



Luteal Phase Collection Reference Guide

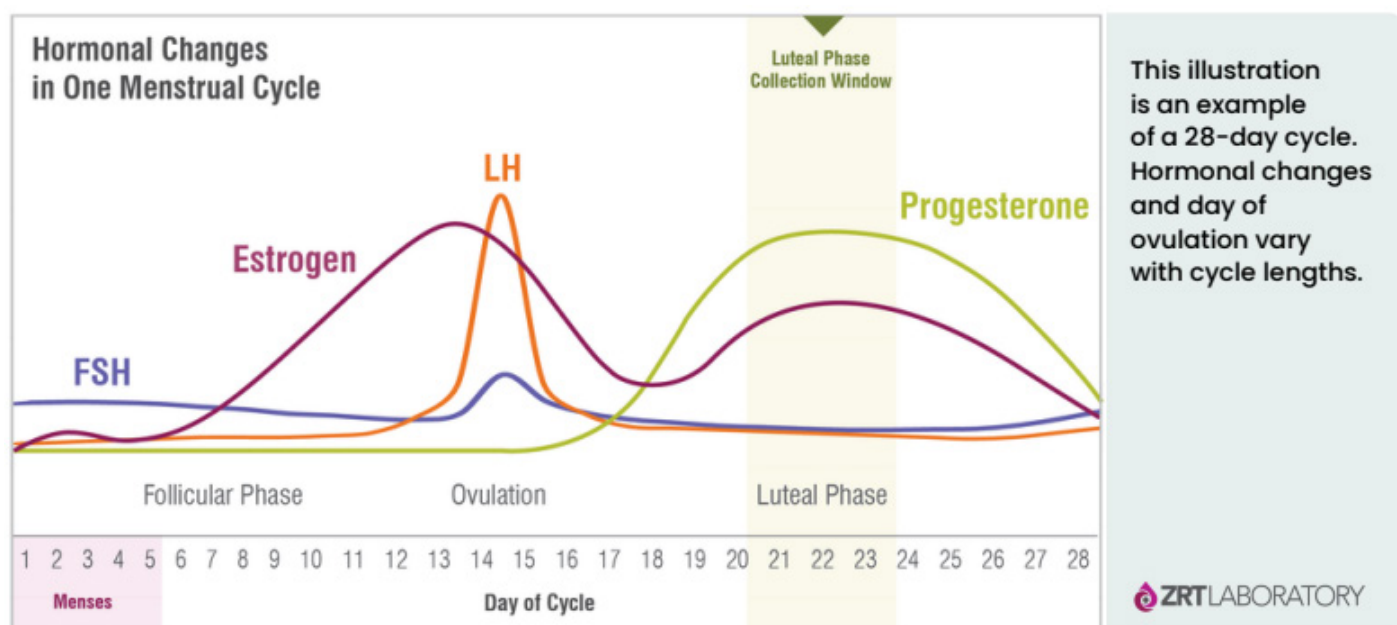
Guidance for Timing Blood Spot Collection During the Luteal Phase

Understanding Hormonal Testing Throughout the Menstrual Cycle

Hormone levels rise and fall throughout the menstrual cycle in a predictable pattern. Different phases of the cycle provide different insights, allowing for a more complete understanding of reproductive health.

Collecting samples during a specific phase of the cycle allows an individual to better understand:

- Ovulation status
- How hormone production changes throughout the month
- The relationship between estrogen and progesterone levels
- Cycle-related symptoms such as premenstrual syndrome (PMS), mood changes, headaches, fatigue, and sleep disturbances
- Hormonal patterns associated with fertility, perimenopause, polyendocrine metabolic ovarian syndrome (PMOS)/polycystic ovary syndrome (PCOS), and reproductive aging



What Each Cycle Phase Can Tell Us

Menstrual Phase

🕒 Cycle days 1-5 in an average 28 day cycle.

The menstrual phase begins on the first day of full menstrual bleeding. Hormone levels are generally at their lowest during this time. At this time, the pituitary is recruiting the next batch of eggs for ovulation.

Testing during this phase may help evaluate:

- Pituitary signaling of the ovary
 - Ovarian hormone production at its lowest
 - Reproductive aging and menopausal transition patterns
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Follicular Phase

🕒 Cycle days 1-13 in an average 28 day cycle.

During the follicular phase, ovarian follicles mature in preparation for ovulation. Estrogen production gradually increases, developing the uterine lining and signaling the body to prepare for release of an egg.

"How effectively is the body preparing for ovulation?"

Testing during this phase may help evaluate:

- Estrogen levels from the developing follicles
 - Ovarian function
 - Follicle development
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Ovulatory Phase

🕒 24 hour period mid-cycle – difficult to time collection; cycle day 14 in a 28 day cycle.

Ovulation occurs when a mature egg is released from the ovary. This represents a key transition between the first and second halves of the menstrual cycle.

"Is the body successfully ovulating and transitioning into the second half of the cycle?"

Testing near ovulation may help evaluate:

- Timing of the fertile window
- Hormonal signals involved in egg release
- Reproductive cycle coordination
- Mid-cycle symptoms are common such as headaches, night sweats, changes to libido, and mood swings

Luteal Phase

🕒 Approximately 5–7 days after ovulation; cycle day 21 in a 28 day cycle.

Following ovulation, the ovary continues to produce estrogen and adds the production of progesterone from the corpus luteum. These hormones support embryo implantation in pregnancy and maintain hormonal balance until the next menstrual period begins. The balance between estrogen and progesterone are responsible for many hormonal symptoms.

"How well are hormones functioning during the post ovulation phase of the cycle?"

Testing during the luteal phase may provide information about:

- Ovulatory status
 - Hormone production after ovulation
 - Premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD) related hormone patterns
 - Causes of Mood, sleep, and energy changes that occur cyclically
 - Assessment of Polyendocrine metabolic ovarian syndrome (PMOS)/polycystic ovary syndrome (PCOS)
 - Perimenopausal hormonal fluctuations
 - Reproductive readiness and cycle health
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Perimenopause & Irregular Cycles

As individuals enter perimenopause, hormone production becomes more variable, and ovulation may occur inconsistently. Even when ovulation is regular, the amount of estrogen and progesterone may drop from the reproductive years. For other women with irregular cycles, testing may help determine the causes of those irregular ovulations.

Testing will help evaluate:

- Whether ovulation is still occurring
- Changes in hormone production over time
- Hormonal contributors to symptoms such as hot flashes, night sweats, mood changes, sleep disturbances, and irregular periods
- Assessment for Polyendocrine metabolic ovarian syndrome (PMOS)/polycystic ovary syndrome (PCOS)
- Patterns associated with the transition toward menopause

Menstrual Cycle Luteal Phase Calculation Worksheet

For patients or clinicians to determine best testing days.

Step 1: Identify Cycle Day 1

Cycle Day 1 is defined as the first day of full menstrual bleeding. Light spotting before full flow does not count as Day 1.

Step 2: Determine Your Cycle Length

Cycle length is calculated as the number of days from Day 1 of one period to Day 1 of the next period.

- Typical cycle: 27–30 days
- Short cycle: 23–26 days
- Long cycle: 31–35 days
- Irregular cycle: varies from month to month and/or is 35+ days.
- Infrequent or unpredictable cycles: collect any non-bleeding day.

Step 3: Identify Sample Collection Day

Luteal Test Day = Ovulation Day + 7

For longer or shorter cycles: Collect 5–7 days after ovulation OR Collect 5–7 days before the expected start date of your next period

If ovulation is known:

- Ovulation Day 12 → Test Day 19
- Ovulation Day 14 → Test Day 21
- Ovulation Day 20 → Test Day 27

If ovulation is unknown and cycles are regular:

Regular Cycles (your cycle is about the same length each month $\pm$ 2 days):

- Cycle length 23–26 days: Collect day 17, 18 or 19
- Cycle length 27–30 days: Collect day 21, 22 or 23
- Cycle length 31–34 days: Collect day 25, 26 or 27
- For longer or shorter cycles: Collect 5–7 days before the expected start date of your next period.

If ovulation is unknown and cycles are irregular:

Collect any non-bleeding day.

Real Examples from ZRT Laboratory Menstrual Cycle Mapping

ZRT Laboratory Dried Urine Menstrual Cycle Mapping (U-328 | Menstrual Cycle Mapping) tests for luteinizing hormone (LH) along with progesterone and estrogen metabolites pregnanediol glucuronide (PDG) and estrone glucuronide (E1G).

Samples are collected every other day, starting on day 7 of the menstrual cycle through the start of the next cycle. Let's use information from this test to show why choosing the correct day for single point luteal phase saliva and blood spot collections is important.

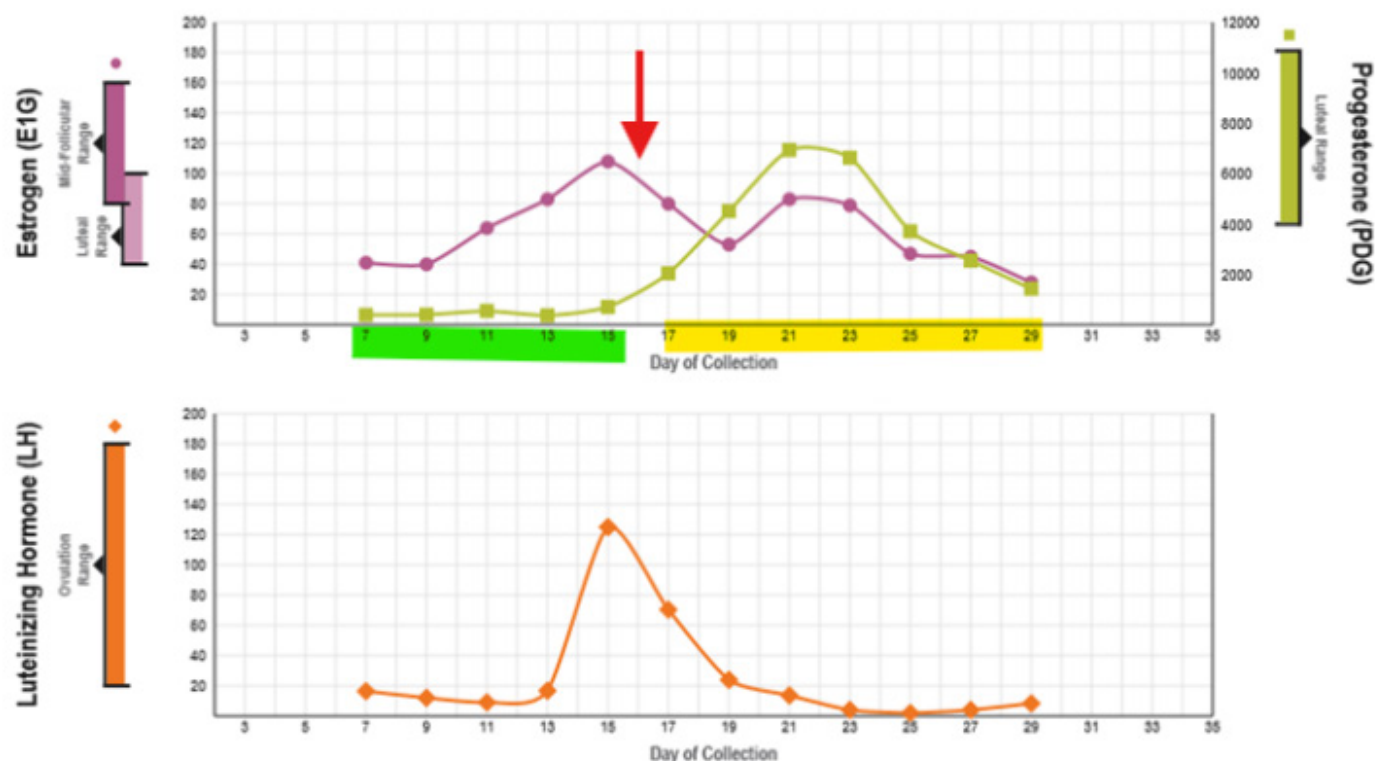
(Note: Urine excretion of hormones/hormone metabolites are delayed 1 day vs saliva/blood collection)

KEY

→ Day of Ovulation Follicular Phase Luteal Phase

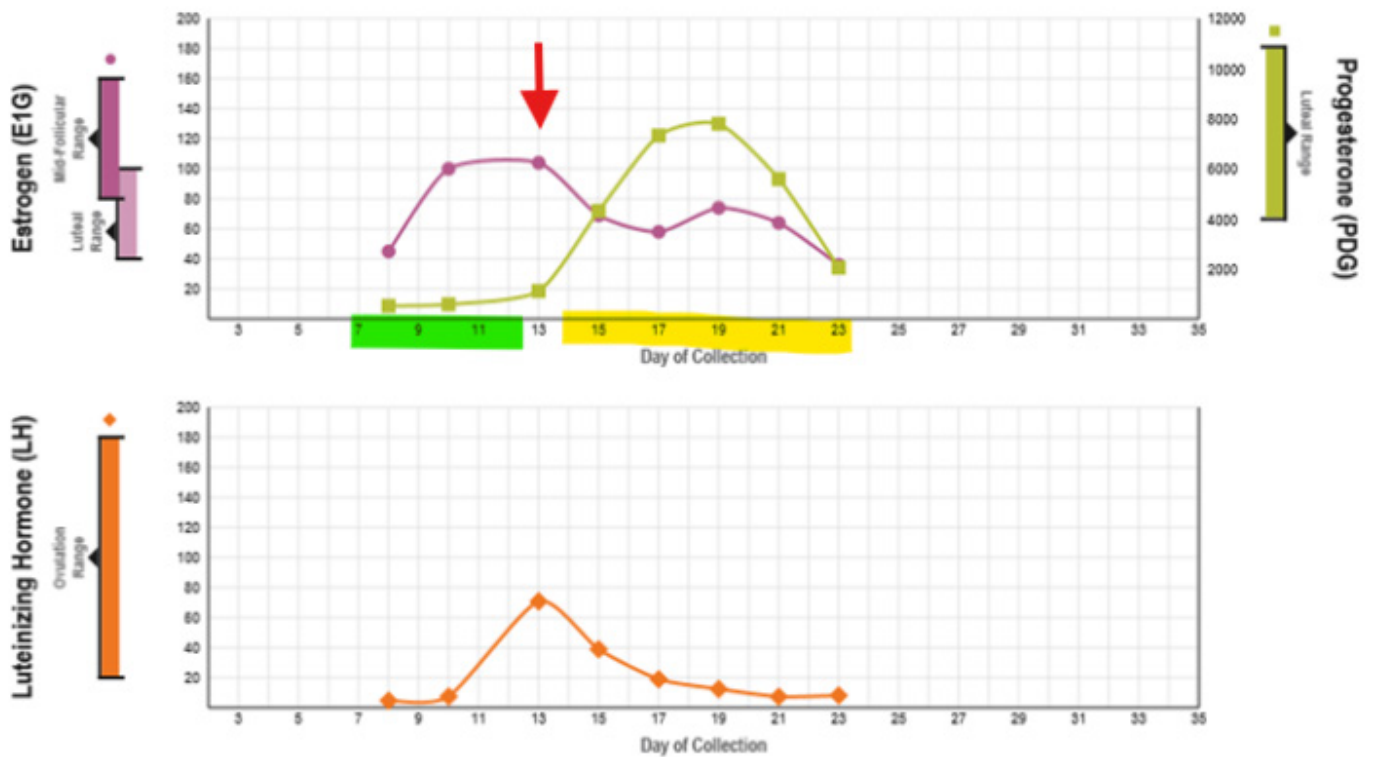
Typical Menstrual Cycle (27–30 days)

Ovulation Day 16



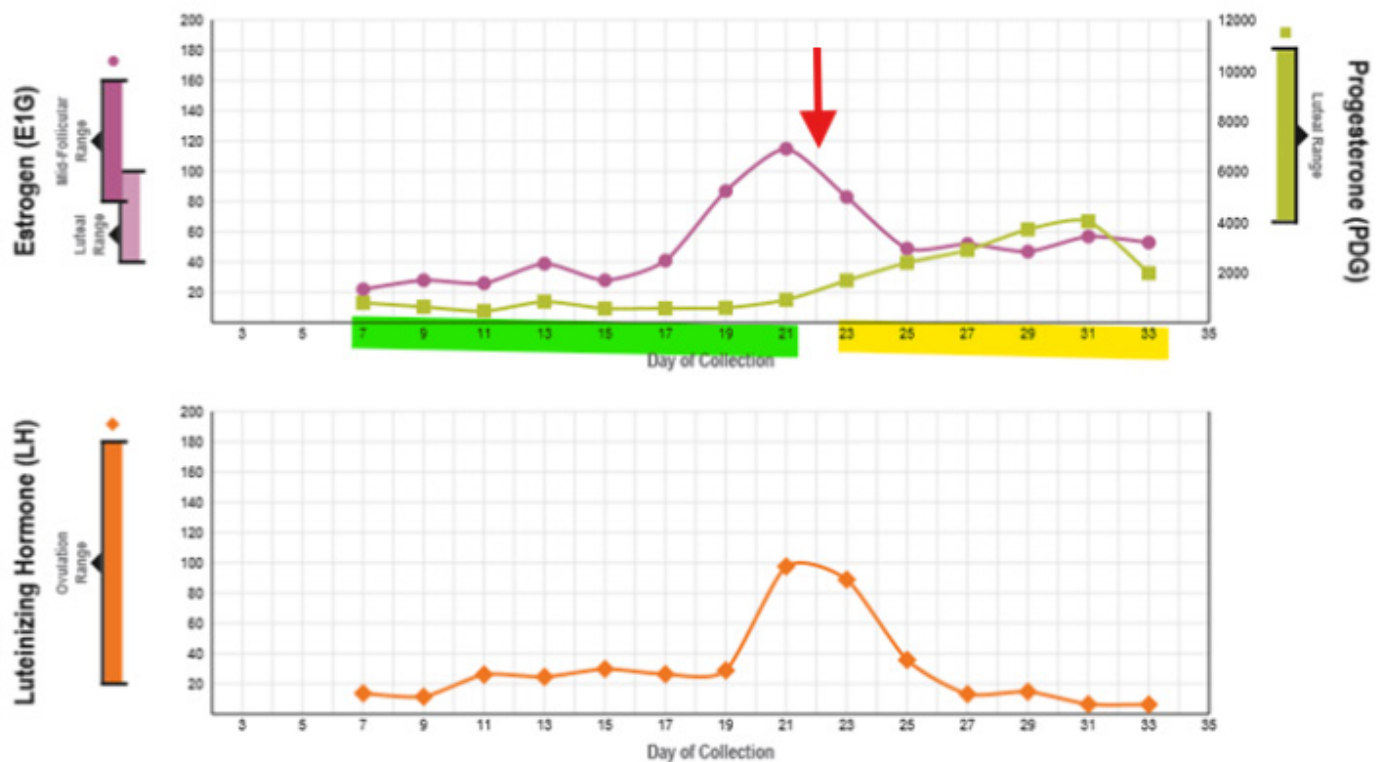
Short Menstrual Cycle (23-26 days)

Ovulation Day 13

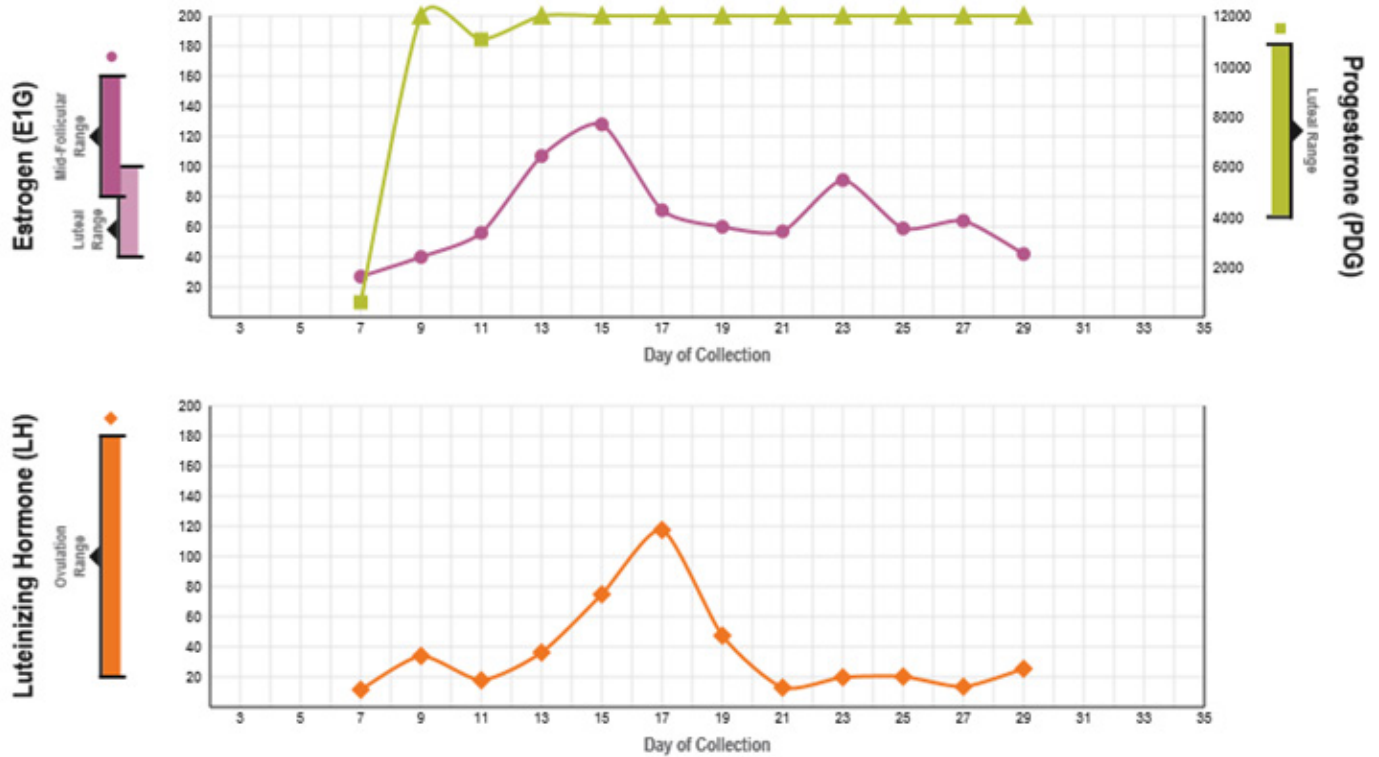


Long Menstrual Cycle (31+ days)

Ovulation Day 13

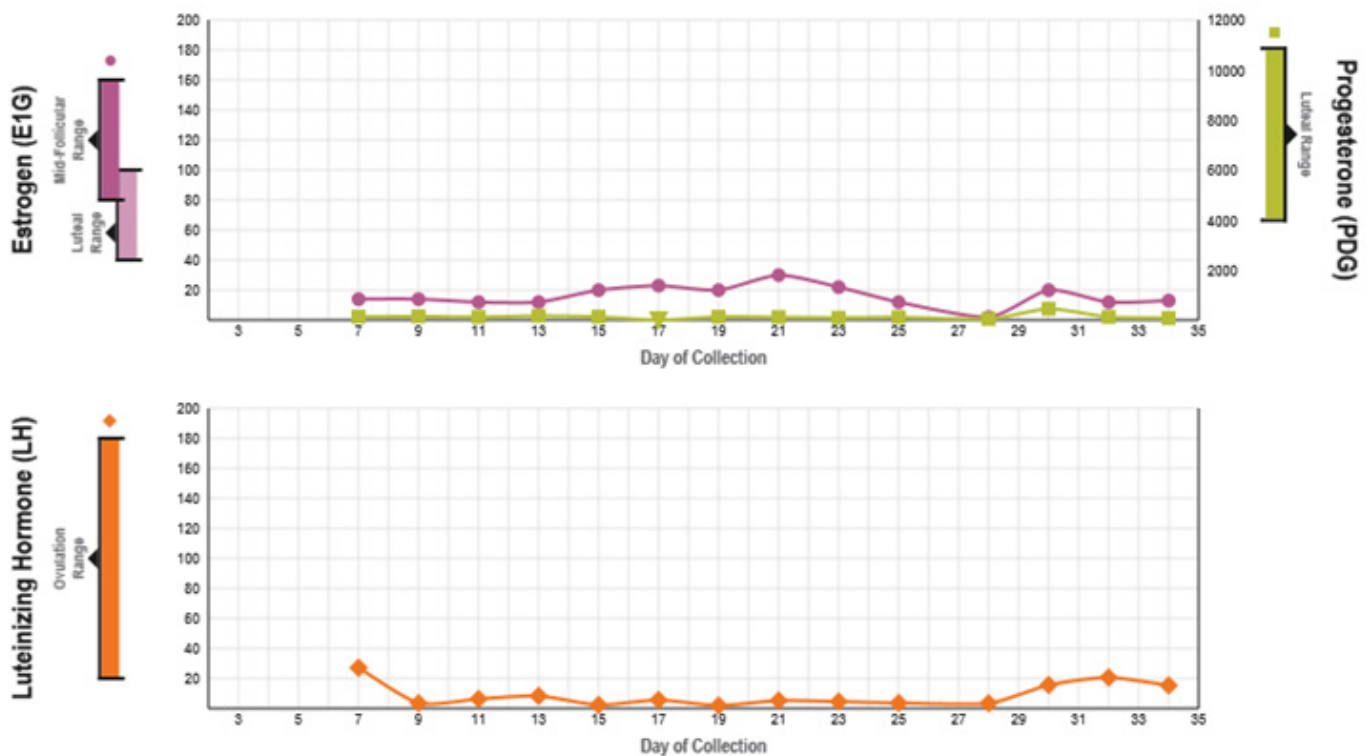


Progesterone Supplementation Menstrual Cycle

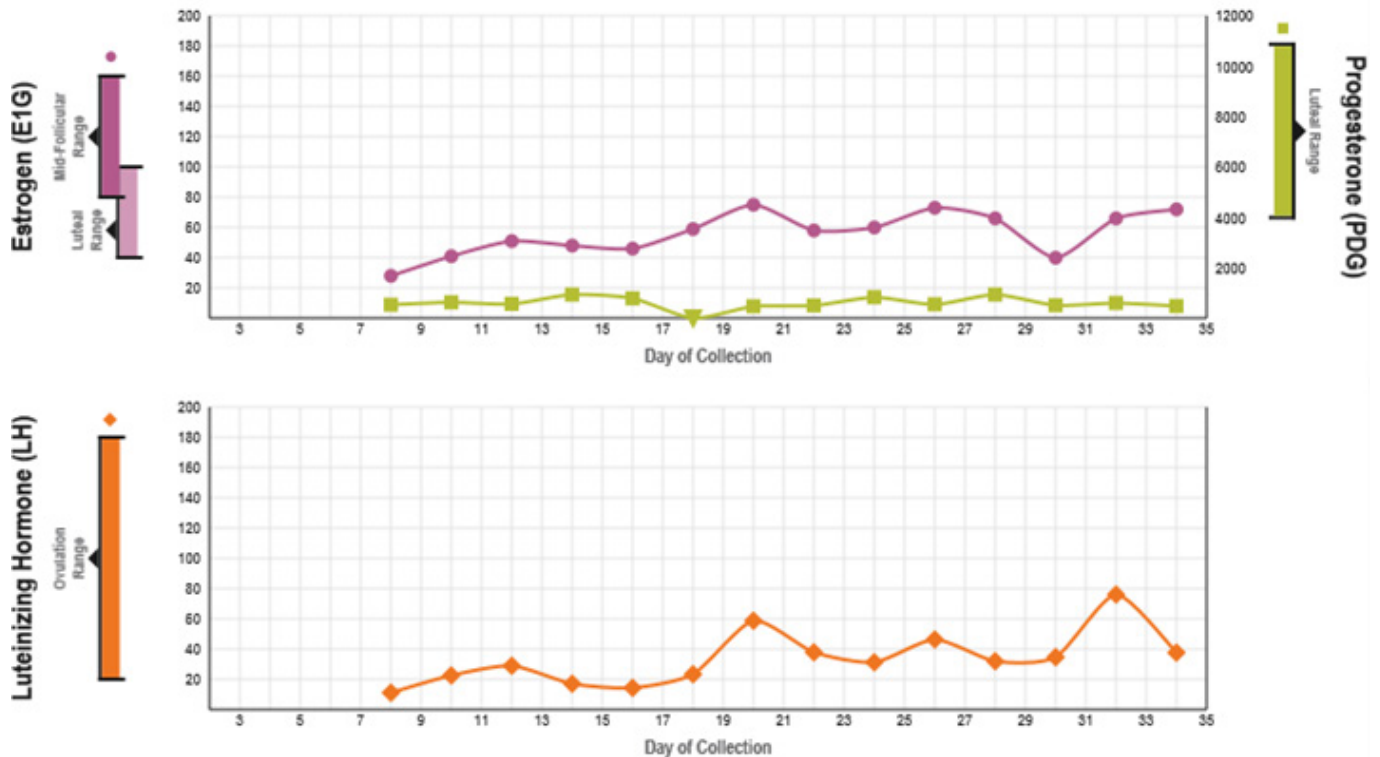


Irregular Menstrual Cycle/Non-Cycling

Premenopausal woman. No ovulation. No LH surge; LH is low.

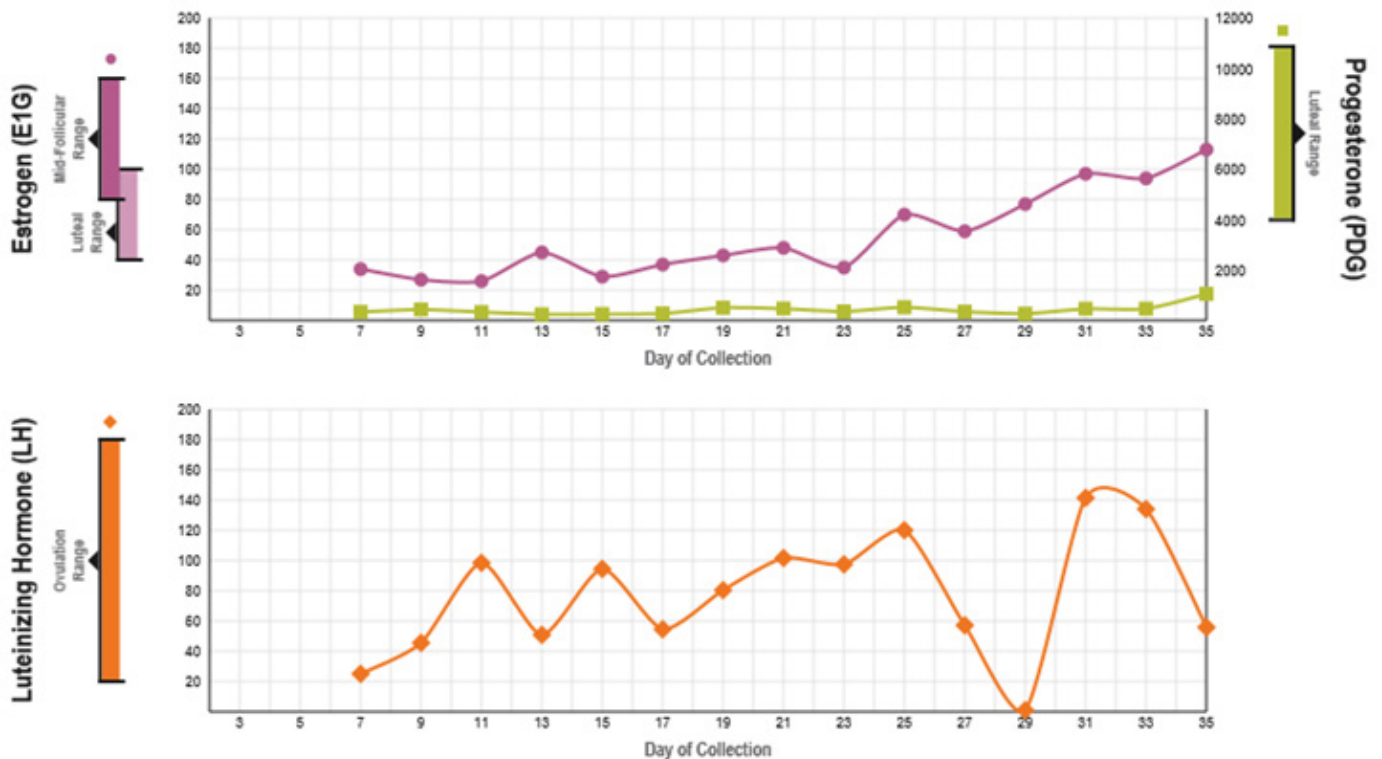


No ovulation. LH Normal, but no clear follicular or ovulatory phase.
In younger women, there likely will be ovulation at some point.



Perimenopausal/Postmenopausal

No clear ovulation. Elevated Estradiol and elevated and fluctuating LH levels. At some point ovulation may still occur in younger women.



No clear ovulation. Questionable ovulation on day 26, but LH is elevated.

