



**TEST PATIENT**

G Ua d'Y'HYgh'BUa Y  
 Sex : :  
 DUHY Collected : 00-00-0000  
 111 H9GH'ROAD TEST SUBURB  
**@AB =8: 0000000** UR#:0000000

**TEST PHYSICIAN**

DR JOHN DOE  
 111 CLINIC STF 99H  
 7@-B=7'GI 6I F 6'J =7'' \$\$\$

P: 1300 688 522  
 E: info@nutripath.com.au  
 A: PO Box 442 Ashburton VIC 3142

**ENDOCRINOLOGY URINE**

URINE, 24 HOUR

**Extensive Thyroid Profile**

	Result	Range	Units	
<b>Total Volume</b>	<b>1750</b>	693 - 3741	mL	
<b>Creatinine, 24 Hour</b>	<b>1228.0</b>	600.0 - 2000.0	mg/24hr	
<b>T4, Urine</b>	<b>8425</b>	2465 - 13099	pmol/24hr	
<b>T3, Urine</b>	<b>2077</b>	1310 - 5312	pmol/24hr	
<b>T4/Creatinine</b>	<b>6861</b>	1785 - 9765	pmol/gCR	
<b>T3 / Creatinine</b>	<b>1691</b>	732 - 4750	pmol/gCR	
<b>T4/T3 Ratio</b>	<b>4.1</b>	0.5 - 10.0	RATIO	
<b>24hr Urine Iodine</b>	<b>297.7</b>	< 719.0	ug/gCR	
<b>24hr Urine Selenium</b>	<b>12.4</b>	12.0 - 90.0	ug/gCR	
<b>24hr Urine Tyrosine</b>	<b>4.9</b>	2.0 - 23.0	mmol/molC	



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## Extensive Thyroid Comments

### URINE TYROSINE COMMENTS

Tyrosine is an important non essential amino acid derived from phenylalanine, and is:

1. iodinated to form Thyroid hormones
2. the precursor in the synthesis of Dopa, Dopamine, Adrenaline, and Noradrenalin
3. aids in the production of Melanin ( skin pigment)
4. supports adrenal, thyroid and pituitary glands

### LOW TYROSINE LEVEL:

This may indicate impaired T4 to T3 conversion, poor protein intake, neurotransmitter imbalances, adrenal stress ( if arginine and tryptophan are also low)

### Treatment considerations:

1. Increase foods rich in Tyrosine e.g. chicken, eggs, fish, soy beans, dairy, eggs, grains, cereals, corn, spinach
2. Iron
3. Tyrosine
4. Vit C
5. Niacin

Selenium is a trace mineral that is essential to good health but required only in small amounts. Selenium is incorporated into proteins to make selenoproteins, which are important antioxidant enzymes. The antioxidant properties of selenoproteins help prevent cellular damage from free radicals. Other selenoproteins help regulate thyroid function and play a role in the immune system.

### LOW TO NORMAL SELENIUM LEVEL:

### Treatment considerations:

1. Increase foods rich in Selenium e.g. organ meats, eggs, garlic, shellfish, brazil nuts, whole grains, brazil nuts
2. Selenium
3. Reduce exposure to heavy metals. Lead and Arsenic are antagonistic to Selenium.

Iodine is a chemical element which the body needs but cannot make it. The needed iodine must come from the diet. Most of the world's iodine is found in the ocean, where it is concentrated by sea life, especially seaweed.

The thyroid gland needs iodine to make hormones. If the thyroid doesn't have enough iodine, feedback systems in the body cause the thyroid to work harder. This can cause an enlarged thyroid gland (goiter), which becomes evident as a swollen neck.

### Iodine is High Normal

High levels are commonly associated with nAcne-like skin lesions, Anorexia, Confusion, Easy bruising, Unpleasant metallic taste, Numbness, tingling, pain, and muscle weakness, Increased salivation, Sore gums and teeth

### Treatment considerations:

Reduce Iodine supplementation



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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.