

Test Results



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2014 10 27 002 SB



Samples Arrived: 10/27/2014
Date Closed: 10/27/2014

Samples Collected: Saliva: 10/13/14 05:35
Saliva: 10/13/14 11:49
Saliva: 10/13/14 17:30
Saliva: 10/13/14 22:30
Blood Spot: 10/13/14 06:05

ZRT Laboratory Demo Account
8605 SW Creekside Pl
Beaverton, OR 97008

Comprehensive Male Profile I

Gender: Male

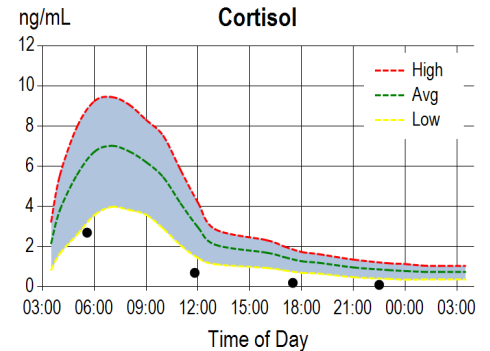
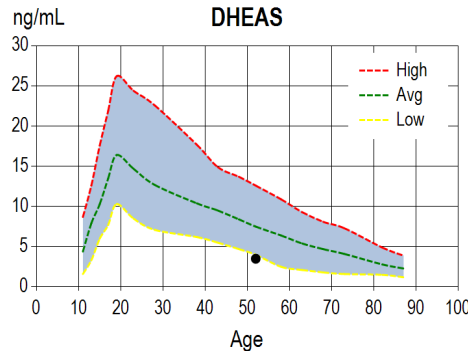
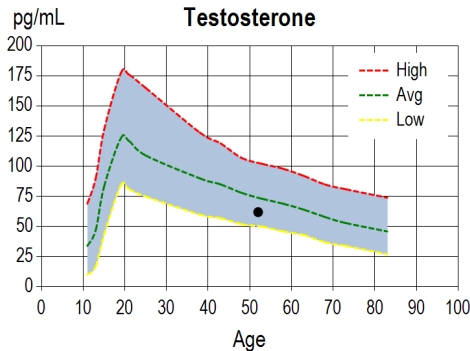
DOB: 5/18/1962 (52 yrs) Patient Ph#: Unspecified

BMI: 25.6
Height: 6 ft 3 in
Weight: 205 lb
Waist: 35 in

| Test Name | Result | Units | Range |
|-----------------------|--------|---------|---------------------------|
| Estradiol (Saliva) | 1.3 | pg/mL | 0.5-2.2 |
| Testosterone (Saliva) | 62 | pg/mL | 44-148 (Age Dependent) |
| DHEAS (Saliva) | 3.5 | ng/mL | 2-23 (Age Dependent) |
| Cortisol (Saliva) | 2.7 | L ng/mL | 3.7-9.5 (morning) |
| Cortisol (Saliva) | 0.7 | L ng/mL | 1.2-3.0 (noon) |
| Cortisol (Saliva) | 0.2 | L ng/mL | 0.6-1.9 (evening) |
| Cortisol (Saliva) | 0.1 | L ng/mL | 0.4-1.0 (night) |
| PSA (Blood Spot) | 0.8 | ng/mL | <0.5-4 (optimal 0.5-2) |
| Free T4 (Blood Spot) | 1.6 | ng/dL | 0.7-2.5 |
| Free T3 (Blood Spot) | 3.2 | pg/mL | 2.5-6.5 |
| TSH (Blood Spot) | 4.5 | H µU/mL | 0.5-3.0 |
| TPO (Blood Spot) | 23 | IU/mL | 0-150 (70-150 borderline) |

Therapies

None Indicated



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.

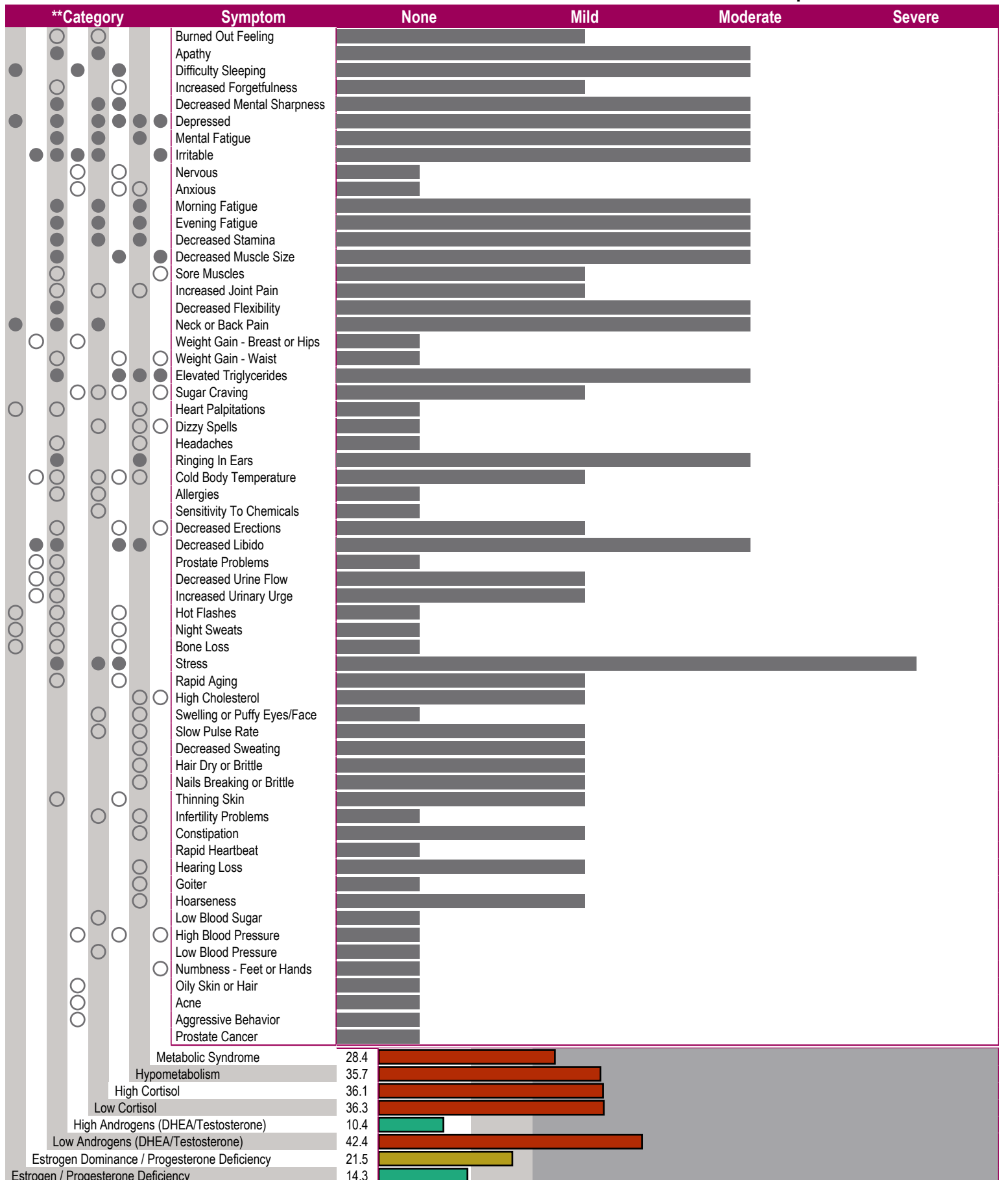
David T. Zava
David T. Zava, Ph.D.
(Laboratory Director)

CLIA Lic # 38D0960950
Composed by: 1164619955 at 10/27/2014 2:08:27 PM

ZRT Laboratory Reference Ranges

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 | Men |
|--|---|
| Estradiol (saliva) (Saliva) - pg/mL | 0.5-2.2 |
| Testosterone (saliva) (Saliva) - pg/mL | 44-148 (Age Dependent); 115-3700 (5-50 mg topical 12-24 hr) |
| DHEAS (saliva) (Saliva) - ng/mL | 2-23 (Age Dependent) |
| Cortisol (saliva) (Saliva) - ng/mL | 3.7-9.5 (morning); 1.2-3.0 (noon); 0.6-1.9 (evening); 0.4-1.0 (night) |
| PSA (Blood Spot) - ng/mL | <0.5-4 (optimal 0.5-2) |
| Free T4 (Blood Spot) - ng/dL | 0.7-2.5 |
| Free T3 (Blood Spot) - pg/mL | 2.5-6.5 |
| TSH (Blood Spot) - μ U/mL | 0.5-3.0 |
| TPO (Blood Spot) - IU/mL | 0-150 (70-150 borderline) |



**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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(Laboratory Director)

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Lab Comments

Estradiol is within expected range for a male.

Testosterone is within normal age-adjusted range (see graph) but likely is lower than this individual's optimal range for peak health since symptoms of androgen deficiency are problematic. In healthy males, salivary testosterone ranges from about 50-200 pg/ml. Optimal ranges are suggested to be above 100, which is equivalent to about 500 ng/dL in serum. Testosterone values dropping below about 70-80 pg/ml are more frequently associated with symptoms of andropause, as seen in these test results and symptom profile. 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 any form of androgen replacement therapy and at least 1, 6 and 12 months thereafter for the next year (PSA test available at ZRT Laboratory). 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 low to low-normal throughout the day suggesting adrenal exhaustion/low adrenal reserve or the use of synthetic glucocorticoids (eg. prednisone) that suppress endogenous cortisol production. Adrenal exhaustion is usually caused by some form of stressor such as emotional/psychological stress, sleep deprivation, low protein diet, nutrient deficiencies (particularly low vitamins C and B5), physical insults (surgery, injury, diseases, inflammatory conditions), chemical exposure, low cortisol precursors (pregnenolone, progesterone) and pathogenic infections (bacterial, viral, fungal). In a healthy individual the adrenal glands initially respond to stressors by increasing cortisol output. However, if the stressor persists the adrenal glands either continue to meet the demands of the stressor with high cortisol output, or become exhausted, wherein cortisol levels fall below normal, as in these test results. Synthetic glucocorticoids used to treat inflammation, allergies, or asthma may also lower endogenous cortisol levels. Symptoms commonly associated with chronic low cortisol include fatigue, allergies (immune dysfunction), chemical sensitivity, cold body temp, and sugar craving. Low cortisol is often associated with symptoms of thyroid deficiency as normal physiological levels of cortisol are essential for optimal thyroid function. Adequate sleep and rest, gentle exercise, proper diet (adequate protein), natural progesterone, adrenal extracts, herbs, and nutritional supplements (vitamins C and B5) are some of the natural ways to help support adrenal function. Caution: Thyroid or androgen therapies may further lower cortisol levels and exacerbate symptoms of cortisol deficiency. These therapies are not likely to be successful if cortisol is not first adjusted to normal levels.

PSA (Prostate Specific Antigen) is within normal range.

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.

TSH is high. Although most laboratories have a TSH range of 0.35-5.50, new studies are finding that the mean and median values in healthy individuals are 1.0-1.5mU/l. TSH levels >3.0 are now considered abnormal due to changes by the endocrinology association - see www.aace.com for more information. Now, experts believe that TSH should be kept below 2.0 for optimal health. Elevated TSH is often associated with symptoms of hypothyroidism, which include fatigue, decreased stamina, depression, rheumatic pain, sleep disturbances, cold extremities or feeling cold, reduced body temperature, brittle nails, dry course hair, hair loss, infertility, low libido, puffy eyes and face, decreased sweating, menorrhagia, and/or constipation. Periodic TSH monitoring is recommended if clinical symptoms of thyroid deficiency persist. 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.