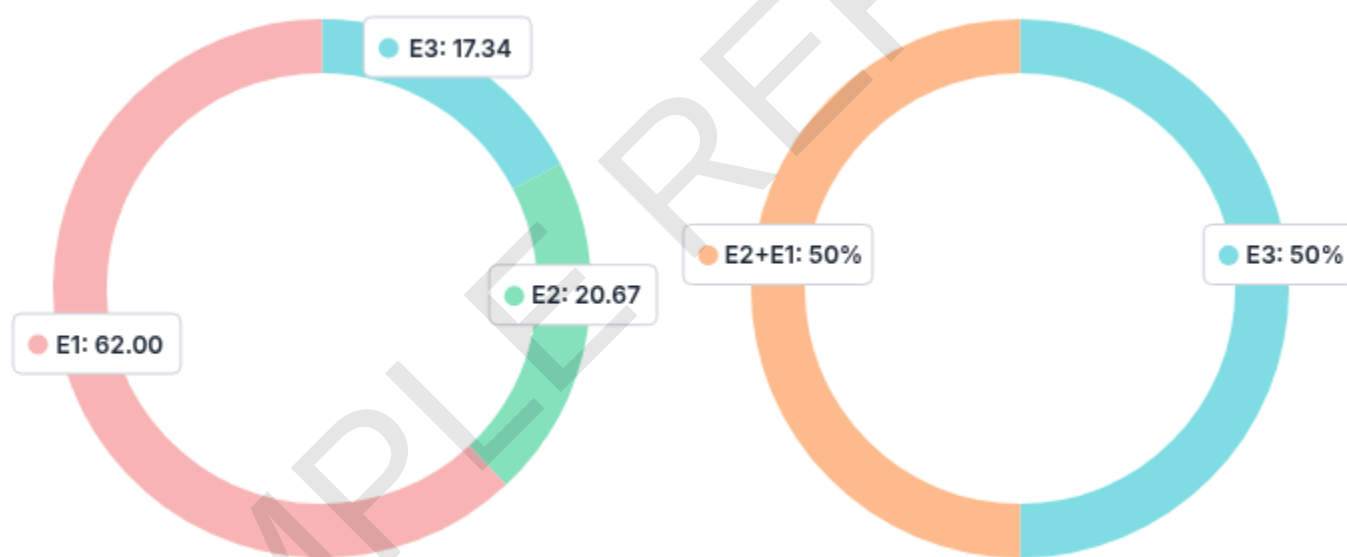


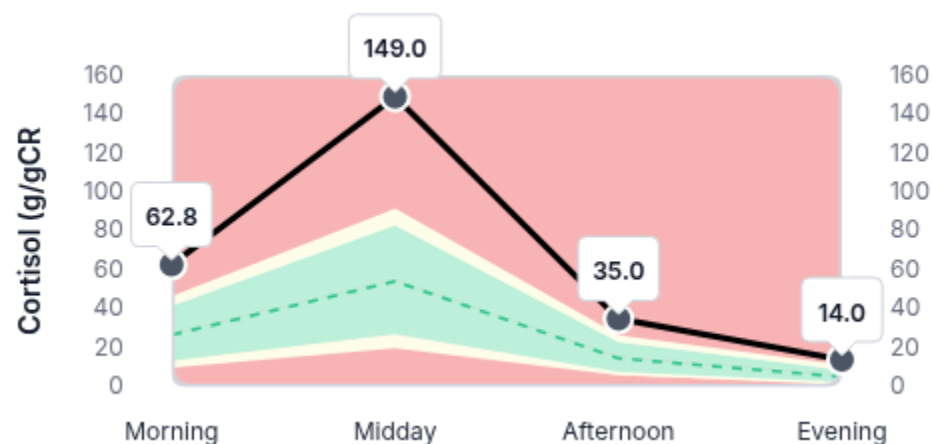
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24-Apr-26

01-Mar-25 07.50am, 12.20pm, 04.40pm, 08.40pm

SERVICE	RESULT	H/L	REFERENCE	UNITS
Estradiol (E2)	0.87		(0.60-1.80)	ug/gCR
Progesterone (serum equivalent)	2.60		(1.46-17.00)	ng/mL
Testosterone	3.81		(0.95-4.20)	ug/gCR



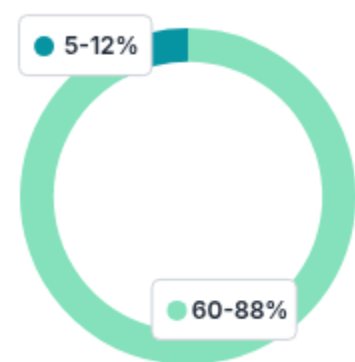
SERVICE	RESULT	H/L	REFERENCE	UNITS
● Cortisol, Morning	62.80	H	(10.00-45.00)	ug/gCR
● Cortisol, Midday	149.00	H	(20.00-90.00)	ug/gCR
● Cortisol, Afternoon	35.00	H	(6.00-25.00)	ug/gCR
● Cortisol, Evening	14.00	H	(2.00-10.00)	ug/gCR

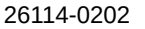


SERVICE	RESULT	H/L		REFERENCE	UNITS
Total Cortisol	36.32	H		(10.00-35.00)	ug/gCR
Tetrahydrocortisol (THF)	294			(160-560)	ug/gCR
DHEA Prod'n (DHEA+Androst+Etioch)	1789.37			(500.00-3000.00)	ug/gCR
Metabolised Cortisol (THF + THE)	1025			(700-1700)	ug/gCR

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ESTROGEN METABOLISM - Phase 2						
SERVICE	RESULT	H/L		REFERENCE	UNITS	
2-MeOH Estradiol	0.12	H		(0.02-0.10)	ug/gCR	
2-MeOH Estrone	0.77	H		(0.20-0.75)	ug/gCR	
4-MeOH Estradiol	0.07	H		(<0.05)	ug/gCR	
4-MeOH Estrone	0.03			(<0.05)	ug/gCR	
2-MeOH E1/2-OH E1	0.24			(0.16-0.45)	ratio	
4-MeOH E2/4-OH E2	0.54	H		(0.05-0.35)	ratio	
4-MeOH E1/4-OH E1	0.15			(0.03-0.18)	ratio	





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26114-0202

Dr Test Doctor (Test Doctor) Test Clinic. 123 Test Street, Test Suburb Victoria 3125

Lab ID
Patient ID P000060
Ext ID 26114-0202

Test Patient

Sex: Female • 56yrs • 01-Jan-70
123 Home Street, Test Suburb VIC 3125

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KEY ANDROGEN RATIOS

SERVICE	RESULT	H/L	REFERENCE	UNITS
● DHEA Prod'n (DHEA+Androst+Etioch)	1789.37		(500.00-3000.00)	ug/gCR
● 5a-Reductase Activity (Androst/Etioch)	0.88		(0.60-2.20)	ratio
● Testosterone/Epi-Testosterone	0.52		(0.40-5.50)	ratio

Nutritional Organic Acids

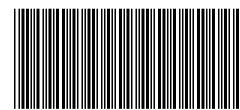
[illegible]

Other Organic Acids

[illegible]

URINE CREATININES

SERVICE	RESULT	H/L		REFERENCE	UNITS
Creatinine, Urine Pooled	1.20			(0.30-2.20)	mg/ml
Creatinine, Urine Morning	0.70			(0.30-2.20)	mg/ml
Creatinine, Urine Midday	0.60			(0.30-2.20)	mg/ml
Creatinine, Urine Afternoon	1.10			(0.30-2.20)	mg/ml
Creatinine, Urine Evening	1.70			(0.30-2.20)	mg/ml



26114-0202

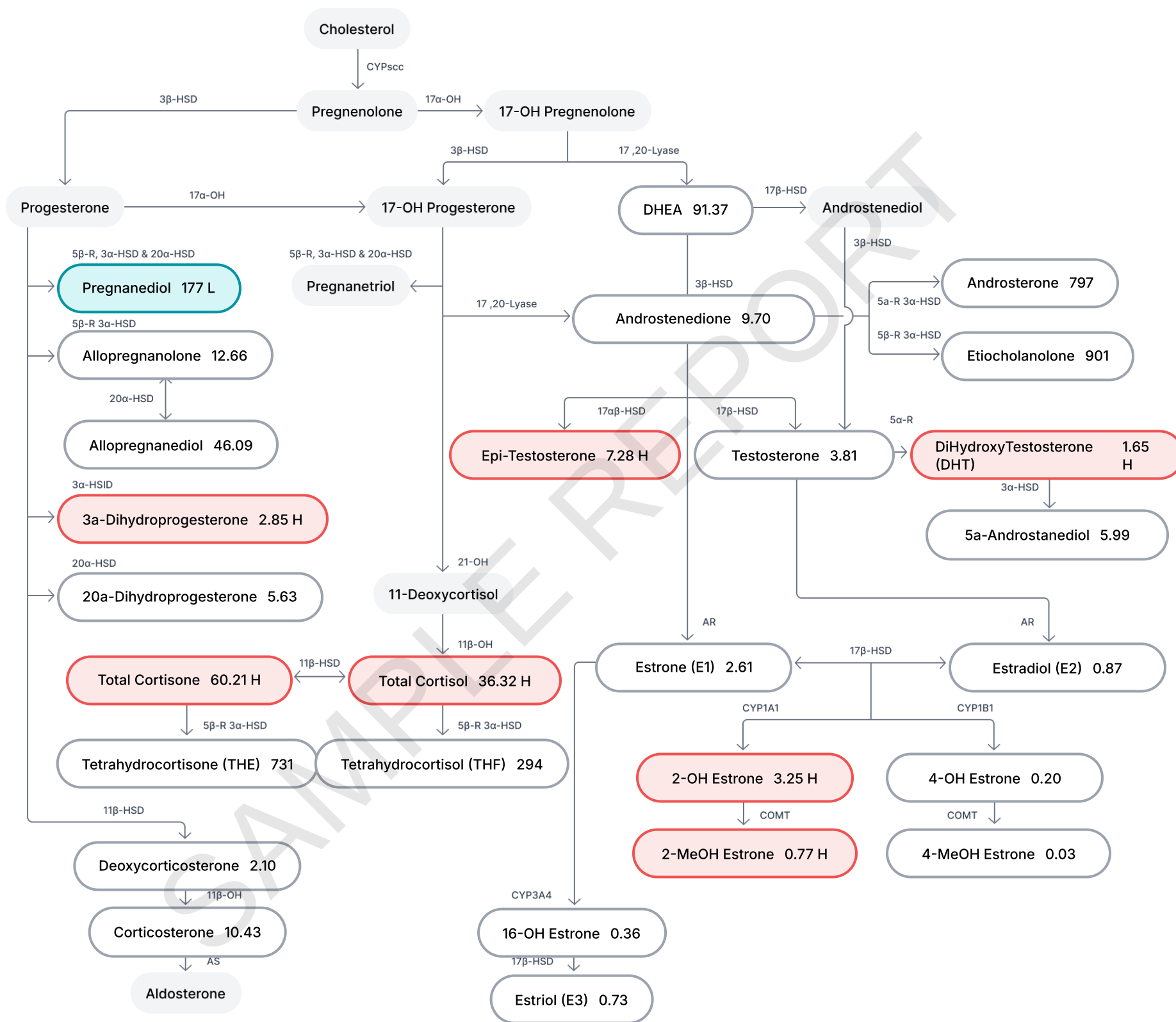
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Legend

Hormone not tested Within range Out of range - Low Out of range - High

Enzyme Abbreviations

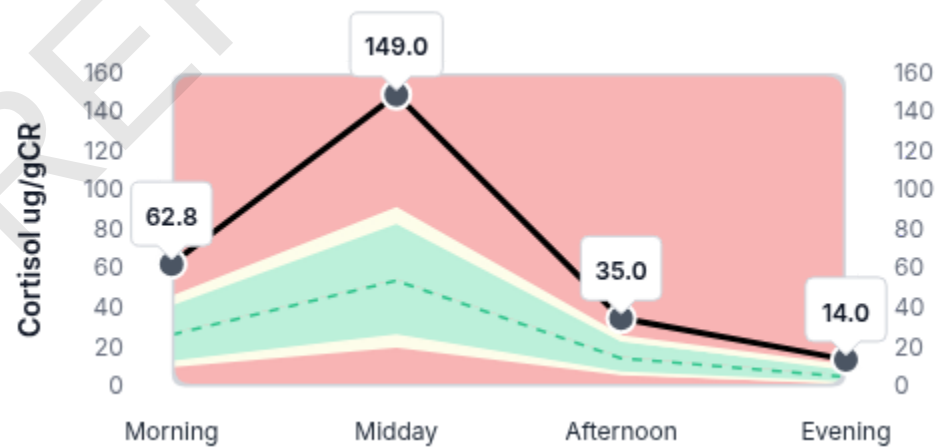
5α-R	5 α -Reductase	3α-HSD	3 α -Hydroxysteroid dehydrogenase	AR	Aromatase
5β-R	5 β -Reductase	3β-HSD	3 β -Hydroxysteroid dehydrogenase	AS	Aldosterone Synthase
11β-oH	11 β -Hydroxylase	11β-HSD	11 β Hydroxysteroid dehydrogenase	CYP	Cytochrome p450 (scc, 1A1, 1B1 & 3A4)
17α-OH	17 α -Hydroxylase	17α-HSD	17 α -Hydroxysteroid dehydrogenase	COMT	Catechol-O-Methyl-Transferase
17,20-Lyase	Same enzyme as 17 α -OH	17β-HSD	17 β -Hydroxysteroid dehydrogenase		
21-OH	21-Hydroxylase	20α-HSD	20 α -Hydroxysteroid dehydrogenase		

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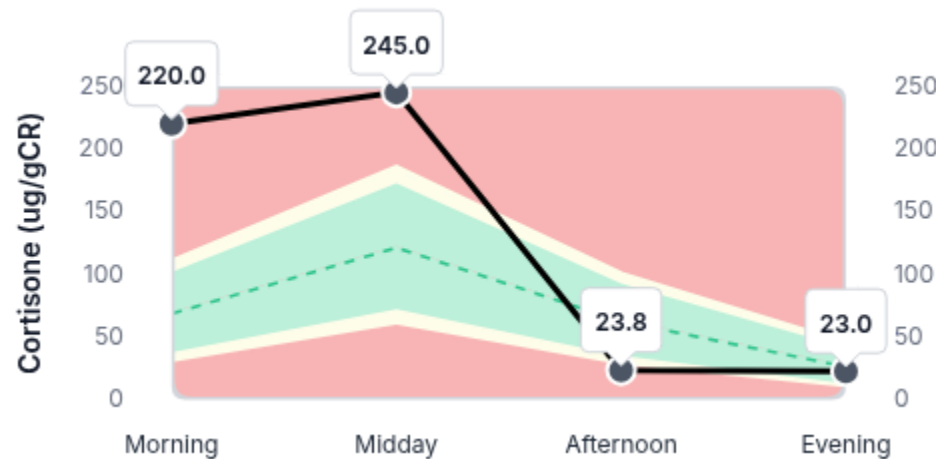
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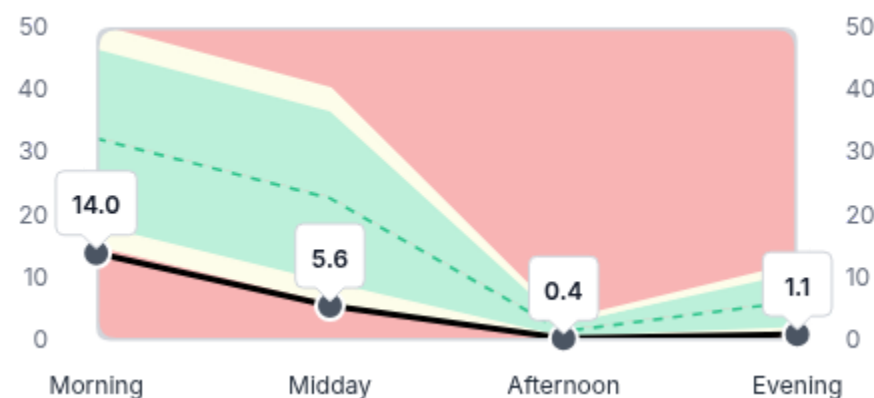
SERVICE	RESULT	H/L	REFERENCE	UNITS
● Cortisol, Morning	62.80	H	(10.00-45.00)	ug/gCR
● Cortisol, Midday	149.00	H	(20.00-90.00)	ug/gCR
● Cortisol, Afternoon	35.00	H	(6.00-25.00)	ug/gCR
● Cortisol, Evening	14.00	H	(2.00-10.00)	ug/gCR

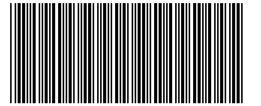


SERVICE	RESULT	H/L	REFERENCE	UNITS
● Cortisone, Morning	220.00	H	(30.00-110.00)	ug/gCR
● Cortisone, Midday	245.00	H	(60.00-185.00)	ug/gCR
● Cortisone, Afternoon	23.80	L	(28.00-100.00)	ug/gCR
● Cortisone, Evening	23.00		(10.00-45.00)	ug/gCR



SERVICE	RESULT	H/L	REFERENCE	UNITS
Melatonin, Morning	14.00	L	(15.00-50.00)	ug/gCR
Melatonin, Midday	5.60	L	(6.00-40.00)	ug/gCR
Melatonin, Afternoon	0.40	L	(0.50-3.00)	ug/gCR
Melatonin, Evening	1.10	L	(1.20-12.00)	ug/gCR





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Urinary Estrogens Comment

ESTROGEN QUOTIENT LOW:

This ratio reflects the relative levels of estriol compared to other estrogens, indicating estrogen metabolism.

A low ratio suggests a dominance of estrone and estradiol over estriol, which may be linked to estrogen dominance, leading to symptoms such as mood swings, heavy periods, and fibroids. Consider further investigations such as serum TFT's.

2-HYDROXY-ESTRADIOL ELEVATED:

2-OH Estradiol is a less potent, detoxified metabolite of estradiol. Elevated 2-OH estradiol levels are considered protective, indicating effective estrogen detoxification. This may reduce symptoms of estrogen dominance and lower the risk of endometrial or breast cancer.

2-HYDROXY-ESTRONE ELEVATED:

2-OH Estrone is a detoxified, less potent metabolite of estrone that reduces estrogenic activity. High 2-OH estrone levels suggest a well-functioning detoxification pathway, which can help lower the risk of estrogen-dependent conditions, including endometrial and breast cancers.

2-HYDROXY-ESTROGENS/16-HYDROXY-ESTROGENS RATIO ELEVATED:

This ratio compares protective 2-hydroxy metabolites to the more carcinogenic 16 α -hydroxy metabolites. A higher ratio reflects a protective estrogen metabolism, reducing the risk of estrogen-sensitive cancers and associated symptoms like breast tenderness and heavy periods.

2-METHOXY-ESTRADIOL ELEVATED:

2-MeO Estradiol is a methylated metabolite of estradiol that has protective effects against estrogen-induced carcinogenesis. High levels indicate efficient methylation and detoxification, protecting against estrogen-induced DNA damage, and lowering the risk of hormone-sensitive cancers.

2-METHOXY-ESTRONE ELEVATED:

2-MeO Estrone is a methylated form of estrone that helps reduce estrogenic effects and protects against DNA damage. High levels reflect efficient detoxification, lowering the potential for estrogen-dependent cancers and improving hormonal balance.

4-METHOXY-ESTRADIOL ELEVATED:

4-MeO Estradiol is a methylated form of 4-OH estradiol, which reduces its carcinogenic potential. High levels suggest efficient detoxification, helping to protect against the genotoxic effects of estradiol and reducing the risk of estrogen-related cancers.

4-METHOXY-ESTRADIOL/4-HYDROXY-ESTRADIOL RATIO ELEVATED:

This ratio compares the methylated 4-OH estradiol to its more harmful form, reflecting the balance between detoxified and genotoxic metabolites. High ratios indicate efficient detoxification of estradiol, reducing the likelihood of oxidative stress and DNA damage, and protecting against estrogen-dependent cancers.

Progesterone Metabolites Comment

PREGNANEDIOL/ESTRADIOL RATIO LOW:

The Pgdiol/E2 ratio compares progesterone metabolism (via pregnanediol) to estradiol metabolism, reflecting estrogen-progesterone balance. A low ratio suggests an estrogen-dominant state, which can contribute to symptoms like heavy periods, fibroids, PMS, and an increased risk of endometrial cancer.



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PREGNANEDIOL LOW:

Pregnanediol is a metabolite of progesterone and is used to assess the body's progesterone status.

Low pregnanediol may indicate inadequate progesterone production, often seen in luteal phase defects or anovulation. Symptoms include irregular cycles, infertility, and mood disturbances.

3 α -DIHYDROPROGESTERONE ELEVATED:

3 α -Dihydroprogesterone is a metabolite of progesterone with anxiolytic and calming properties. Elevated 3 α -dihydroprogesterone levels may be seen during pregnancy or in cases of progesterone therapy, contributing to fatigue, bloating, and mood swings.

Urinary Androgen Comment

EPI-TESTOSTERONE ELEVATED:

Epi-testosterone is a testosterone isomer often measured alongside testosterone to assess androgenic activity. Elevated epi-testosterone may indicate altered testosterone metabolism or conditions such as PCOS, adrenal disorders, or steroid use. Symptoms may include acne, hirsutism, and irregular periods.

DIHYDROTESTOSTERONE (DHT) ELEVATED:

5 α -DHT is a potent androgen derived from testosterone, involved in male-pattern hair growth and other androgenic effects. Elevated 5 α -DHT levels are often seen in conditions like PCOS or androgen excess, contributing to symptoms such as acne, hirsutism, and hair loss.

Urinary Glucocorticoid Comment

URINE CORTISOLS INTERPRETATION:

Elevated urinary cortisol levels at multiple time points throughout the day suggest hypercortisolism, reflecting chronic stress, adrenal hyperactivity, or conditions such as Cushing's syndrome or pseudo-Cushing's states (e.g., due to obesity, alcohol use, or severe stress). This state results in prolonged activation of the hypothalamic-pituitary-adrenal (HPA) axis, contributing to symptoms like anxiety, sleep disturbances, fatigue, abdominal weight gain, insulin resistance, hypertension, and immune suppression. Chronic hypercortisolism may also lead to muscle catabolism, bone loss, and impaired wound healing.

Management strategies include addressing underlying causes, such as evaluating for Cushing's syndrome through confirmatory tests (e.g., A salivary 4 point cortisol including a 12am sample). Nutritional support can help modulate cortisol levels, including adaptogenic herbs like ashwagandha and rhodiola, magnesium, vitamin C, and B vitamins. Anti-inflammatory and low-glycemic diets are beneficial, while minimising stimulants like caffeine. Stress management techniques and consistent sleep-wake cycles are important interventions.

Urinary Melatonin Comment

URINE MELATONINS INTERPRETATION:

Consistently low or low-normal melatonin levels across all time points suggest potential circadian rhythm disruption or poor pineal gland function. This can be indicative of insufficient sleep quality or quantity, excessive exposure to artificial light (especially blue light from screens), or stress-related dysregulation. Symptoms may include difficulty falling asleep, poor sleep quality, or insomnia. Treatment strategies include improving sleep hygiene, minimising light exposure before bedtime, and promoting relaxation through dietary support such as magnesium or melatonin supplementation in the evening. Lifestyle changes such as reducing caffeine intake and managing stress levels are also beneficial. If melatonin supplementation is warranted, daily doses of 0.5 mg to 5 mg with 2mg being the most common dose shows similar effectiveness, although sleep onset may be quicker at the higher dose.

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Liquid Chromatography-Mass Spectrometry (LC-MS/MS/MS), Inductively Coupled Plasma Mass Spectrometry (ICP- MS)