

TEST REPORT

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XXXXX

Ordering Provider:
Regenerus Laboratories, Ltd

Samples Received
11/08/2022

Report Date
11/16/2022










Samples Collected
Saliva - 10/30/22 09:42
Saliva - 10/30/22 13:25
Saliva - 10/30/22 18:16
Saliva - 10/30/22 22:28
Blood Spot - 10/30/22 09:55

Patient Name: Sample Report HOR28 Weight Management + Thyroid
Patient Phone Number:





Gender Female	Last Menses 09/25/2022	Height 5 ft 4 in	Waist 75 cm
DOB 9/7/1995 (27 yrs)	Menses Status Pre-Menopausal - Irregular	Weight 71 kg	BMI 26.9

TEST NAME	RESULTS 10/30/22	RANGE
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Salivary Steroids

Estradiol	 11.7 H	1.3-3.3 pg/mL Premenopausal (Luteal)
Progesterone	 21 L	75-270 pg/mL Premenopausal (Luteal)
Ratio: Pg/E2	 2 L	Optimal: 100-500 when E2 1.3-3.3 pg/mL
Testosterone	 38	16-55 pg/mL (Age Dependent)
DHEAS	 8.6	2-23 ng/mL (Age Dependent)
Cortisol	 6.8	3.7-9.5 ng/mL (morning)
Cortisol	 1.9	1.2-3.0 ng/mL (noon)
Cortisol	 1.3	0.6-1.9 ng/mL (evening)
Cortisol	 0.6	0.4-1.0 ng/mL (night)

Blood Spot Thyroids

Free T4	 0.8	0.7-2.5 ng/dL
Free T3	 3.8	2.4-4.2 pg/mL
TSH	 2.5	0.5-3.0 µU/mL
TPOab	 27	0-150 IU/mL (70-150 borderline)

Blood Spot CardioMetabolic Markers

Insulin	 9.8	1-15 µIU/mL (optimal 2-6)
Hemoglobin A1c	 4.2	<6%

TEST NAME	RESULTS 10/30/22	RANGE
Blood Spot		
Vitamin D, 25-OH, D2	<4	<4 if not supplementing (< 10 nmol/L)
Vitamin D, 25-OH, D3	18 L	20-80 ng/ml (50-200 nmol/L)
Vitamin D, 25-OH, Total	18 L	20-80 ng/ml (50-200 nmol/L)

<dI = Less than the detectable limit of the lab. N/A = Not applicable; 1 or more values used in this calculation is less than the detectable limit. H = High. L = Low.

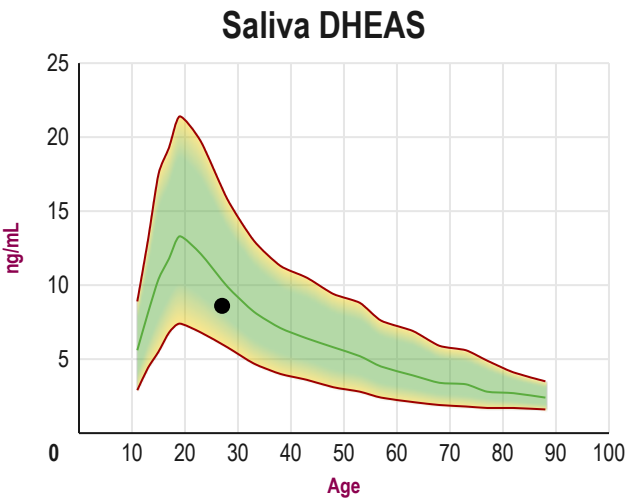
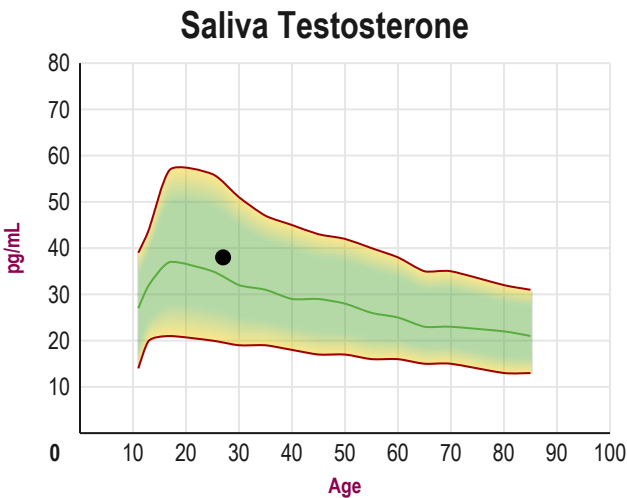
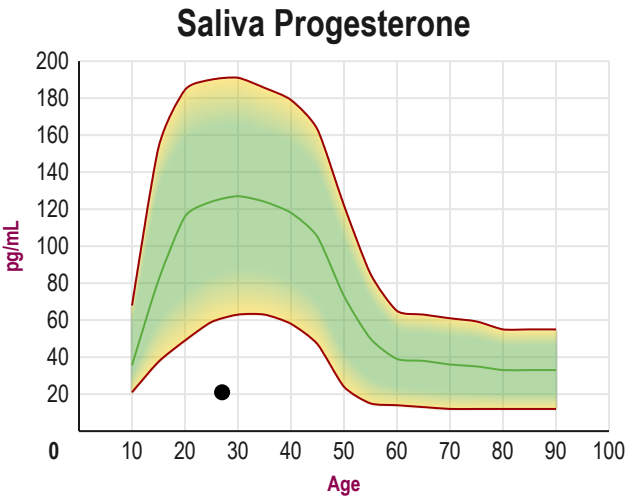
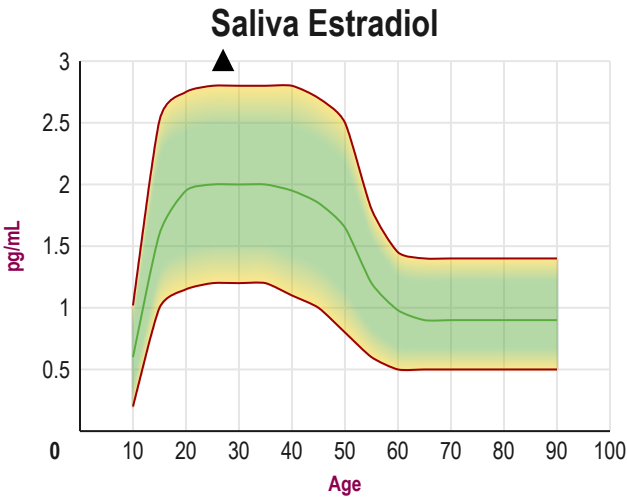
Therapies

None

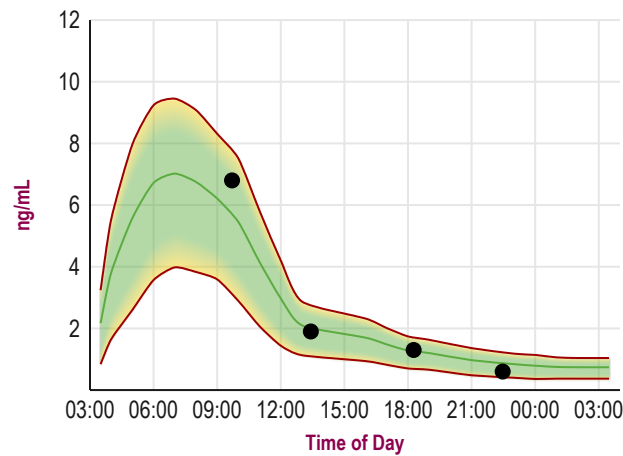
Graphs

Disclaimer: Graphs below represent averages for healthy individuals not using hormones. Supplementation ranges may be higher. Please see supplementation ranges and lab comments if results are higher or lower than expected.

Average ▼▲ Off Graph



Saliva Cortisol



Disclaimer: Supplement type and dosage are for informational purposes only and are not recommendations for treatment. For a complete listing of reference ranges, go to www.zrtlab.com/reference-ranges.

TEST NAME	WOMEN
Salivary Steroids	
Estradiol	0.5-1.7 pg/mL Postmenopausal (optimal 1.3-1.7); 1.3-3.3 pg/mL Premenopausal (Luteal); 0.8-12 pg/mL Estrogen Rplcmnt (optimal 1.3-3.3); 0.5-2.2 pg/mL (Synthetic HRT, BC); 0.9-2.5 pg/mL Premenopausal (Follicular); 1.1-4.8 Premeno-Ovulatory (2.0-4.8 optimal)
Progesterone	12-100 pg/mL Postmenopausal; 14-48 pg/mL Premenopausal (Follicular); 75-270 pg/mL Premenopausal (Luteal); 30-300 pg/mL Oral, Troche, SL Progesterone (100-300 mg); 200-3000 pg/mL Topical, Vag Pg (10-30mg); 10-53 pg/mL Synthetic Progestins (HRT, BC); 11-59 pg/ml Premeno-Ovulatory
Ratio: Pg/E2	Optimal: 100-500 when E2 1.3-3.3 pg/mL
Testosterone	16-55 pg/mL (Age Dependent)
DHEAS	2-23 ng/mL (Age Dependent)
Cortisol	3.7-9.5 ng/mL (morning); 1.2-3.0 ng/mL (noon); 0.6-1.9 ng/mL (evening); 0.4-1.0 ng/mL (night)
Blood Spot Thyroids	
Free T4	0.7-2.5 ng/dL
Free T3	2.4-4.2 pg/mL
TSH	0.5-3.0 µU/mL
TPOab	0-150 IU/mL (70-150 borderline)
Blood Spot CardioMetabolic Markers	
Insulin	1-15 µIU/mL (optimal 2-6)
Hemoglobin A1c	<6%
Blood Spot	
Vitamin D, 25-OH, D2	<4 if not supplementing (< 10 nmol/L)
Vitamin D, 25-OH, D3	20-80 ng/ml (50-200 nmol/L)
Vitamin D, 25-OH, Total	20-80 ng/ml (50-200 nmol/L)

Disclaimer: Symptom Categories below show percent of symptoms self-reported by the patient compared to total available symptoms for each category. For detailed information on category breakdowns, go to www.zrtlab.com/patient-symptoms.

SYMPTOM CATEGORIES		RESULTS 10/30/22	
Estrogen / Progesterone Deficiency	14%	<div></div>	
Estrogen Dominance / Progesterone Deficiency	21%	<div></div>	
Low Androgens (DHEA/Testosterone)	17%	<div></div>	
High Androgens (DHEA/Testosterone)	11%	<div></div>	
Low Cortisol	34%	<div></div>	
High Cortisol	19%	<div></div>	
Hypometabolism	20%	<div></div>	
Metabolic Syndrome	18%	<div></div>	

SYMPTOM CHECKLIST	MILD	MODERATE	SEVERE
Aches and Pains	<div></div>		
Acne	<div></div>		
ADD/ADHD	<div></div>		
Addictive Behaviors	<div></div>		
Allergies	<div></div>		
Anxious	<div></div>		
Autism Spectrum Disorder	<div></div>		
Bleeding Changes	<div></div>		
Blood Pressure High	<div></div>		
Blood Pressure Low	<div></div>		
Blood Sugar Low	<div></div>		
Body Temperature Cold	<div></div>		
Bone Loss	<div></div>		
Breast Cancer	<div></div>		
Breasts - Fibrocystic	<div></div>		
Breasts - Tender	<div></div>		
Chemical Sensitivity	<div></div>		
Cholesterol High	<div></div>		
Constipation	<div></div>		
Depressed	<div></div>		
Developmental Delays	<div></div>		
Eating Disorders	<div></div>		
Fatigue - Evening	<div></div>		
Fatigue - Morning	<div></div>		
Fibromyalgia	<div></div>		
Foggy Thinking	<div></div>		
Goiter	<div></div>		
Hair - Dry or Brittle	<div></div>		
Hair - Increased Facial or Body	<div></div>		
Hair - Scalp Loss	<div></div>		
Headaches	<div></div>		
Hearing Loss	<div></div>		
Heart Palpitations	<div></div>		
Hoarseness	<div></div>		
Hot Flashes	<div></div>		
Incontinence	<div></div>		
Infertility	<div></div>		
Irritable	<div></div>		
Libido Decreased	<div></div>		
Mania	<div></div>		

SYMPTOM CHECKLIST		MILD	MODERATE	SEVERE
Memory Lapse	<div></div>			
Mood Swings	<div></div>			
Muscle Size Decreased	<div></div>			
Nails Breaking or Brittle	<div></div>			
Nervous	<div></div>			
Night Sweats	<div></div>			
Numbness - Feet or Hands	<div></div>			
OCD	<div></div>			
Panic Attacks	<div></div>			
PreMenstrual Dysphoric Disorder	<div></div>			
Pulse Rate Slow	<div></div>			
Rapid Aging	<div></div>			
Rapid Heartbeat	<div></div>			
Skin Thinning	<div></div>			
Sleep Disturbed	<div></div>			
Stamina Decreased	<div></div>			
Stress	<div></div>			
Sugar Cravings	<div></div>			
Sweating Decreased	<div></div>			
Swelling or Puffy Eyes/Face	<div></div>			
Tearful	<div></div>			
Triglycerides Elevated	<div></div>			
Urinary Urge Increased	<div></div>			
Uterine Fibroids	<div></div>			
Vaginal Dryness	<div></div>			
Water Retention	<div></div>			
Weight Gain - Hips	<div></div>			
Weight Gain - Waist	<div></div>			

Lab Comments

Estradiol is higher than the expected range seen in most premenopausal women, suggesting excessive endogenous production by the ovaries (common at perimenopause and in premenopausal women with cystic ovaries) or estrogen replacement therapy (none indicated). If symptoms of estrogen imbalance are problematic it would be worthwhile to consider lowering the estrogen burden with exercise, herbs, diet (higher fiber and less red meat) and/or nutritional supplements such as cruciferous vegetable extracts. Bio-identical progesterone supplementation may also be helpful as it is a natural anti-estrogen and also helps with safe estrogen clearance.

Progesterone is low, consistent with anovulatory cycles (no ovulation) and/or a luteal phase deficiency (ovulation with low progesterone production). Women with irregular cycles are commonly anovulatory. Low progesterone may contribute to symptoms of both estrogen excess (dominance) and estrogen deficiency, particularly if estradiol is fluctuating erratically as it does with irregular menstrual cycles. Bio-identical progesterone supplementation often helps stabilize symptoms of estrogen imbalance.

Testosterone is within range and symptoms of androgen imbalance are minimal.

DHEAS is within mid-normal expected age range (7-23 ng/ml for age range 12-30). DHEAS is highest during the late teens to early twenties (10-20 ng/ml) and drops steadily with age to the lower end of range by age 70-80.

Cortisol is within expected range throughout the day and is following a normal circadian rhythm; however, symptoms of low cortisol are reported. Under stress situations the adrenal glands respond by increasing cortisol output. However, when cortisol levels are within normal range under situations of excessive stress, as reported herein, this suggests that the adrenal glands may be overworking to keep up with the demands of the stressors, which could eventually lead to adrenal exhaustion. HPA axis dysfunction is most commonly caused by stressors which include: psychological stress (emotional), sleep deprivation, poor diet (low protein-particularly problematic in vegetarians), nutrient deficiencies (particularly low vitamins C and B5), physical insults (surgery, injury), diseases (cancer, diabetes), chemical exposure (environmental pollutants, excessive medications), low levels of cortisol precursors (pregnenolone and progesterone) and pathogenic infections (bacteria, viruses and fungi). A normal daily output of cortisol is essential to maintain normal metabolic activity, help regulate steady state glucose levels (important for brain function and energy production), and optimize immune function. Depletion of adrenal cortisol synthesis by a chronic stressor, sleep deprivation, and/or nutrient deficiencies (particularly vitamins C and B5) often leads to symptoms such as fatigue, allergies (immune dysfunction), chemical sensitivity, cold body temp, and sugar craving. For additional information about strategies for supporting adrenal health

and reducing stress(ors), the following books are worth reading: "Adrenal Fatigue; The 21st Century Stress Syndrome", by James L. Wilson, N.D., D.C., PhD; "The Cortisol Connection", by Shawn Talbott, Ph.D.; "The End of Stress As We Know It" by Bruce McEwen; "Awakening Athena" by Kenna Stephenson, MD.

Thyroid hormones (TSH, free T4, and free T3) and thyroid peroxidase antibodies (TPO) are within normal ranges and symptoms of thyroid imbalance are minimal.

Fasting insulin is within normal range, but higher than the optimal range of 2-6, suggesting an evolving insulin resistance. Insulin resistance predisposes to significantly increased lifetime risk for developing more serious health conditions such as metabolic syndrome (high blood pressure, excessive weight gain in the waist, elevated blood lipids), diabetes, and cardiovascular disease. Stress reduction, exercise, proper diet (reducing consumption of excessive carbohydrates), and balancing hormones within normal physiological ranges are important for prevention of insulin resistance/metabolic syndrome and long term risks to health.

Hemoglobin A1c (HbA1c) is within range. HbA1c is a measure of red blood cell hemoglobin glycation and reflects the average blood glucose for the previous 3 months. The American Diabetic Association recommends the following HbA1c levels: normal if it is <5.7%, prediabetes 5.7%-6.4%, and diabetic >6.5%.

Vitamin D is lower than considered sufficient. Vitamin D levels are considered insufficient between 20-30 ng/ml and sufficient between 30-80 ng/ml. While optimal levels are still being researched, the Endocrine society recommends keeping levels above >30 ng/ml. Other researchers have suggested that vitamin D levels are optimal between 50-80 ng/ml.

Vitamin D deficiency has been closely associated with a wide range of conditions and diseases, which include cardiovascular disease, stroke, osteoporosis, osteomalacia, cancer, and autoimmune diseases such as multiple sclerosis, rheumatoid arthritis, and diabetes (types 1 and 2) (for review see: Holick MF. NEJM 357: 266-281, 2007). Lack of adequate sunlight resulting from geographical location (northern climates), excessive clothing, working indoors during daylight hours, purposely avoiding sunlight with clothing and sunscreens, and aging of the skin contribute to low vitamin D levels. Vitamin D3 may be increased by eating foods high in D3 (fish), exposing the skin to sunshine without sunscreen during mid-day for 15-20min (latitudes below Boston, MA), use of a UVB light, and/or supplementation with Vitamin D3.

Professional Comments

Thank you for ordering your test through Regenerus Laboratories. WWW.REGENERUSLABS.COM