



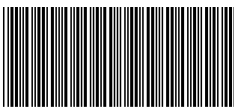
NUTRIPATH • PATIENT REPORT

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



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NATA Accreditation: #20770



25226-0024

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

Order ID 6388940
Lab ID 4132290
Patient ID P003002
Ext ID 25226-0024

KARLA POUND

Sex: Female • 37yrs • 22-Jul-88
1/75 COUNTRY ROAD, CANNONVALE QLD 4802

RECEIVED
14-Aug-25

EndoMAP

Specimen type - Urine, Dried

Collected

01-Aug-25 06.00am, 10.00am, 05.15pm, 08.00pm

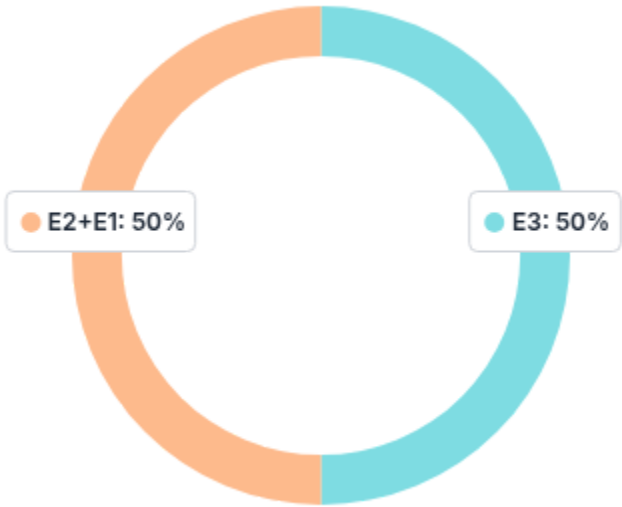
KEY STEROID HORMONES SUMMARY

SERVICE	RESULT	H/L		REFERENCE	UNITS
Estradiol (E2)	0.42			(0.40-1.80)	ug/gCR
Progesterone (serum equivalent)	0.75	L		(1.30-17.00)	ng/mL
Testosterone	1.92			(0.95-5.50)	ug/gCR

Estrogens Balance (as %)

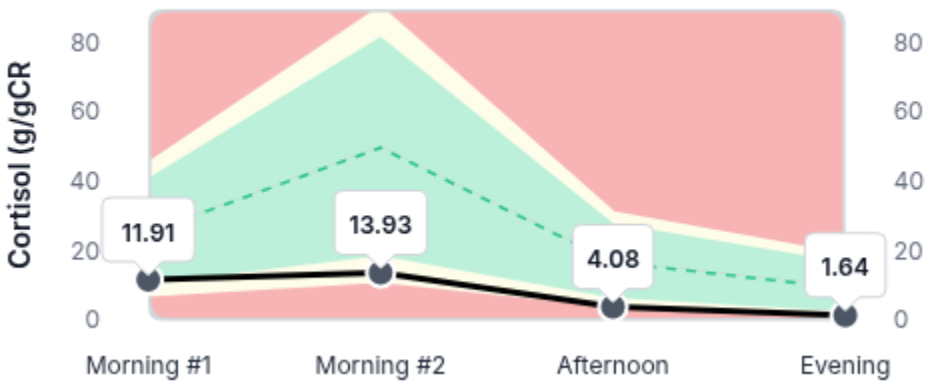


Healthy Estrogens Balance



Adrenal Function - Free Cortisol

SERVICE	RESULT	H/L	REFERENCE	UNITS
Cortisol, AM #1	11.91		(7.00-45.00)	ug/gCR
Cortisol, AM #2	13.93		(11.00-90.00)	ug/gCR
Cortisol, Afternoon	4.08		(4.00-30.90)	ug/gCR
Cortisol, Evening	1.64		(1.00-18.72)	ug/gCR



Adrenal Function - Key Markers

SERVICE	RESULT	H/L		REFERENCE	UNITS
Total 24hr Cortisol	31.56	L		(39.26-200.00)	ug/gCR
Tetrahydrocortisol (THF)	330			(160-600)	ug/gCR
DHEA Prod'n (DHEA+Androst+Etioch)	1000.69			(500.00-3000.00)	ug/gCR
Metabolised Cortisol (THF + THE)	758			(700-1700)	ug/gCR



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PRIMARY ESTROGENS

SERVICE	RESULT	H/L		REFERENCE	UNITS
● Estradiol (E2)	0.42			(0.40-1.80)	ug/gCR
● Estrone (E1)	1.48			(1.20-5.50)	ug/gCR
● Estriol (E3)	0.23	L		(0.30-2.10)	ug/gCR
● Estrogen Quotient - E3/[E2+E1]	0.12	L		(>0.25)	ratio

ESTROGEN METABOLISM - Phase 1

SERVICE	RESULT	H/L		REFERENCE	UNITS
● 2-OH Estradiol	0.20			(0.10-0.75)	ug/gCR
● 2-OH Estrone	1.21			(0.20-2.60)	ug/gCR
● 4-OH Estradiol	0.03	L		(0.03-0.40)	ug/gCR
● 4-OH Estrone	0.12			(0.05-0.80)	ug/gCR
● 16-OH Estrone	0.07	L		(0.10-1.10)	ug/gCR
● 2-OH(E1+E2)/16-OHE1	19.89	H		(1.20-5.60)	ratio

ESTROGEN METABOLISM - Phase 2

SERVICE	RESULT	H/L		REFERENCE	UNITS
● 2-MeOH Estradiol	0.03			(0.02-0.12)	ug/gCR
● 2-MeOH Estrone	0.15			(0.05-0.75)	ug/gCR
● 4-MeOH Estradiol	<DL			(<0.05)	ug/gCR
● 4-MeOH Estrone	<DL			(<0.05)	ug/gCR
● 2-MeOH E1/2-OH E1	0.13			(0.10-0.60)	ratio
● 4-MeOH E2/4-OH E2	0.10			(0.04-0.50)	ratio
● 4-MeOH E1/4-OH E1	0.01	L		(0.02-0.30)	ratio

Metabolism Ph1 %
(Hydroxylation)



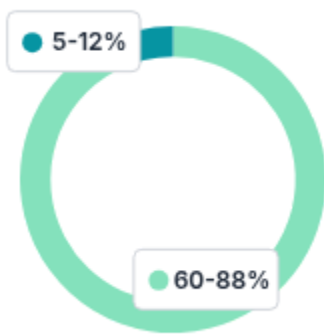
Healthy Ph1 %
Metabolism



Metabolism Ph2 %
(Methylation)



Healthy Ph2 %
Metabolism





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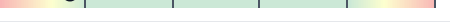
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ENDOCRINE DISRUPTORS

SERVICE	RESULT	H/L	REFERENCE	UNITS
● Bisphenol A (BPA)	0.24		(<4.00)	ug/gCR
● Polyfluoroalkyl Substances (PFAS)	0.03		(<0.70)	ug/gCR
● Perfluorooctanoic Acid (PFOA)	0.01		(<0.10)	ug/gCR
● Perfluorooctane Sulphonic Acid (PFOS)	0.02		(<0.60)	ug/gCR
● Aluminium	1.47		(<14.00)	ug/gCR
● Arsenic	0.27		(<26.50)	ug/gCR
● Cadmium	<dL		(<0.60)	ug/gCR
● Chromium	0.03		(<4.60)	ug/gCR
● Lead	<dL		(<38.60)	ug/gCR
● Mercury	<dL		(<17.9)	ug/gCR
● Nickel	<dL		(<1.23)	ug/gCR

PROGESTERONE METABOLISM

SERVICE	RESULT	H/L		REFERENCE	UNITS
Pregnanediol	69	L		(100-1650)	ug/gCR
Allopregnanolone	0.56	L		(1.20-15.50)	ug/gCR
Allopregnanediol	6.04			(4.00-78.00)	ug/gCR
3a-Dihydroprogesterone	0.98			(0.50-5.00)	ug/gCR
20a-Dihydroprogesterone	1.40			(1.00-12.00)	ug/gCR
Deoxycorticosterone	0.36	L		(0.50-2.50)	ug/gCR
Corticosterone	2.24			(2.00-12.00)	ug/gCR
Pregnanediol/Estradiol	166			(100-2000)	ratio

PRIMARY ANDROGENS

SERVICE	RESULT	H/L		REFERENCE	UNITS
● DHEA	27.51			(15.00-135.00)	ug/gCR
● DHEA-S	81.7	L		(200.0-4000.0)	ug/gCR
● Androstenedione	4.99			(3.00-14.50)	ug/gCR
● Androsterone	514			(150-1000)	ug/gCR
● Etiocholanolone	459			(250-1100)	ug/gCR
● Testosterone	1.92			(0.95-5.50)	ug/gCR
● Epi-Testosterone	1.35			(1.30-7.00)	ug/gCR
● DiHydroxyTestosterone (DHT)	0.74			(0.25-2.50)	ug/gCR
● 5a-Androstanediol	27.86	H		(2.50-15.00)	ug/gCR



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[illegible][illegible][illegible]

SERVICE	RESULT	H/L		REFERENCE	UNITS
Creatinine, Urine Pooled	4.26	H		(0.30-2.20)	mg/ml
Creatinine, 1st Morning	4.05	H		(0.30-2.20)	mg/ml
Creatinine, 2nd Morning	2.13			(0.30-2.20)	mg/ml
Creatinine, Urine Afternoon	5.44	H		(0.30-2.20)	mg/ml
Creatinine, Urine Evening	5.44	H		(0.30-2.20)	mg/ml



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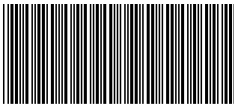
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Symptom Score

1. MILD

- Sensitivity to chemicals
- Swelling or puffy eyes/face
- Anxious
- Stress
- Morning fatigue
- Foggy thinking
- Allergies
- Tender breasts
- Constipation
- Night sweats
- Bleeding changes
- Numbness - feet/hands
- ADD/ADHD
- Evening fatigue
- Irritable

2. MODERATE

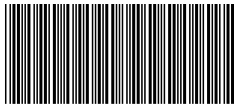
- Decreased stamina
- Low blood pressure
- Aches and pains
- Hair dry or brittle
- Sleep disturbed

3. SEVERE

- Nails breaking or brittle
- Sugar craving
- Scalp hair loss
- Weight gain - Hips
- Memory lapse
- Water retention
- Weight gain - Waist

Symptom Categories

Estrogen & Progesterone Deficiency	6.67%	
Estrogen Dominance/Progesterone Deficiency	8.33%	
Low Androgens	18.33%	
High Androgens	27.78%	
Low Cortisol	31.11%	
High Cortisol	18.75%	
Hypometabolism	19.05%	
Metabolic Syndrome	29.63%	



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Urinary Estrogens Comment

ESTRIOL LOW:

Estriol is a weak estrogen primarily produced during pregnancy and in smaller amounts during non-pregnancy. Low estriol levels can indicate estrogen insufficiency, poor liver detoxification, or hormonal imbalances, leading to menstrual irregularities and difficulty conceiving.

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-ESTRONE/4-HYDROXY-ESTRONE RATIO LOW:

This ratio compares the protective methylated form of estrone to its potentially harmful precursor. Low ratios indicate a higher proportion of genotoxic 4-OH estrone, increasing the risk of DNA damage and hormone-sensitive cancers.

Progesterone Metabolites Comment

DEOXYCORTICOSTERONE LOW:

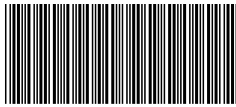
Deoxycorticosterone is a steroid hormone produced by the adrenal glands, involved in mineralocorticoid activity. Low deoxycorticosterone levels can reflect adrenal insufficiency or poor adrenal function, leading to fatigue, low blood pressure, and salt cravings.

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.



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Urinary Androgen Comment

Urinary DHEA-S is low, reflecting suboptimal adrenal androgen production. DHEA-S is a key substrate for downstream estrogen and androgen synthesis, and low levels may present as fatigue, low libido, or menstrual irregularity. Potential causes include chronic stress, pituitary suppression, or adrenal hypofunction. Adrenal support and investigation of other hormone markers is recommended.

ANDROSTANEDIOL ELEVATED:

5α,3α-Androstanediol is a metabolite of dihydrotestosterone (DHT), used to assess androgen metabolism. Elevated levels are commonly linked to excess testosterone or DHT, contributing to symptoms such as acne, hirsutism, and deepening voice.

Urinary Cortisol Comment

URINE CORTISOLS INTERPRETATION:

A urinary cortisol pattern where all four samples are within the normal range suggests a well-regulated hypothalamic-pituitary-adrenal (HPA) axis and normal cortisol production throughout the day. This indicates that the adrenal glands are responding appropriately to the body's daily physiological needs, with cortisol levels following a healthy circadian rhythm.

While this pattern is normal, it is still important to maintain healthy lifestyle practices to sustain balanced cortisol levels. Nutritional strategies include supporting adrenal health with a nutrient-dense diet, rich in vitamins, minerals, and antioxidants. Regular physical activity, stress management techniques like mindfulness or yoga, and maintaining a consistent sleep-wake schedule are all critical in preserving a balanced cortisol rhythm.

TOTAL CORTISOL LOW:

Low total urinary cortisol suggests reduced adrenal glucocorticoid output, commonly seen in chronic HPA axis suppression, adrenal insufficiency, or prolonged physiological stress leading to "adrenal fatigue." This state may result in fatigue, hypotension, low mood, and impaired stress tolerance. Low cortisol also reduces the inhibitory effect on gonadotropins, which can paradoxically elevate DHEA or sex hormones initially, before a global hormonal decline occurs. Support includes restoring circadian rhythm, adaptogens, vitamin C, and B5, and assessing for adrenal or pituitary dysfunction.

TOTAL CORTISONE LOW:

Low urinary cortisone may indicate decreased cortisol production and subsequent low substrate for 11β-HSD2 conversion, or reduced 11β-HSD2 enzyme activity. This may result in impaired deactivation of cortisol in tissues such as the kidney, possibly contributing to inappropriate mineralocorticoid receptor stimulation (e.g., fluid retention). Assess for adrenal hypofunction, and consider cortisol rhythm testing to distinguish central versus peripheral contributions.

Urinary Melatonin Comment

URINE MELATONINS INTERPRETATIONS:

When all four melatonin samples are elevated, it could suggest that the body is producing excessive melatonin throughout the day. This could be due to several factors, including the use of melatonin supplements, shift work, or disruptions in the circadian rhythm. Elevated melatonin levels may cause daytime sleepiness, fatigue, and interfere with cognitive function. Management should focus on identifying and addressing potential external factors, such as supplement use and if so reduce dose or irregular sleep patterns, and regulating the sleep-wake cycle. If no external factors are identified, further investigation into the pineal gland or hormonal imbalances may be necessary.

ACCREDITATION SCOPE: Please note that the above test is currently not under the laboratory's scope of accreditation.



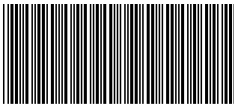
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Methodology

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