*** NutriPATH Pathology** NutriPath. 16 Harker Street, Burwood VIC 3125

Lab ID 250920007
Patient ID P000063
Ext ID 25092-0007

Test Patient

Sex: Female • 55yrs • 01-Jan-70
123 Home Street, Test Suburb VIC 3125

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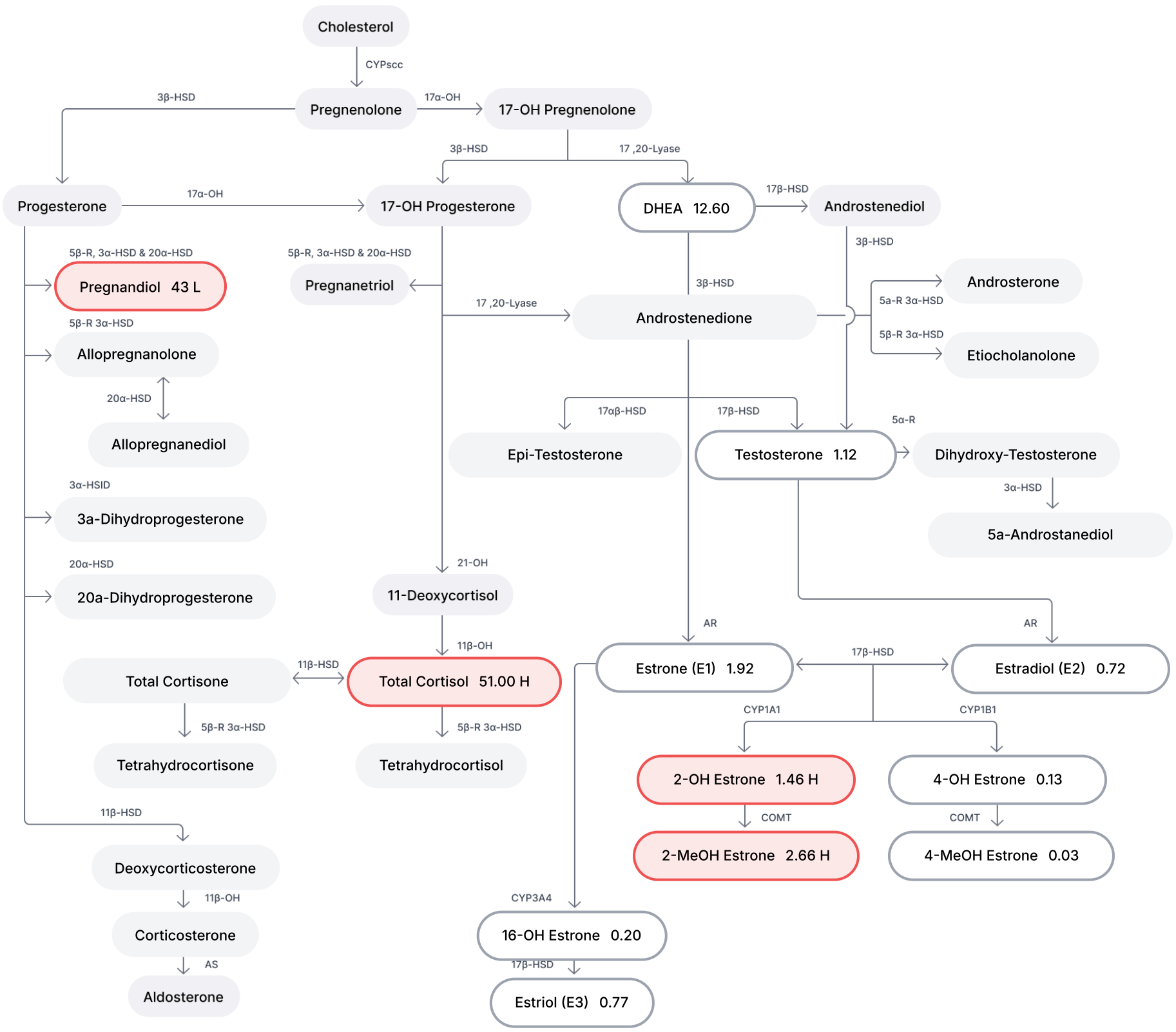
24-Jan-25

EndoSCAN (Estrogen Metabolism)

Specimen type - Urine, Dried

Collected
15-Jan-25 06.00am



Legend Hormone not tested | Within range | Out of range | L = Low, LL = Critically Low | H = High , HH = Critically High

Enzyme Abbreviations

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

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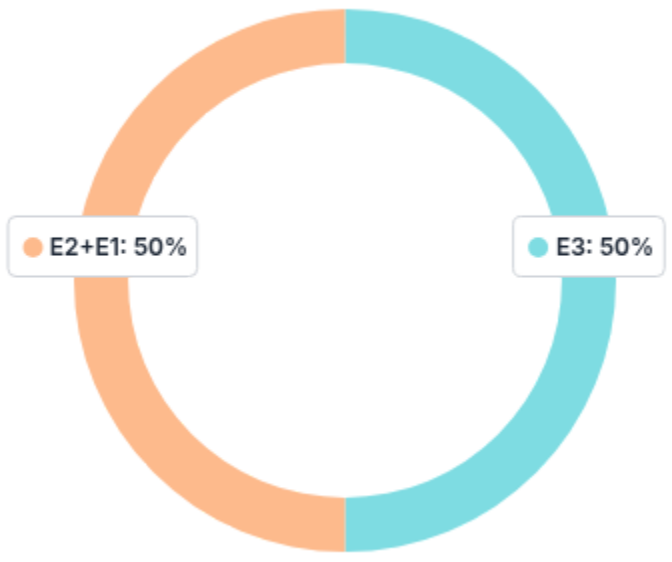
Primary Estrogens

SERVICE	RESULT	H/L	REFERENCE	UNITS
Estradiol (E2)	0.72		(0.10-0.80)	ug/gCR
Estrone (E1)	1.92		(0.50-2.70)	ug/gCR
Estriol (E3)	0.77		(0.20-1.30)	ug/gCR
Estrogen Quotient - E3/[E2+E1]	0.29		(>0.25)	ratio

Estrogens Balance (as %)

Healthy Estrogens Balance



OTHER PRIMARY HORMONES

SERVICE	RESULT	H/L	REFERENCE	UNITS
Pregnanediol	43	L	(50-225)	ug/gCR
Pregnanediol/Estradiol	60	L	(500-1500)	ratio
Total Cortisol	51.00	H	(13.00-44.00)	ug/gCR
DHEA	12.60		(8.00-39.00)	ug/gCR
DHEA-S	46.0		(30.0-350.0)	ug/gCR
Testosterone	1.12		(0.50-3.05)	ug/gCR

Urinary Creatinine

SERVICE	RESULT	H/L	REFERENCE	UNITS
Creatinine, Urine Pooled	1.60		(0.30-2.20)	mg/ml

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Estrogen Metabolism - Phase 1 (Hydroxylation)

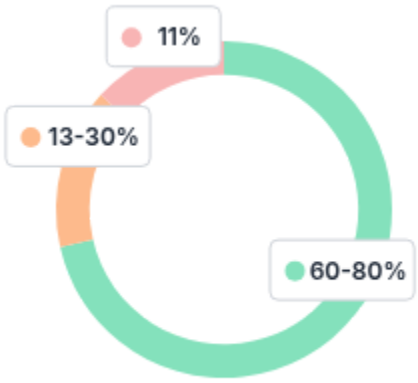
SERVICE	RESULT	H/L	REFERENCE	UNITS
2-OH Estradiol	0.88	H	(0.05-0.45)	ug/gCR
2-OH Estrone	1.46	H	(0.20-1.10)	ug/gCR
4-OH Estradiol	0.12		(0.02-0.20)	ug/gCR
4-OH Estrone	0.13		(0.06-0.22)	ug/gCR
16-OH Estrone	0.20		(0.05-0.45)	ug/gCR
2-OH(E1+E2)/16-OHE1	11.70	H	(1.40-8.20)	ratio

Estrogen Metabolism - Phase 2 (Methylation)

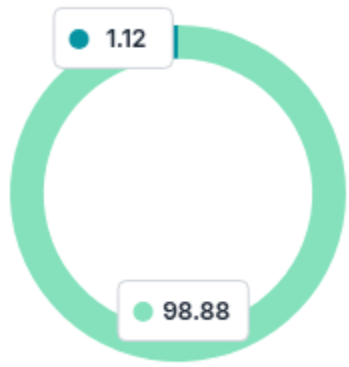
SERVICE	RESULT	H/L	REFERENCE	UNITS
2-MeOH Estradiol	0.12	H	(0.01-0.08)	ug/gCR
2-MeOH Estrone	2.66	H	(0.05-0.35)	ug/gCR
2-MeOH E1/2-OH E1	1.82	H	(0.15-0.40)	ratio
4-MeOH Estradiol	0.07	H	(<0.05)	ug/gCR
4-MeOH Estrone	0.03		(<0.05)	ug/gCR
4-MeOH E2/4-OH E2	0.58		(0.10-0.80)	ratio
4-MeOH E1/4-OH E1	0.23		(0.02-0.40)	ratio

Metabolism Ph1 % (Hydroxylation)

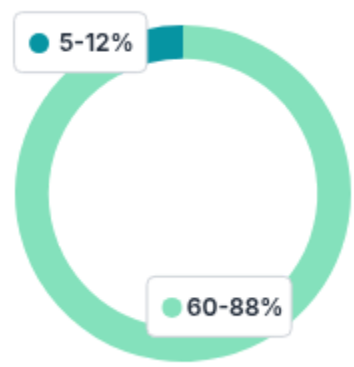
Healthy Ph1 Metabolism



Metabolism Ph2 % (Methylation)



Healthy Ph2 Metabolism



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ENDOCRINE DISRUPTORS

SERVICE	RESULT	H/L	REFERENCE	UNITS
Bisphenol A (BPA)	2.00		(<4.00)	ug/gCR
Polyfluoroalkyl Substances (PFAS)	0.40		(<0.70)	ug/gCR
Perfluorooctanoic Acid (PFOA)	0.00		(<0.10)	ug/gCR
Perfluorooctane Sulphonic Acid (PFOS)	0.00		(<0.60)	ug/gCR
Aluminium	1.90		(<14.00)	ug/gCR
Arsenic	32.00	H	(<26.50)	ug/gCR
Cadmium	0.50		(<0.60)	ug/gCR
Chromium	2.60		(<4.60)	ug/gCR
Lead	3.80		(<38.60)	ug/gCR
Mercury	29.0	H	(<17.9)	ug/gCR
Nickel	0.70		(<1.23)	ug/gCR

NUTRIPATH · PATIENT REPORT
16 Harker St, Burwood VIC, 3125 • info@nutripath.com.au • 1300 688 522

NATA Accreditation: #20770

25092-0007

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Symptom Categories

Estrogen & Progesterone Deficiency	66.67%
Estrogen Dominance/Progesterone Deficiency	66.67%
Low Androgens	52.22%
High Androgens	55.56%
Low Cortisol	58.73%
High Cortisol	47.37%
Hypometabolism	50.00%
Metabolic Syndrome	33.33%

Symptom Score

0. NONE	1. MILD	2. MODERATE	3. SEVERE
Rapid aging	Elevated triglycerides	Decreased flexibility	Cold body temperature
Headaches	Sensitivity to chemicals	Decreased libido	Decreased stamina
Rapid heartbeat	Nails breaking or brittle	Decreased urine flow	Bone loss
Depressed	Low blood sugar	Swelling or puffy eyes/face	Developmental delays
Decreased erections	Apathy	Oily skin or hair	Neck or back pain
High blood pressure	Anxious	Panic attacks	Slow pulse rate
Burned out feeling	Ringing in ears	Decreased muscle size	Autism Spectrum Disorder
Hair dry or brittle	Increased urinary urge	Sugar craving	Difficulty sleeping
Eating disorders	Hearing loss	Stress	Goiter
Weight gain - Waist	Acne	Thinning skin	Irritable
ADD/ADHD	Hot flashes	Mania	Prostate problems
	Decreased sweating	Infertility problems	
	Decreased mental sharpness	Nervous	
	Morning fatigue	Mental fatigue	
	Weight gain - Breasts/hips	Heart palpitations	
	High cholesterol	Low blood pressure	
	Constipation	Allergies	
	OCD	Hoarseness	
	Addictive behaviours	Night sweats	
	Dizzy spells	Evening fatigue	

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Urinary Estrogens Comment

2-HYDROXY-ESTRADIOL ELEVATED:

2-Hydroxyestradiol is a metabolite that suggests increased Phase I estrogen hydroxylation. High levels indicate an enhanced metabolism of estrogen into less estrogenic metabolites, potentially lowering estrogen-related cancer risks. However, excessive 2-OH estradiol could signal a disrupted estrogen clearance process, leading to other metabolic imbalances.

2-HYDROXY-ESTRONE ELEVATED:

Elevated 2-hydroxyestrone levels indicate an upregulation of detoxification pathways and enhanced hydroxylation at the 2-position. This could signify a healthier estrogen metabolism profile, yet elevated levels might also suggest alterations in how the body processes estrogen, potentially disrupting the estrogen balance.

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

A Elevated ratio indicates a metabolic preference for the protective 2-hydroxylation pathway, potentially reducing estrogenic and genotoxic effects.

2-METHOXY-ESTRADIOL ELEVATED:

2-Methoxyestradiol is a metabolite of estradiol that generally suggests a protective metabolism of estrogen. High levels indicate that the body is effectively clearing estrogen and mitigating oxidative damage. This is typically a favorable sign, although persistently elevated levels may indicate an alteration in estrogen metabolism.

2-METHOXY-ESTRONE ELEVATED:

Elevated 2-MeO Estrone reflects enhanced methylation of 2-OH Estrone, a protective mechanism against reactive estrogen intermediates.

2-METHOXY-ESTRONE/2-HYDROXY-ESTRONE RATIO LOW:

An elevated ratio indicates efficient methylation of 2-OH Estrone, reducing the potential for oxidative stress and genotoxicity.

4-METHOXY-ESTRADIOL ELEVATED:

4-Methoxyestradiol levels indicate active detoxification of 4-hydroxyestradiol, a genotoxic estrogenic metabolite. Elevated levels suggest the body is actively reducing oxidative damage, which may decrease the long-term risk of estrogen-induced cancers.

Methodology

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