



# Reproductive Life Cycle

## *Reproductive Life Cycle 101*

### *Self-Study*

#### Contributors

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#### Learning Objectives:

1. Describe the phases of the menstrual cycle, including hormonal changes and their clinical impact
2. Describe the physiology of pregnancy from a biological perspective and identify those physiological changes that have the most relevance to perinatal psychiatric illness
3. Discuss the biological changes inherent in perimenopause/menopause and their potential clinical impact

#### Part 1: The Menstrual Cycle

a. learn on your own: view our videos on the follicular and luteal phases of the menstrual cycle

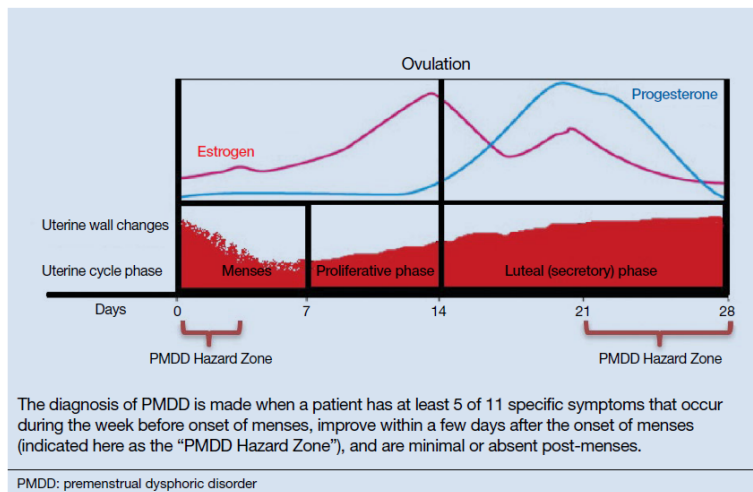
The Menstrual Cycle: Follicular Phase <https://www.youtube.com/watch?v=yi8QEP0G9nM>

The Menstrual Cycle: Luteal Phase <https://www.youtube.com/watch?v=pIl6cZiCVo>

b. test your learning: questions about the potential clinical (psychiatric) relevance of hormone cycles

1. What is the primary effect of FSH and LH in the menstrual cycle?
2. What is the downstream effect of FSH/LH on estrogen?
3. What is the primary product of the corpus luteum, and what is its purpose?
4. Describe the changes in the ovarian hormones that occur at the time of greatest risk for PMDD symptoms. You may use the graph below for reference.

**Figure 1**  
The menstrual cycle and the 'PMDD Hazard Zone'





**Etiology of PMDD, Source:** [MGH Women's Mental Health Website](#)

## **Part 2: Pregnancy**

a. learn on your own: review accompanying PowerPoint, including a basic review of

- Physiologic changes in pregnancy

  - Cardiovascular system

  - Hematologic system

  - Respiratory system

  - Endocrine system

  - Sleep

- Psychological stages of pregnancy

b. test your learning

1. What would you expect to be the pharmacokinetic consequences of the cardiovascular and hematologic changes in pregnancy? How would you predict these might affect prescribing?

2. How might the respiratory changes of pregnancy affect mood and anxiety?

3. What might be the psychiatric relevance of the known endocrinological changes of pregnancy?

4. For each psychological stage of pregnancy, what specific psychiatric disorders or symptoms would you expect to be exacerbated, and why?

## **Part 3: Menopause**

a. pre-assessment

1. What is the definition of menopause?



2. Based on what you learned about the menstrual cycle in the Part 1, what would you predict happens in menopause with regard to the following:

-Estrogen

-Progesterone

-Inhibin

-PMDD symptoms

b. learn on your own

1. Read the MGH Women's Mental Health website's overview of menopause

2. Read "Physiology of the menstrual cycle and changes in perimenopause"

Dutton and Rymer, in *Managing the Menopause: 21<sup>st</sup> Century Solutions*, Cambridge University Press, 2015

3. Optional: read "Depression and menopause: Current knowledge and clinical recommendations for a critical window" by Claudio Soares [Psych Clin North Am 40(2017):239-254]

c. test your learning

1. Define menopause and perimenopause

2. Describe the major hormonal changes in menopause/perimenopause.

3. What are the predominant categories of somatic symptoms related to menopause for which women seek medical care? Describe the proposed physiology of each.

4. List several psychological and physical factors that likely play a role in changes in sexual functioning in menopause.