



P: +603-2727 7434
E: optimumwellbeing@psychology.com.my

TEST PATIENT

Sample Test Name
Sex : F
Date Collected : 00-00-0000
111 TEST ROAD TEST SUBURB
LAB ID: 00000000 UR#:00000000

TEST PHYSICIAN

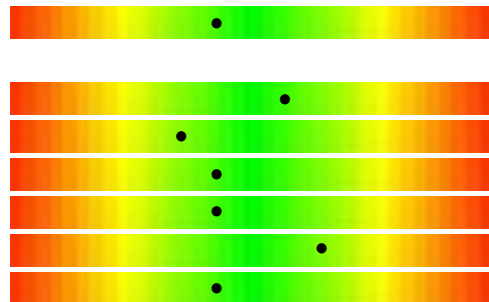
DR JOHN DOE
111 CLINIC STREET
CLINIC SUBURB VIC 3000

BIOCHEMISTRY

URINE, 24 HOUR	Result	Range	Units
CREATININE Urine Spot	6.5		mmol/L

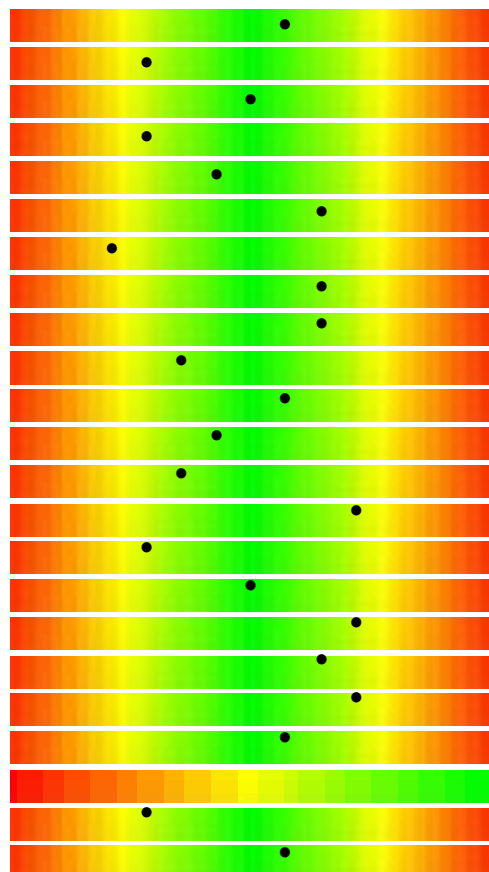
ENDOCRINOLOGY URINE

URINE, 24 HOUR	Result	Range	Units
Urinary Adrenal Steroids			
Total Volume	2000	693 - 3741	mL
Creatinine, Urinary	730		mg/L
Creatinine, 24 Hour	1459.0	600.0 - 2000.0	mg/24hr
Calcium, 24 Hour	112	55.0 - 245	ug/gCR
Phosphorus, 24 Hour	0.7	0.4 - 1.3	g/24hr
Magnesium, 24 Hour	69.3	12.0 - 150.0	ug/gCR
Sodium, 24 Hour	2654	350 - 3200	ug/gCR
Potassium, 24 Hour	1548	780 - 3130	ug/gCR



24 Hr THYROID EVALUATION.

T4, Urine	8621	2465 - 13099	pmol/24hr
T3, Urine	1977	1310 - 5312	pmol/24hr
T4/Creatinine	5909	1785 - 9765	pmol/gCR
T3 / Creatinine	1355	732 - 4750	pmol/gCR
T4/T3 Ratio	4.4	0.5 - 10.0	RATIO
Cortisol, Urine	98.0	25.0 - 120	ug/24h
Allo-Tetrahydrocortisol	1.3	1.1 - 5.6	umol/24h
Tetrahydrocortisol	5.8	2.4 - 7.0	umol/24h
Tetrahydrocortisone	9.6	4.6 - 11.6	umol/24h
Tetrahydro-Deoxycortisol	0.4	0.2 - 1.2	umol/24h
Total (OH) Corticosteroids	17.1	8.8 - 22.4	umol/24h
Aldosterone	21.0	6.0 - 44.0	ug/24h
Androsterone	1.6	0.6 - 5.5	umol/24h
Etiocholanolone	5.5	1.2 - 6.1	umol/24h
DHEA, Urine	0.3	0.2 - 1.6	umol/24h
11-OH- Androsterone	3.0	1.3 - 4.8	umol/24h
11-OH-Etiocholanolone	2.3	0.5 - 2.6	umol/24h
11-Ketoandrosterone	1.6	0.3 - 1.9	umol/24h
11-Ketoetiocholanone	1.5	0.3 - 1.6	umol/24h
17-Ketosteroids	15.8	6.0 - 22.2	umol/24h
17-Ketosteroids/Tot OHcorticoids	0.92 *L	> 1.00	RATIO
Pregnanetriol (Pregnenolone)	1.4	1.0 - 3.9	umol/24h
Testosterone, Urine	0.7	0.3 - 0.9	umol/24h



(*) Result outside normal reference range

(L) Result is below lower limit of reference range



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Pregnanediol (Progesterone) **5.70** 0.70 - 7.10 umol/24h

Pregnanediol Comment

URINARY PREGNANEDIOL - ELEVATED .

Excess levels of progesterone contribute to elevated pregnanediol levels. Consider reducing progesterone therapy. Other causes include a block or deficiency of 17-alpha hydroxylase and or 21-hydroxylase.

A final consideration may be excess pregnenolone supplementation.

24 hr Urine Adrenals Comment

ALLOTETRAHYDROCORTISOL (a-THF) LEVEL HIGH:

Excess production and/or metabolism of cortisol leads to high urinary levels of the peripheral metabolite, allo-tetrahydrocortisol (a-THF). Low levels of thyroid hormones increase the metabolism of cortisol.

17-keto/11-OHCorticoid Ratio <1

Excess levels of glucocorticoids are referred to as Adrenal Catabolic Syndrome, which is indicative of too much "wear and tear" and not enough "rest and repair". Use of adrenal androgen therapy or reducing cortisol therapy should be considered. Other contributing factors to a sub-optimal ratio are excess levels of stress and/or exercise and a lack of rest and recovery.

Urinary Estrogens

Estradiol, Urine **8.7** ug/24h
Estrone, Urine **45.8** ug/24h
Estriol, Urine **50.9** ug/24h

Urinary Estrogens Comment

URINARY ESTROGENS REFERENCE RANGES:

	E2	E1	E3	Units
FEMALE				
Follicular	2 - 17	3 - 55	5 - 48	ug/24hr
Mid-Cycle	6 - 25	12 - 65	25 - 80	ug/24hr
Luteal	2 - 19	4 - 68	12 - 75	ug/24hr
Post Men.	0 - 23	0 - 40	0 - 50	ug/24hr

Melatonin, Urine **16.7** 9.9 - 52.9 nmol/L

Melatonin Comment

MELATONIN COMMENT:

24hour Urine Melatonin levels are dependent on patients' age.

Additionally, supplementing with steroids such as estrogens, androgens, adrenal hormones, tryptophan and 5HTP can also impact on the hormone levels, as can lifestyle choices and dietary choices. e.g. smoking, caffeine, and carbohydrates and shift work.

Growth Hormone, Urine **261** 100 - 3981 pg/100mgC

Estrogen Metabolites, 24hr Urine

2-OH E1 (Protective Metabolite) **2.55** 2.20 - 10.90 ug/24h

16-OH E1 (Proliferative Metabolite) **2.20 *H** 1.50 - 1.90 ug/24h

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(H) Result is above upper limit of reference rang



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ENDOCRINOLOGY URINE

URINE, 24 HOUR	Result	Range	Units	
2/16-OH E1 Ratio (Anti-Prolif'tive Index)	1.16*L	> 2.00	RATIO	
4-OH E1 (Mutagenic Metabolite)	2.59	2.30 - 2.71	ug/24h	

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Estrone Metabolites Comments**URINE 2OH-E1 METABOLITE COMMENT:**

These estrogens have been named "good estrogen" and by some authors are thought to be cancer protective estrogens.

Their role and impact in males has not been adequately researched or published. Most of the research has been done relative to women's breast cancer.

URINE 16a(OH)-E1 METABOLITES:

High/Elevated levels of 16aOH-E1 have been associated with an increase risk in breast cancer. 16aOH-E1 is the immediate precursor to the weak estrogen, estriol (E3). Lowering levels of 16aOH-E1 have been achieved via indole-3-carbinol or one of its metabolites, di-indol methane (DIM). Soy and flax meal have also been shown to lower 16aOH-E1 levels.

Postmenopausal women with high levels of 16aOH-E1 may want to forego estradiol and estrone therapy in favour of E3 and progesterone.

Please also note that 16aOH-E1 is important for maintaining bone mineral density.

2(OH):16a(OH)-E1 METABOLITE RATIO

Target Range:

Ratio > 2.0 Beneficial

Ratio < 2.0 Increased risk of Breast Cancer

Patients with a ratio less than 2.0 may benefit from a modification in diet and lifestyle.

The supplementation of the diet with phytoestrogens may further improve the ratio.

A high protein, low fat diet rich in dietary sources of indole-3-carbinol may also improve the 2/16 ratio. Diindolylmethane (DIM) has also been shown to improve the 2/16 ratio.

URINE 4OH-E1 COMMENT:

Along with 2OH-E1, 4OH-E1 comprises what are called the catechol estrogens. However, unlike 2OH-E1, this estrone has been shown to be a free radical generator and a very powerful estrogen.

Elevated levels occur in the urine following severe exercise and may indicate a relative lack of the enzyme, catecholamine methyl transferase.

Increasing dietary folic acid may help rectify this situation. This metabolite may eventually be one of the more important metabolites related to increased risk in female cancers.

USEFUL NOTES:

Protective Metabolites: 2-OH E2, 2-OH E1, 2-Methoxy E1.

Anti-Proliferative Metabolites: 2-Methoxy E2.

Carcinogen and Active Estrogen Metabolites: 16 alpha OH E1, 4-OH E1.

Active Estrogens: E2, E1, E3.

The use of DIM/Indole-3-Carbinol supplementation is to shift estrogen metabolism to increase levels of 2 OH and 2 Methoxy metabolites:

E1 conversion to 2-OH E1 and 2-methoxy E1.

E2 conversion to 2-OH E2 and 2-methoxy E2.



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Supplementary IM Comments

Creatinine level is within normal range.

T4 is within range.

T3 is low normal but can be further improved if indicated. Check for and supplement with selenium if indicated. Selenium is the major co-factor required for peripheral conversion of T4 to T3. If T4 is also low suspect a deficiency in Tyrosine and or Iodine. Also check for excess cortisol as it can lower conversion of T4 to T3 whilst increasing reverse T3. Consider supplementation with combination T4/T3 starting at 15mg daily and titrate by increasing dose by 15mg every 10 days until serum TSH<2.0 and patient symptoms have improved.

Cortisol level is within range.

LOW NORMAL DHEA LEVEL:

Supplement with 15mg daily.

Testosterone is within range.

Growth hormone is low normal.

Supplement with 2g glutamine and or 5g arginine or ornithine at nights, weight bearing exercises, lean protein intake and consider supplementation with subcutaneous hgh nightly.

For weak adrenals use 0.25 IU a day for the 1st two months, then 0.5 IU a day for next 2 months and 0.7 IU a day for the next 2 months.

For good adrenals use 1.0 IU a day for 1st two months, then 0.5 IU a day for next 2 months and then 0.25 IU a day for the next 2 months.