

Hormone Evaluation

Version: 3.5.0.428

ZRT Laboratory

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2007 11 23 017 SB

Samples Arrived: 11/23/2007

Samples Collected: A 11/19/07 05:30 AM



Date Closed: 12/06/2007

B 11/19/07 12:00 PM

C 11/19/07 05:00 PM

D 11/19/07 09:45 PM

E 11/19/07 06:00 AM

Getuwell Clinic
1234 Any Street
Anytown, OR 00000

Theresa Trueblood
555 Somewhere St
Anywhere, TWN 54332

Menopausal Status: **Pre-Menopausal**

Gender: **Female**

Client Phone:

Age: **45**

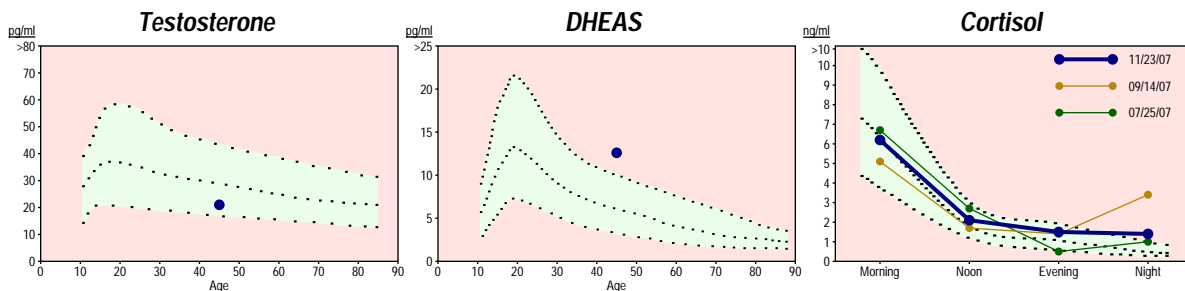
DOB: **1/1/1962**

Hormone Test	Current			Units	Range
	07/25/07	09/14/07	11/23/07		
Estradiol (saliva)	2.0 Ok ⁽¹⁾	1.7 Ok ⁽²⁾	1.9 Ok ⁽²⁾	pg/ml	(1) 0.8-12 Estrogen Replacement (optimal 1.5-3.5); (2) 1.3-3.3 Premenopausal (Luteal)
Progesterone (saliva)	28 L ⁽¹⁾	10305 H ⁽²⁾	660 Ok ⁽¹⁾	pg/ml	(1) 200-3000 Topical Progesterone (10-30 mg); (2) 12-100 Premenopausal (Follicular)
Ratio: Pg/E2 (saliva)	14 L	6062 H	347 Ok		Optimal: 100-500 when E2 1.3-3.3 pg/ml
Testosterone (saliva)	15 L	14 L	21 Ok	pg/ml	16-55 (Age Dependent)
DHEAS (saliva)	3.7 Ok	8.6 Ok	12.6 Ok	ng/ml	2-23 (Age Dependent)
Cortisol Morning (saliva)	6.7 Ok	5.1 Ok	6.2 Ok	ng/ml	3.7-9.5
Cortisol Noon (saliva)	2.7 Ok	1.7 Ok	2.1 Ok	ng/ml	1.2-3.0
Cortisol Evening (saliva)	0.5 L	1.4 Ok	1.5 Ok	ng/ml	0.6-1.9
Cortisol Night (saliva)	1.0 Ok	3.4 H	1.4 H	ng/ml	0.4-1.0
Free T4 (blood spot)	0.8 Ok	0.9 Ok	1.2 Ok	ng/dL	0.7-2.5
Free T3 (blood spot)	1.6 L	2.8 Ok	4.2 Ok	pg/ml	2.5-6.5
TSH (blood spot)	3.4 H	3.3 H	2.8 Ok	uU/ml	0.5-3.0
TPO (blood spot)	55 Ok	69 Ok	58 Ok	IU/ml	0-150 (70-150 borderline)

Current Hormone Therapies

07/25/07: None Indicated

09/14/07: 200 mg topical Progesterone (compounded) (daily Last used) 5 mg oral DHEA (OTC) (daily Last used) 30 mg BID oral Armour (glandular thyroid) (12 hrs Last used) 0.005 mg BID oral Cytomel (T3) (12 hrs Last used)



David T. Zava, Ph.D.
Laboratory Director

Date: **12/06/2007**
CLIA Lic # 38D0960950

The above results and comments are for informational purposes only and are not to be construed as medical advice. Please consult your healthcare practitioner for diagnosis and treatment.

LabAsst
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www.SalivaTest.com

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ZRT Laboratory Saliva Observed Reference Ranges

Disclaimer: Supplement type and dosage are for provider information and are **not** recommendations for treatment. Reference ranges are observed ranges based on collected laboratory data. For more information, see www.zrtlab.com or contact info@zrtlab.com.

			Observed Reference Ranges (1/07)	Old Ranges	
WOMEN					
Estradiol	Premenopausal		1.3-3.3	1-5	
	Postmenopausal		0.5-1.7	1-1.5	
	Supplement (12-24 Hrs.)	Estradiol Patch (0.05 mg)		0.8-2	
		Hormonal Contraceptives		0.5-2.2	
		Oral Estradiol (.5-1.0 mg)		1.2-3.9	1.5-10
		Oral Premarin*(0.625 mg)		0.9-3.7	
Topical Bi-est 4:1, (0.6-1.25 mg)			2.4-11.6	1.5-10	
	Topical Estradiol (0.5-1.0 mg)		2.9-35.5		
Progesterone	Premenopausal	Luteal	75-270	100-600	
		Follicular			
	Postmenopausal		25-100	25-100	
	Supplement (12-24 Hrs.)	Hormonal Contraceptives		10-53	
		Oral Progesterone (100 mg)		30-300	100-1000
	Topical Progesterone (20 mg)		200-3000	500-3000	
Testosterone		All Ages	16-55		
		Ages 16-30	18-55	20-50	
		Ages > 30	16-47		
	Supplement (12-24 Hrs.)	Hormonal Contraceptives		13-45	
		Topical Testosterone (0.3-0.5 mg)		22-86	n/a
DHEA-S		All Ages	2-19	3-10	
		Ages 16-30	6.4-18.6		
		Ages 31-45	3.9-11.4		
		Ages 46-60	2.7-8		
		Ages 61-75	2-6		
	Supplement (12-24 Hrs.)	Oral DHEA (5-10 mg)		2.8-8.6	
		Topical DHEA (5 mg)		3-8	
Estrone			1.6-5	2-10	
Estriol	Premenopausal				
	Postmenopausal		<7	3-7	
	Supplement (12-24 Hrs.)	Oral Estriol		5-20	5-20
Topical Estriol			5-100	5-100	
MEN					
Estradiol			0.8-2.2	0.5-1.5	
Progesterone			15-100	25-100	
		Topical Progesterone (5-10 mg)		42-650	
Testosterone		All Ages	44-148	50-200	
		Ages 16-30	72-148		
		Ages 31-50	58-120		
		Ages 51-70	44-94		
		Ages > 70	30-77		
	Supplement (12-24 Hrs.)	Androgel* (25-50 mg)		1300-3700	
Topical Testosterone (5-10 mg)			115-800	200-500	
DHEA-S		All Ages	2-23	3-10	
		Ages 16-30	7-23		
		Ages 31-45	6-18		
		Ages 46-60	4-11.5		
		Ages 61-75	2.4-7.5		
	Supplement (12-24 Hrs.)	Oral DHEA (25 mg)		6-17	
Topical DHEA (10 mg)			4-15		
Estrone			0-3	0-3	
Estriol			0-3	0-3	
WOMEN AND MEN					
Cortisol	C1	Morning	3.7-9.5	3-8	
	C2	Noon	1.2-3	2-4	
	C3	Evening	0.6-1.9	1-2	
	C4	Night	0.4-1	0.5-1.5	

*Other names and brands may be claimed as the property of others.

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Created: 2/7/07

Estradiol is slightly higher than observed range for a postmenopausal woman (1-1.7 pg/ml) but within/near the expected optimal range (1.3-3.3 pg/ml) for a premenopausal woman or a postmenopausal woman on ERT. This suggests higher endogenous estrogen production via ovaries or adrenal glands, aromatization (conversion) of endogenous or exogenous androgens into estrogens in adipose tissue (usually associated with higher testosterone or DHEAS levels, estrogen replacement therapy-none indicated, and/or slow estrogen metabolism/clearance (sluggish liver function-may be caused by some medications and common in individuals with low thyroid). Symptoms of estrogen excess are minimal at this time based on self-reporting. If symptoms of estrogen imbalance become more problematic it may be worthwhile to consider one or more of the following: lower the estrogen dose (assuming estrogen therapy); increase estrogen clearance with exercise, herbs, diet (higher fiber and less red meat), and/or nutritional supplements such as cruciferous vegetable extracts; balance the higher estrogen with natural progesterone supplementation, a natural anti-estrogen that helps with safe estrogen clearance.

Progesterone is higher than the expected range and strongly suggests recent supplementation with topical progesterone. The higher progesterone is usually due to: current supplementation progesterone not listed, exposure to progesterone from others using topical progesterone, or from use of anti-aging cosmetic facial creams that contain small amounts of progesterone. With "active" daily supplementation of 10-30 mg topical progesterone, salivary levels are expected to be in the 200-3000 pg/ml range 12-24 hr post supplementation. Discontinuation of topical progesterone can result in residual levels of progesterone (usually less than 500, but greater than 100) for several days up to weeks (depends on original dose and rate of clearance).

Testosterone is low-normal but symptoms characteristic of chronic low androgens are minimal. Low testosterone may indicate that the saliva sample was collected during an anovulatory cycle or during the follicular phase of the menstrual cycle when testosterone is lower. Alternatively low salivary testosterone could indicate the use of contraceptive hormones (synthetic progestins) that suppress ovarian testosterone production. Synthetic "androgenic" progestins found in many types of hormonal contraceptives act as surrogate androgens at the cellular receptor level but are not detected with assays for testosterone. Chronic low testosterone is often associated with one or more of the following symptoms: low libido, incontinence, vaginal dryness, fatigue, memory lapses, depression, and bone loss. None of these symptoms is reported as problematic, suggesting that testosterone is normal other menstrual cycles or the use of hormonal contraceptives.

DHEAS is higher than the age expected range. 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 (2-9 ng/ml). Mid-life DHEAS levels in both males and females are usually in the range of 5-8 ng/ml. Higher than normal age-range DHEAS levels are common in well trained athletes and individuals supplementing with DHEA or adrenal adaptogens that stimulate adrenal production of DHEA. High DHEAS may be associated with high androgen symptoms (loss of scalp hair, increased facial/body hair, acne) when the DHEA is converted to testosterone and dihydrotestosterone directly in the pilosebaceous gland of the skin.

Cortisol is within expected range throughout most of the day but rises to a high level at night. High night cortisol indicates some form of adrenal stressor (emotional/physical-surgery, injury or disease causing inflammation/dietary-starvation/low blood glucose from dysglycemia/microbial-bacterial, fungal, or viral infections). Acute effects of a high cortisol are usually associated with agitation-irritability, anxiety, and sleep disturbances. However, when the stressor has been chronic over a prolonged period of time (months/years) this leads to conditions such as weight gain in the waist, muscle and bone loss, depression, and immune suppression. Dysfunction of other hormones is closely associated with chronic excess cortisol. For example, tissue resistance to insulin, caused by chronically high cortisol, leads to insulin resistance/metabolic syndrome which is associated with weight gain in the waist, dyslipidemia (unhealthy blood lipid profiles) and high blood pressure, which in turn increase the risk for diseases such as diabetes, cardiovascular disease, and cancer. Chronic high cortisol suppresses immune function, lowering natural defenses against infection and disease. A high night cortisol will lower melatonin production, which is important for maintaining normal biorhythms and immune function. Because chronic stressors and associated high night cortisol can have serious long term adverse effects on health and well being, it is important to develop strategies to identify and eliminate or reduce the stressors. For additional information about adrenal dysfunction and strategies for adrenal support and lowering stress/cortisol levels the following books and journal articles are worth reading: "Adrenal Fatigue", by James L. Wilson, N.D., D.C., Ph.D.; "The Cortisol Connection", by Shawn Talbott, Ph.D.; "The End of Stress As We Know It" by Bruce McEwen; "Phosphatidylserine", by Paris Kidd, Ph.D.; "The influence of Phosphatidylserine supplementation on mood and heart rate when faced with an acute stressor", Benton et al., Nutritional Neuroscience 4; 169-178, 2001.

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

Free T3 is within normal range and symptoms of thyroid deficiency are minimal.

TSH is within high-normal range. Although most laboratories have a TSH range of 0.35-5.50, new studies are finding that the mean and median values are 1.0-1.5mU/l . Some experts believe that TSH should be kept near the median value of healthy individuals. TSH levels >3.0 are now considered abnormal due to changes by the endocrinology association - see www.aace.com for more information. Thyroid therapy may be worthwhile considering if T4 and/or T3 are low and symptoms of thyroid deficiency are problematic.

Thyroid peroxidase (TPO) antibodies are low indicating that Hashimoto's autoimmune thyroiditis is unlikely.