

# Perimenopause Protocol

Tracking and monitoring hormones with Mira during perimenopause enables both the patient and the provider to better understand what is happening hormonally to effectively time treatments, visualize positive changes which encourages engagement and compliance, and allows for individualized treatment.

## During the perimenopausal transition Mira assists with:

### Identify:

1. Identify the underlying hormone pattern for abnormalities
2. Identify ovulatory vs. anovulatory cycles
3. Identify the phase of the menstrual cycle after a hysterectomy or uterine ablation

### Assess and Monitor:

1. Monitor and trend FSH levels to assess ovarian function
2. Symptom monitoring and correlation with hormones

### Adjust and Intervene:

1. Monitoring response to HRT
2. Determining phase of menopausal transition
3. Schedule lab tests at specific points in the menstrual cycle, such as on cycle day 3 or 7 days post-ovulation
4. Timing interventions, imaging or hormone replacement therapy (HRT)



Mira data is most useful for identifying overall patterns and trends rather than focusing on individual data points, as hormone levels can fluctuate frequently.

## Limitations:

1. Hormones measured in serum cannot be directly compared to urine metabolites, as they are assessed in different units and show correlation rather than direct equivalence. While these metabolites often fluctuate, a study has found that they generally correlate well with the overall serum hormone pattern. Urine metabolites measured with Mira cannot be used to determine serum levels.
2. Types of hormone supplementation that raise serum hormone levels will raise urine metabolites and therefore, will affect Mira data.
  - a. Oral progesterone tends to raise serum progesterone levels more than topical progesterone due to differences in absorption, metabolism, and distribution. Oral bio-identical progesterone supplementation may cause Mira PdG to reach the max threshold of 30.
  - b. A study has demonstrated that topical progesterone leads to slight increases in both serum progesterone levels and PdG excretion.
    - i. Although supplementing progesterone does not directly reduce estrogen levels, it can indirectly affect estrogen by stabilizing its effects within the body. In hormone therapy, supplementing progesterone is utilized to balance estrogen's impact and maintain hormonal equilibrium. To manage estrogen dominance, optimizing progesterone levels may be helpful. Mira results indicate help monitor these indirect effects on estrogen levels.
3. At this time Mira cannot be used to assess whether a specific dose of hormone such as progesterone is achieving the desired serum levels or to evaluate the absorption rate but providers have found Mira helpful to monitor response to HRT and indirect effects such as lowering estrogen levels.



Disclaimer: The information provided is based on the experiences and feedback of providers using Mira with their patients, rather than results from scientific research or studies. It serves as a guideline and should not be considered scientific proof.

## Testing Instructions



*Regardless of the category encourage patients to begin testing immediately. It is not necessary to wait for the start of a new menstrual cycle. Testing can be started on any day of the cycle except during the period.*

### **1. Sample Collection:**

- Use first morning urine for best results.
- Wait at least 4 hours between voids. For later testing, hold urine for 4 hours and limit oral intake for 2 hours before testing.
- Test at the same time each morning. **Limit fluid intake to less than 100 ml before bedtime and during the night.**

### **2. Dipping Method:**

- Dip the wand up to the "max" line for exactly 20 seconds.

### **3. Analyzing Process:**

- Apply and secure the cap.
- Insert the capped wand into the analyzer.
- Place the analyzer on a flat surface and do not move it. Analysis takes 16-21 minutes.

### **4. Urine Sample Storage:**

- Test your urine sample immediately and keep it until a successful result is obtained.

### **5. Equipment Storage:**

- Store the analyzer and wands in a cool, dry place. Avoid moisture, heat, or freezing.

## **Testing Pattern**

### **Regular/Ovulatory Cycles**

Test OVUM (FSH) daily or cycle day 3-6 as well as during fertile window

**Option 1** Daily Testing: MAX (E3G, LH, PdG) wands daily starting on cycle day 6 until next menses

**Option 2** Reduced Testing: MAX ( E3G, LH, PdG) wands daily during fertile window and every other day during early follicular and luteal phase (for example: "gray zones" on Mira chart).

**Option 3** Cost Saving: PLUS (E3G, LH) wands daily or every other day starting on cycle day 6 until LH surge is identified. After the LH surge is identified switch to testing with MAX (E3G, LH, PdG) wands daily or every other day.

## Irregular or long cycles

Test OVUM (FSH) daily or cycle day 3-6 as well as during the fertile window



Trending FSH levels from cycle day 3-6 overtime can provide insight into reproductive health. When FSH and LH surge together it is more likely to be ovulatory.

**Option 1** Daily Testing: MAX (E3G, LH, PdG) wands daily starting on cycle day 6 until next menses.

**Option 2** Reduced Testing: MAX (E3G, LH, PdG) wands daily during fertile window and every other day during early follicular and luteal phase (for example: "gray zones" on Mira chart).

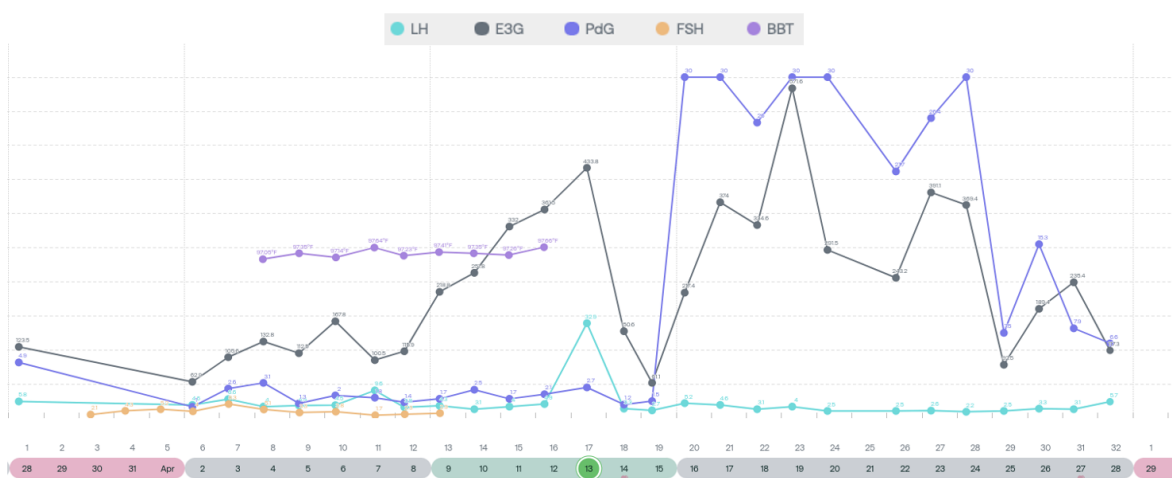
**Option 3** Cost Saving: PLUS (E3G, LH) wands daily or every other day starting on cycle day 6 until LH surge is identified. After the LH surge is identified switch to testing with MAX (E3G, LH, PdG) wands daily or every other day.



**Option 3 (cost saving) example:** PLUS (E3G and LH) wands until LH surge, MAX (E3G, LH, and PdG) after LH surge



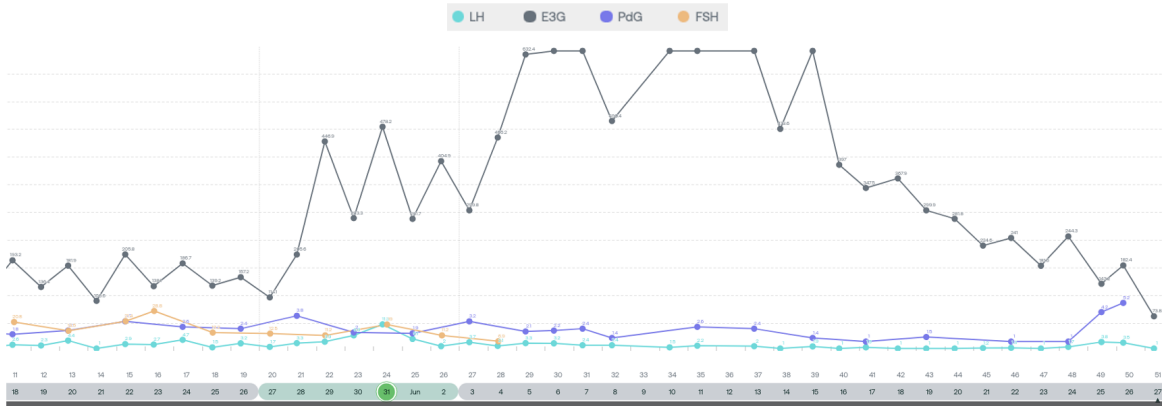
Ongoing testing during the luteal phase helps confirm ovulation through rising and sustained PdG levels and allows for monitoring E3G and PdG patterns.



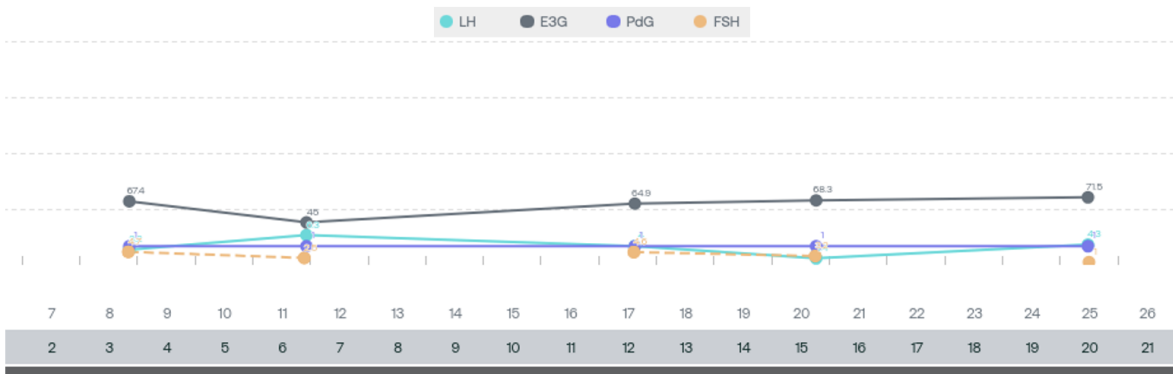
**Example:** Testing during the luteal phase allowed the provider to identify abnormally high E3G in the luteal phase

## Post-hysterectomy/Post-ablation/Non-cycling

## Option 1 Daily Testing: MAX wands daily



## Option 2 Reduced Testing: MAX wands every other day or every third day

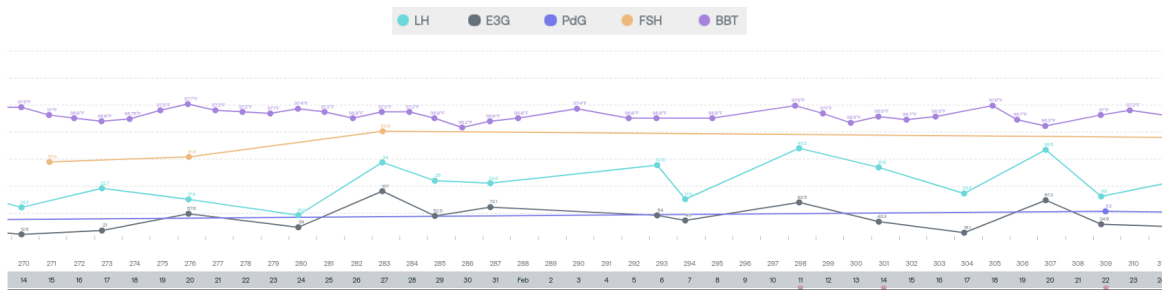


## Interpretation

[Click here](#) to download the interpretation guide.

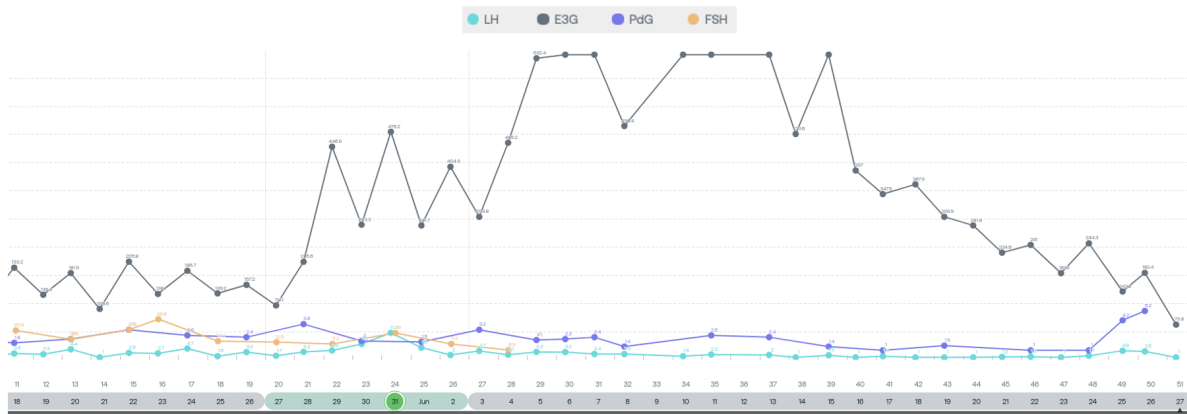
## Chart Examples:

- 42 Female: Irregular cycles transitioning to menopause



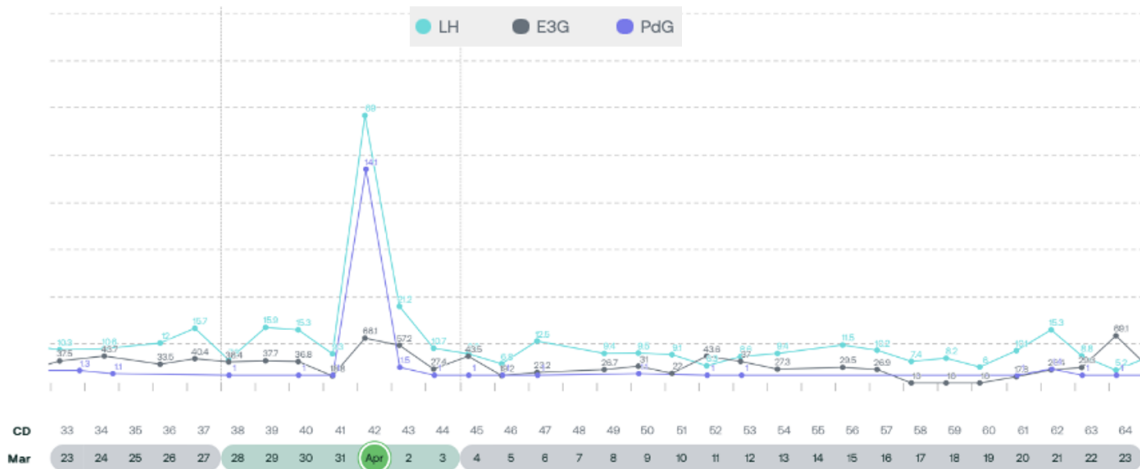
Elevated FSH and LH, infertile pattern

## 2. 49 Female Perimenopause: Estrogen dominance



Mira Data Discovered:  
Rising and sustained elevated E3G without coordinated LH surge

## 3. 41 female perimenopause: non-ovulatory LH surge and anovulatory cycle



Mira Data Discovered:  
Lack of E3G rise prior to LH surge.  
LH surge on CD 42  
Lack of PdG and E3G changes after LH surge  
No menstrual period followed  
Determined to be non-ovulatory LH surge and anovulatory cycle



A lack of PdG rise after an LH surge likely represents an anovulatory cycle or sub-optimal ovulation.

## Perimenopause Case Reports

- Using Mira during Perimenopause with HRT and estrogen dominance- [View here](#)
- Using Mira with PMDD and Perimenopause - [View here](#) (Slide 23 - case report #3)
- Post-hysterectomy hormone tracking with Mira used to correlate symptoms and time interventions- [View here](#)
- Perimenopause Menorrhagia and Hysterectomy with PMDD- [View here](#)

## Provider Testimonials

“In addition, being able to see the fluctuations she is having has helped her to gain insight and rationalisation into why she is feeling as she does, why there are days that are so much worse than others and this has provided a huge sense of relief that there is a biological or physiological reason driving these symptoms, and that it is not her just going ‘mad’.”

### **Dr. Liz Leek, GP**

Functional and Integrated medic, Co-founder of BiOrigin

“Many of the women I work with have spent years feeling alone & gas lit with their symptoms. When they see the data in front of them, it can be quite emotional to see the direct link between symptoms and hormonal fluctuations. In our menopause clinic women often feel gas lit in when they have received blood test results, telling them that their bloods are “normal”. The Mira has meant we can get an accurate picture throughout the month of what is really going on, not only looking at levels of hormones but also their



ratios. This allows us to make tailored, bespoke plans around their HRT and greater insight into their symptoms."

**Adele Wimsett BSc (Hons),**

Women's Health Practitioner & Cyclical Living Guide

*"For patients struggling with cycle irregularity, particularly with PCOS or perimenopause, MIRA is a God send. The hard data on where they are in their cycle hormonally enables them to effectively time treatments to their menstrual cycle phase, and visualize positive changes. This helps motivate the great efforts they are taking to restore their health."*

**Carolyn Plican,**

Creighton Instructor