



BIOCHEMISTRY

URINE, 24 HOUR	Result	Range	Units
CREATININE Urine Spot	20.2		mmol/L

ENDOCRINOLOGY URINE

URINE, 24 HOUR	Result	Range	Units	
Total Volume	1500	693 - 3741	mL	
Creatinine, Urinary	2281		mg/L	
Creatinine, 24 Hour	3421.8 *H	600.0 - 2000.0	mg/24hr	






24hr Urine Vol. and Chem. Comment
ELEVATED 24HOUR CREATININE

Elevated levels are seen in people with large muscle mass; intense or prolonged exercise.

Dietary Effects: High meat diets can also elevate Creatinine.






Volume may also be high due to collection time being greater than 24 hours.

24 Hr THYROID EVALUATION.

T4, Urine	8621	2465 - 13099	pmol/24hr	
T3, Urine	1965	1310 - 5312	pmol/24hr	
T4/Creatinine	2519	1785 - 9765	pmol/gCR	
T3 /Creatinine	574 *L	732 - 4750	pmol/gCR	
T4/T3 Ratio	4.4	0.5 - 10.0	RATIO	

24 hr Urine Thyroid Comment

URINE Low levels of T3/Creatinine indicate the need for thyroid hormone therapy. If T4/Creatinine is high then there is poor T4 to T3 conversion caused by iron, selenium, iodine, growth hormone and androgen deficiencies, and/or cortisol excess. T4 to T3 is also reduced in benign hepatic steatosis.

Cortisol, Urine	92.5	25.0 - 120	ug/24h	
DHEA, Urine	2.8	0.2 - 2.8	umol/24h	
Testosterone, Urine	2.1	0.6 - 2.2	umol/24h	
Estradiol, Urine	9.5 *H	0.8 - 5.0	ug/24h	
Estrone, Urine	21.3 *H	2.0 - 16.0	ug/24h	

Urinary Estrogens Comment
ELEVATED URINE ESTRONE (E1) LEVEL:

Endocrine Influences: High-Estrone or estradiol or DHEA or androstenedione or testosterone.

Medication Influences:

Dietary Influences: Low fibre.

Recommend checking Estrone Metabolite (16OH, 4OH, 2OH and 2 and 4 Methoxy-E1) levels in either a morning void or 24 hr Urine.

This type of patient will benefit from lifestyle changes such as a low fat diet containing large portions of cruciferous vegetables (high in indole-3-carbinol) and soy (high in phytoestrogens). Many vegetables contain phytoestrogens also.

Supplementation with diindolylmethane (DIM) or Indole-3-Carbinol may lead to safer estrogen metabolism.

Growth Hormone, Urine	211 *L	220 - 1259	pg/100mgC	
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(*) Result outside normal reference range

(H) Result is above upper limit of reference rang (L) Result is below lower limit of reference range



Sample Test Name

Date Of Birth: 04 OCT 1972
Sex: M
Lab ID: #####

Test Phycian

Dr. Edward Chan
11 - 1, Wisma Laxton,
Jalan Desa, Taman Desa, 58100.

Growth Hormone Comment

GROWTH HORMONE URINARY LOW

Endocrine Influences: may be due to high IGF-1, cortisol, thyroid, insulin; or due to low Growth Hormone.

Diet/Lifestyle Influences: Can also be due to high fat, high carbohydrate, sedentary, or insomnia.

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Test Physician

Dr. Edward Chan
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Supplementary IM Comments**ELEVATED CREATININE RESULT**

Elevated results are seen in patients with high muscle mass and or high meat intake. A further consideration may be that the urine has been collected for more than 24 hrs. If indicated, check Creatinine clearance.

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.

Testosterone is within range.

ELEVATED 24HR URINE ESTRADIOL (E2) LEVEL:

An elevated 24hr urine Estradiol level is suggestive of excess aromatisation which converts androgens to estrogens.

Suggest supplementing with 50mg of elemental Zinc daily or consider 5% transdermal Chrysin applying 1 gram twice a day.

If aromatisation persists, consider Arimidex 1/2 tablet every 2nd day.

With excess estrogen production, checking for low Thyroid hormone levels is also advised. Supplementing with thyroid can decrease the estrogen levels.

Supplementation with Indole-3-Carbinol should also be considered as it can lower estrogens and their metabolites.

Excess estrogens may also be associated with insulin resistance and excess adipose tissue. Patients with a BMI > 30 can also have excess E1 (estrone) levels.

If using transdermal testosterone do not apply on adipose tissue - use lean areas instead. Adipose tissue is rich in aromatase enzyme.

ELEVATED ESTRADIOL LEVEL:

Elevated Estradiol is suggestive of aromatization.

Recommend supplementing with 50mg of zinc daily or 5% transdermal chrysin 1g daily or 250mg oral chrysin with piperin to enhance absorption. Improve liver clearance and decrease adipose tissue. Alternatively consider arimidex 1/2 tablet every 2 days.

ELEVATED URINE ESTRONE (E1) LEVEL:

Elevated Estrone levels are suggestive of aromatization of testosterone. Consider weight loss, 50mg zinc daily, or 5% transdermal Chrysin 1g daily. Consider supplementing with Indole-3-carbinol/DIM and improve thyroid hormone levels.

Growth hormone is low. Supplement with 2g glutamine and or 5g arginine or ornithine daily, weight bearing exercises and lean protein intake. Decreasing excess cortisol and improving melatonin levels can also help hgh levels.

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.



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