



Contamination

Contamination of a saliva sample occurs when the saliva sample or sample collection tube comes in contact with a topical or sublingual hormone supplement. Hormones are prescribed in mg dosages, which are noted as 10^{-3} . Our sensitive testing equipment is designed to measure salivary hormones, which are in much smaller concentrations. To be specific, the sample is measured in picograms or 10^{-12} . If any part of a milligram formula makes its way into the sample, it will corrupt the sample. There are 1 billion picograms in 1 milligram, so even a trace amount of a milligram sample will cause picogram measurements to be significantly elevated. Patient education on how to prevent contamination will save time and money for the patient, the practitioner, and the laboratory. Many patients are unknowingly exposed to topical hormones either through close contact with a partner or other family member who is using BHRT, or through the use of a product that contains a hidden hormone.

Common Causes of Exogenous Exposure

Steroid Creams and Inhalers

Steroids such as inhalers (prednisone) and creams (cortisone) can skew salivary cortisol results. Be aware that even if the tester is not using a cream him or herself, trace amounts of topical cortisone cream from household exposure (children, animals, elderly) may be enough to affect levels. For this reason Labrix recommends that creams and inhalers containing steroids be avoided for 4-5 days prior to testing.

Beauty, Anti-Aging, and Wild Yam Creams

Other unseen sources of hormones may include anti-aging creams, phytoestrogen creams or wild yam creams that may contain but not report trace amounts of hormones such as progesterone, estradiol, estriol or DHEA.

Testosterone Creams and Gels

Testosterone tends to make its way through a household. Ideally a topical testosterone user would have his or her own bathroom to confine exposure. As this is not often a realistic expectation, the following precautions should be undertaken when using topical testosterone:

1. Use a separate towel from everyone else in the bathroom.
2. Apply cream/gel with disposable gloves to backs of shoulders in AM before getting dressed. Dispose of gloves in such a manner as they will not be touched by anyone else.
3. Place used clothing into separate hamper.
4. Do own laundry or provide gloves to the person who does testosterone-exposed laundry (including towels).
5. Take a shower before bedtime to minimize exposure to partner.
6. Never use testosterone cream before physical intimacy.

Skin to Skin contact

Body workers and hands-on practitioners such as massage therapists, chiropractors and acupuncturists can be exposed to their patients' topical creams. This is another reason to wash hands thoroughly before collection.

Gym Equipment

Gym equipment is an unexpected yet common vector of topical hormone contamination. Gym users who use topical hormones on exposed areas should wipe down equipment after use.

Tips to Prevent Contamination

Wash Hands

It is imperative that patients wash their hands thoroughly after applying topical BHRT cream or gel as failure to do so can result in residual cream being found on doorknobs, faucet handles, counter tops, telephones, gym equipment, sheets and pillow-cases, etc. This residual hormone can be spread to others that may come in contact with these surfaces (especially important to note in cases of topical testosterone supplementation), and can find its way back onto the hands, face or lips of the patient and subsequently contaminate a saliva sample.

Account for Sublingual Hormones

Some BHRT formulas are designed to be absorbed by the blood vessels beneath the tongue. This is an effective way to administer hormones and generally results in good absorption. However, this route of administration can make it difficult to monitor therapeutic hormone levels. If any of the hormone supplement is still present in the mouth, or saturated in the buccal tissues at the time of saliva sample collection, contamination will occur. For this reason, we recommend that the patient drink two 8 oz glasses of water immediately after their hormone has completely dissolved under their tongue. Sample collection should take place 24-36 hours following this process.

Clean Contaminated Surfaces

If there is any chance that the patient has touched any surfaces after applying a hormone cream or gel, a thorough cleaning of the area is recommended. Instruct the patient to wipe down faucets, doorknobs, countertops, light switches, telephones, and soap dispensers, and to change sheets and pillow cases following the last hormone application prior to saliva sample collection. Although hard surfaces are most often implicated in the transfer of these topical preparations, they can become deposited on sheets and pillow cases, especially when applied prior to bed.

Care must be taken not to touch the lips with topical BHRT preparations. In addition, a thorough hand washing after applying topical preparations is necessary prior to touching the sample collection tube or collection straw.

When applying topical BHRT preparations or using sublingual hormones, sample contamination can be easily avoided when the aforementioned precautions are mindfully taken into account.