

Test Results

D2015 03 02 001 SB



Samples Arrived: 03/02/2015
Date Closed: 03/09/2015

Samples Collected:
Saliva: 02/27/15 07:15
Saliva: 02/27/15 12:15
Saliva: 02/27/15 18:00
Saliva: 02/27/15 22:25
Blood Spot: 02/27/15 07:20

Getuwell
8605 Southwest Creekside Place
Beaverton, OR 97008

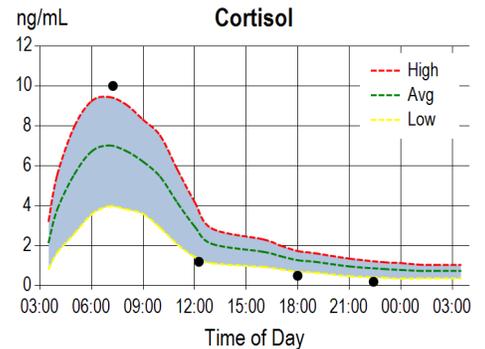
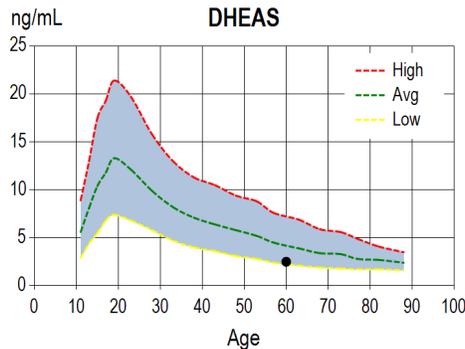
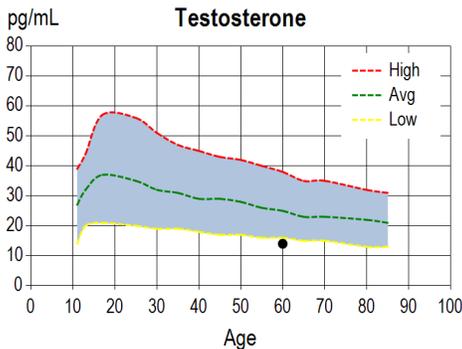
Mary Wrinklesky
1234 Fake St
Beaverton, OR 97008

Menses Status: Hysterectomy (ovaries removed) Last Menses: Unspecified Height: Unspecified
Gender: Female DOB: 2/11/1955 (60 yrs) Patient Ph#: 555 555 5555 Weight: 130 lb
Waist: Unspecified

Test Name	Result		Units	Range
Estradiol (Saliva)	<0.5	L	pg/mL	0.5-1.7 Postmenopausal (optimal 1.3-1.7)
Progesterone (Saliva)	12		pg/mL	12-100 Postmenopausal
Ratio: Pg/E2 (Saliva)	30	L		Optimal: 100-500 when E2 1.3-3.3 pg/mL
Estriol (Saliva)	<3.0		pg/mL	< 7 (Pre- and Postmenopausal)
Testosterone (Saliva)	14	L	pg/mL	16-55 (Age Dependent)
DHEAS (Saliva)	2.5		ng/mL	2-23 (Age Dependent)
Cortisol (Saliva)	10	H	ng/mL	3.7-9.5 (morning)
Cortisol (Saliva)	1.2		ng/mL	1.2-3.0 (noon)
Cortisol (Saliva)	0.5	L	ng/mL	0.6-1.9 (evening)
Cortisol (Saliva)	0.2	L	ng/mL	0.4-1.0 (night)
TSH (Blood Spot)	5.5	H	µU/mL	0.5-3.0
Vitamin D, 25-OH, D2 (Blood Spot)	<4		ng/mL	<4 if not supplementing (< 10 nmol/L)
Vitamin D, 25-OH, D3 (Blood Spot)	12	L	ng/mL	32-100 ng/ml (80-250 nmol/L)
Vitamin D, 25-OH, Total (Blood Spot)	15	L	ng/ml	32-100

Therapies

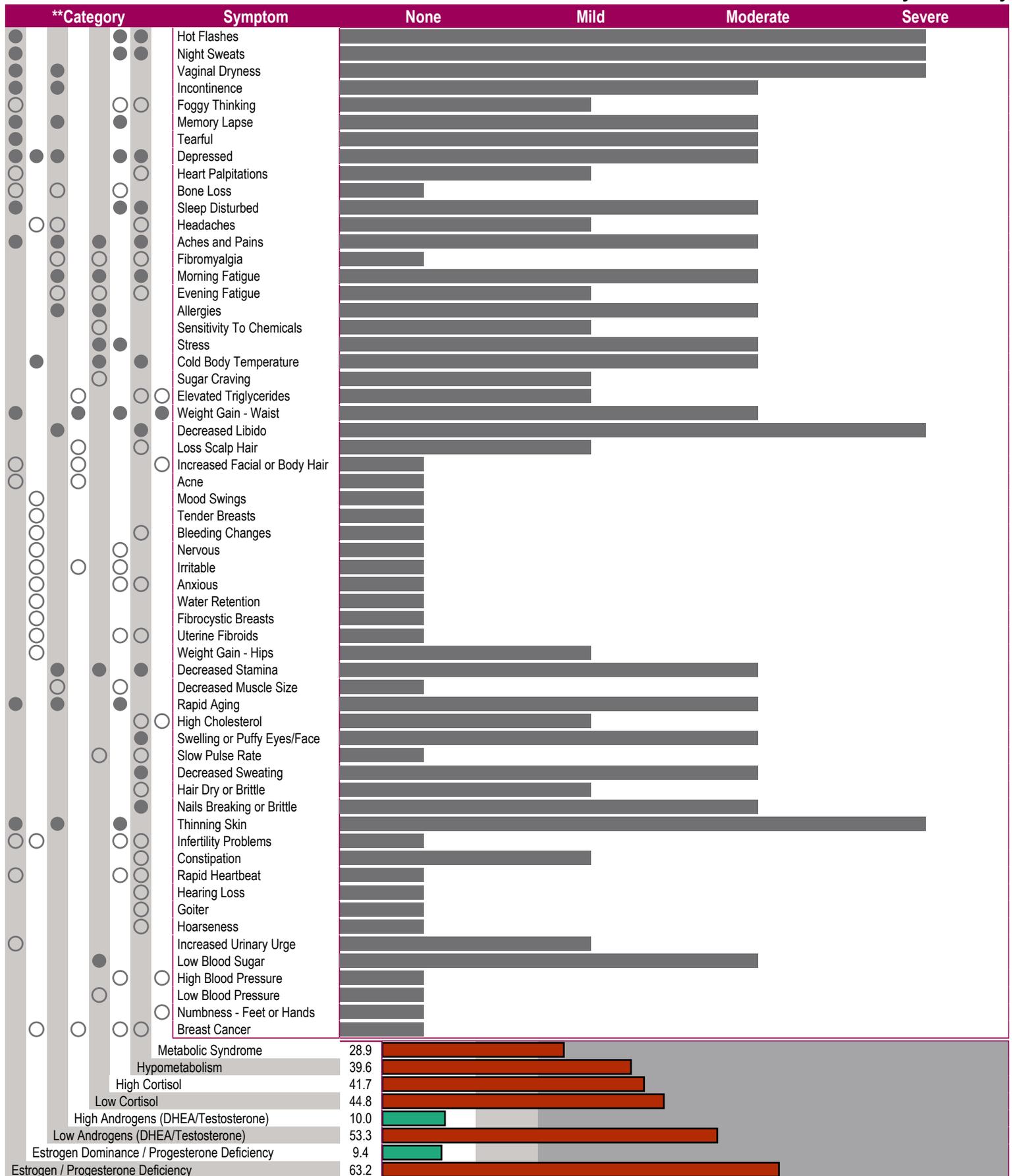
None Indicated



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
Estriol (Saliva) - pg/mL	5-100 Topical Estriol, Bi-Triest therapy (5-20 oral); < 7 (Pre- and Postmenopausal)
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)
TSH (Blood Spot) - μ U/mL	0.5-3.0
Vitamin D, 25-OH, D2 (Blood Spot) - ng/mL	<4 if not supplementing (< 10 nmol/L)
Vitamin D, 25-OH, D3 (Blood Spot) - ng/mL	32-100 ng/ml (80-250 nmol/L)
Vitamin D, 25-OH, Total (Blood Spot) - ng/ml	32-100



**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.

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: 1164848979 at 3/9/2015 4:09:01 PM

Lab Comments

Hormones are intrinsically involved with all processes affecting the maintenance of skin health, such as collagen content, skin lipid levels, elasticity, wound healing, moisture content, and facial hair patterns. Not only is skin a major target of hormone action, it is also a site of local hormone synthesis, as well as hormone activation and metabolism. Hormone test results can also indicate whether hormone exposure as a result of the use of cosmetic products is excessive, and it can ensure that hormone levels are kept within a physiological range after prescription of hormone-containing creams for cosmetic purposes.

Estradiol is low, which is common for women who have had a hysterectomy. Skin is one of the main sites of estrogen action, where it plays a role in maintaining skin glycosaminoglycan content, which retains moisture, and inhibits collagen degradation, maintaining skin thickness. Low estradiol levels therefore affects skin health in a number of ways. These include wrinkling, dryness, skin thinning, slower wound healing, and loss of elasticity. Because facial skin has much higher concentrations of estrogen receptors than the skin of the breast or the thigh, the effects of declining estrogen levels as women age are more obvious on the skin of the face than on the skin covering other parts of the body. Studies of estrogen replacement therapy have shown an improvement in skin properties affected by low estrogen levels, such as increased collagen content, skin thickness, and skin elasticity, as well as an increase in skin surface lipids, which enhances the barrier function and may prevent dryness. Estriol has weak estrogenic activity, but has anti-aging effects on skin when applied directly to the skin; topical estriol can be used alone or in combination with systemic estrogen replacement therapy to maximize skin benefits.

Estriol is within range.

Progesterone is low-normal. Low progesterone levels are thought to increase the impact of androgens on sebaceous glands and body and head hair. This is because progesterone reduces 5-alpha reductase activity, which converts testosterone to its active metabolite dihydrotestosterone (DHT).

Skin thinning, and other symptoms associated with estrogen deficiency, can also occur in people with androgen deficiency because there is less testosterone available for local conversion to estrogen through the action of aromatase present in the skin. Low testosterone in both women and men is associated with thinning skin and impaired wound healing. Testosterone replacement in men has an anabolic effect, increasing tissue protein synthesis, and has been found to increase skin thickness. In women, low testosterone and DHEA-S are associated with increasing age, but particularly low testosterone is found in women who have had a surgical menopause (removal of the ovaries) and this has an impact on overall health and vitality.

DHEAS is low-normal. Low levels of DHEA-S, which is a precursor to testosterone and estradiol, affect the availability of these hormones to carry out their functions.

Cortisol is high in the morning, within range at noon, then low the rest of the day. The diurnal cortisol test is a good indicator of adrenal function and exposure to stressors. The emerging field of psychodermatology links many skin disorders with emotional and psychological problems. Symptoms of both high and low may be experienced. High cortisol may be associated with symptoms of sleep disturbances, anxiety, memory lapses, fatigue, and weight gain at the waist, bone loss, and depression. The ability to produce high levels of cortisol under acute conditions is an important stress response; however, if cortisol remains chronically high, excessive breakdown of normal tissues (muscle wasting, thinning of skin, bone loss) and immune suppression can result. Elevated cortisol interferes with the proper function of other hormones including estradiol, progesterone, testosterone and thyroid. High levels are often due to a hypoglycemic event between meals. Low cortisol is usually caused by chronic, unresolved stress (mental/emotional/physical). The most common symptoms associated with low adrenal cortisol are fatigue, anxiety, nervousness, allergies, chemical sensitivity, cold body temp, and sugar craving. During times of excessive stress these symptoms often surface as the adrenal glands fail to meet the demands for higher cortisol output. Low cortisol can also exacerbate symptoms of low thyroid, as cortisol is essential for thyroid function at the tissue level. (For more information see Adrenal Fatigue by James L. Wilson).

High TSH (Thyroid stimulating hormone) can indicate the presence of a thyroid disorder that may be contributing to skin problems. Myxedema is a classic skin condition associated with hypothyroidism, and is caused by edema due to increased glycosaminoglycan deposition. Hypothyroidism can also be associated with skin dryness as a result of decreased sweating and reduced sebum production, pale skin color, and rough, scaly skin. Some hair loss can also be seen in hypothyroid individuals, notably in the eyebrows where the outer third of the eyebrow can disappear entirely.

Vitamin D is low. Adequate vitamin D is essential for proper immune system function. A compromised immune system can exacerbate skin disorders, and is linked to such conditions as psoriasis, acne, and slow wound healing. The active form of vitamin D, calcitriol (1,25-dihydroxyvitamin D), and some vitamin D analogs, are being used successfully in topical treatment of plaque psoriasis. Vitamin D and its receptors in the skin are also involved in the regulation of epidermal proliferation and differentiation for the maintenance of skin structure and its barrier function, hair follicle cycling, and suppression of tumor cell formation (20). Vitamin D deficiency may contribute to skin problems.