

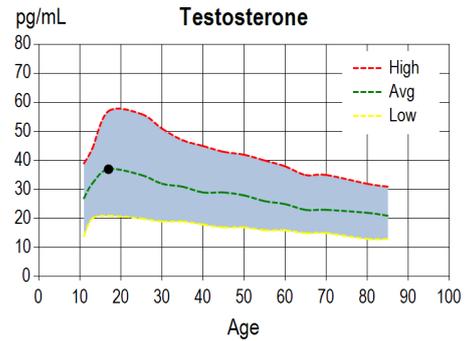
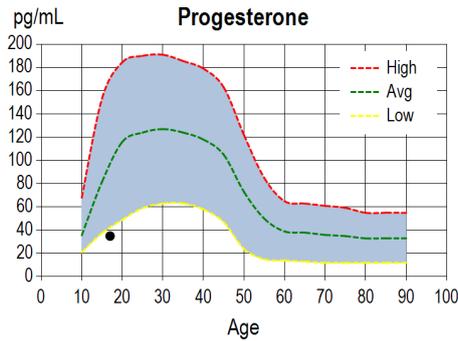
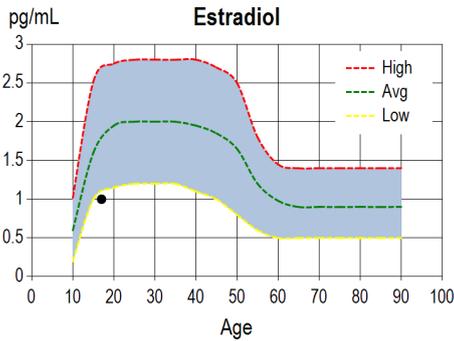
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|---------------------|------------------|----------------|---------------------------|--------------|
| Test # | Received | 06/13/2016 | Practitioner Name: | Practitioner |
| | Tested | 06/17/2016 | Address: | |
| TST # | Collected | 06/06/16 08:02 | | |
| Patient Name | | 06/06/16 11:55 | | |
| | | 06/06/16 17:45 | | |
| Sex | DOB | 06/06/16 21:20 | | |
| Female | | 06/06/16 08:00 | | |

| Test Name | Result | | Units | Range |
|-----------------------|--------|---|-------|--|
| Estradiol (Saliva) | 1.0 | L | pg/mL | 1.3-3.3 Premenopausal (Luteal) |
| Progesterone (Saliva) | 35 | L | pg/mL | 75-270 Premenopausal (Luteal) |
| Ratio: Pg/E2 (Saliva) | 35 | L | | Optimal: 100-500 when E2 1.3-3.3 pg/mL |
| Testosterone (Saliva) | 37 | | pg/mL | 16-55 (Age Dependent) |
| DHEAS (Saliva) | 6.6 | | ng/mL | 2-23 (Age Dependent) |
| Cortisol (Saliva) | 12.4 | H | ng/mL | 3.7-9.5 (morning) |
| Cortisol (Saliva) | 4.6 | H | ng/mL | 1.2-3.0 (noon) |
| Cortisol (Saliva) | 1.6 | | ng/mL | 0.6-1.9 (evening) |
| Cortisol (Saliva) | 1.1 | H | ng/mL | 0.4-1.0 (night) |
| Free T4 (Blood Spot)* | 1.1 | | ng/dL | 0.7-2.5 |
| Free T3 (Blood Spot) | 3.1 | | pg/mL | 2.5-6.5 |
| TSH (Blood Spot) | 1.3 | | µU/mL | 0.5-3.0 |
| TPOab (Blood Spot)* | 16 | | IU/mL | 0-150 (70-150 borderline) |

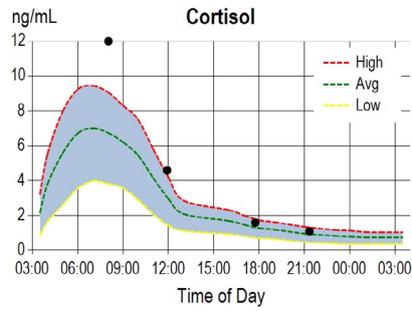
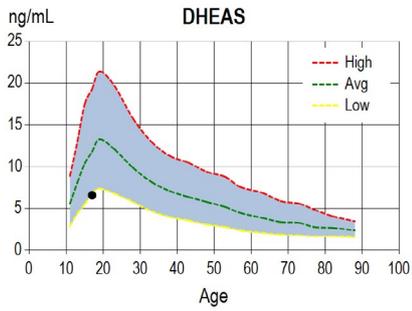
<dL = Less than the detectable limit of the lab.
 N/A = Not applicable; 1 or more values used in this calculation is less than the detectable limit.
 *For research purposes only.

Therapies

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.



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Lab Comments

This is a teenager. Comments are provided as a guideline and can not replace clinical decision making. Please review any suggestions of supplements, lifestyle, or hormone replacement with this patient's clinical health in mind. Hormone levels are often fluctuating for both high and low depending on ovulation status and adrenal response. As the late teens and early 20s progresses, young women will start to mature their pituitary-hypothalamus-ovarian axis creating more regulated and even hormone levels. Hormone supplementation is generally not warranted in this population based solely on lab results.

Estradiol is lower than the observed range (1.3-3.3) for a young premenopausal woman. This could be due to one of the following: collection of saliva outside the mid peak of the luteal phase (days 19-21) of the menstrual cycle, an anovulatory cycle (progesterone also low), or use of a hormonal contraceptive (progesterone and testosterone also low).

Progesterone is lower than expected range. If symptoms of estrogen imbalance are problematic it would be worthwhile to consider supplementation with natural progesterone.

Testosterone is within normal range.

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.

Salivary cortisol is higher than the expected range throughout most of the day, suggesting some form of adrenal stressor which include psychological stressors (emotional), physical insults (surgery, injury, diseases), chemical exposure (environmental pollutants, excessive medications), hypoglycemia (low blood sugar), and pathogenic infections (bacterial, viral, fungal). Acute situational stressors (e.g., anxiety over unresolved situations, travel, work-related problems, wedding, holiday season, etc.) can also result in a transient increase in cortisol levels, which is a normal response to the stressor. Cortisol usually returns to normal once the stressor is removed. 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 to normal or more commonly drop to a low level. The adrenal glands usually recover after a stressor with adequate rest but will continue to respond to the stressor with higher than normal cortisol output. If high adrenal cortisol output persists over a prolonged period of time (months/years), excessive breakdown of normal tissues (muscle wasting, thinning of skin, bone loss) and immune suppression can result. Chronic high cortisol, particularly if it is elevated throughout the day or high at night, is associated most commonly with symptoms of sleep disturbances, vasomotor symptoms (hot flashes and night sweats despite normal or high estrogen levels), fatigue, depression, weight gain in the waist, bone loss, and anxiety. High cortisol can impair the actions of other hormones such as insulin and thyroid, causing symptoms of their deficiency even though the levels of these hormones may be within normal range (i.e., insulin resistance and thyroid deficiency). 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; "Thyroid Power," by Richard Shames, MD.

Thyroid hormones (free T4, free T3, TSH) and thyroid peroxidase antibodies are within normal ranges; however, this does not exclude the possibility of a functional thyroid deficiency if symptoms are problematic.