

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

Order ID 6370618
Lab ID 4113639
Patient ID P001562
Ext ID 25171-0018

PAULINE IMMORDINO

Sex: Female • 29yrs • 08-Jul-95
19 BEN LOMOND DRIVE, HIGHLAND PARK QLD 4211

RECEIVED
20-Jun-25

Clinical Notes: Magnesium

EndoMAP

Specimen type - Urine, Dried

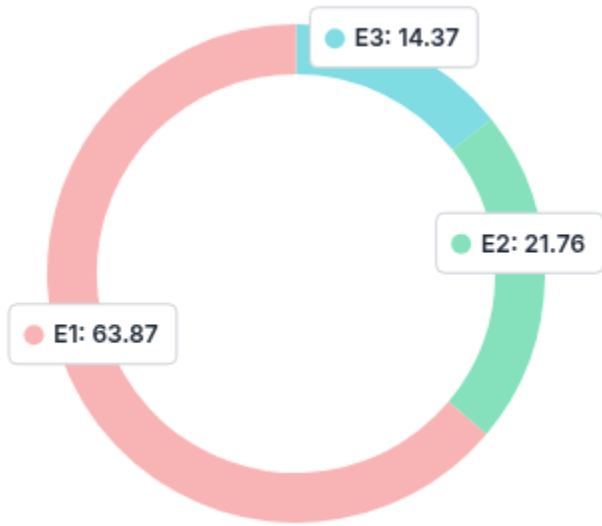
Collected

16-Jun-25 06.00am, 08.00am, 04.00pm, 09.00pm

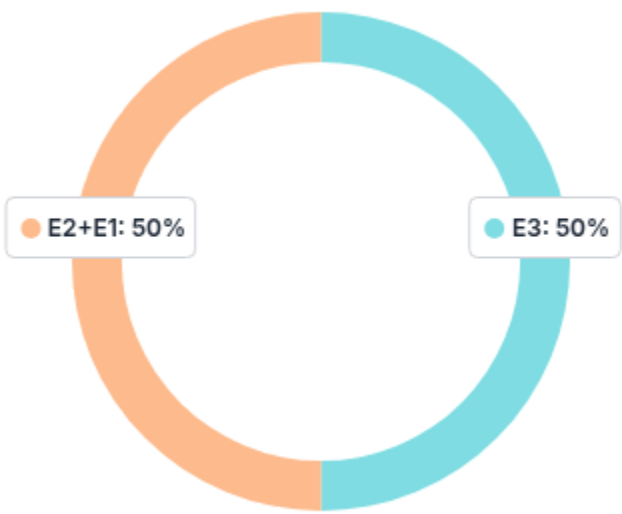
KEY STEROID HORMONES SUMMARY

SERVICE	RESULT	H/L	REFERENCE	UNITS
Estradiol (E2)	1.25		(0.60-1.80)	ug/gCR
Progesterone (serum equivalent)	1.01	L	(1.46-17.00)	ng/mL
Testosterone	3.48		(0.95-4.20)	ug/gCR

Estrogens Balance (as %)

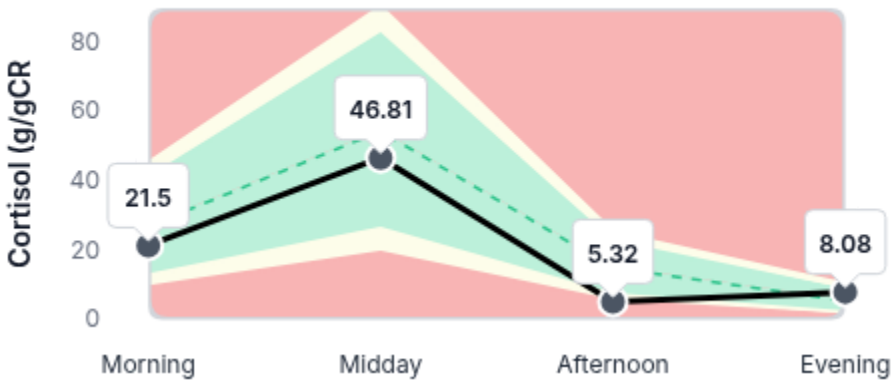


Healthy Estrogens Balance



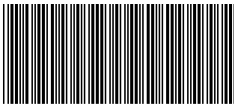
Adrenal Function - Free Cortisol

SERVICE	RESULT	H/L	REFERENCE	UNITS
Cortisol, Morning	21.50		(10.00-45.00)	ug/gCR
Cortisol, Midday	46.81		(20.00-90.00)	ug/gCR
Cortisol, Afternoon	5.32	L	(6.00-25.00)	ug/gCR
Cortisol, Evening	8.08		(2.00-10.00)	ug/gCR



Adrenal Function - Key Markers

SERVICE	RESULT	H/L	REFERENCE	UNITS
Total Cortisol	23.84		(10.00-35.00)	ug/gCR
Tetrahydrocortisol (THF)	480		(160-560)	ug/gCR
DHEA Prod'n (DHEA+Androst+Etioch)	923.68		(500.00-3000.00)	ug/gCR
Metabolised Cortisol (THF + THE)	1537		(700-1700)	ug/gCR



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

Order ID 6370618
Lab ID 4113639
Patient ID P001562
Ext ID 25171-0018

PAULINE IMMORDINO
Sex: Female • 29yrs • 08-Jul-95
19 BEN LOMOND DRIVE, HIGHLAND PARK QLD 4211

RECEIVED
20-Jun-25

Clinical Notes: Magnesium

PRIMARY ESTROGENS

SERVICE	RESULT	H/L		REFERENCE	UNITS
● Estradiol (E2)	1.25			(0.60-1.80)	ug/gCR
● Estrone (E1)	3.67			(2.10-5.50)	ug/gCR
● Estriol (E3)	0.83			(0.70-2.10)	ug/gCR
● Estrogen Quotient - E3/[E2+E1]	0.17	L		(>0.25)	ratio

ESTROGEN METABOLISM - Phase 1

SERVICE	RESULT	H/L		REFERENCE	UNITS
● 2-OH Estradiol	0.54			(0.20-0.75)	ug/gCR
● 2-OH Estrone	0.88			(0.60-2.60)	ug/gCR
● 4-OH Estradiol	0.02	L		(0.08-0.20)	ug/gCR
● 4-OH Estrone	0.36			(0.17-0.47)	ug/gCR
● 16-OH Estrone	0.14	L		(0.30-1.10)	ug/gCR
● 2-OH(E1+E2)/16-OHE1	10.24	H		(1.20-5.60)	ratio

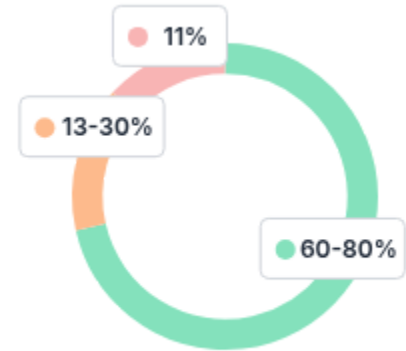
ESTROGEN METABOLISM - Phase 2

SERVICE	RESULT	H/L		REFERENCE	UNITS
● 2-MeOH Estradiol	0.02			(0.02-0.10)	ug/gCR
● 2-MeOH Estrone	0.28			(0.20-0.75)	ug/gCR
● 4-MeOH Estradiol	0.01			(<0.05)	ug/gCR
● 4-MeOH Estrone	0.01			(<0.05)	ug/gCR
● 2-MeOH E1/2-OH E1	0.32			(0.16-0.45)	ratio
● 4-MeOH E2/4-OH E2	0.51	H		(0.05-0.35)	ratio
● 4-MeOH E1/4-OH E1	0.03			(0.03-0.18)	ratio

Metabolism Ph1 %
(Hydroxylation)



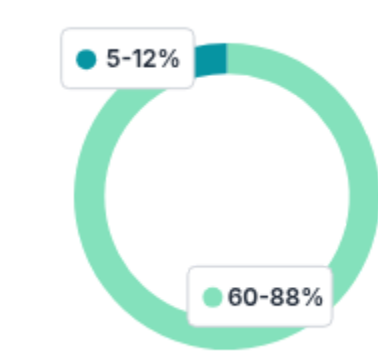
Healthy Ph1 %
Metabolism



Metabolism Ph2 %
(Methylation)



Healthy Ph2 %
Metabolism





Clinical Notes: Magnesium



  **RCPA**
The Royal College of Pathologists of Australasia

NATA Accreditation: #20770



Order ID 6370618
Lab ID 4113639
Patient ID P001562
Ext ID 25171-0018

PAULINE IMMORDINO

Sex: Female • 29yrs • 08-Jul-95
19 BEN LOMOND DRIVE, HIGHLAND PARK QLD 4211

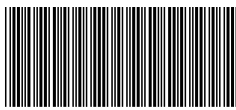
RECEIVED
20-Jun-25

Clinical Notes: Magnesium

SERVICE	RESULT	H/L	REFERENCE	UNITS
● DHEA Prod'n (DHEA+Androst+Etioch)	923.68		(500.00-3000.00)	ug/gCR
● 5a-Reductase Activity (Androst/Etioch)	0.70		(0.60-2.20)	ratio
● Testosterone/Epi-Testosterone	1.14		(0.40-5.50)	ratio

[illegible][illegible]

SERVICE	RESULT	H/L		REFERENCE	UNITS
Creatinine, Urine Pooled	1.72			(0.30-2.20)	mg/ml
Creatinine, Urine Morning	2.44	H		(0.30-2.20)	mg/ml
Creatinine, Urine Midday	0.89			(0.30-2.20)	mg/ml
Creatinine, Urine Afternoon	1.92			(0.30-2.20)	mg/ml
Creatinine, Urine Evening	1.64			(0.30-2.20)	mg/ml



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

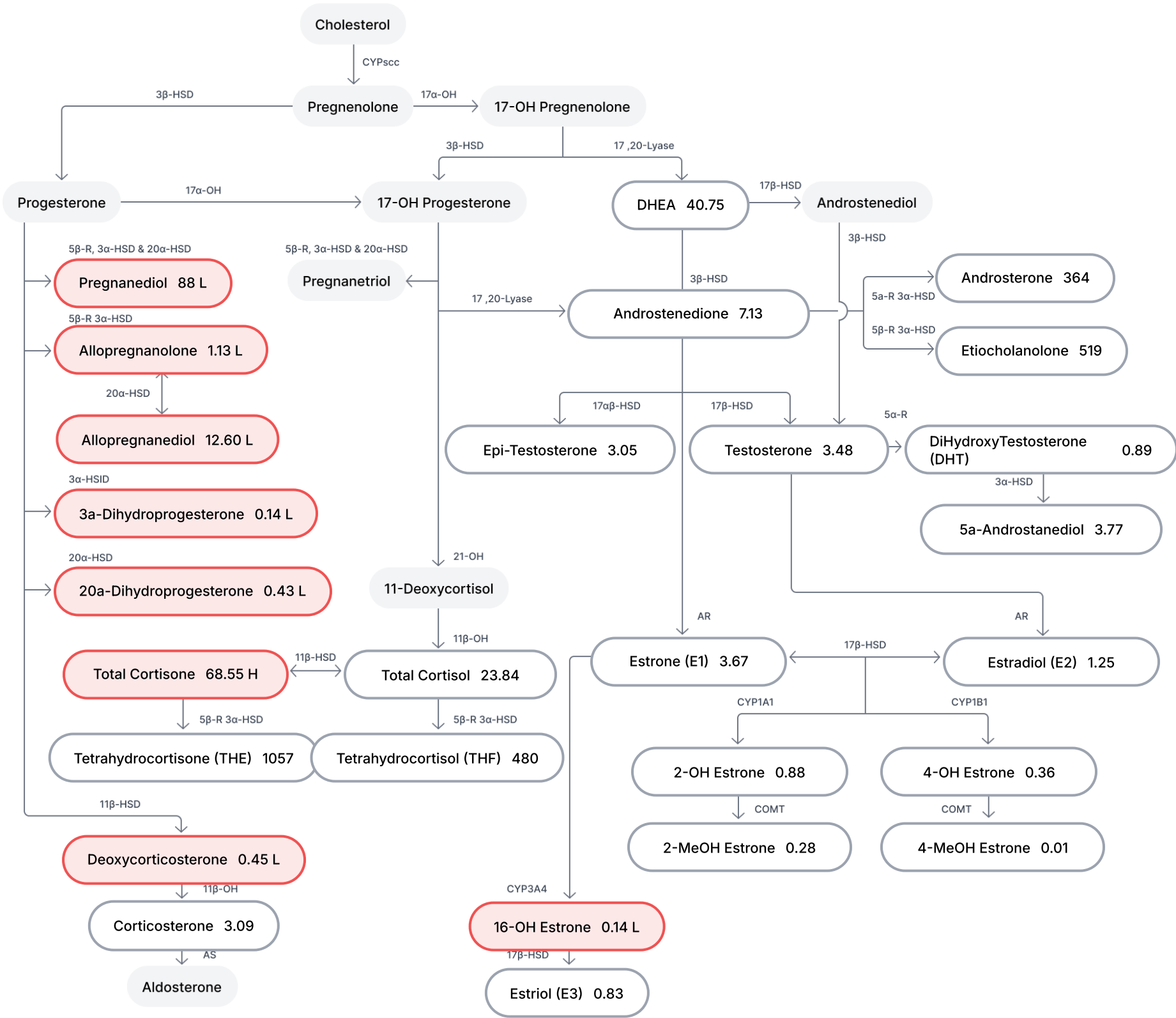
Order ID 6370618
Lab ID 4113639
Patient ID P001562
Ext ID 25171-0018

PAULINE IMMORDINO

Sex: Female • 29yrs • 08-Jul-95
19 BEN LOMOND DRIVE, HIGHLAND PARK QLD 4211

RECEIVED
20-Jun-25

Clinical Notes: Magnesium



Legend

Hormone not tested

Within range

Out of range

L = Low, LL = Critically Low H = High, HH = Critically High

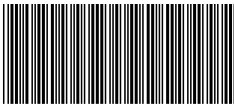
Enzyme

Abbreviations

5α-R | 5α-Reductase
5β-R | 5β-Reductase
11β-oH | 11β-Hydroxylase
17α-OH | 17α-Hydroxylase
17,20-Lyase | Same enzyme as 17α-OH
21-OH | 21-Hydroxylase

3α-HSD | 3α-Hydroxysteroid dehydrogenase
3β-HSD | 3β-Hydroxysteroid dehydrogenase
11β-HSD | 11β-Hydroxysteroid dehydrogenase
17α-HSD | 17α-Hydroxysteroid dehydrogenase
17β-HSD | 17β-Hydroxysteroid dehydrogenase
20α-HSD | 20α-Hydroxysteroid dehydrogenase

AR | Aromatase
AS | Aldosterone Synthase
CYP | Cytochrome p450 (scc, 1A1, 1B1 & 3A4)
COMT | Catechol-O-Methyl-Transferase



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

Order ID 6370618
Lab ID 4113639
Patient ID P001562
Ext ID 25171-0018

PAULINE IMMORDINO

Sex: Female • 29yrs • 08-Jul-95
19 BEN LOMOND DRIVE, HIGHLAND PARK QLD 4211

RECEIVED
20-Jun-25

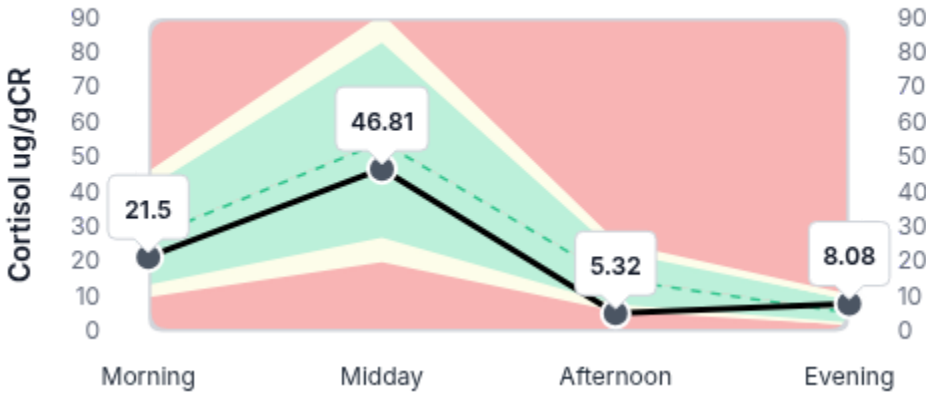
Clinical Notes: Magnesium

URINARY GLUCOCORTICOIDS

SERVICE	RESULT	H/L	REFERENCE	UNITS
Total Cortisol	23.84		(10.00-35.00)	ug/gCR
Total Cortisone	68.55	H	(23.00-53.00)	ug/gCR
Total Cortisol/Cortisone	0.35		(0.20-0.70)	ratio
Tetrahydrocortisol (THF)	480		(160-560)	ug/gCR
Tetrahydrocortisone (THE)	1057		(400-1450)	ug/gCR
Metabolised Cortisol (THF + THE)	1537		(700-1700)	ug/gCR
11b-HSD-Index (THF/THE)	0.45	L	(0.59-1.42)	ug/gCR

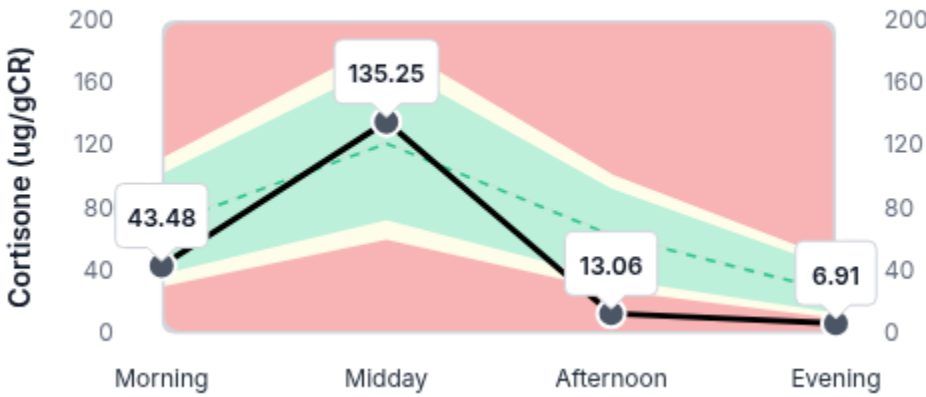
Free Cortisols

SERVICE	RESULT	H/L	REFERENCE	UNITS
Cortisol, Morning	21.50		(10.00-45.00)	ug/gCR
Cortisol, Midday	46.81		(20.00-90.00)	ug/gCR
Cortisol, Afternoon	5.32	L	(6.00-25.00)	ug/gCR
Cortisol, Evening	8.08		(2.00-10.00)	ug/gCR



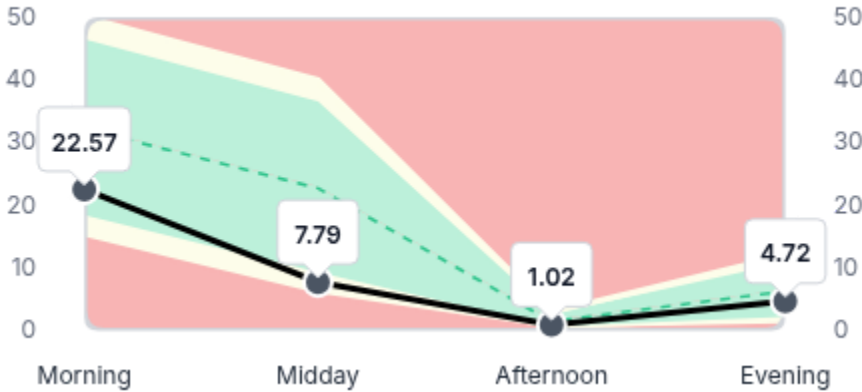
Free Cortisones

SERVICE	RESULT	H/L	REFERENCE	UNITS
Cortisone, Morning	43.48		(30.00-110.00)	ug/gCR
Cortisone, Midday	135.25		(60.00-185.00)	ug/gCR
Cortisone, Afternoon	13.06	L	(28.00-100.00)	ug/gCR
Cortisone, Evening	6.91	L	(10.00-45.00)	ug/gCR



URINARY MELATONINS

SERVICE	RESULT	H/L	REFERENCE	UNITS
Melatonin, Morning	22.57		(15.00-50.00)	ug/gCR
Melatonin, Midday	7.79		(6.00-40.00)	ug/gCR
Melatonin, Afternoon	1.02		(0.50-3.00)	ug/gCR
Melatonin, Evening	4.72		(1.20-12.00)	ug/gCR





NUTRIPATH • PATIENT REPORT

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



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

Order ID 6370618
Lab ID 4113639
Patient ID P001562
Ext ID 25171-0018

PAULINE IMMORDINO
Sex: Female • 29yrs • 08-Jul-95
19 BEN LOMOND DRIVE, HIGHLAND PARK QLD 4211

RECEIVED
20-Jun-25

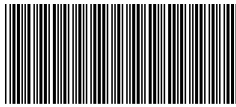
Clinical Notes: Magnesium

Symptom Score

1. MILD	2. MODERATE	3. SEVERE
Headaches	Anxious	Cold body temperature
Depressed	Sugar craving	Bleeding changes
Nervous	Stress	Evening fatigue
High cholesterol	Thinning skin	Mood swings
Hair dry or brittle	Morning fatigue	Irritable
Constipation		Premenstrual Dysphoric Disorder
Memory lapse		
Eating disorders		

Symptom Categories

Estrogen & Progesterone Deficiency	6.67%	
Estrogen Dominance/Progesterone Deficiency	50.00%	
Low Androgens	28.33%	
High Androgens	44.44%	
Low Cortisol	35.56%	
High Cortisol	27.08%	
Hypometabolism	23.81%	
Metabolic Syndrome	25.93%	



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

Order ID 6370618
Lab ID 4113639
Patient ID P001562
Ext ID 25171-0018

PAULINE IMMORDINO
Sex: Female • 29yrs • 08-Jul-95
19 BEN LOMOND DRIVE, HIGHLAND PARK QLD 4211

RECEIVED
20-Jun-25

Clinical Notes: Magnesium

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.

4-HYDROXY-ESTRADIOL LOW:

4-OH Estradiol is a hydroxylated metabolite of estradiol, linked to increased oxidative stress and potential DNA damage. Low 4-OH estradiol levels are generally favorable, as they reduce the risk of oxidative stress and DNA damage. This helps minimise the risk of estrogen-dependent cancers such as breast cancer.

16-HYDROXY-ESTRONE LOW:

16α-OH Estrone is a metabolite that can contribute to estrogenic activity and has been associated with an increased risk of hormone-dependent cancers. Low levels of 16α-OH estrone are protective, as they reduce the risk of estrogen-related cancers and symptoms such as breast tenderness, uterine fibroids, and heavy bleeding.

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

This ratio compares protective 2-hydroxy metabolites to the more carcinogenic 16α-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.

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:

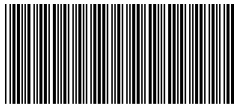
The Pgdiol/E2 ratio compares progesterone metabolism (via pregnanediol) to estradiol metabolism, reflecting estrogen-progesterone balance. A low ratio suggests an estrogen-dominant state, which can contribute to symptoms like heavy periods, fibroids, PMS, and an increased risk of endometrial cancer.

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.

ALLOPREGNANEDIOL LOW:

Allopregnanediol is a progesterone metabolite with similar effects to allopregnanolone, contributing to the neurosteroid balance. Low allopregnanediol levels may indicate progesterone deficiency, which can lead to menstrual irregularities, infertility, and symptoms like irritability and anxiety.



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

Order ID 6370618
Lab ID 4113639
Patient ID P001562
Ext ID 25171-0018

PAULINE IMMORDINO

Sex: Female • 29yrs • 08-Jul-95
19 BEN LOMOND DRIVE, HIGHLAND PARK QLD 4211

RECEIVED
20-Jun-25

Clinical Notes: Magnesium

3α-DIHYDROPROGESTERONE LOW:

3α-Dihydroprogesterone is a metabolite of progesterone with anxiolytic and calming properties. Low levels of 3α-dihydroprogesterone may result in increased anxiety, irritability, and poor sleep, commonly seen in luteal phase defects or progesterone insufficiency.

20α-DIHYDROPROGESTERONE LOW:

20α-Dihydroprogesterone is another metabolite of progesterone, playing a role in regulating the menstrual cycle. Low levels may indicate progesterone deficiency, leading to menstrual irregularities, poor luteal phase support, and infertility.

DEOXYCORTICOSTERONE LOW:

Deoxycorticosterone is a steroid hormone produced by the adrenal glands, involved in mineralocorticoid activity. Low deoxycorticosterone levels can reflect adrenal insufficiency or poor adrenal function, leading to fatigue, low blood pressure, and salt cravings.

Urinary Cortisol Comment

11b-HSD INDEX (THF/THE) LOW:

A low THF/THE ratio suggests reduced 11β-HSD1 activity, leading to decreased conversion of cortisone to active cortisol in tissues such as the liver and fat. This reduces intracellular cortisol action, potentially mimicking cortisol deficiency at the cellular level despite normal systemic levels. Low 11β-HSD1 activity has been linked to increased fatigue, reduced inflammatory regulation, and impaired metabolism. Consider anti-inflammatory and adrenal support, as well as cofactor repletion (e.g., NAD+, zinc).

TOTAL CORTISONE ELEVATED:

Increased total cortisone suggests enhanced cortisol inactivation via 11β-HSD type 2 enzyme, which converts active cortisol to its inactive form. This may reflect a compensatory response to excess cortisol or increased 11β-HSD2 activity in tissues such as the kidney, often associated with mineralocorticoid effects (e.g., hypertension, potassium wasting). It may also signal redistribution of cortisol metabolism, affecting tissue-level hormone action. Evaluation of sodium balance, stress load, and renal function is recommended.

Urinary Melatonin Comment

URINE MELATONINS INTERPRETATION:

A normal melatonin pattern across all samples suggests a healthy, well-regulated circadian rhythm. This indicates that the body is producing melatonin at appropriate levels throughout the day, with peak production occurring during the night. A normal melatonin rhythm promotes restful sleep, better cognitive function, and hormonal balance. It is an indicator of a well-functioning hypothalamic-pituitary-gland axis and good sleep hygiene.

Methodology

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