

TEST REPORT

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2018 08 02 200 SB

Ordering Provider:
Jane Getuwell, MD

Samples Received
08/02/2018

Report Date
08/08/2018

Samples Collected
Saliva - 07/28/18 07:30
Saliva - 07/28/18 13:00
Saliva - 07/28/18 19:00
Saliva - 07/28/18 23:00
Blood Spot - 07/31/18 05:48

Patient Name: Comprehensive Female Profile II
Patient Phone Number: 555 555 5555

Gender Female	Last Menses Unspecified	Height 5 ft 8 in	Waist Unspecified
DOB 9/30/1964 (53 yrs)	Menses Status Hysterectomy (ovaries removed)	Weight 154 lb	BMI 23.4

TEST NAME	RESULTS 07/28/18	RANGE
Salivary Steroids		
Cortisol	6.7	3.7-9.5 ng/mL (morning)
Cortisol	2.3	1.2-3.0 ng/mL (noon)
Cortisol	0.9	0.6-1.9 ng/mL (evening)
Cortisol	0.8	0.4-1.0 ng/mL (night)
Blood Spot Steroids		
Estradiol	69	43-180 pg/mL Premeno-luteal or ERT
Progesterone	11.6	3.3-22.5 ng/mL Premeno-luteal or PgRT
Ratio: Pg/E2	168	Pg/E2 (bloodspot-optimal 100-500)
Testosterone	97	20-130 ng/dL Premeno-luteal or TRT
SHBG	87	15-120 nmol/L
DHEAS	70	40-290 µg/dL
Blood Spot Thyroids		
Free T4*	1.1	0.7-2.5 ng/dL
Free T3	3.2	2.4-4.2 pg/mL
TSH	0.4 L	0.5-3.0 µU/mL
TPOab*	12	0-150 IU/mL (70-150 borderline)

<dL = Less than the detectable limit of the lab. N/A = Not applicable; 1 or more values used in this calculation is less than the detectable limit. H = High. L = Low. * For research purposes only.

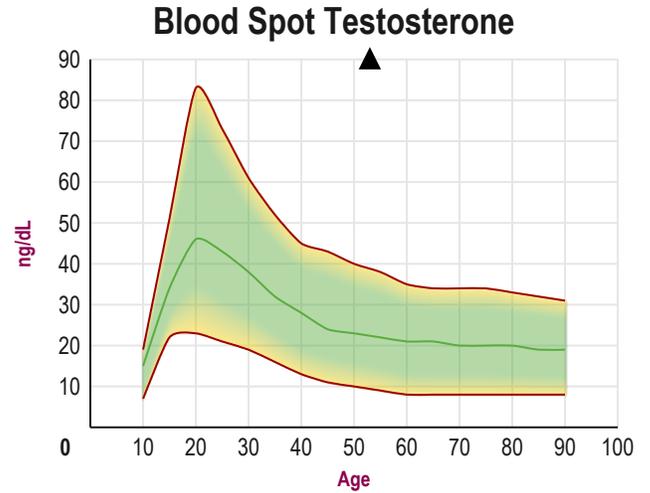
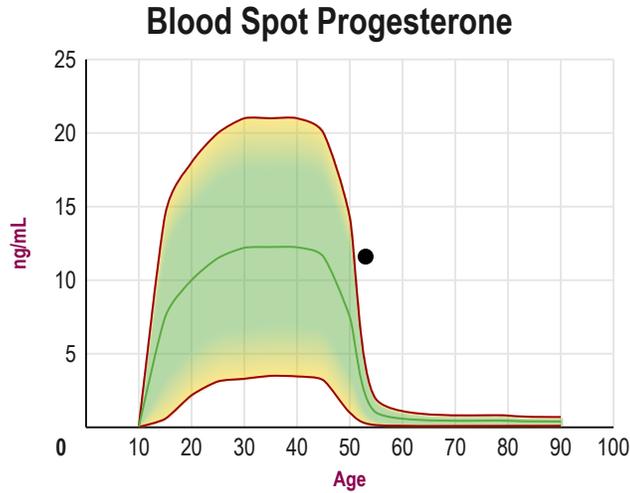
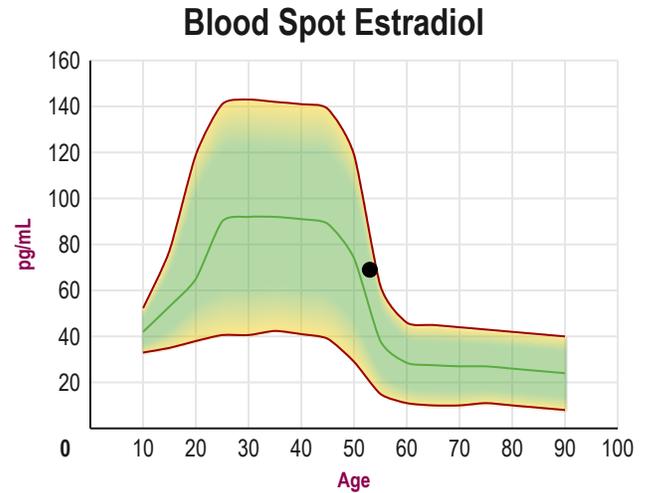
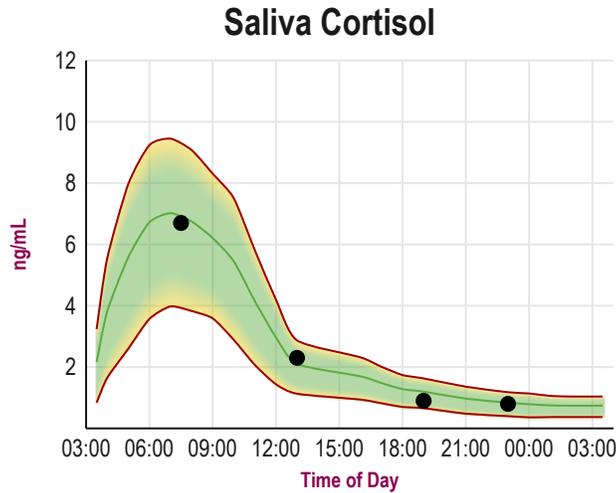
Therapies

0.5mg topical Biestrogen (E2 + E3) (compounded) (1 Days Last Used)100mg topical Progesterone (compounded) (1 Days Last Used)1000mg oral Glycine (OTC) (1 Days Last Used)0.5mg topical Testosterone (compounded) (1 Days Last Used)5mg sublingual (SL) DHEA (OTC) (1 Days Last Used)50mcg oral Levothyroxine (T4) (Pharmaceutical) (1 Days Last Used)30mg oral Armour (glandular thyroid) (Pharmaceutical) (1 Days Last Used) oral T4-T3 (Pharmaceutical) (1 Days Last Used) GABA5mg oral Melatonin (OTC) (1 Days Last Used)10mg oral Pregnenolone (OTC) (1 Days Last Used)50mg oral 5-HTP (5-Hydroxytryptophan) (OTC) (1 Days Last Used)

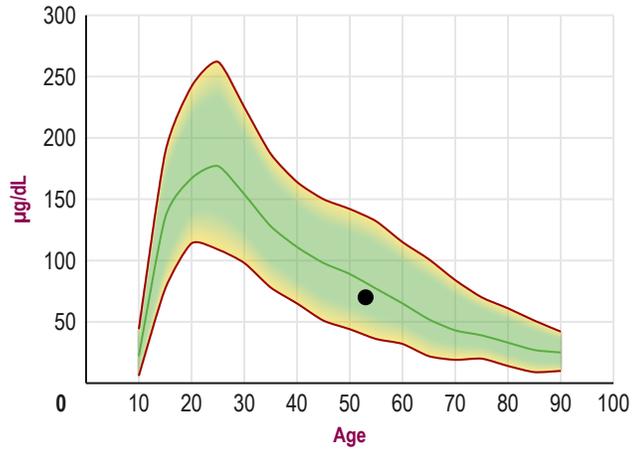
Graphs

Disclaimer: Graphs below represent averages for healthy individuals not using hormones. Supplementation ranges may be higher. Please see supplementation ranges and lab comments if results are higher or lower than expected.

— Average ▼▲ Off Graph



Blood Spot DHEAS



TEST REPORT | Patient Reported Symptoms

Disclaimer: Symptom Categories below show percent of symptoms self-reported by the patient compared to total available symptoms for each category. For detailed information on category breakdowns, go to www.zrtlab.com/patient-symptoms.

SYMPTOM CATEGORIES	RESULTS 07/28/18
Estrogen / Progesterone Deficiency	11%
Estrogen Dominance / Progesterone Deficiency	8%
Low Androgens (DHEA/Testosterone)	21%
High Androgens (DHEA/Testosterone)	0%
Low Cortisol	22%
High Cortisol	7%
Hypometabolism	9%
Metabolic Syndrome	0%

SYMPTOM CHECKLIST	MILD	MODERATE	SEVERE
Aches and Pains			
Acne			
Allergies			
Anxious			
Bleeding Changes			
Blood Pressure High			
Blood Pressure Low			
Blood Sugar Low			
Body Temperature Cold			
Bone Loss			
Breast Cancer			
Breasts - Fibrocystic			
Breasts - Tender			
Chemical Sensitivity			
Cholesterol High			
Constipation			
Depressed			
Fatigue - Evening			
Fatigue - Morning			
Fibromyalgia			
Foggy Thinking			
Goiter			
Hair - Dry or Brittle			
Hair - Increased Facial or Body			
Hair - Scalp Loss			
Headaches			
Hearing Loss			
Heart Palpitations			
Hoarseness			
Hot Flashes			
Incontinence			
Infertility			
Irritable			
Libido Decreased			
Memory Lapse			
Mood Swings			
Muscle Size Decreased			
Nails Breaking or Brittle			
Nervous			
Night Sweats			
Numbness - Feet or Hands			

Cortisol is low in the morning, normal during mid day, and high-normal at night. This flattened circadian profile indicates adrenal dysfunction. In a normal individual without significant stressors, cortisol is highest in the morning shortly after awakening (optimal level 4-6 ng/ml) and steadily drops throughout the day, reaching the lowest level during sleep in the very early morning about 2 am (optimal level 0.7-1.0 ng/ml just before bed). The abnormal pattern seen in these test results indicates some loss of negative feedback control of cortisol to the brain (hypothalamic-pituitary-adrenal axis/HPA). Desensitization of the brain to cortisol often is related to excessive and chronic stressors (emotional, dietary, physical), nutrient imbalances/deficiencies, or the inability to regulate glucose levels (dysglycemia). Adrenal dysfunction, particularly high night cortisol, is associated with symptoms of sleep disturbances, anxiety, memory lapses, fatigue, bone loss, and depression. A high night cortisol may contribute to sleep disturbances and immune dysfunction. Adequate rest and sleep, gentle exercise, proper diet (adequate protein), nutritional (vitamins C and B5) and herbal supplements are some of the natural ways to support adrenal function. 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.

Estradiol (blood spot) is low-normal range for a postmenopausal woman following estrogen replacement therapy. Symptoms/signs of estrogen imbalance are minimal suggesting dosage is appropriate.

Progesterone (blood spot) is within the optimal physiological range (10-25 ng/ml) with topical progesterone therapy. Progesterone should be well balanced with estradiol (optimal Pg/E2 ratio 100-500 when estradiol is within optimal range of 50-120 pg/ml).

Testosterone (blood spot) is lower than range for topical testosterone therapy. This would suggest that the testosterone from the topical therapy was of insufficient dosage, testosterone was poorly absorbed, or it was metabolized and cleared back to a low baseline at the time of blood collection. Symptoms of both androgen deficiency and excess persist. Androgen excess symptoms (e.g. increased facial/body hair, acne, loss of scalp hair) suggest that the dosage is appropriate, or even excessive, despite the low blood level. Topical testosterone delivery results in an increase in whole blood testosterone, peaking at 2-6 hr and decreasing gradually thereafter to baseline within 24-36 hr. The low testosterone level seen in these test results could indicate a longer time interval from last use of the topical testosterone to blood collection, or rapid clearance of the testosterone to baseline level at the time of blood collection. Also, low androgen symptoms could be caused by other hormonal imbalances (e.g. low cortisol, low IGF1, low thyroid). Women's ovaries and adrenal glands produce approximately 0.3-0.5 mg of testosterone daily, and topical dosage with this amount of testosterone raises the testosterone level to the upper physiological range in women with testosterone deficiency. Testosterone is an important anabolic hormone in both men and women. It helps to maintain both physical and mental health, prevents fatigue, helps to maintain a normal sex drive, increases the strength of all structural tissues (skin, bone, muscles, heart) and prevents depression and mental fatigue. Testosterone deficiency is associated with symptoms/conditions such as decreased sex drive, memory lapses, vaginal dryness, thinning skin, and loss of muscle and bone mass.

SHBG (Sex Hormone Binding Globulin) is within the high-normal range, consistent with estrogen supplementation. SHBG is a protein produced by the liver and released into the bloodstream in response to increasing levels of estrogens. While SHBG is a relative index of the overall exposure of the liver to any form of estrogens (endogenous, pharmaceutical-ERT, xeno-estrogens-pollutants), other hormones such as insulin, thyroid, androgens, and glucocorticoids affect the liver's ability to synthesize SHBG in response to estrogens. Thyroid hormone increases SHBG, while high insulin (insulin resistance), high androgens, and high glucocorticoids (cortisol) lower SHBG. These hormones that lower SHBG increase the bioavailability of estradiol and the likelihood of estrogen dominance symptoms.

DHEAS (blood spot) is low, despite sublingual DHEA therapy. Sublingual delivery results in direct and rapid uptake of DHEA into the bloodstream with minimal hepatic conversion to the sulfated form of DHEA (DHEAS) that occurs with oral delivery. DHEA is converted primarily to DHEAS, estrone, and testosterone. Less conversion to DHEAS occurs when DHEA is delivered through the skin (topical, vaginal, troche, sublingual). DHEAS is highest during the late teens to early twenties and then declines progressively with age to the lower levels of the range in healthy men and women. Low DHEAS is often associated with low testosterone (DHEA is a testosterone precursor) and symptoms of androgen deficiency (fatigue, depression, low libido, loss of muscle mass, bone loss, memory lapses). DHEA therapy can cause a transient suppression of cortisol via feedback to the hypothalamic/pituitary/adrenal axis. In individuals with adrenal fatigue and low cortisol levels, DHEA therapy can exacerbate symptoms of cortisol deficiency and dysglycemia. Cortisol levels should be monitored and adjusted in concert with DHEA therapy.

Free T4 and free T3 are within normal ranges with thyroid therapy.

TSH is slightly lower than reference range, which is common with thyroid therapy. The American Association of Clinical Endocrinologists have recommended a change in the TSH range to 0.3 to 3.0 - www.aace.com. Low TSH and hyperthyroidism are associated with symptoms of goiter, eye changes, pretibial myxedema, nervousness, anxiety, heart palpitations or tachycardia, insomnia, tremor, frequent bowel movements, weight loss, excessive sweating, heat intolerance, oligomenorrhea/amenorrhea, increased appetite, tremors, bone loss and/or increased blood pressure. If these symptoms are associated with thyroid therapy, dose reduction should be considered.

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