

Hormone Health

SALIVA TESTING

Saliva Testing vs Blood Testing

Issue 1

Saliva Testing vs Blood Testing

The knowledge that there are steroid hormones in saliva, and that they can be measured, has been around for more than 30 years. But it is only in the last decade that technology has caught up with that information making it possible to accurately determine levels of salivary hormones.

It is easy to see why saliva testing is gaining popularity over serum testing. It is easy to use and the results are obtained within 10 working days. It is more accurate than serum testing because it measures the amount of free hormone that is bio-available to the cell.

Appreciating the reliability of saliva testing is based on understanding the difference between steroid hormones in saliva and serum.

The basic difference between saliva testing and blood or serum testing is: Saliva Measures the "Unbound" or Free Hormone Levels in the Body.

When blood is filtered through the salivary glands, the bound hormone components are too large to pass through the cell membranes of the salivary glands. Only the unbound hormones pass through and into the saliva. What is measured in the saliva is considered the "free", or bio-available hormone, that which will be delivered to the receptors in the tissues of the body.

Serum (blood) Measures the "Protein Bound" Hormone Levels in the Body.

In order for steroid hormones to be detected in serum, they must be bound to circulating proteins. In this bound state, they are unable to fit into receptors in the body, and therefore will not be delivered to tissues.

The majority of hormones exist in one of two forms: free or protein bound. Blood (serum) hormone levels represent your body's **total** hormone content. The majority of hormones in blood are bound to specific proteins which carry them through your bloodstream and can be considered the hormone 'storage' fraction.

This represents over 95% of all hormones in blood (serum) The other 5% represents the amount of **free** hormones - those available to move easily into your target organs and fulfill their functions. When blood is filtered through the salivary glands, the bound hormone components are too large to pass through the cell membranes. Only the unbound hormones pass through and into

the saliva. That means that saliva contains only the **free** hormones which can be easily measured to give an accurate picture of those hormones that are readily available to the receptors in tissue.

Salivary hormone levels are expected to be much lower than serum levels, as only the unbound hormones are being measured. When health care providers measure serum hormone levels and prescribe hormone replacement therapy based on those results, patients are often overdosed. If the patients are then tested using saliva, the results are extraordinarily high, and confusion results from a lack of correlation between the two methods.

So Saliva Testing which is very accurate when testing before and after topical hormone therapy is the optimal way to test if a person is on Bio-identical Hormone Therapy.

Only Saliva Testing Measures Topically Dosed Hormones:

The discrepancy between free and protein bound hormones becomes especially important when monitoring topical, or transdermal hormone therapy. Studies show that this method of delivery results in increased tissue hormone levels (thus measurable in saliva), but no parallel increase in serum (blood) levels. Therefore, serum (blood) testing may not be effective when used to monitor topical hormone therapy.

- Jackie Harvey

"Saliva Testing is accurate, convenient and cost effective."

*Dr. Jay Mead
Labrix Clinical Services*

Additional Issues

1. Saliva Testing
2. Iodine Testing
3. Vitamin D Testing
4. Peri-Menopause
5. Menopause
6. Progesterone
7. Estrogen
8. The Pill
9. PCOS
10. Thyroid Problems
11. Hormone Disrupters
12. 5 Step Balance Program
13. Nutrition Basics
14. Hysterectomies
15. Breast Cancer
16. Candida
17. Adrenal Fatigue
18. Osteoporosis
19. Skin Problems
20. Heart Health and Hormones
21. Men's Hormone Health
22. Andropause

Disclaimer:

This newsletter is used with permission exclusively by MaxxAlive Consultants.

The information in this newsletter should not be used or construed as medical advice. If you are taking medications, please consult your health care provider.

Saliva Testing Q & A

Why Test Hormone Levels?

Hormones are powerful molecules essential for maintaining physical and mental health. We frequently think of estrogen as being a female hormone, and testosterone as being a male hormone. But men AND women make both, plus several more that need to be in balance for optimum health. An imbalance of any one hormone can throw your physical and mental health out of balance, causing aggravating and even serious health problems.

Symptoms in women like mood swings, depression, low sex drive, weight gain around the middle and hot flashes may be a sign of hormone imbalance. Saliva hormone testing can identify whether symptoms are connected to a hormonal imbalance so that the women may proceed with a resolution.

Symptoms in men like grumpiness, depression, apathy, erectile dysfunction, weight gain around the middle, bone loss all could be signs of a hormone imbalance and would warrant a saliva test to determine hormones that are out of balance.

Saliva Tests can also be used to monitor hormone replacement therapy (HRT) and in anti-aging and disease prevention programs.

Who should test?

Teenage girls who experience PMS **before** going on the pill.

Women who want to establish a base line before any hormone health challenges begin.

Women who have been on ERT and HRT.

Women who want to start a hormone balancing program.

Women not getting good results while on a progesterone cream.

Women at risk or with Osteoporosis.

Women who are having problems getting pregnant.

Women with a diagnosis of Polycystic Ovary Syndrome (PCOS).

Should men do a Saliva Test?

Yes. Undiagnosed hormone imbalances are often linked to increased risks for prostate disease, low sex drive, rapid aging and poor quality of life in general. By having your hormones tested in saliva one can identify the specific hormonal excesses and deficiencies associated with specific symptoms. Test results can facilitate safe, appropriate prescribing and adjustment of hormone therapy as needed.

So who should test?

- Men with a prostate risk in the family – prostate disease is a hormonal disease • Men concerned with prevention of prostate disease • Men with prostate problems (getting up in the night, etc.)
- Men with low libido, desiring to evaluate testosterone levels.
- Men suffering from depression and fatigue, to see if there is a hormone connection.

- Men who have difficulty losing weight, to evaluate the role of estrogen on their weight problem.
- Men who are currently using hormones, and are concerned about long term effects.

The goal of hormone balancing in men is to re-establish healthy ratios between estradiol, progesterone, and testosterone.

It is wise to test saliva levels every two to three months during transdermal hormone use. When testing for the effect of transdermally applied hormone, it is a good idea to standardize the time between dosing and the time of saliva collection. Dr. Lee advised that saliva collection be done ten hours after the application of the hormone. Testing done in this manner will be more informative and reliable.

- *with acknowledgements to the late
Dr. John R. Lee, MD
(see www.johnleemd.com)*

Saliva Testing Q & A (continued)

How will I know if my hormones are out of balance?

Expected ranges are derived from the statistical analysis of a large number of samples. There are expected ranges provided for both men and for women. The expected ranges for women are categorized according to menstrual status. Pre-menopausal women have expected ranges for luteal phase, and post-menopausal women are provided with expected ranges as well. Expected ranges are provided for men and women who are supplementing with hormones.

What are the benefits of saliva hormone testing?

Saliva hormone testing is very helpful for uncovering hormone imbalance. For example: discovering a woman has insufficient progesterone to balance high estradiol levels or to discern if high levels of cortisol are interfering with the action of progesterone and testosterone. Once a hormone imbalance has been uncovered, nutritional and bio-identical hormone program can be initiated.

Saliva testing can also be used to monitor any supplement program and can determine whether hormone levels are too high or too low as a result of that supplementation. In other words, if hormone levels are above range, a dosage reduction may be indicated. Saliva collection is painless and more convenient for the patient, particularly when multiple samples are required.

When do I take my saliva sample if my cycles are irregular?

If the cycle is not the usual 28 days but it is regularly within a range of 2-4 days i.e. a cycle that goes from 26 days to 30 days all the time, then take the sample about 7 days before the expected bleed day. For the example of a cycle that ranges from 26-30 days, take the sample on day 19-21.

Day 1 of any cycle is the first day of bleeding.

An irregular cycle – for the purpose of salivary hormone testing is:

- Spotting but no bleeding. There has been a change from regular bleeding to a lesser amount that is not regular.
- A cycle that ranges wildly from month to month. E.g. one month 2 periods occur and then none for 45 days.

If you have an irregular cycle, take the sample whenever you are not bleeding or spotting.

The objective of the salivary hormone test is to try to sample when the progesterone is at its highest. This is generally 7 days before a woman starts to bleed – assuming she is not supplementing with progesterone.

Do I have to stop taking hormones before taking the test?

No. The only reason to stop taking hormones before a test would be to get a 'baseline' level. A baseline level is important if you are unsure whether your symptoms are related to a hormone imbalance. If you are taking hormones for the purpose of controlling symptoms then you will need to stay on those hormones and your program to determine if it is working effectively.

If you are taking a hormone supplement containing progesterone, you must take your sample when you are on the hormone. E.g. I am on progesterone cream from day 15 to day 28 of my cycle and I have regular periods and should take my sample between day 19 and 21, or I am on progesterone cream from day 8 until day 28 and should take my sample between day 19 – 21 while on progesterone.

To have the best result from saliva hormone testing, we would like samples taken at the highest expected progesterone level in your cycle. This is because our progesterone hormone ranges – that indicate if you are too low or too high for a certain hormone - have all been calibrated for the highest expected progesterone level of our clients. If you have a regular cycle and are not on hormones, this is about 7 days before you bleed.

If I have just started to take progesterone cream can I test right away?

In general, it takes about three to four months for the progesterone in the body fat to reach a physiologically steady level for those who have reached menopause and about one to two months for those who are premenopausal. So we advise not testing for 3 months after starting a program using progesterone.

How can Saliva Hormone Tests help?

There are several ways a saliva hormone test can contribute to better health.

The first is to help **identify possible causes of hormone health problems**. Depending on the specific hormones involved, certain symptoms or groups of symptoms are usually present when hormonal imbalance exists. For example, contrary to popular belief, depression is not caused by a prescription drug deficiency. It can be caused by hormone imbalance, in combination with other contributing factors, such as stress, genetics and diet. If a saliva test detects a hormone imbalance it can be addressed through hormone supplementation, diet modification, etc.

Secondly, saliva testing can be used to **guide hormone supplementation**, for example, to determine if progesterone cream supplementation is effective, if the cream is being properly absorbed, and if the dosage is appropriate.

Thirdly, the saliva test can help evaluate if estrogens are adequate or excessive for **women taking oral hormonal supplements** (pill forms), since the bio-availability, the amount of hormone actually able to be used by the body, can vary widely.

Fourthly, saliva testing can contribute to **disease prevention, help with anti-aging programs and assist weight lifters in evaluating their estrogen and testosterone levels**. Testosterone, for example, is an important hormone in both sexes, for the maintenance of cardiovascular and bone health. Identification of out-of-balance testosterone levels and correction with diet, exercise, and/or hormone supplementation could help prevent the development of cardiovascular disease and osteoporosis.

Finally, saliva testing **can provide the information** that is necessary to give confidence in moving ahead with a hormone balancing program. It can help monitor a hormone balancing program on an annual basis to ensure that hormonal balance is maintained. Saliva test kits can be purchased from the Help For Hormones website listed on this newsletter.

- Susan Krautter, RN, BScN

Saliva Testing Q & A (continued)

What Hormones can be tested?

The Lab can test the following five hormones in saliva:

- Estradiol (E2)
- Progesterone (Pg)
- Testosterone (T)
- DHEA
- AM Cortisol ©

There are three test kits are appropriate for women, depending on how many hormones to be tested – two, three or five hormones. There are two kits appropriate for men, which tests three and five hormones.

How do I get a Saliva Test Kit?

Saliva test kits can be purchased from the *Help For Hormones* website listed on this newsletter. They are home test kits, which include everything you need for same day collection.

When you have collected the samples, return the collection tubes with the completed paperwork in the pre-addressed, pre-paid packaging and mailer provided with the kit.

How do I get the results of my Saliva Test?

Your results will be returned directly to you by email in approximately two weeks from receipt of your sample. It is important to print your email address clearly on the requisition in order to receive your test results in a timely manner. If you purchase a test kit from the *Help for Hormones* website, you will receive the added benefit of having assistance in clarification of the test results - so contact your *Help for Hormones Representative* to set up a saliva test review appointment.

Can I send my hormone sample in by regular mail or should it go Priority?

US Residents - because the lab provides prepaid postage, most people residing in the U.S. use this shipping method. Hormones in saliva are stable for over three weeks so samples can be returned to the lab by regular mail. Samples may be sent by priority mail if desired to ensure rapid and reliable delivery.

Non-US Residents - postage will be the responsibility of the client, it is advisable to send the sample insured and by priority mail

What hormones should I test?

Full instructions are included in each kit. We offer three test kits for women and two for men.

Women can use:

- a 2 panel test kit (Estradiol and Progesterone)to test Estrogen Dominance; or
- a 3 panel test kit (Testosterone, Estradiol and Progesterone) used if at risk for osteoporosis; or diagnosed with PCOS.
- a 5 panel test kit (includes the 3 hormones above and DHEA and AM Cortisol) Should be considered if stress is a factor or if a breast cancer profile is desired.

Men can use:

- a 3 panel test kit three hormones - Testosterone, Estradiol and Progesterone.
- or a 5 panel test kit if stress is a factor. This kit includes the above 3 hormones plus DHEA and AM Cortisol.

When to test?

Each Saliva Test Kit contains a booklet especially created to provide information concerning when and how you should collect your saliva samples. Please read the directions carefully. Collection is to take place 4 times during the day – before breakfast, before lunch, before dinner and before bed. It will take just a few minutes each time to “spit in the tube” as the tubes are very small. Dr. Lee advises that saliva collection be done ten hours after the last application of the hormone the night before so adjust your last dosage accordingly. No hormones are to be taken the day of testing.

If you are already on a hormone program it is wise to test saliva levels every 6 to 12 months during transdermal hormone use.

How long are hormone samples stable for testing?

Hormones in saliva are exceptionally stable allowing wide latitude in collection and shipment. Samples can be stored at room temperature for at least two weeks without loss of activity, so samples can be shipped from anywhere in the world to the laboratory by regular mail.