

TESTING MATRIX & VIDEO TUTORIALS FOR OPTIMAL HORMONE MONITORING

	Baseline Testing (no HRT)		With Hormone Replacement Therapy (click here for a general introduction to HRT monitoring)						
	Sex Hormones	Adrenal	Oral Pg	Oral Estrogen	Vaginal/Anal	Patch, Injection*	Sublingual	Cream (skin)	Gel (skin)
Serum	Well accepted and reliable FDA-cleared methods, but limited metabolites offered. Be sure to also measure "free" levels when available	Can test DHEAS and total cortisol, but no diurnal free or metabolized cortisol	Inaccurate (metabolites cross-react) and true values back to baseline quickly (<3hrs) 2	The return to baseline is much slower than with Pg. Effective for estrogens and DHEA 4	Rise and fall is unpredictable, so timing the testing well is difficult 8	Levels increase with increased patch dose, unlike when using transdermal creams 9	Results return close to baseline too fast for reliable testing (<3hrs) 6	Values under-represent some tissue levels. Be careful of overdosing 7	Increases are more significant than with creams. Levels may still under-represent some tissue levels 10
Saliva	Least accurate lab methods, highly dependent on lab quality. No metabolites offered. Best used for tracking E2, Pg female cycles	Diurnal Free Cortisol often considered "Gold Standard," but low free cortisol can mislead without measuring metabolites 1	Inaccurate (metabolites cross-react) and true values back to baseline quickly (<3hrs) 2	Same as for serum, but estradiol methods must be accurate. E1/E3 assays not very reliable 5	Rise and fall is unpredictable, so timing is difficult. Saliva not proven for this ROA	Saliva levels increase only slightly with patches. Injections work, but be cautious of pellets	Contamination of the mouth lasts far longer than the systemic hormone increase	Values often very high, and likely do not represent systemic exposure. Highly variable and contaminated often. - Best for low doses - <1mg E2, <50mg Pg, <50mg T 7	
24-Hour Urine	Mass spectrometry is accurate and testing includes metabolites. Results highly dependent on lab quality & competence	Offers metabolized but not diurnal cortisol. Often "total" instead of the more clinically relevant "free" cortisol is measured	Metabolite from inactive pathway typically tested (β -pregnanediol) - should also test α -pregnanediol 3	Offers metabolites, but must skip dose the day of testing to avoid 1st-pass elevations	Works for Progesterone, but estrogen and testosterone are likely contaminated	A very good option. Metabolites expand the clinical picture	Difficult to avoid 1st-pass metabolism from oral intake. Does not work if swallowed	Values under-represent some tissue levels. In some cases metabolites help interpretation	Increases often more significant than with creams. Levels likely under-represent some tissue levels
DUTCH	Mass spectrometry is accurate and testing includes metabolites with an easy collection	THE IDEAL OPTION Diurnal Free Cortisol Pattern AND Metabolized Cortisol along with Melatonin 1	Inactive and active metabolites tested for more useful information 3	Offers metabolites, but must skip dose the day of testing to avoid 1st-pass elevations 5	- Ideal option - Special method removes free hormone contamination 5	A very good option. Metabolites expand the clinical picture	Difficult to avoid 1st-pass metabolism from oral intake. Does not work if swallowed 5	Values under-represent some tissue levels. In some cases metabolites help interpretation 7	Increases is more significant than with creams. Likely under-represents some tissue levels 5
Best Practices	Dried Urine Testing for Comprehensive Hormones (DUTCH) is comprehensive and also convenient		Most lab testing is of marginal value. DUTCH metabolites can offer insight into dosing	Use any test to adjust dosing. Only urine testing offers metabolite information	Only DUTCH avoids contamination and offers metabolites	Urine testing offers the most information. Any tests can be effective	Use caution when monitoring dosing. Use urine testing for metabolites	Proceed with caution! No testing method is highly reliable for creams. Urine may be best for high doses (>1mg E2, 200mg Pg, 50mg T) or with alcoholic gels and saliva for low doses of creams. WATCH THE VIDEO FOR DETAILS!	

Good, Effective Options

Not Ideal, Use With Caution

Not Recommended

* also for pellets

T = Testosterone, E2 = Estradiol, Pg = Progesterone

Literature References

- [1. Jerjes \(J Affect Disord 2005, 2006\)](#)
- [2. Levine \(Fertility & Sterility 2000;73\(3\),516-521\)](#)
- [3. Fischer \(JCEM, 1953;13,1043-1053\)](#)
- [4. Longscope \(J. Steroid Biochem 1985;23\(6a\),1065-1070\)](#)
- [5. Unpublished internal lab data](#)

Click on topics above for video tutorials

- [6. Rooij \(Psychoneuroendo. 2012; 37, 773—781\), Hobe \(Steroids 2002; 67, 883—893\)](#)
- [7. Du \(NAMS 2013;20\(11\), 1169-1175\) also includes unpublished study data](#)
- [8. Aperloo \(J Sex Med 2006;3:541-549\)](#)
- [9. Kornmann \(Amer. Soc Andrology 2009\)](#)
- [10. AndroGel Clinical Studies](#)