

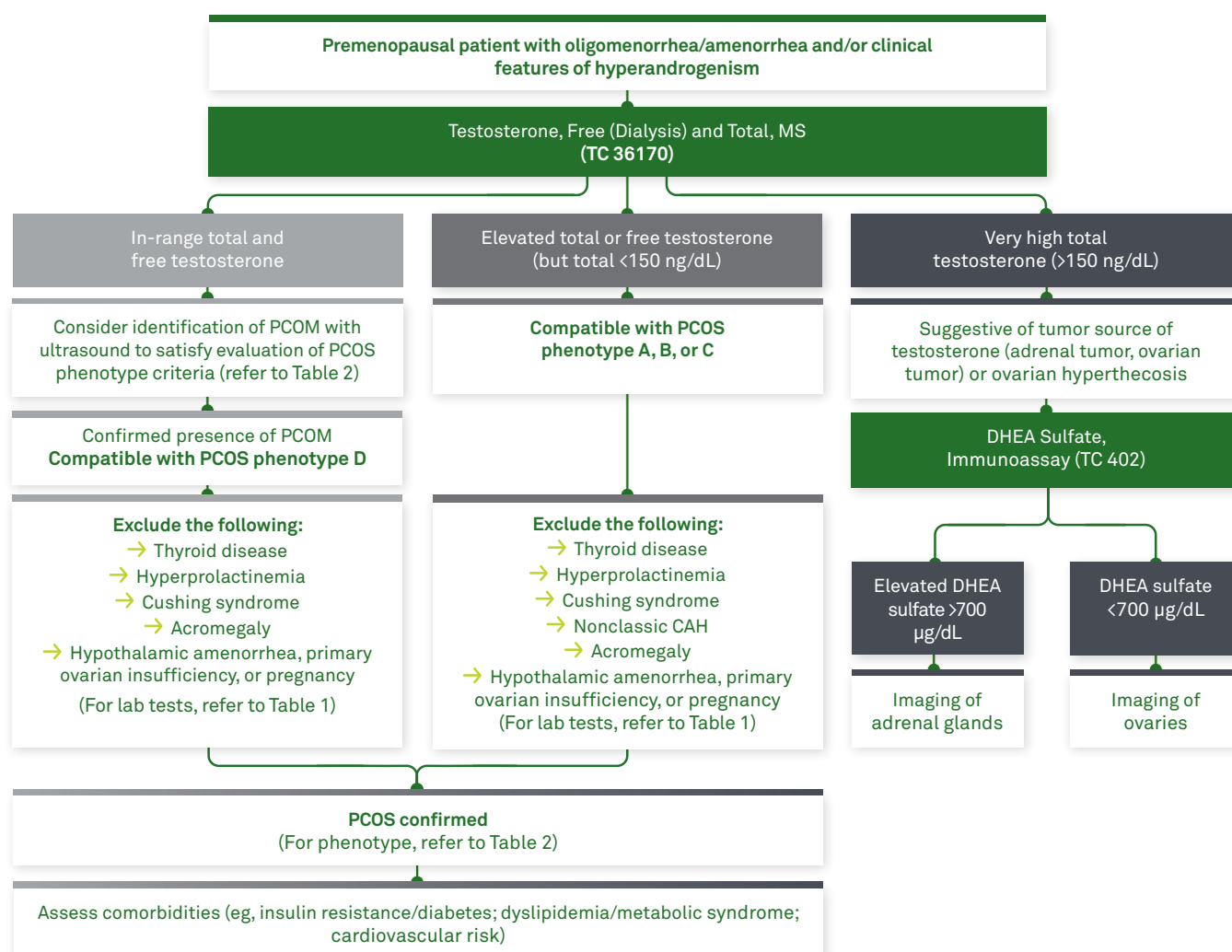
Assessment and differential diagnosis of **PCOS**

Common symptoms and signs of PCOS

PCOS is defined by a combination of signs and symptoms of androgen excess and ovarian dysfunction in the absence of other specific diagnoses. PCOS signs and symptoms may include the following:

- Hirsutism
- Weight gain
- Acne
- Thinning hair/androgenic alopecia
- Ovulatory dysfunction/menstrual irregularities
- Enlarged polycystic ovaries
- Infertility

PCOS Diagnostic Algorithm



CAH, congenital adrenal hyperplasia; DHEA, dehydroepiandrosterone; FSH, follicle-stimulating hormone; hCG, human chorionic gonadotropin; LH, luteinizing hormone; PCOM, polycystic ovarian morphology; PCOS, polycystic ovary syndrome; TC, test code; TSH, thyroid-stimulating hormone.

PCOM should be assessed by ultrasound. Excluding nonclassic CAH is not indicated for a diagnosis of PCOS phenotype D; testosterone is typically elevated in nonclassic CAH and in range for PCOS phenotype D. If PCOS is suspected, ordering the following with testosterone may facilitate a quicker differential diagnosis: 17-Hydroxyprogesterone (TC 17180), hCG, Total, Quantitative (TC 8396) or hCG, Total with HAMA Treatment (TC 19720)—unnecessary if normal menstrual cycle; Prolactin (TC 746); TSH (TC 899) or TSH with HAMA Treatment (TC 19537); and FSH (TC 470) or FSH and LH (TC 7137). To exclude Cushing syndrome, consider initially ordering cortisol 24-hour urine (TC 14534), saliva (TC 19897), or low-dose Dexamethasone Suppression Test (DST), 1 Specimen (TC 6921).

This figure was developed by Quest Diagnostics based on references below. It is provided for informational purposes only and is not intended as medical advice. Test selection and interpretation, diagnosis, and patient management decisions should be based on the physician's education, clinical expertise, and assessment of the patient.

Table 1. Laboratory tests for assessment of PCOS criteria and differential diagnosis

Panel components (test code) may be ordered separately.

Test name (component test codes for panels)	Test code	Description
Hyperandrogenism		
Testosterone, Free (Dialysis) and Total, MS Includes total (15983) and free testosterone	36170	Diagnose hyperandrogenism
Testosterone total MS	15983	Diagnose hyperandrogenism
Differential diagnosis		
Nonclassic CAH 17-Hydroxyprogesterone ^a	17180	Diagnose nonclassic CAH
Hyperprolactinemia Prolactin	746	Diagnose hyperprolactinemia
Thyroid disease TSH	899	Diagnose hyperthyroidism or hypothyroidism
Amenorrhea caused by hypothalamic amenorrhea or primary ovarian insufficiency		
FSH (follicle-stimulating hormone)	470	Diagnose primary ovarian insufficiency
FSH and LH: includes FSH (470) and LH (615)	7137	Diagnose hypothalamic amenorrhea or primary ovarian insufficiency
Pregnancy hCG, total quantitative	8396	Rule out pregnancy
Tumors DHEA Sulfate, Immunoassay ^a	402	Diagnose virilizing tumors

CAH, congenital adrenal hyperplasia; FSH, follicle-stimulating hormone; LH, luteinizing hormone; PCOS, polycystic ovary syndrome; TSH, thyroid-stimulating hormone.
^a This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics. It has not been cleared or approved by the US Food and Drug Administration. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.



Table 2. Polycystic ovary syndrome phenotypes based on Rotterdam Criteria

Criteria ¹⁻³	Phenotype ⁴			
	A	B	C	D
Hyperandrogenism (clinical or biochemical)	✓	✓	✓	
Ovulatory dysfunction	✓	✓		✓
PCOM	✓		✓	✓

PCOM, polycystic ovarian morphology. ✓ Present



For further information,
visit **QuestDiagnostics/PCOS**
or scan the QR Code.

References

1. Joham AE, Norman RJ, Stener-Victorin E, et al. Polycystic ovary syndrome. *Lancet Diabetes Endocrinol.* 2022;10(9):668-680. doi:10.1016/S2213-8587(22)00163-2

2. Escobar-Morreale HF. Polycystic ovary syndrome: definition, aetiology, diagnosis and treatment. *Nat Rev Endocrinol.* 2018;14(5):270-284. doi:10.1038/nrendo.2018.24

3. Monash University, on behalf of the National Health and Medical Research Council (NHMRC), Centre for Research Excellence in PCOS, and the Australian PCOS Alliance 2018. International evidence-based guideline for the assessment and management of polycystic ovary syndrome 2018. Monash University. Updated October 22, 2018. Accessed August 14, 2022. https://www.monash.edu/_data/assets/pdf_file/0004/1412644/PCOS_Evidence-Based-Guidelines_20181009.pdf

4. Azziz R, Carmina E, Dewailly D, et al. The Androgen Excess and PCOS Society criteria for the polycystic ovary syndrome: the complete task force report. *Fertil Steril.* 2009;91(2):456-488. doi:10.1016/j.fertnstert.2008.06.035

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