



Core PMOS/PCOS Panel

MDL Test Number: 690, Tests Included: 13

Specimen Requirements:

Specimen	Collection Platform	Stability	Turnaround Time
Serum	2 Serum Separator Tube (SST)	Room Temperature	24 – 72 hrs.

Special handling and timing

This panel is drawn into serum separator tubes, but two of its requirements are worth setting out separately.

- **The day of the cycle must be recorded.** Follicle-stimulating hormone, luteinizing hormone, and estradiol are best drawn in the first few days of the cycle, counting the first day of bleeding as day 1, and all three are interpreted against where the patient is in her cycle. Progesterone is different again: it says something about ovulation only when it is drawn about a week before the next period is due, which is usually a separate visit.
- **If the cycle day is not known, say so.** Irregular or absent periods are among the reasons this panel is ordered in the first place, so many patients will not be able to give a cycle day. That is expected, and it is not a reason to delay the draw. What matters is that the request records what is known — the date of the last period, or that periods are irregular or absent — so the provider interprets the results in that light rather than against a cycle day that was assumed.

What is the Core PMOS/PCOS Panel?

Polycystic ovary syndrome, now called polyendocrine metabolic ovarian syndrome (PMOS/PCOS), is the most common hormonal disorder in women of reproductive age. It is recognized by a combination of findings rather than by any single test: irregular or absent ovulation, signs of excess male-type hormones, and the appearance of the ovaries. No blood test diagnoses it on its own.

This is the shorter of MDL's two PMOS/PCOS panels. Where the comprehensive panel is built around establishing the diagnosis, this one is built around following it: it carries the hormone measurements that change when the condition is treated, so that a result taken today can be compared against one taken before treatment started. It measures the male-type hormones and the protein that carries them, the pituitary hormones that drive the ovary, and a marker of the number of eggs remaining. It also carries the two conditions most often mistaken for PMOS/PCOS — an underactive thyroid and a raised prolactin — because both need to be excluded once, and both can appear later on their own account.

Why order the Core PMOS/PCOS Panel?

This panel is ordered mainly to follow someone with known or suspected PMOS/PCOS over time. It is commonly used to:

- Track irregular, infrequent, or absent periods, and the hormone pattern behind them.
- Investigate signs of excess male-type hormones including

unwanted hair growth in a male pattern, acne persisting into adult life, and thinning of the scalp hair.

- Measure androgens as the 2023 international guideline directs, using a calculated free testosterone or free androgen index rather than a total testosterone alone, because the carrier protein is often low in this condition, and a total result can look reassuring while the available hormone is not.
- Rule out the conditions that imitate PMOS/PCOS before the diagnosis is settled, principally an underactive thyroid and a raised prolactin, both of which cause irregular periods and both of which are treated quite differently.
- Assess the ovarian reserve, which the same guideline accepts in adults as an alternative to counting follicles on ultrasound scan.
- Establish a baseline before treatment begins, so that every later result has something to be measured against.
- Follow the response to treatment. Weight change, combined hormonal contraception, metformin, and anti-androgen treatment all move these results, and a fall in the free androgen measures alongside a return of regular cycles is what improvement looks like.
- Re-assess when the clinical picture changes, or when symptoms return after a period of good control.

Special Instructions

- **Time of day:** A morning sample is preferred. Testosterone is highest in the morning and falls throughout the day, and prolactin rises with sleep, stress, and the draw itself. The time of collection should be recorded.
- **Hormonal contraception and hormone treatment:** Combined pills, patches, rings, and hormonal intrauterine devices change several of these results, and a panel drawn during use can be difficult to interpret for ovulation, ovarian reserve, or androgen excess. Current or recently stopped treatment should be listed on the request.
- **Biotin supplements:** Biotin is sold on its own and is present in many hair, skin, and nail products, often at high doses. Several tests in this panel can be affected, and the most sensitive of them was tested by its manufacturer only up to a level that a high-dose supplement can exceed. Patients should tell the ordering provider what they take and at what dose.
- **Medicines and recent illness:** Steroids, some psychiatric medicines, and any recent significant illness can affect these results. A current medication list should accompany the request.



Which tests are included in this panel?

Each test below is also available individually, and a separate fact sheet for each one gives its reference ranges, limitations, and the conditions it is used to assess.

Free testosterone and the free androgen index are calculated from the total testosterone and SHBG results already in this panel. They are not separately charged.

Test No.	Analyte	CPT Code	Method
610	Follicle-Stimulating Hormone (FSH)	83001	Immunoassay
611	Estradiol (E2)	82670	Immunoassay
612	Thyroid-Stimulating Hormone (TSH)	84443	Immunoassay
614	Luteinizing Hormone (LH)	83002	Immunoassay
621	Androstenedione	82157	Immunoassay
622	Testosterone, Total	84403	Immunoassay
630	Progesterone	84144	Immunoassay
631	DHEA-Sulfate (DHEA-S)	82627	Immunoassay
639	Sex Hormone-Binding Globulin (SHBG)	84270	Immunoassay
653	Anti-Müllerian Hormone (AMH)	82166	Immunoassay
654	Prolactin	84146	Immunoassay
685	Free Testosterone	—	Calculated
696	Free Androgen Index (FAI)	—	Calculated

Limitations:

Every laboratory panel has limits. For this one, the main ones are:

- PMOS/PCOS is not diagnosed by blood tests alone. The international criteria combine laboratory results with the menstrual history, the clinical examination, and, in some cases, an ultrasound scan, and the diagnosis is made only after other causes have been excluded.
- Each result is a snapshot of one moment. Several of these hormones change substantially across the menstrual cycle and through the day, so a single set of results should be interpreted against when the sample was taken.
- A normal panel does not exclude the condition, and an abnormal single result does not establish it. The pattern across the panel is what carries the meaning.
- Results are interpreted against the reference range printed on the report for each individual test. Those ranges differ by age and, for several of these tests, by where the patient is in her cycle.
- These results are one piece of a larger picture. They are meant to be read together with the patient's symptoms, medical history, and examination — never on their own.

What are some references that discuss the medical necessity of this panel?

1. Teede, H. J. et al. Recommendations from the 2023 International Evidence-based Guideline for the Assessment and Management of Polycystic Ovary Syndrome. *J. Clin. Endocrinol. Metab.* **108**, 2447–2469 (2023).
2. Martin, K. A. et al. Evaluation and treatment of hirsutism in premenopausal women: an Endocrine Society clinical practice guideline. *J. Clin. Endocrinol. Metab.* **103**, 1233–1257 (2018).
3. Practice Committee of the American Society for Reproductive Medicine. Current evaluation of amenorrhea: a committee opinion. *Fertil. Steril.* **122**, 52–61 (2024).
4. Melmed, S. et al. Diagnosis and treatment of hyperprolactinemia: an Endocrine Society clinical practice guideline. *J. Clin. Endocrinol. Metab.* **96**, 273–288 (2011).
5. Practice Committee of the American Society for Reproductive Medicine. Testing and interpreting measures of ovarian reserve: a committee opinion. *Fertil. Steril.* **114**, 1151–1157 (2020).

