Test Results

ZRT LABORATORY
8605 SW Creekside Place
Beaverton, OR 97008
Phone: 503-466-2445 Fax: 503-466-1636
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2014 02 05 001 S

Samples Arrived: 02/05/2014
Date Closed: 02/07/2014

Samples Collected:
Saliva: 02/02/14 07:15
Saliva: 02/02/14 12:00
Saliva: 02/02/14 17:30
Saliva: 02/02/14 21:45

John Smith, MD
9876 W 10th St
Lenox Hill, NY 10131

Jane Doe
1234 First Street
New York, NY 10131

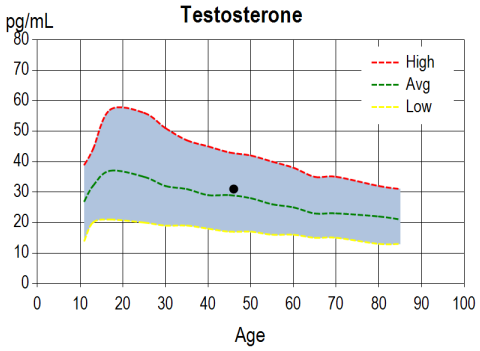
BMI: 22.3
Height: 64 in
Weight: 130 lb
Waist: 28 in

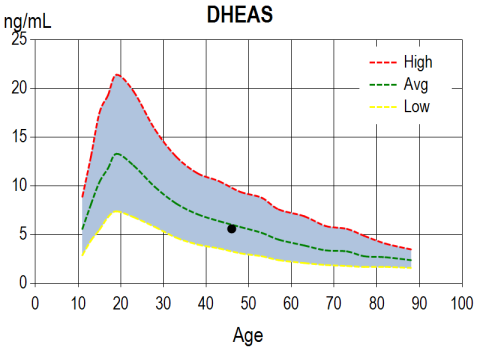
Menses Status: Pre-Menopausal - Irregular
Gender: Female
Last Menses: Unspecified
DOB: 1/16/1968 (46 yrs)
Patient Ph#: 555 867 5309

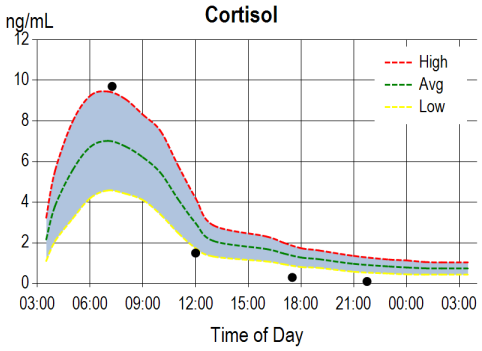
Test Name	Result		Units	Range
Estradiol (saliva)	5.4	H	pg/mL	1.3-3.3 Premenopausal (Luteal)
Progesterone (saliva)	70	L	pg/mL	75-270 Premenopausal (Luteal)
Ratio: Pg/E2 (saliva)	13	L		Optimal: 100-500 when E2 1.3-3.3 pg/mL
Testosterone (saliva)	31		pg/mL	16-55 (Age Dependent)
DHEAS (saliva)	5.6		ng/mL	2-23 (Age Dependent)
Cortisol (saliva)	9.7	H	ng/mL	3.7-9.5 (morning)
Cortisol (saliva)	1.5		ng/mL	1.2-3.0 (noon)
Cortisol (saliva)	0.3	L	ng/mL	0.6-1.9 (evening)
Cortisol (saliva)	0.1	L	ng/mL	0.4-1.0 (night)

Therapies

oral DHEA (OTC) (1 Days Last used); oral Pregnenolone (OTC) (1 Days Last used)







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, Ph.D.
(Laboratory Director)

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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	Women
Estradiol (saliva) - pg/mL	0.5-1.7 Postmenopausal (optimal 1.3-1.7); 1.3-3.3 Premenopausal (Luteal); 0.8-12 Estrogen Replacement (optimal 1.3-3.3); 0.5-2.2 (Synthetic HRT, Contraceptive); 0.5-1.7 Premenopausal (follicular)
Progesterone (saliva) - pg/mL	12-100 Postmenopausal; 12-100 Premenopausal (Follicular); 75-270 Premenopausal (Luteal); 30-300 Oral Progesterone (100-300 mg); 200-3000 Topical, Troche, Vaginal Pg (10-30 mg); 10-53 Synthetic Progestins (HRT, Contraceptive)
Ratio: Pg/E2 (saliva)	Optimal: 100-500 when E2 1.3-3.3 pg/mL
Testosterone (saliva) - pg/mL	16-55 (Age Dependent)
DHEAS (saliva) - ng/mL	2-23 (Age Dependent)
Cortisol (saliva) - ng/mL	3.7-9.5 (morning); 1.2-3.0 (noon); 0.6-1.9 (evening); 0.4-1.0 (night)

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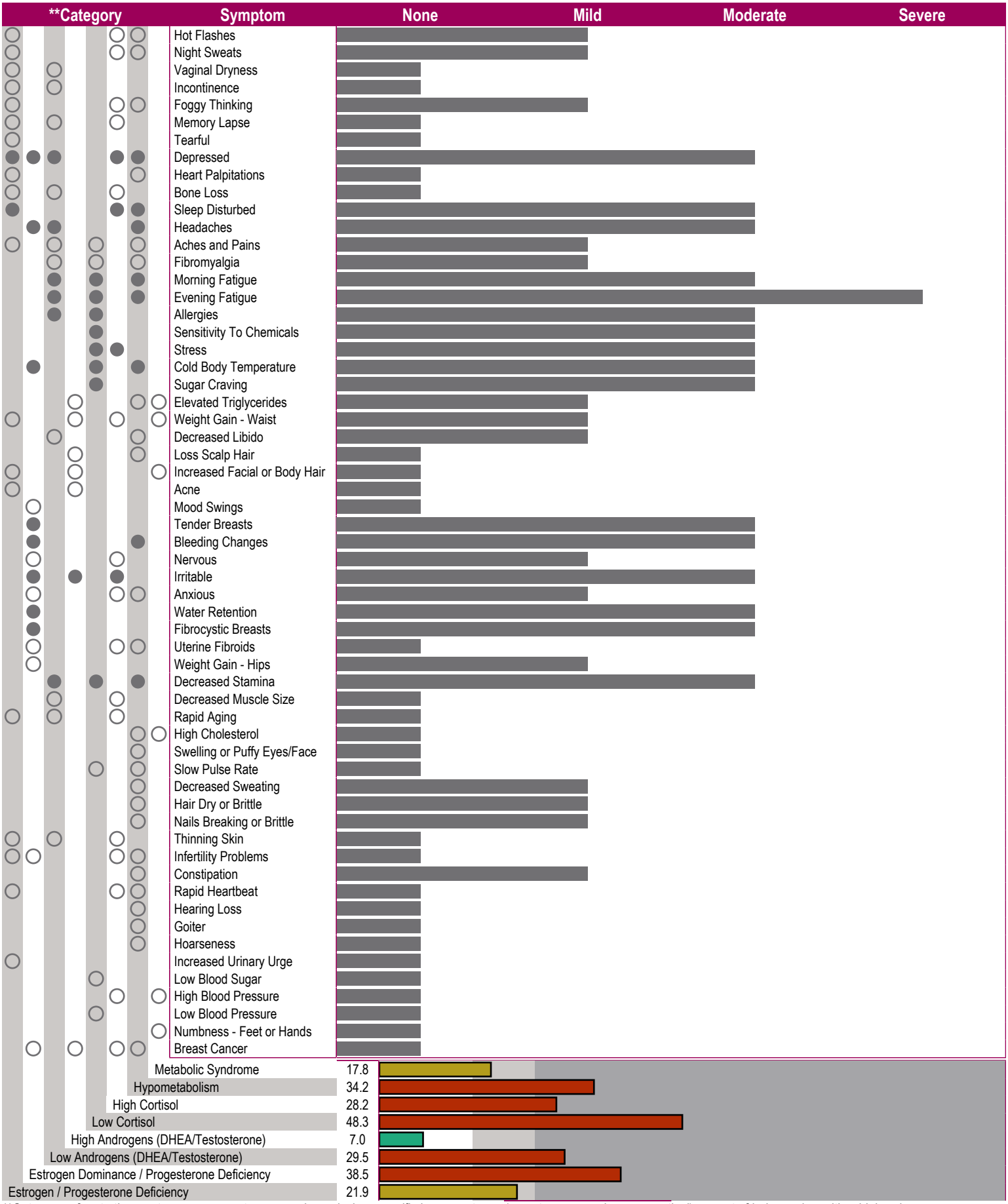

**Category refers to the most common symptoms experienced when specific hormone types (eg estrogens, androgens, cortisol) are out of balance, i.e., either high or low.

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Lab Comments

Estradiol is 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. Natural 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. Natural progesterone supplementation often helps stabilize symptoms of estrogen imbalance.

Testosterone is within normal range but symptoms of androgen deficiency persist. This may be due to poor tissue response to the testosterone, which can be caused by excessive estrogen (down-regulates tissue androgen receptors and increases SHBG, which lowers testosterone bioavailabilty to tissues), high stress/high cortisol (note: stress is reported as moderate/severe) or low thyroid. Testosterone is an anabolic hormone essential for creating energy, maintaining optimal brain function (memory), regulating the immune system, and building and maintaining the integrity of structural tissues such as skin, muscles, and bone. 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.

DHEAS is within the mid observed range following DHEA therapy. 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.

Salivary cortisol is high in the morning, normal in the afternoon and then drops to lower levels the remainder of the day, indicating adrenal exhaustion. This is likely caused by adrenal stressors, a cortisol precursor deficiency (pregnenolone and progesterone), and/or nutritional deficiencies (low vitamins C and B5, low protein diet). The most common adrenal stressors include psychological stress (emotional), sleep deprivation, physical insults (surgery, injury, diseases), chemical exposure (environmental pollutants, excessive medications), 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 seen in these test results. Depletion of cortisol by a chronic stressor often leads to symptoms such as fatigue, allergies (immune dysfunction), chemical sensitivity, cold body temp, and sugar craving. Adrenal support is worthwhile considering, which includes adequate sleep, gentle exercise, naps, meditation, proper diet (adequate protein), natural progesterone, adrenal extracts, herbs, and nutritional supplements (vitamins C and B5). For additional information about strategies for adrenal support 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.

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