

Hormone Assessment

SPECIMEN SELECTION GUIDE



The most complete line of endocrine testing

	URINE	SALIVA	BLOOD
Are reported hormones bound or unbound?	Reflects unbound (bioavailable) fraction of hormones	Reflects unbound (bioavailable) fraction of hormones	Generally reflects total hormones (bound and unbound) Unbound testosterone is reported as the Free Androgen Index (FAI), which takes into account the impact of Sex Hormone Binding Globulin (SHBG)
Can estrogen metabolites be measured?	Yes, estrogen metabolites measured in urine: 2-OH (E1+E2) 16-OHE1 4-OH (E1+E2) 2-MeO (E1+E2) 4-MeO (E1+E2) 2/16 Ratio 2-OH/2-MeO Ratio	No, estrogen metabolites not measurable in the saliva	Yes, estrogen metabolites measured in blood: 2-OHE1 16-OHE1 2/16 Ratio
What is the advantage of each specimen type?	<ul style="list-style-type: none"> • Provides most comprehensive array of hormones and their metabolites • Provides insight into metabolic pathways for personalized therapeutic interventions • Easy home collection (24 hr or FMV) 	<ul style="list-style-type: none"> • Best way to evaluate diurnal patterns of cortisol and melatonin • Provides evaluation of menstrual cycle in premenopausal women via multiple sample collection over 28 days • Easy home collection • Reflects circulating levels of hormones 	<ul style="list-style-type: none"> • Reference ranges well established and in agreement between labs • Well-represented in the literature
What are some aspects of each specimen type to be aware of?	<ul style="list-style-type: none"> • Should not be used with diuretics or abnormal renal function • Some urinary steroid hormones partly represented as downstream metabolites due to extensive metabolism, such as: <ul style="list-style-type: none"> - need for DHEA and testosterone inferred by Total 17-ketosteroids - progesterone not directly measurable; represented by downstream metabolite, pregnanediol 	<ul style="list-style-type: none"> • Significantly elevated salivary levels may be seen with some types of compounded bioidentical hormone therapies (BHT), including transdermal creams • Not the specimen of choice for sublingual/ troche BHT • Falsely elevated androgens (such as testosterone and DHEA) sometimes seen with gingival bleeding 	<ul style="list-style-type: none"> • Single 'snapshot' in time; does not account for hormone fluctuations • Stress of blood draw may influence hormone levels • Transdermal hormone creams may be underrepresented in blood samples



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Can this profile be used for a baseline assessment of hormone levels prior to use of bioidentical hormone therapy (BHT)?	<ul style="list-style-type: none"> • Yes, provides a good baseline assessment of hormone levels <p>Note: Avoid under- or overhydration during urine collection, target consumption is 8 - 8 oz glasses of fluid spread evenly over the day</p> <p>Note: (For FMV collections) Patients urinating during the night within 6 hours of rising time, should collect this urine, refrigerate it, and add to the sample collected as first void in the morning</p>	<ul style="list-style-type: none"> • Yes, provides a good baseline assessment of hormones • Not the specimen of choice for sublingual/ troche BHT (recommend waiting at least one week prior to specimen collection) 	<ul style="list-style-type: none"> • Yes, blood provides a good baseline assessment of hormone levels
Can this profile be used for monitoring hormone levels subsequent to use of bioidentical hormone therapy (BHT)?	<ul style="list-style-type: none"> • Can be used to monitor any form of BHT • 24-hour collections recommended to average BHT peaks and troughs • Due to metabolism, base HT dosing on parent hormones and metabolites: <ul style="list-style-type: none"> - For Testosterone & DHEA, refer to Total 17-ketosteroids - For Progesterone, refer to Pregnanediol 	<p>Can be used for most forms of bioidentical HT</p> <ul style="list-style-type: none"> • Not the specimen of choice for sublingual/ troche BHT (recommend waiting at least one week prior to specimen collection) • Significantly elevated salivary levels may be seen with some types of compounded bioidentical hormone therapies (BHT), including transdermal creams 	<p>Blood provides reliable monitoring of most forms of bioidentical hormones; possible exceptions are transdermal creams which may be under-represented in serum</p>
Will all types of hormone replacement be reflected on the report?	<ul style="list-style-type: none"> • Genova's hormone-testing platforms (urine, saliva, blood) are designed to measure BHT and endogenous hormones, not synthetic: <ul style="list-style-type: none"> - Synthetic hormones (oral contraceptives, Premarin, medroxyprogesterone) may suppress endogenous hormone production or create unpredictable results not reflective of physiologic levels 	<ul style="list-style-type: none"> • Genova's hormone-testing platforms (urine, saliva, blood) are designed to measure BHT and endogenous hormones, not synthetic: <ul style="list-style-type: none"> - Synthetic hormones (oral contraceptives, Premarin, medroxyprogesterone) may suppress endogenous hormone production or create unpredictable results not reflective of physiologic levels 	<ul style="list-style-type: none"> • Genova's hormone-testing platforms (urine, saliva, blood) are designed to measure BHT and endogenous hormones, not synthetic: <ul style="list-style-type: none"> - Synthetic hormones (oral contraceptives, Premarin, medroxyprogesterone) may suppress endogenous hormone production or create unpredictable results not reflective of physiologic levels
When should specimen be collected relative to HT dosing?	<ul style="list-style-type: none"> • 24-hour collections recommended to average BHT peaks and troughs 	<p>Timing of collection with supplemented patient will ultimately be at the discretion of clinician in support of clinical question; for example:</p> <ul style="list-style-type: none"> • Clinician may instruct patient to collect closer to dosing for peak levels or collect several hours/days away from dosing for trough levels, depending on type of supplement being used <p>For trough levels:</p> <ul style="list-style-type: none"> • Collect saliva 8-12 hours after last dose of BHT • Patch collect 1-3 days after applying (depending on frequency of application) • Not the specimen of choice for sublingual/ troche BHT; recommend waiting at least 1 week prior to specimen collection 	<p>Timing of collection with supplemented patient will ultimately be at the discretion of clinician in support of clinical question; for example:</p> <ul style="list-style-type: none"> • Clinician may instruct patient to collect closer to dosing for peak levels or collect several hours/days away from dosing for trough levels, depending on type of supplement being used <p>For trough levels:</p> <ul style="list-style-type: none"> • Collect saliva 8-10 hours after last dose of BHT • Patch collect 1-3 days after applying (depending on frequency of application)

This information is for the sole use of a licensed health care practitioner and is for educational purposes only. It is not meant for use as diagnostic information. All claims submitted to Medicare/Medicaid for Genova Diagnostics laboratory services must be for tests that are medically necessary. "Medically necessary" is defined as a test or procedure that is reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member. Consequently, tests performed for screening purposes will not be reimbursed by the Medicare program.



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