Test Results - SAMPLE HOR21

ZRT LABORATORY

Contact : Regenerus Labs in the UK
Phone: +44 203 750 0870
www.regeneruslabs.com

Samples Arrived: 09/20/2018
Report Date: 09/25/2018

Samples Collected:
Saliva: 09/17/18 10:34
Saliva: 09/17/18 12:15
Saliva: 09/17/18 19:15
Saliva: 09/17/18 22:20
Blood Spot: 09/17/18 10:24

Ordering Provider:

Regenerus Laboratories, Ltd

HOR21 Sample Report

BMI: 25.3
Height: 5 ft 5 in
Weight: 152 lb
Waist: 27 in

Menses Status: Pre-Menopausal
Gender: Female
Last Menses: 08/28/2018
DOB: 3/6/1999 (19 yrs) Patient Ph#:

Test Name	Result		Range
Salivary Steroids			
Cortisol	**6.8**		3.7-9.5 ng/mL (morning)
Cortisol	**3.3**	**H**	1.2-3.0 ng/mL (noon)
Cortisol	**1.0**		0.6-1.9 ng/mL (evening)
Cortisol	**1.2**	**H**	0.4-1.0 ng/mL (night)
Blood Spot Steroids			
Estradiol	**82**		43-180 pg/mL Premeno-luteal or ERT
Progesterone	**3.4**		3.3-22.5 ng/mL Premeno-luteal or PgRT
Ratio: Pg/E2	**41**	**L**	Pg/E2 (bloodspot-optimal 100-500)
Testosterone	**34**		20-130 ng/dL Premeno-luteal or TRT
SHBG	**33**		15-120 nmol/L
DHEAS	**216**		40-290 µg/dL
Blood Spot Thyroids			
Free T4*	**1.2**		0.7-2.5 ng/dL
Free T3	**3.0**		2.4-4.2 pg/mL
TSH	**0.8**		0.5-3.0 µU/mL
TPOab*	**8**		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

None Indicated

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

Alison McAllister, ND
(Ordering Provider unless otherwise specified on pg1)

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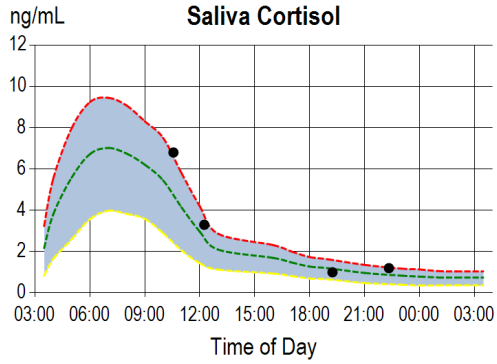
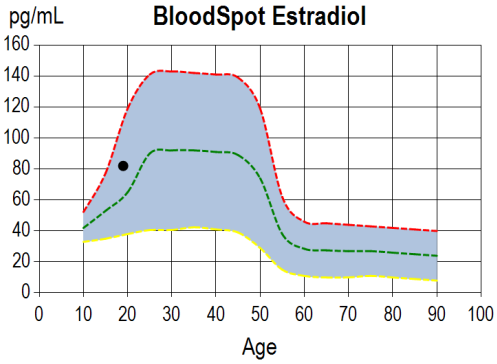
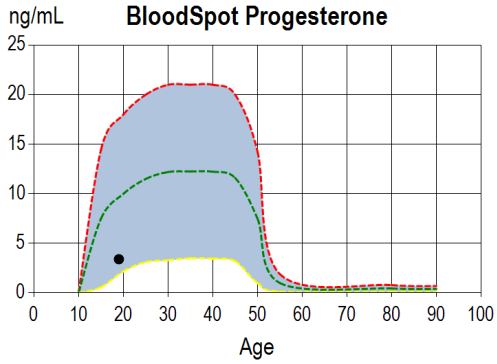
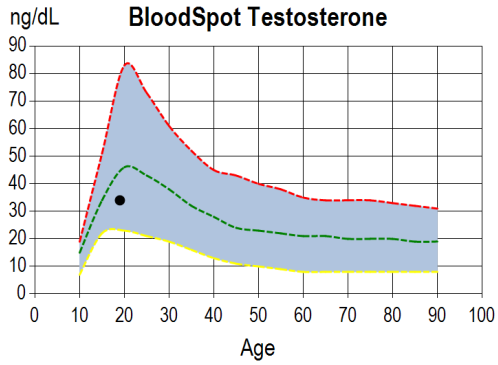
9/27/2018 3:25:10 AM

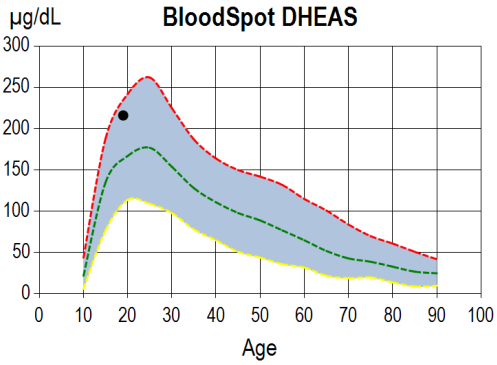
Disclaimer: Graphs below represent hormone levels in testers not using hormone supplementation and are provided for informational purposes only. Please see comments for additional information if results are higher or lower than expected. Graph key High Avg Low











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.

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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
Cortisol - ng/mL	3.7-9.5 ng/mL (morning); 1.2-3.0 ng/mL (noon); 0.6-1.9 ng/mL (evening); 0.4-1.0 ng/mL (night)
Estradiol - pg/mL	43-180 pg/mL Premeno-luteal or ERT; <10-49 pg/mL Postmenopausal; 18-58 pg/mL Early Follicular
Progesterone - ng/mL	3.3-22.5 ng/mL Premeno-luteal or PgRT; <0.1-0.8 ng/mL Postmenopausal
Ratio: Pg/E2	Pg/E2 (bloodspot-optimal 100-500)
Testosterone - ng/dL	20-130 ng/dL Premeno-luteal or TRT; 10-45 ng/dL Postmenopausal
SHBG - nmol/L	15-120 nmol/L
DHEAS - µg/dL	40-290 µg/dL
Free T4 - ng/dL	0.7-2.5 ng/dL
Free T3 - pg/mL	2.4-4.2 pg/mL
TSH - µU/mL	0.5-3.0 µU/mL
TPOab - IU/mL	0-150 IU/mL (70-150 borderline)

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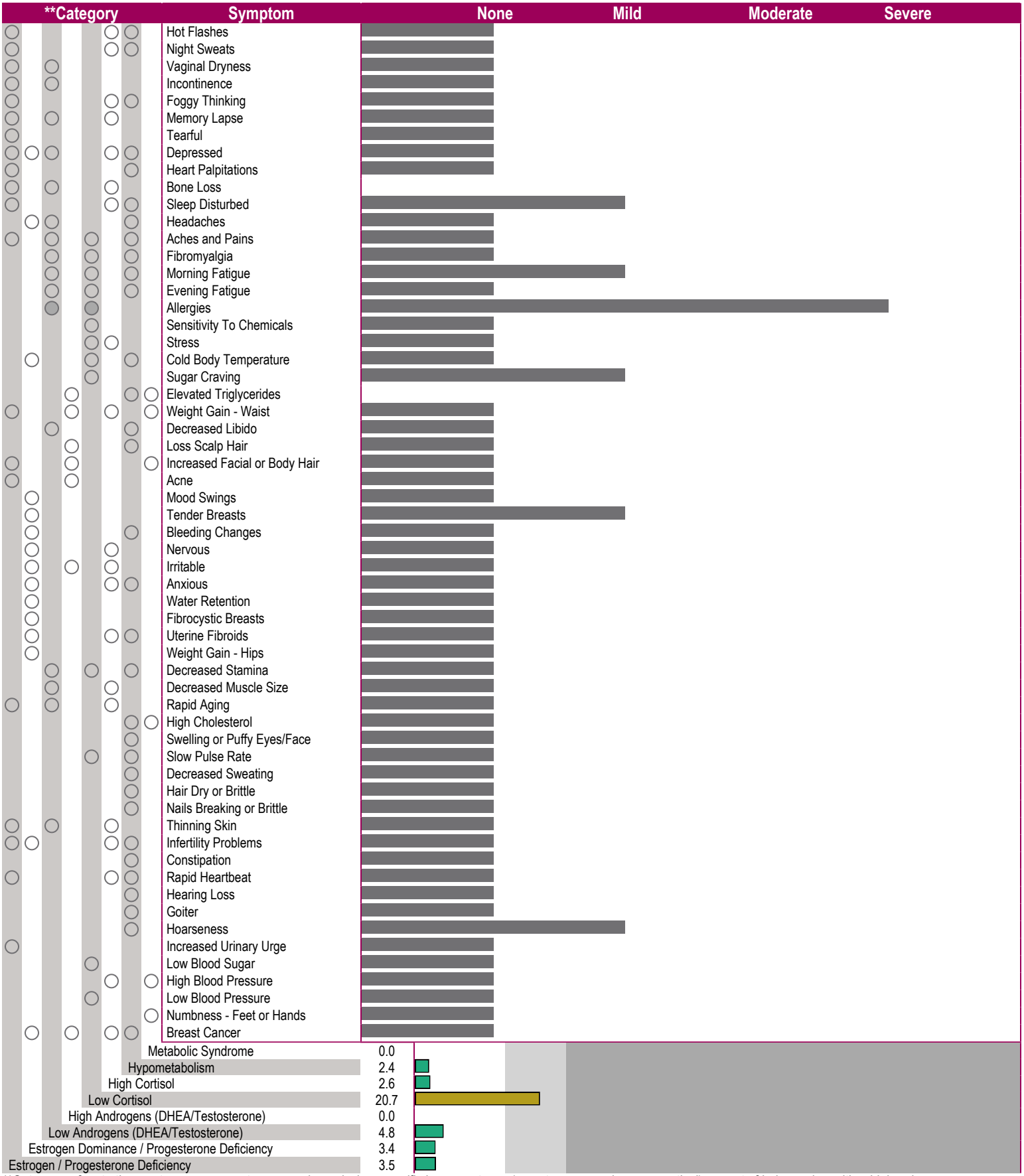

***Category refers to the most common symptoms experienced when specific hormone types (eg estrogens, androgens, cortisol) are out of balance, i.e., either high or low.*

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Cortisol is not following a normal circadian rhythm and is fluctuating erratically throughout the day. Normally cortisol is produced at higher levels in the morning which taper to lower levels throughout the day. The erratic fluctuation from high to normal cortisol levels, with a high level at night suggests some form of adrenal stressor (emotional/physical-surgery, injury or disease causing inflammation/dietary-starvation/low blood glucose from dysglycemia/microbial-bacterial, fungal, or viral infections), the use of cortisol or a cortisol-like medication (common in anti-inflammatory drugs used to treat allergies and asthma), or the use of an herbal adrenal adaptogen that can stimulate adrenal production of cortisol. Acute effects of a high cortisol are usually associated with agitation-irritability, anxiety, and sleep disturbances that resolve when the stressor/medication is removed. Chronic high cortisol leads to conditions such as weight gain in the waist, muscle and bone loss, depression, and immune suppression. Dysfunction of other hormones is closely associated with chronic excess cortisol. For example, tissue resistance to insulin, caused by chronically high cortisol, leads to insulin resistance/metabolic syndrome. Because chronic stressors and associated high night cortisol can have adverse effects on health and well being, it is important to develop strategies to identify and eliminate or reduce the stressors. For additional information about adrenal dysfunction and strategies for adrenal support and lowering stress/cortisol levels the following books and journal articles 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; "Phosphatidylserine", by Paris Kidd, Ph.D.; "The influence of Phosphatidylserine supplementation on mood and heart rate when faced with an acute stressor", Benton et al., Nutritional Neuroscience 4; 169-178, 2001.

Estradiol (blood spot) is within expected range for a premenopausal woman. Self-reported symptoms/signs of estrogen imbalance are not problematic at this time. During the second half of the menstrual cycle (luteal phase) estradiol should be well balanced with progesterone (optimal Pg/E2 ratio: 100-500).

Progesterone (blood spot) is within expected low end of the range for a premenopausal woman during mid-luteal phase of the menstrual cycle. Progesterone should be well balanced with estradiol (optimal Pg/E2 ratio 100-500, when estradiol is within mid-physiological range).

Testosterone (blood spot) is within the low-normal reference range for a premenopausal woman and symptoms of androgen deficiency are self-reported as minimal. If symptoms of androgen deficiency become problematic consider androgen replacement therapy (DHEA or testosterone). In women, DHEA therapy increases testosterone about 50% with physiological oral dosing.

SHBG is within normal range. The SHBG level is a relative index of overall exposure to all forms of estrogens (endogenous, pharmaceutical, xeno-estrogens). As the estrogen levels increase in the bloodstream there is a proportional increase in hepatic production of SHBG. Thyroid hormone and insulin also play a role in regulating hepatic SHBG synthesis. Thyroid hormone synergizes with estrogen to increase SHBG production while insulin, in excess (caused by insulin resistance) decreases SHBG synthesis. Thus, in individuals with thyroid deficiency and insulin resistance the SHBG level is usually low. SHBG is an important estradiol and testosterone binding globulin that help increase the half life of these hormones in the bloodstream, and also limit their bioavailability to target tissues. SHBG binds tightly to testosterone and its more potent metabolite dihydrotestosterone (DHT). It also binds tightly to estradiol, the most potent of the endogenous estrogens, but about 5 times weaker than to testosterone and DHT. Thus an increase in SHBG results in proportionately less bioavailable testosterone than estradiol.

DHEAS (blood spot) is within high-normal range. 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. DHEAS is expected to be within the lower range in older individuals. Higher DHEAS levels in individuals older than 40 is usually associated with DHEA supplementation, but is not uncommon in well trained atheletes. High DHEAS can be associated with symptoms of androgen excess (e.g. loss of scalp hair, increased facial/body hair, acne).

Thyroid hormones (TSH, free T4, and free T3) and thyroid peroxidase antibodies (TPO) are within normal ranges and symptoms of thyroid imbalance are minimal.

Professional Comments

Thank you for ordering your test through Regenerus Laboratories. WWW.REGENERUSLABS.COM