  - 1-3 ng/ml: Average
- Antral Follicle Count (Ultrasound): Optimal is 6-8 follicles per ovary.
- Additional Tests (Day 2-5 of Cycle):
  - FSH (Follicle-Stimulating Hormone): Ideal <10.
  - Estradiol: Ideal <80 (high levels may indicate decreased egg reserve).



- ✿ Lower egg reserve doesn't always mean lower egg quality.

## Conditions Affecting Ovulation

- Common Conditions:
- Hypothalamic Issues (e.g., excessive exercise, stress)
  - Thyroid Dysfunction
  - Hyperprolactinemia
  - Polycystic Ovary Syndrome (PCOS)
  - Primary Ovarian Insufficiency (Premature Menopause)
  - Functional Hypothalamic Amenorrhea
    - Low energy availability with or without disordered eating
    - Low bone mass density
- Menstrual Dysfunction: Irregular periods may signal these conditions, requiring a comprehensive endocrine work-up to diagnose.

## Endocrine Testing and Diagnosis



- Recommended Tests:
- Thyroid Studies
  - Prolactin Levels
  - FSH/LH/Estradiol
  - Androgen Levels (if clinically indicated)
  - Bone Mineral Density (BMD) Testing: DXA Scan, particularly if experiencing 6+ months of amenorrhea.
- Important: Don't use oral contraceptives (OCPs) solely to restore periods or improve BMD.
  - Work with your women's health physician to address these topics

## Special Considerations for Athletes



Risk Factors: All athletes are at risk of menstrual dysfunction, regardless of body type or sport.

Monitoring: Regular checks and proactive management are crucial for maintaining reproductive health and overall well-being