Test Results

ZRT Laboratory

8605 SW Creekside Place
Beaverton, OR 97008
Phone: 866-600-1636 Fax: 503-466-1636
info@zrtlab.com zrtlab.com

Gender: **Male**

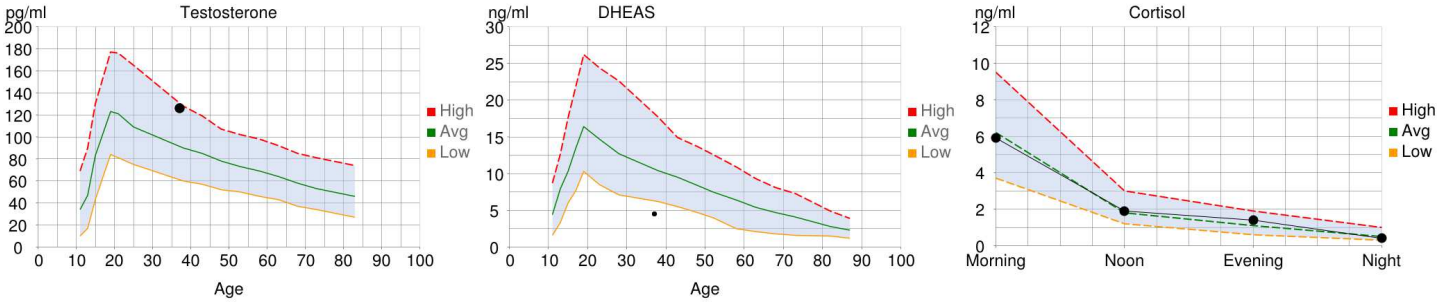
Age: **37**

Hormone Test	Current 03/25/2012		Units	Range
Estradiol (saliva)	0.7		pg/ml	0.5-2.2
Testosterone (saliva)	126		pg/ml	44-148 (Age Dependent)
DHEAS (saliva)	4.5		ng/ml	2-23 (Age Dependent)
Cortisol Morning (saliva)	5.9		ng/ml	3.7-9.5
Cortisol Noon (saliva)	1.9		ng/ml	1.2-3.0
Cortisol Evening (saliva)	1.4		ng/ml	0.6-1.9
Cortisol Night (saliva)	0.4		ng/ml	0.4-1.0
PSA (blood spot)	0.7		ng/ml	<0.5-4 (optimal 0.5-2)
Free T4 (blood spot)	1.3		ng/dL	0.7-2.5
Free T3 (blood spot)	3		pg/ml	2.5-6.5
TSH (blood spot)	0.2	L	uU/ml	0.5-3.0
TPO (blood spot) *	16		IU/ml	0-150 (70-150 borderline)
LH (blood spot)	2.5		U/L	1.0-8.4 (adult male)
FSH (blood spot)	1.6		U/L	1.0-10.5 (adult male)

* for research purposes ONLY

Current Hormone Therapies

03-25-2012 - None Indicated;



David T. Zava, Ph.D.
Laboratory Director

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
MEN			
DHEA-S		All Ages	2-23 ng/ml
		Ages 16-30	7-23 ng/ml
		Ages 31-45	6-18 ng/ml
		Ages 46-60	4-11.5 ng/ml
		Ages 61-75	2.4-7.5 ng/ml
	Supplement (12-24 Hrs.)	Oral DHEA (25 mg)	6-17 ng/ml
		Topical DHEA (10 mg)	4-15 ng/ml
Estradiol			0.8-2.2 pg/ml
Estriol			0-3 pg/ml
Estrone			0-3 pg/ml
Progesterone			15-100 pg/ml
		Topical Progesterone (5-10 mg)	42-650 pg/ml
Testosterone		All Ages	44-148 pg/ml
		Ages 16-30	72-148 pg/ml
		Ages 31-50	58-120 pg/ml
		Ages 51-70	44-94 pg/ml
		Ages > 70	30-77
	Supplement (12-24 Hrs.)	Androgel* (25-50 mg)	1300-3700 pg/ml
		Topical Testosterone (5-10 mg)	115-800 pg/ml
WOMEN AND MEN			
Cortisol	C1	Morning	3.7-9.5 ng/ml
	C2	Noon	1.2-3 ng/ml
	C3	Evening	0.6-1.9 ng/ml
	C4	Night	0.4-1 ng/ml

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

8605 SW Creekside Place, Beaverton, Oregon 97008 Phone: 503-466-2445 Fax: 503-466-1636

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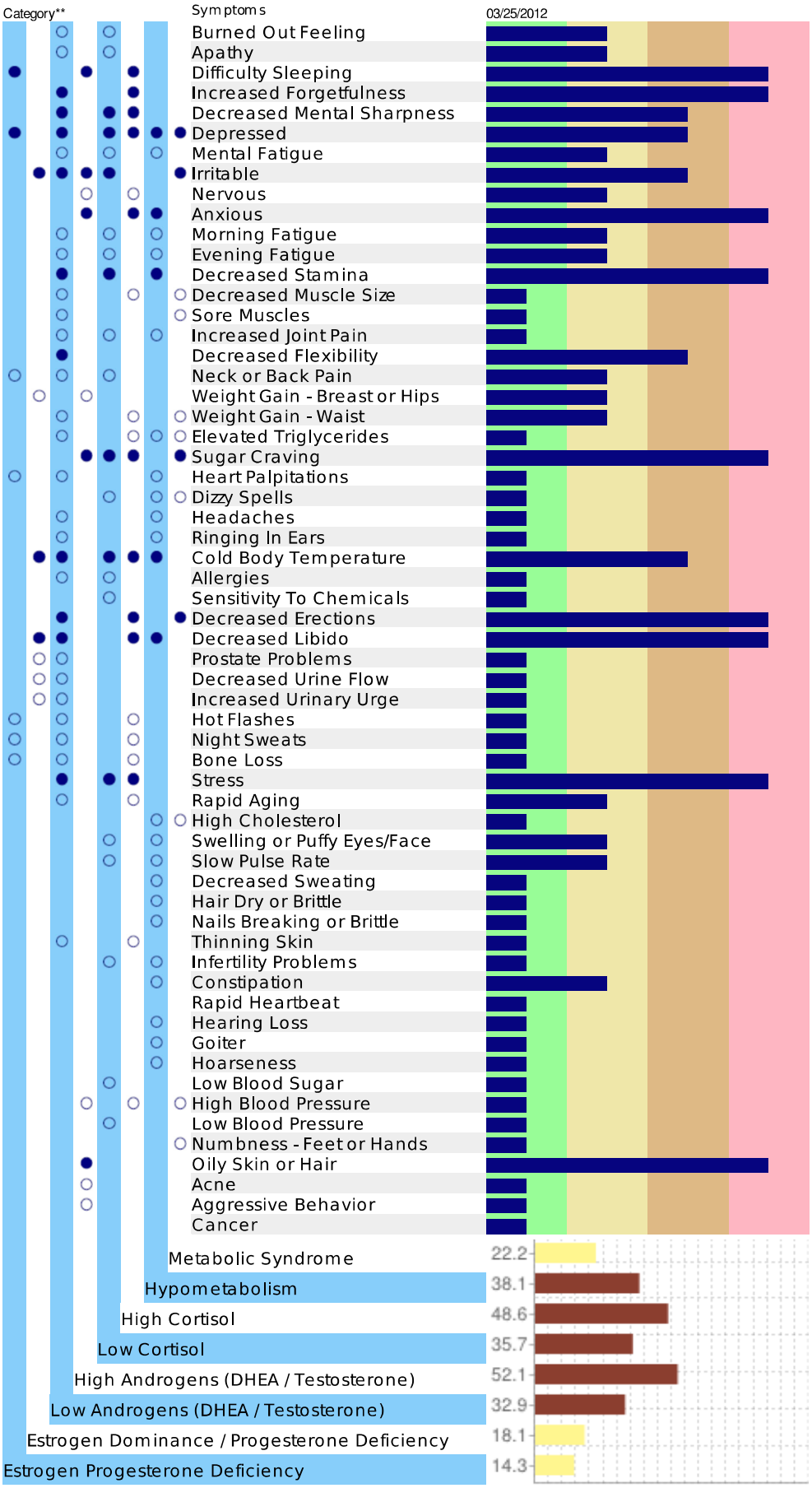

**Category refers to the most common symptoms experienced when specific hormone types (eg estrogens, androgens, cortisol) are out of balance, i.e. either high or low.

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Lab Comments

Estradiol is within expected range for a male.

Testosterone is within normal range but symptoms of androgen imbalance (both deficiency and excess) persist. This would suggest that the symptoms of androgen deficiency are more likely caused by other hormonal imbalances, the most likely of which are adrenal imbalance (low or high cortisol), low thyroid, or high estrogens. If symptoms of thyroid or cortisol dysfunction are evident then more extensive testing for these hormones is recommended. Androgen deficiency symptoms can be caused by poor tissue response to the testosterone, which in turn, can be caused by excessive estrogen (raises SHBG, which lowers bioavailable testosterone and down-regulates cellular androgen receptors), low thyroid, or high stress/cortisol imbalance. Testosterone is an important anabolic hormone in men, meaning it plays important roles in maintaining both physical and mental health (increases energy, prevents fatigue, helps maintain normal sex drive, increases strength of all structural tissues such as skin/bone/muscles-including the heart, prevents depression and mental fatigue). Testosterone deficiency is often associated with symptoms such as erectile dysfunction, low sex drive, decreased mental and physical ability, lower drive, and loss of muscle mass. Stress management, exercise, proper nutrition, dietary supplements (particularly adequate zinc and selenium), and androgen replacement therapy (controversial in prostate cancer) have all been shown to raise androgen levels in men and help counter andropause symptoms. Appropriate PSA measurements should be done prior to beginning therapy and at least 1, 6 and 12 months thereafter for the next year. For more information on hypogonadism, andropause, and strategies to raise testosterone levels the following book, review journal article, and web site are recommended: "The Testosterone Revolution" by Malcolm Carruthers; "Hypogonadism and Androgen Replacement Therapy in Elderly Men", Basarian S. and Dobs AS. Am J Med: 110: 563-572, 2001; www.lef.org/protocols/abstracts/abstr-130.

DHEAS is within low-normal expected age range. Chronic low DHEAS may suggest adrenal fatigue, particularly if cortisol is also low and symptoms are indicative of low adrenal function. 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. Consider adrenal adaptogens or DHEA supplements if symptoms of androgen deficiency are problematic.

Cortisol is near expected range throughout most of the day and is following a normal circadian rhythm; however, a significant number of symptoms commonly associated with adrenal stressors are self reported. Under stress situations the adrenal glands normally respond by increasing cortisol output. However, when cortisol levels are within normal range under situations of excessive stress, as reported herein, this suggests they may be overworking to keep up with the demands of the stressors, which could eventually lead to adrenal exhaustion. Adrenal exhaustion 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", 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; "Awakening Athena" by Kenna Stephenson, MD.

PSA (Prostate Specfic Antigen) is within normal range

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Free T4 is within normal range but symptoms of thyroid deficiency are self-reported. This usually is due to poor conversion of T4 to T3.

Free T3 is within normal range but symptoms indicate thyroid deficiency. A normal T3 does not exclude the possibility of a "functional" thyroid deficiency caused by other hormonal imbalances such as excess estrogen, low progesterone, low testosterone, low or high cortisol, and low growth hormone (IGF-1). Testing for these hormones is recommended.

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

LH is within expected range.

FSH is within expected range.

David T. Zava, Ph.D.
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