Diagnos-Techs, Inc.

Clinical & Research Laboratory
PO BOX 389662, Tukwila, WA 98138-0662
Tel: (425) 251-0596
CLIA License # 50D0630141

Test	Description	Result		Ref Values
ASI	Adrenal Stress Index			
TAP	Free Cortisol Rhythm			
	07:00 - 08:00 AM	11	Depressed	13-24 nM
	11:00 - Noon	4	Depressed	5-10 nM
	04:00 - 05:00 PM	4	Normal	3-8 nM
	11:00 - Midnight	3	Normal	1-4 nM
	Cortisol Burden:	22		23 - 42

The cortisol burden reflects the area under the cortisol curve. This is an indicator of overall cortisol exposure, where high values favor a catabolic state, and low values are sign of adrenal deterioration.

Figure 1. Circadian Cortisol Profile

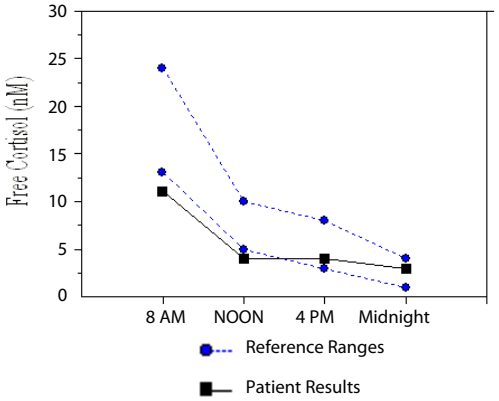


Figure 2.

The Cortisol release inducers fall into 4 broad categories shown in the adjacent flowchart. Long term adrenal axis maintenance and restoration, require optimization of all the cortisol inducers.

Remarks: Depressed morning cortisol, < 13 nM, is suggestive of marginal HPA (Hypothalamic-Pituitary-Adrenal) performance. Normal rhythms exhibit highest cortisol value for the day at 7 - 8 AM.

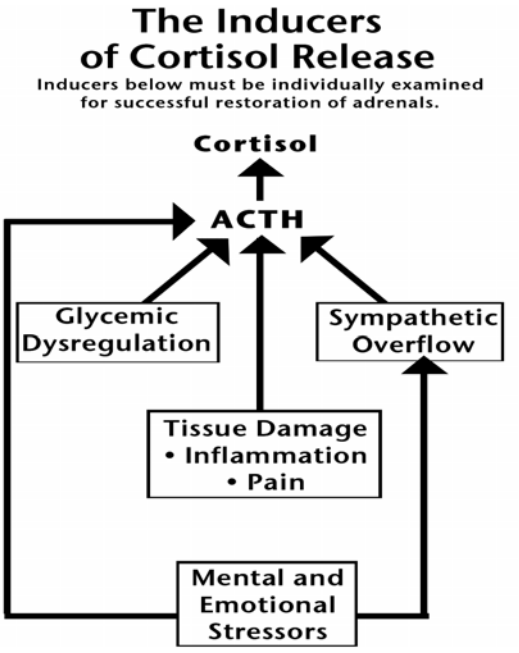


Figure 2.

Test	Description	Result	Ref Values

Example of restoration Plan

All Examples of Restoration Plans are for Illustrative/Educational Purpose Only. Actual report data should be used within clinical context.

Example- Cortisol Augmentation or Licorice Supplementation

Observed Cortisol Value(nM)	Intake Time	Typical Cortisol Dose -OR-	Whole Licorice Extract Glycyrrhizic Acid Content
Morning Value	6-7AM		10-15mg
10-13		5mg	
5-9		7.5mg	
less than 5		12.5mg	
Noon Value	11AM-12PM	7.5mg	5-10mg
less than 4			
Afternoon Value	3-4PM	5mg	5-10mg
less than 3			

*Do not use licorice in overtly hypertensive individuals. Do not exceed a total daily dose of 25-35mg of glycyrrhizic acid. Re-test by 8th week of use. Avoid use of licorice in pregnant women.

Example of DHEA Augmentation: Male

Weekly Protocol	Oral DHEA		-OR- Sublingual DHEA
	AM Dosage	PM Dosage	Daily Dosage
1st week	5mg	None	5mg *once* a day
2nd week	5mg	5mg	5mg *twice* a day
3rd week	10mg	5mg	7mg *twice* a day
4th week	10mg	10mg	
5th-12th week	15mg	10mg	
13th week	Retest DHEA		

Note: DHEA augmentation not applicable in cases of Testosterone & Estrogen associated diseases. Patient-specific treatments to be determined by healthcare providers.

To improve SIgA levels consider two aspects:

1) Reduction in suppression when applicable:
   a. Optimize cortisol/DHEA balance
   b. Balance sympathetic/parasympathetic activity
   c. Rule out inherited IgA production deficit

2) Production Enhancement may include:
   a. Exercise program
   b. Vitamin E supplementation
   c. Botanical adaptogen supplementation.

COURTESY INTERPRETATION of test and technical support are available upon request, to Physician Only

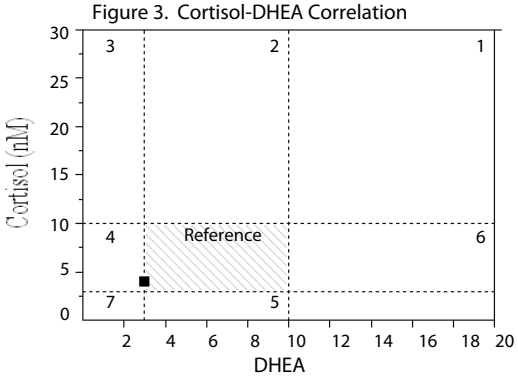
Test	Description	Result		Ref Values
DHEA	Dehydroepiandrosterone			
	Pooled Value	3	Borderline	Adults (M/F): 3-10 ng/ml

Figure 3 shows your cortisol-DHEA correlation was in:

Zone 4 - Maladapted phase II

This zone represents a marginal cortisol output with reduced DHEA levels reflecting a minimal adrenal reserve. The production of the precursor pregnenolone is usually limited and the adrenal cortex may show hypertrophic changes. Under stress most patients in maladaptation phase II will have a suboptimal response to stress. This suboptimal response is any response not consistent with a normal diurnal cortisol production pattern. This condition is usually the outcome of chronic and protracted stress exposure.

Figure 3. Cortisol-DHEA Correlation



CORTISOL-DHEA CORRELATION ZONES

1. Adapted to stress.
2. Adapted with DHEA slump.
3. Maladapted Phase I.
4. Maladapted Phase II.
5. Non-adapted, Low Reserves
6. High DHEA.
7. Adrenal Fatigue.

ISN	Insulin			
	Fasting	<3		Normal: 3-12 uIU/mL
	Post-prandial	<3	Depressed	Optimal: 5-20 uIU/mL

Depressed Post-prandial insulin within four hours after meal. This may be caused by a small carbohydrate load in the preceding challenge meal or a reduction in pancreatic insulin release or synthesis. Consider a closer examination of challenge meal composition to rule out pre-diabetic tendencies.

Why Test for Insulin?
Insulin activity is affected by the stress and cortisol responses. Chronic stress with cortisol elevation antagonizes insulin, and may cause functional insulin resistance. Furthermore, chronic hypercortisol causes hyperinsulin responses to carbohydrate intake. Chronic insulin resistance and overproduction lead to pancreatic exhaustion.

General information about insulin values.

Fasting: This insulin value is elevated in cases of insulin resistance.

Post Prandial: This insulin value varies with type of meal and time of sample collection. See figure 4b. Adapted, Br. J. Nutr. 2003, 90:853
To obtain the most meaningful results, instruct patient to eat 50g of carbohydrate or what is equivalent to 200 calories about 45-90 minutes before noon sample collection. Examples: 2 slices of white bread and 1 cup of orange juice OR 1 cup of cooked oatmeal and 1 cup of orange juice OR 2 ounces of corn flakes snack.

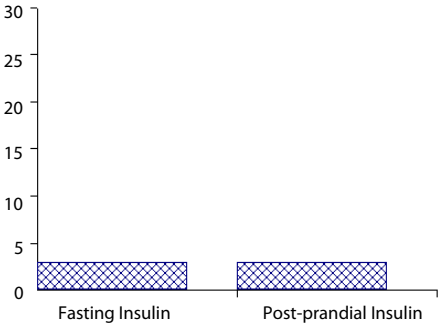


Figure 4a. Insulin Levels

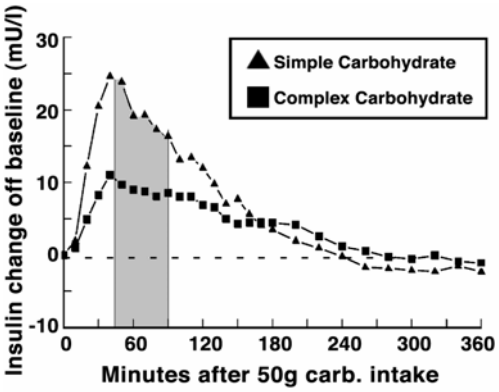


Figure 4b. Serum Insulin - Time Curve

Shaded area is optimal period of post-prandial collection.

Diagnos-Techs, Inc.

Clinical & Research Laboratory
PO BOX 389662, Tukwila, WA 98138-0662
Tel: (425) 251-0596
CLIA License # 50D0630141

Code	Test Name	Values	Provisional Ranges
STP	Saliva Thyroid Study		
fTSH	Thyroid stimulating hormone The Time elapsed between collection and receipt of specimen exceeded the optimal number of days for sample stability which may lead to under estimate of TSH values unless samples were refrigerated/ frozen in the interim. Physicians phone the lab for questions.	41 Normal	Borderline Low: 20-25 nIU/ml Normal: 26-85 nIU/ml Borderline High: 86-120 nIU/ml
fT4	L-Thyroxine The Time elapsed between collection and receipt of specimen exceeded the optimal number of days for sample stability which may lead to under estimate of T4 values unless samples were refrigerated/ frozen in the interim. Physicians phone the lab for questions.	0.16 Low	Normal: 0.17-0.42 ng/dl
fT3	Triiodo-thyronine	0.35 Normal	Borderline Low: 0.21-0.27 pg/ml Normal: 0.28-1.10 pg/ml
TPO	Thyroid Microsomal Ab, SIgA The Time elapsed between collection and receipt of specimen exceeded the optimal number of days for sample stability which may lead to under estimate of TPO values unless samples were refrigerated/ frozen in the interim. Physicians phone the lab for questions.	Negative	Normal: Negative

Test	Description	Result		Ref Values
P17-OH	17-OH Progesterone	69	Normal	Adults Optimal: 22-100 pg/ml Borderline: 101-130 pg/ml Elevated: >130 pg/ml

Figure 5. Adrenal Steroid Synthesis Pathway

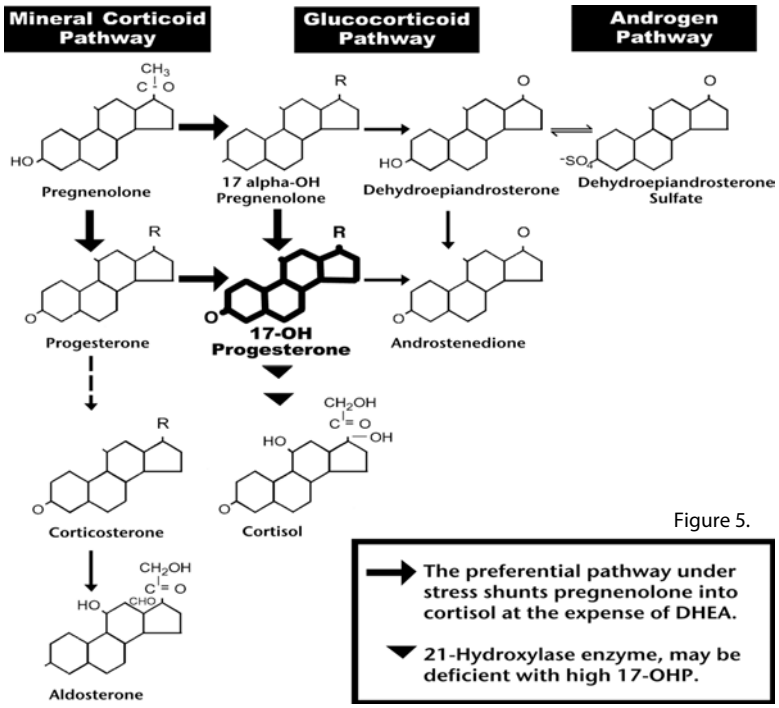


Figure 5.

Test	Description	Result		Ref Values
MB2S	Total Salivary SIgA	11	Depressed	Normal: 25-60 mg/dl Borderline: 20-25 mg/dl

A depressed mucosal SIgA may be attributed to one or more of the following reasons:
1- Excessive chronic cortisol output causes a reduction in the number of SIgA producing immunocytes. Appropriate restorative treatments have been shown to produce incremental improvements in SIgA.
2- Excessive sympathetic activity causes inhibition of SIgA release from the mucosal immunocytes.
3- Chronic deficits in cortisol and/or DHEA levels.
4- Possible systemic deficit in capacity to produce IgA - an inherited problem. Rule out possibility with a serum IgA test. A normal finding rules out this possibility.

Basic Facts About SIgA

1. Secretory IgA (SIgA) is secreted by the various mucosal surfaces. It is mostly a dimeric molecule. Less than 2% of Saliva is of serum origin. The secretory component of SIgA stabilizes it against enzymatic and bacterial degradation.
2. The main functions of SIgA include Immune Exclusion, Viral and Toxin Neutralization, Plasmid Elimination, and Inhibition of Bacterial Colonization. SIgA immune complexes are not inflamatory to the mucosal surfaces.
3. Production of SIgA is adversely affected by stress which is mediated by increased cortisol and/or catecholamine levels.

Test	Description	Result		Ref Values
FI4	Gliadin Ab, SIgA	1	Negative	Borderline: 13-15 U/ml Positive: >15 U/ml

Notes on Gliadin Ab Test

Gliadins are polypeptides found in wheat, rye, oat, barley, and other grain glutens, and are toxic to the intestinal mucosa in susceptible individuals.
Healthy adults and children may have a positive antigliadin test because of subclinical gliadin intolerance. Some of their symptoms include mild enteritis, occasional loose stools, fat intolerance, marginal vitamin and mineral status, fatigue, or accelerated osteoporosis.
Scan. J. Gastroenterol. 29:248(1994).

Diagnos-Techs, Inc.

Clinical & Research Laboratory
PO BOX 389662, Tukwila, WA 98138-0662
Tel: (425) 251-0596

Code	Test Name	Result / Notes	Reference Values/Key
AND	Androstenedione	156	Borderline Low: 100-150 pg/ml Normal: 151-350 pg/ml Borderline High: 351-450 pg/ml
DHT	Dihydrotestosterone	47 Previous Age Bracket : 30 - 39 years has values 22 - 72 pg/ml Next Age Bracket : 50 - 59 years has values 51 - 107 pg/ml	Male (40-49 yrs): 52-123 pg/ml
E1	Estrone	13	Normal for Age: 30-58 pg/ml
FI1	Milk (Casein) Ab. SIgA	Negative	Normal: Negative.
FI3	Egg (Albumin) Ab. SIgA	Negative	Normal: Negative.
FSH	Follicle Stimulating Hormone	47	Normal All Ages: <125 uIU/mL
GP6S	Toxoplasma Ab, SIgA (Saliva)	Negative	
LH	Luteinizing Hormone	22	Normal All Ages: 10-25 uIU/mL
P1	Progesterone	27	Male (adult): 5-95 pg/ml
TRIC	Trichinella spiralis SIgA	Not detected	Normal Result: Not detected
TTF	Free Testosterone	41	Male (31-40 yrs): 50-80 pg/ml

Diagnosis Code: Not Provided To The Lab.

Please Note: All examples of patient treatment or therapy are for illustrative and/or educational purpose. Use this report in context of the clinical picture before initiating hormone or other therapies.
COURTESY INTERPRETATION of test and technical support are available upon request, to Physician Only.