

Normal vs. Optimal Lab Ranges Related to Adrenals

Hormone Test	Units	Conventional reference range (for women)	Optimal range (for women)
Cortisol (serum)	µg/dL	7-28 morning, 2-18 afternoon	Optimal: 10-15 morning, 6-10 afternoon
Cortisol (blood spot, e.g. ZRT Labs)	ug/dL	8.5-19.8 (morning), 3.3-8.5 (evening/night) according to ZRT labs (may vary at other labs)	Same
Cortisol Morning (saliva)	ng/ml	3.7-9.5	Same
Cortisol Night (saliva)	ng/ml	0.4-1.0	Same
Cortisol Noon (saliva)	ng/ml	1.2-3.0	Same
Cortisol Evening (saliva)	ng/ml	0.6-1.9	Same
DHEAS (serum)	µg/dL	65-380	Top half of normal range: approximately 200-380
DHEAS (blood spot)	µg/dL	40-290 (Age dependent)	Top half of normal range: approximately 165-290
DHEAS (saliva)	ng/ml	2-23 (Age dependent)	Under 30: 6.4-18.6 ng/ml; 31-45: 3.9-11.4 ng/ml; 46-60: 2.7-8 ng/ml; 61-75: 2-6 ng/ml; on oral DHEA (5-10 mg, 12-24 hours after last dose): 2.8-8.6 ng/ml; transdermal DHEA (5 mg): 3-8 ng/ml
Estradiol (serum)	pg/mL	Premenopause: depends on timing with cycle. Overall 15-350 pg/mL in Premenopause. Postmenopause and not on hormones < 32	Day 3: < 80; Day 14: 150-350; Postmenopause approximately 50 for bone strength
Estradiol (blood spot)	pg/ml	43-180 Premeno-luteal or ERT	A normal range for estradiol on day 14 for women in their twenties is 350 pg/ml, and less than 32 after menopause.
Estradiol (saliva)	pg/ml	"1.3-3.3 Premenopausal (Luteal) and 0.5-1.3 Postmenopausal 0.5-1.7 pg/ml Postmenopause"	Day 21 or 22: 1.3-1.7
Fasting blood glucose	mg/dl	60-99	70-86

Hormone Test	Units	Conventional reference range (for women)	Optimal range (for women)
Free T3 (blood spot)	pg/ml	2.5-6.5	Top half of normal range (varies by lab), for ZRT 4.5-6.5
Free T4 (blood spot)	ng/dL	0.7-2.5	Top half of normal range (varies by lab), for ZRT 1.45-2.5
FSH (blood spot)	U/L	0.6-8.0 Premenopausal-luteal	Day 3: < 10, but women still conceive when higher than 10
Progesterone (serum)	ng/mL	Luteal phase: 8 to 33	Luteal phase: 15-33
Progesterone (blood spot)	ng/ml	3.3-22.5 Premeno-luteal or PgRT	
Progesterone (saliva)	pg/ml	75-270 Premenopausal (Luteal)	
Ratio: Pg/E2 (blood spot)		Pg/E2 (bloodspot-optimal 100-500)	Top half of normal range: 300-500
Ratio: Pg/E2 (saliva)	pg/ml	Optimal: 100-500 when E2 1.3-3.3	
Serum ferritin	ng/mL or mcg/L	11 to 307 nanograms per milliliter (standard units) or 11 to 307 micrograms per liter (international units)	70-90, especially if hair loss
Free Testosterone (serum)	pg/mL	0-2.2	Top half of normal range: 1.1-2.2
Testosterone (blood spot)	ng/dl	20-130 Premeno-luteal or TRT	
Testosterone (saliva)	pg/ml	16-55 (Age Dependent)	Top half of normal range: 36-55
TPO (blood spot)	IU/ml	0-150 (70-150 borderline)	<70
Triglycerides (blood spot)	mg/dL	< 150 mg/dL	< 50
TSH (blood spot)	uU/ml	0.5-3.0	The normal range is debated, but evidence favors 0.3 to 2.5 mIU/L. In women who still feel symptoms or have a diagnosis of autoimmune thyroiditis, I will optimize to 0.1-2.0. Ideal is to know the baseline TSH from an earlier age when client feels great and in balance.
Vitamin D, 25-OH, D2	ng/ml	<4 if not supplementing (<10 nmol/L)	
Vitamin D, 25-OH, D3	ng/ml	32-100 ng/ml (80-250 nmol/L)	75-90
Vitamin D, 25-OH, Total	ng/ml	32-100	75-90



About Dr. Sara

Dr. Sara Gottfried, M.D. teaches women how to balance their hormones naturally so they can rock their mission. She is a Harvard-educated physician, speaker and New York Times bestselling author of *The Hormone Cure* (Simon & Schuster, 2013). She is board-certified in Obstetrics and Gynecology, and is regularly featured in magazines such as *Cosmopolitan*, *Glamour*, *Redbook*, *O Magazine*, and *Yoga Journal*, and TV including *The Ricki Lake Show* and *20/20*. Known for quoting Top 40 lyrics and effortlessly blending the seriousness of women's health with playfulness and humor, Dr. Sara's mission is to help women lose weight, feel great and vital from their cells to their soul. Learn more at www.saragottfriedmd.com

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