Running On Empty

Gaining the Confidence to Treat Adrenal Problems Without A Doubt!

Webinar Speakers
Joe Buishas, LDN, CCN Greg Peterson, DC, DABCI, FIAMA

Disclaimer

The procedures taught and the supplements recommended in this presentation are not necessarily those of the manufacturer (Biotics) or the distributor (Metabolic Management).

The information presented is presented solely for educational purposes and it is up to the clinician to determine appropriate intervention and/or appropriate referral to other health care practitioners.

Procedures and products recommended should not be construed as a claim or representation that such procedure or product will constitute a cure.

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Why Attend?

People in your community are looking for a 'Wellness Doctor'—someone who can help them with more than just pain. The focus of this 30-hour certificate program will be the how, when and why of incorporating lab testing into your diagnostic arsenal. You will gain the confidence to go back in the office on Monday and recommend lab testing for conditions you may already be encountering.

NEW! 30-Hour Lab Testing in Nutritional Therapy Certificate

Featuring **Gregory W. Peterson, DC, DABCI, FIAMA, CCST**

Session #1 Sept. 25, 2010: Increasing Clinical Effectiveness and Patient Retention
Learn how to obtain lab testing even if you choose not to do the collection. Discuss what laboratory tests will aid in the differential diagnosis of 'serious' chronic diseases from those that chiropractic adjustments are the first-line therapy. Discover appropriate and affordable lab testing that deals with stress and fatigue—conditions that affect almost 100 percent of your patients.

Session #2 Oct. 23, 2010: Cardiovascular Disease, Diabetes and the Endocrine System
Patients may not currently seek you out for these conditions but they do have them and whether you are their primary doctor or a resource doctor for information, you will come away with the knowledge to utilize laboratory testing to aid in effective nutritional protocols. Recent research has focused as much on prevention as treatment, so learn effective preventative strategies.

Session #3 Nov. 20, 2010: Autoimmune Disorders, Cancer and other Immune System Disorders
It is estimated that the annual direct health care costs for autoimmune disorders are in the range of $100 billion and cancer costs are $57 billion. Therefore a 'wellness' preventative approach is needed. The focus will be on the elimination of causal factors; the role of genetics; repair of damage to the organs and organ systems; and how to restore and build the immune system. Learn the appropriate laboratory testing and scientifically sound protocols to confront these immune system disorders.

NEW! 30-Hour Lab Testing in Nutritional Therapy Certificate

Gregory W. Peterson, DC, DABCI, FIAMA, FIACA, CCST, draws on his diverse education in chemistry, physiology, nutrition and the health care field to offer an innovative approach to health. Even though he has been a chiropractor for more than 25 years, biochemistry has always been his hidden passion. He utilizes the latest scientific and medically documented methods to bring you solutions that are easy and effective to apply to common conditions. He has a diplomate from the American Board of Chiropractic Internists. He has studied naturopathy and has experience with multiple muscle testing disciplines, acupuncture and various chiropractic techniques. He will help you develop a profitable, multi-faceted 'Wellness Center' in your community. He has experience in his clinic, The Center for Natural Medicine, PA in Winona, Minn., with world-class athletes as well as families seeking to regain or maintain their health.

Dates:
Sept. 25; Oct. 23 and Nov. 20, 2010

Days/Times:
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Overview of this Webinar

- Brief anatomy review of adrenals
- Hormones and their function associated with adrenal dysfunction
- What is Stress
- How does it affect us
- How do we identify altered adrenal function
  - Symptom Survey
  - Physical examination
    - Ragland's Orthostatic Hypotension
    - Paradoxical Papillary Response
    - Fingerprint observation
    - Unilateral Inguinal Ligament Tenderness
    - Medial knee pain
    - Chronic short leg
  - Laboratory findings
    - Blood chemistry findings – overview of chem panel findings
    - Salivary – Adrenal Stress Index (ASI) Panel
    - Urine findings – Koenisburg Test
- Questions

Common Signs of Altered Adrenal Function

- Weakness, tiredness, and/or fatigue
- Intolerance to bright lights – absolutely needs sunglasses
- Get light-headed if stand up quickly
- Salt craving
- Weight loss/gain
- Loss of scalp hair
- Excess facial and/or body hair (females)
- Constipation
- Diarrhea
- Muscle or joint pains
- Gastrointestinal symptoms
- Altered blood pressure
- Frequent urination

The Denial And Cover-Up

It has been my clinical experience that approximately 90% of my patients are experiencing some form of adrenal dysfunction; either hypo or hyper functioning.

Our patients deny they have problems as they cover them up and consider it normal. They cover-up their dysfunction with:

- Caffeine
  - Coffee
  - Energy drinks
  - Pop
  - Tea
- Sugar-laden snacks

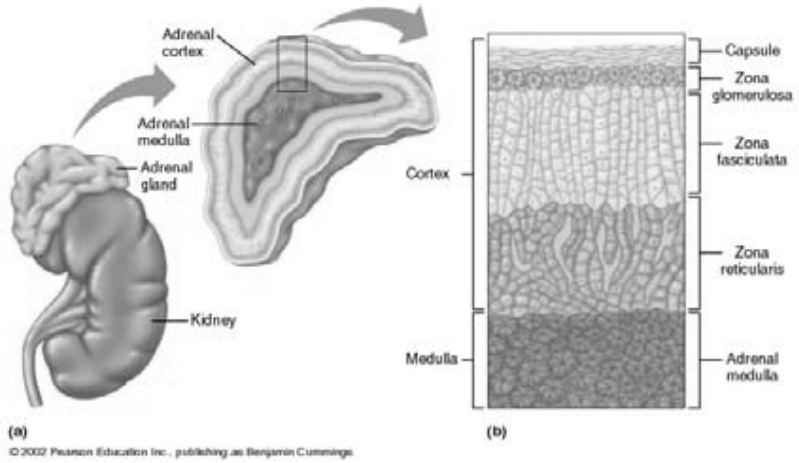
Adrenal Glands

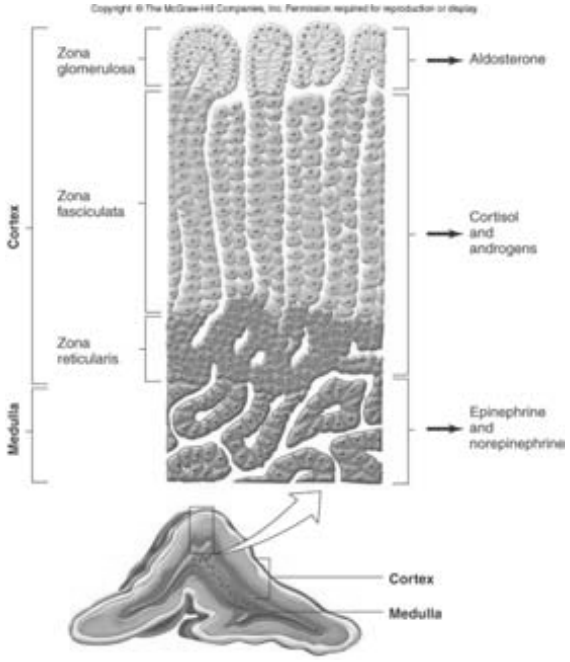
There are two adrenal glands, one on top of each kidney.
There are two parts, each of which makes hormones and have very different functions.

- The Adrenal Medulla, or inner part, makes hormones (catecholamines) that increases blood pressure and heart rate when there is stress. (e.g. – Norepinephrine, Epinephrine or adrenaline)

- The Arenal Cortex, or outer part, makes hormones (corticosteroids) that control the salt and water balance in the body, responses to stress, metabolism, the immune system, and sexual development and function.

Anatomy of the Adrenal Gland





The Adrenal Cortex

Acts like a regular endocrine organ.

'Controlled' or regulated by ACTH.

Secretes many hormones, but most importantly secretes the following steroids:

- **Aldosterone**
- **Cortisol**
- **Sex hormones**

Cortex secretes steroid hormones

(corticosteroids)

❖Mineralocorticoids – Aldosterone - regulates Na and K balance (also corticosterone and desoxycorticosterone)

❖Glucocorticoids – Cortisol - regulates glucose metabolism (gluconeogenesis and glycogenolysis)

❖Sex hormones – Androgens - testosterone, estrogen supplement sex steroids secreted by gonads

Aldosterone

Most abundant of mineralocorticoids causes ↑reabsorption of HCO_3 (bicarbonate), Na & Cl thereby regulates blood volume, BP

Signs of too little aldosterone

- Hypotension
- Dehydration
- Hyponatremia
- hyperkalemia

Signs of too much aldosterone

- Frequent urination
- Hypertension
- Fatigue
- Headaches
- Intermittent paralysis or muscle weakness
- Excessive thirst
- Non-pitting edema

Cortisol

Most abundant of glucocorticoids stimulates gluconeognesis and glycogenolysis to provide energy reserve

Cortisol's Positive effects:

- Releases glucose
  - Gluconeogenesis
  - Glycogenolysis
- Anti-inflammatory
  - Blocks histamine
- Improves immune response in short-term
- Influences reproduction

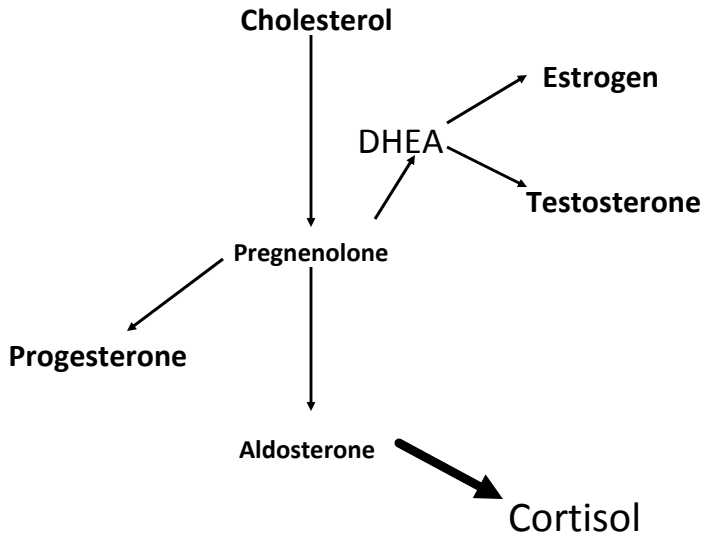
Cortisol's Negative effects:

- Prolonged cortisol suppresses immune function
- Can cause hyperglycemia
- Causes collagen breakdown
- Causes fluid retention
- Causes bone loss
- Impairs learning (causes hippocampus degeneration)
- Increases BP

Conditions associated with altered cortisol

- Accelerated aging
- Addison's Disease – cortisol deficiency
- Afternoon headaches
- Allergies
- Anxiety disorders
- Cancer
- Cardiovascular problems
- Chronic fatigue syndrome
- Cushing's syndrome – cortisol excess
- Decreased memory
- Depression
- Diabetes
- Immune system weakness
- Obesity
- Osteoporosis
- Sleep disorders

The Cortisol Steal



Conditions associated with altered DHEA

- Arthritis
- Lupus
- Sleep disorders
- Hypertension (high blood pressure)
- Coronary atherosclerosis
- Alzheimer's
- Cancer
- Hypothyroidism
- Obesity
- Dementia

The Adrenal Medulla

Acts like part of the sympathetic nervous system "Fight or Flight"

Secretes two amines (catecholamines):

- **epinephrine** (80%) – causes vasodilation of vessels to skeletal muscles.
- **norepinephrine** (20%) – causes vasoconstriction of vessels to skin and viscera.

Stimulated by preganlionic neurons (sympathetic) directly, therefore it is controlled by the hypothalamus as if it were part of the autonomic nervous system and not by hormones.

"Every stress leaves an indelible scar, and the organism pays for its survival after a stressful situation by becoming a little older."

~ Hans Selye ~

Stressors come in many shapes

- Physical stress - such as overwork, lack of sleep, or plain old just overdoing it.
- Chemical stress -from environmental exposures, diets high in refined carbohydrates, food allergies/sensitivities, or imbalances caused by interactions with other endocrine glands such as the thyroid.
- Thermal stress -over-heating or over-chilling of the body
- Emotional and mental stress

Common causes of Adrenal Stress

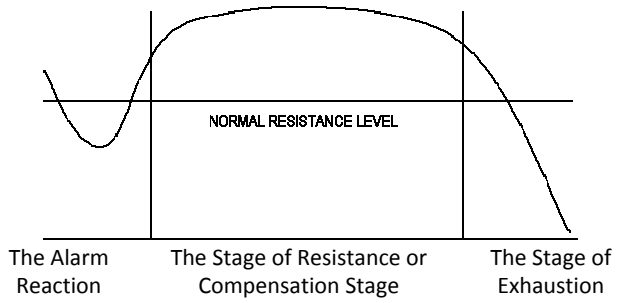
- Anger
- Fear
- Worry/anxiety
- Nutritional deficiencies
- Maldigestion
- Guilt
- Overwork/ physical or mental strain
- Excessive exercise
- Sleep deprivation
- Light-cycle disruption
- Going to sleep late
- Chronic inflammation
- Chronic infection
- Chronic pain
- Temperature extremes
- Toxic exposure
- Malabsorption
- Depression
- Chronic illness
- Chronic-severe allergies
- Hypoglycemia
- Surgery
- Trauma/injury

Triad of stress according to Hans Seyle

1. Adrenal cortex enlargement
   - Altered cortisol levels
   - Altered DHEA levels
2. Lymphatic atrophy
   - Immune system suppression
   - Chronic illness
3. Ulcers
   - Due to decreased stomach acid
   - Due to decreased mucous neck cell secretion

Seyle referred to the condition – “Just being sick”

Hans Selye's General Adaptation Syndrome



Stage 1:

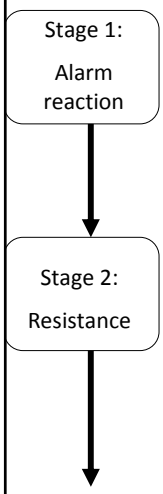
Alarm reaction

The Alarm Reaction

First is the 'alarm' reaction. This is what we feel when we've almost been in an automobile accident, or the nervous anxiety that consumes us before taking a test or speaking in public.

All the basic survival reflexes kick in, dry mouth, sweaty palms and goose bumps, quivering tense muscles and shortness of breath.

No, there's no danger in the room, but according to our stress response, there might as well be*!*

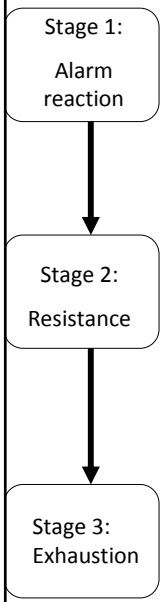


Resistance or Compensation Stage

Most of us are walking around in this stage. We get stuck in this stage when stress occurs over a length of time.

Most would agree life is already stressful before even considering some of the high-stress challenges we must endure. Intense situations like demanding jobs, parenting, dysfunctional relationships, prolonged illnesses or accident.

To survive, we somehow find a balance or equilibrium that allows us to function day after day under the constant pressure. The surge of the alarm reaction is dampened, but our engines are constantly idling in a perpetual low-level 'fight or flight' mode.

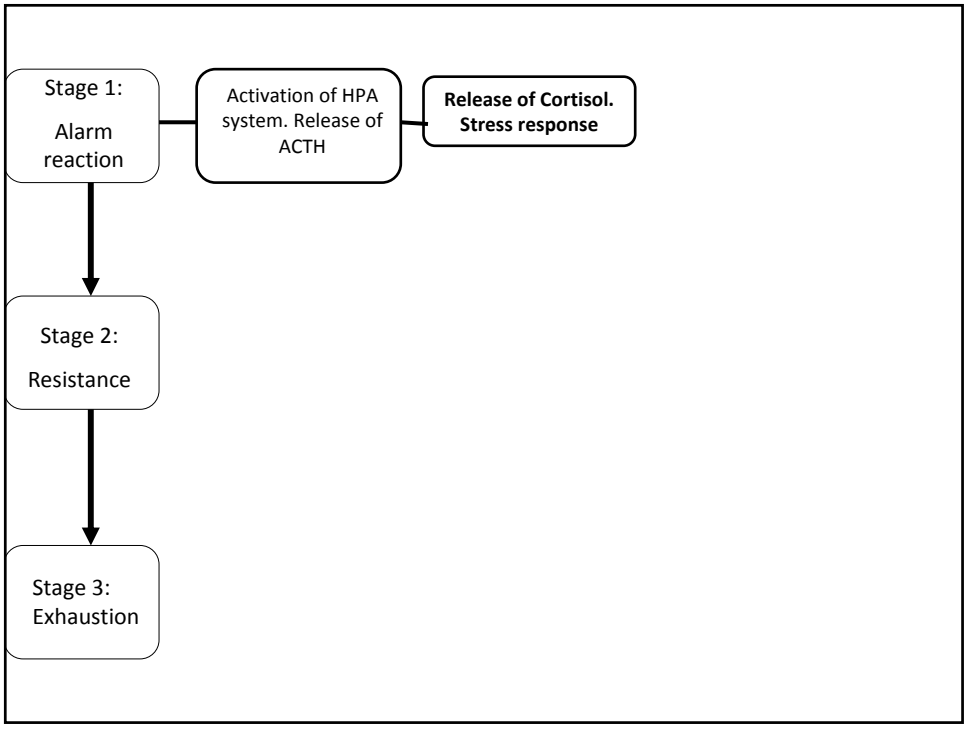


The Stage of Exhaustion

After prolonged stress, the system resources become depleted. This is the classic 'burn out,' with fatigue, adrenal exhaustion and a weakened immune system.

The physical signs of alarm can reappear and the system shuts down, becomes debilitated, diseases occur and ultimately premature death may even occur.


Stage 1:
Alarm reaction
Activation of HPA system. Release of ACTH
Stage 2:
Resistance
Stage 3:
Exhaustion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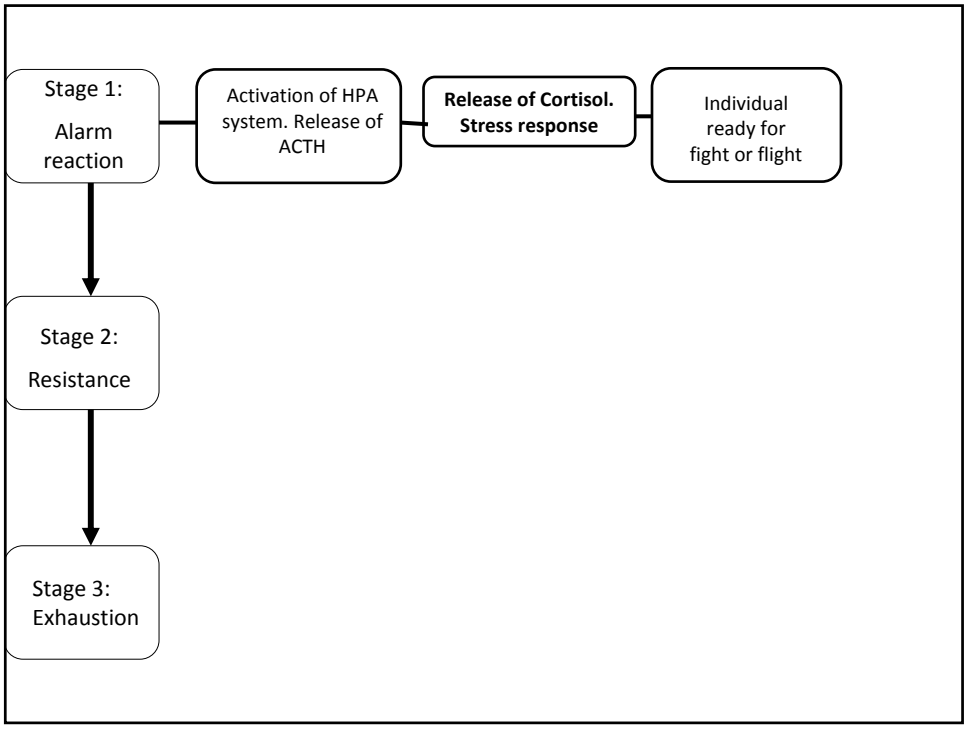
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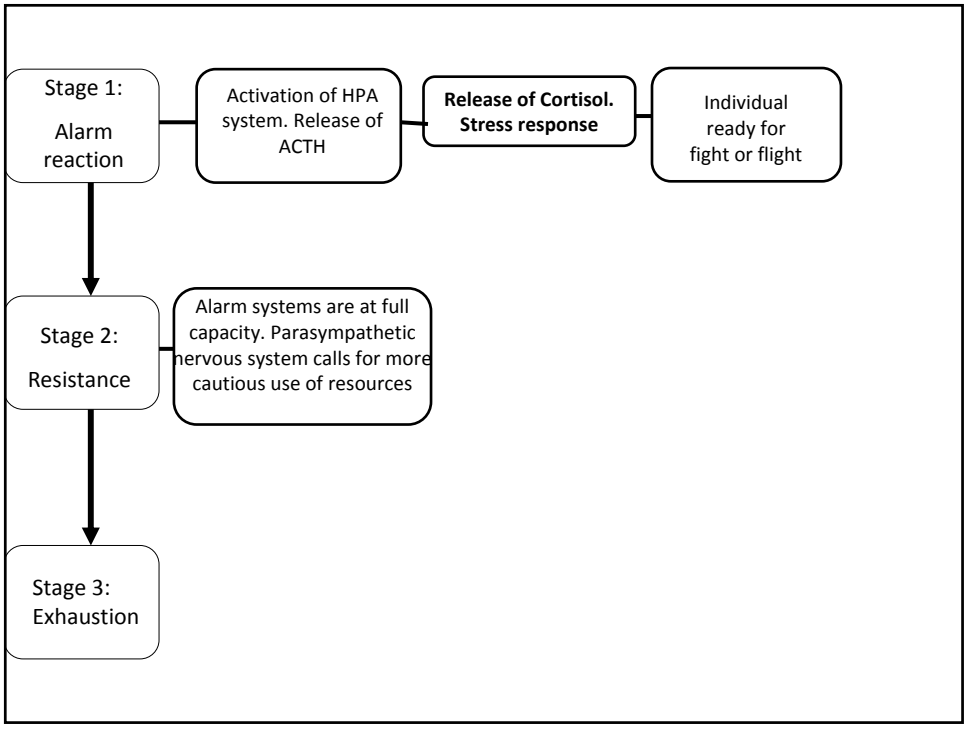
Individual ready for fight or flight
Stage 2:
Resistance
Stage 3:
Exhaustion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Stage 2:
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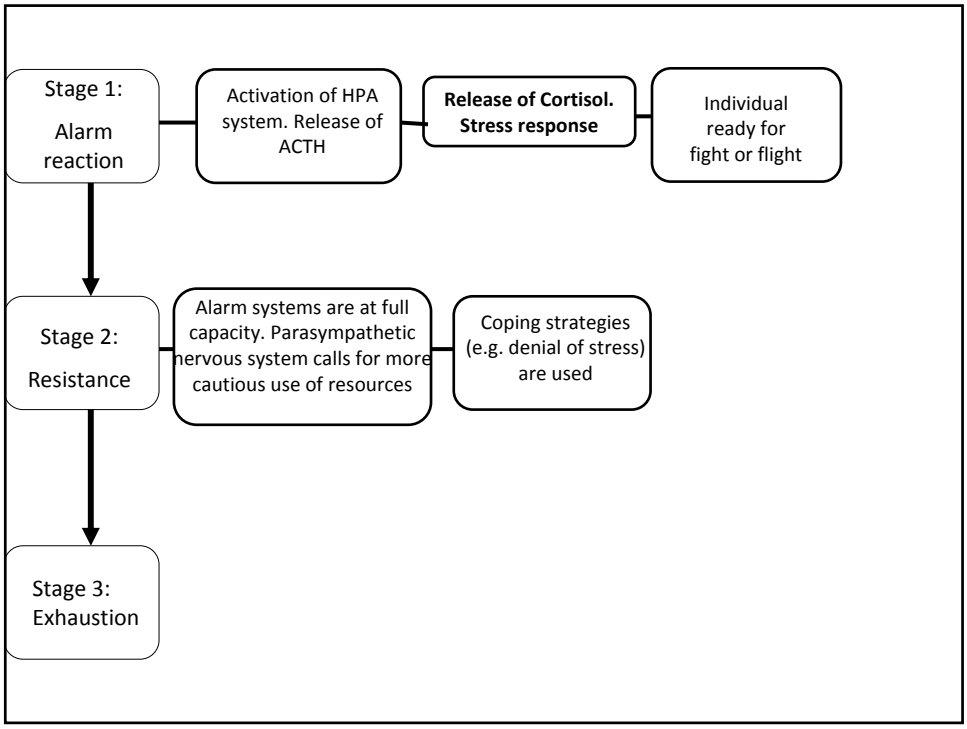
Alarm systems are at full capacity. Parasympathetic nervous system calls for more cautious use of resources
Stage 3:
Exhaustion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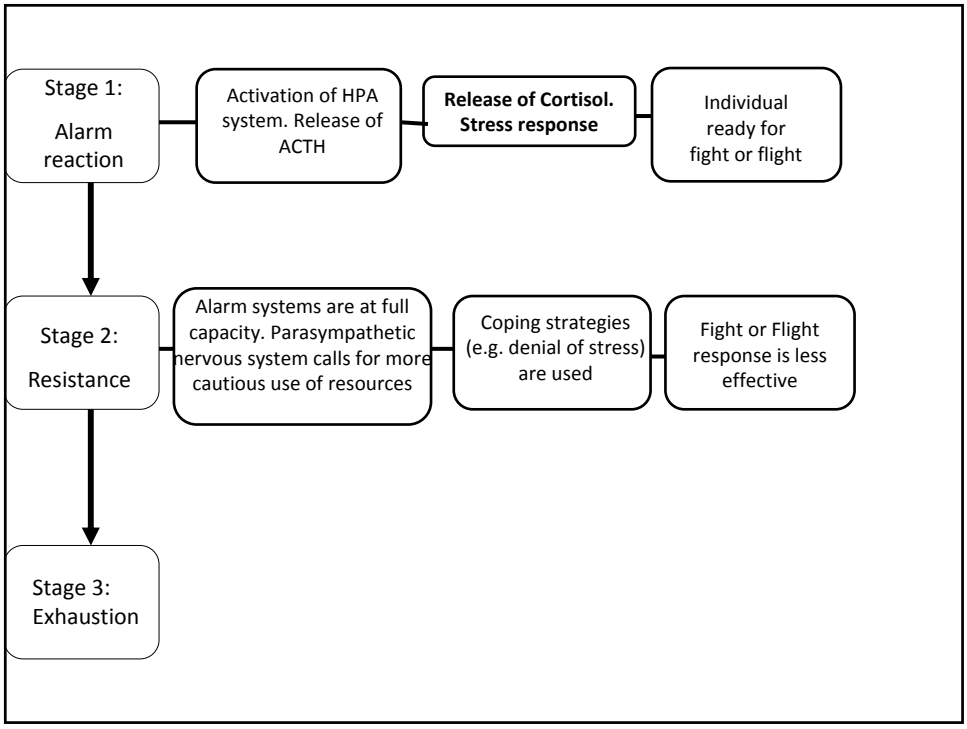
Coping strategies (e.g. denial of stress) are used
Stage 3:
Exhaustion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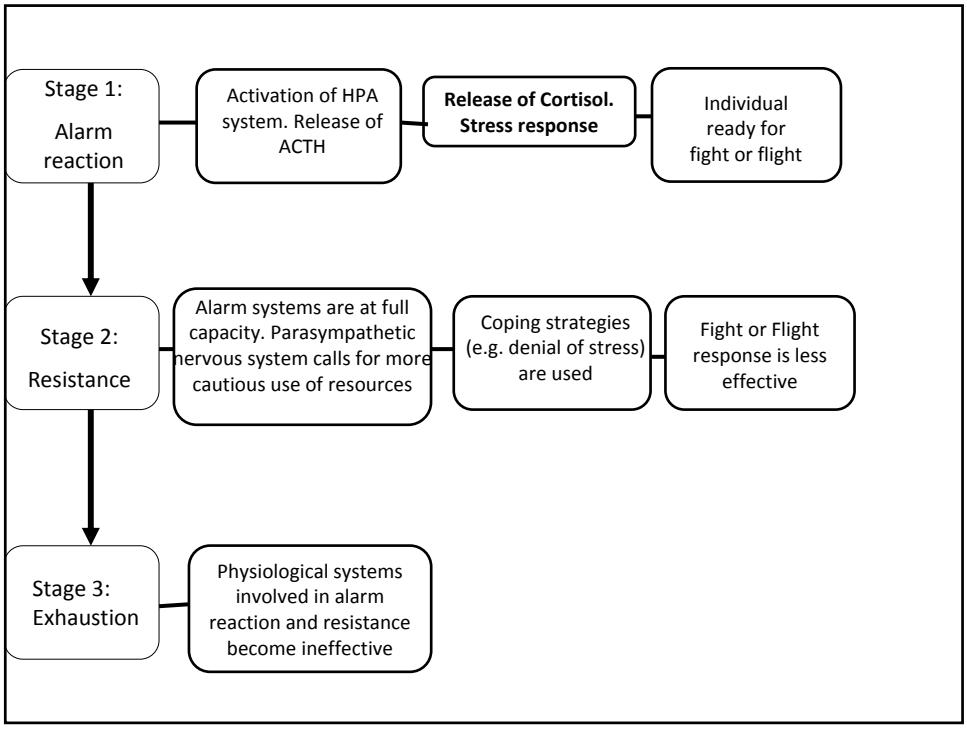
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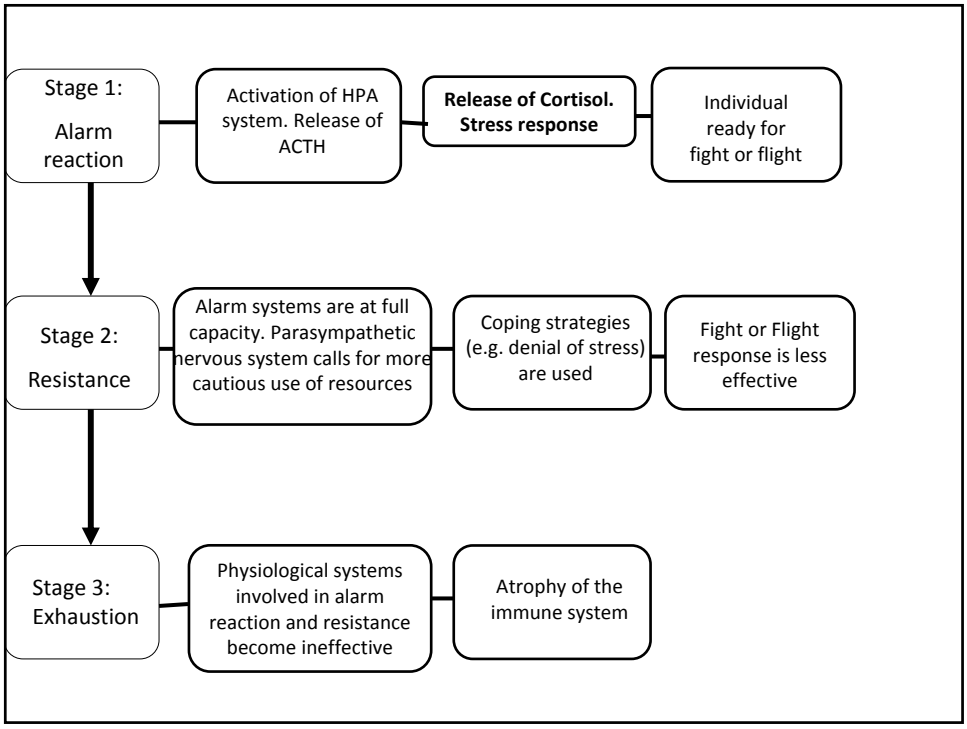
Stage 3:
Exhaustion
Physiological systems involved in alarm reaction and resistance become ineffective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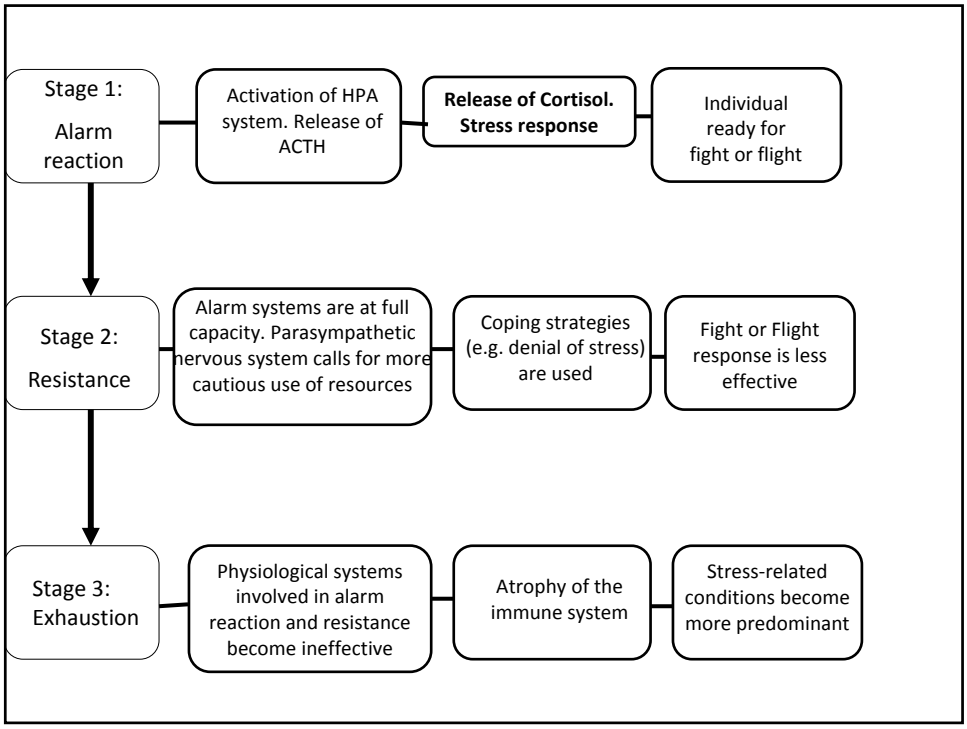
Stage 3:
Exhaustion
Physiological systems involved in alarm reaction and resistance become ineffective
Atrophy of the immune system



The effects of stress on <u>vision</u>

Stress hormones cause the pupils to dilate – therefore bright lights bother your eyes and you need to wear sunglasses whenever it is bright out.

The effects of stress on saliva

Stress hormones therefore causes inhibition of the salivary glands, your mouth is always dry or you feel the need to chew gum all of the time.

The effects of stress on the thyroid

Stress hormones causes inhibition of the thyroid gland.

It can interfere with the conversion of T4 to T3, mimicking hypothyroidism.

The effects of stress on hearts

Stress hormones cause the elevation of blood pressure via vasoconstriction and eventually sclerosis (hardening) of the coronary arteries.

The effects of stress on your stomach

Stress hormones cause a decrease in the secretion of stomach acid and a reduction in the production of mucus protecting the stomach lining.

The effect of stress on the rest of your digestive tract

Stress hormones cause a decrease in the contractions of the small intestine and an increase in the contractions of the large intestine

How does stress affect blood sugar

Stress hormones cause a decrease in insulin production and then makes the cells less resistant to insulin.

How does stress affect libido

Stress hormones cause a decrease in hormone precursors in the brain which leads to a decrease and an alteration in balance of the sex hormones (estrogen, progesterone, and testosterone).

How does stress affect aging

Stress hormones deplete an individual of "adaptational" energies which can lead to accelerated aging.

Let's add a little horse urine and testosterone to this mix and see what happens??

Identifying Adrenal Dysfunction

- **Symptom Survey**
- **Physical examination**
  - Ragland's Orthostatic Hypotension
  - Paradoxical Papillary Response
  - Fingerprint observation
  - Unilateral Inguinal Ligament Tenderness
  - Medial knee pain
  - Chronic short leg
- **Laboratory findings**
  - Blood chemistry findings – overview of chem panel findings
  - Salivary – Adrenal Stress Index (ASI) Panel
  - Urine findings – Koenisburg Test

What adrenal dysfunction looks like on a symptom survey

Hypoadrenia

- **Cannot stay asleep**
- **Afternoon headache**
- **Headache after exercising**
- **Dizziness when standing up quickly**
- **Blood pressure low**
- **Crave salt**
- **Chronic fatigue/get drowsy**
- **Afternoon yawning/fatigue**
- **Weakness/dizziness**
- **Weakness after colds/slow recovery**
- **Circulation poor**
- **Muscular and nervous exhaustion**
- **Subject to colds, asthma, bronchitis (respiratory disorders)**
- **Allergies and/or hives**
- **Difficulty maintaining manipulative correction**
- **Chronic low back pain, worse with fatigue**

Hyperadrenia

- **Cannot fall asleep**
- **Blood pressure increased**
- **Perspire easily, even with little exertion**
- **Wakeup tired even with 'normal' sleep**
- **Tend to be 'keyed' up, trouble calming down**
- **Feel 'wired' or jittery after drinking coffee**
- **Clench or grind teeth**
- **Headaches**
- **Hot flashes**
- **Hair growth on face or body (question to females)**
- **Masculine tendencies (question to females)**

Identifying Adrenal Dysfunction

- **Physical examination**
  - Ragland's Orthostatic Hypotension
  - Paradoxical Papillary Response
  - Fingerprint observation
  - Unilateral Inguinal Ligament Tenderness
  - Medial knee pain
  - Chronic short leg

Ragland's Orthostatic Hypotension

Purpose: To determine presence and severity of adrenal exhaustion.

Procedure

1. Instruct the patient to lay supine on the treatment table.

2. Place the blood pressure cuff on the arm of choice and determine the systolic pressure.

3 . Pump up the cuff again 15 mm/Hg higher than the supine systolic pressure and while supporting their arm, instruct the patient to stand up quickly.

4. Immediately release the valve so that you can determine the systolic number.

Ragland's Orthostatic Hypotension

Results:

Excellent: 6-10 point rise in systolic pressure upon standing.

Fair: systolic pressure remains the same.

***Poor**: systolic pressure drops up to 10 points.

***Failure**: systolic pressure drops up to 20 points.

***Exhaustion**: systolic pressure drops over 20 points.

Poor adrenal function is often manifested by dizziness when standing up quickly.

Note: this test may be conducted sitting to standing but the blood pressure drop may not be as dramatic so adjust accordingly.

Important

The systolic pressure must be assessed within 5 seconds of the patient standing otherwise the systolic drop will occur before you can measure.

This test can be used to identify adrenal stress levels but cannot be used to identify the needed nutrient

Paradoxical Papillary Response

Purpose: To determine the ability of the eyes to adapt to light as an indication of the presence and severity of adrenal exhaustion.

Procedure:

1. Darken the room and wait 15 seconds.

2. Instruct the patient to look at a fixed point and not to blink.

3. Come in from the side of the eye and direct the pen light at the pupil at approximately a 45 degree angle. Hold the light 6-12 inches from the patients 3 eye depending on the intensity of the light.

4. Count 20 seconds observing the reaction of the pupil.

Identifying Adrenal Dysfunction

Evaluating Finger Prints

There is a correlation between adrenal health and connective tissue quality

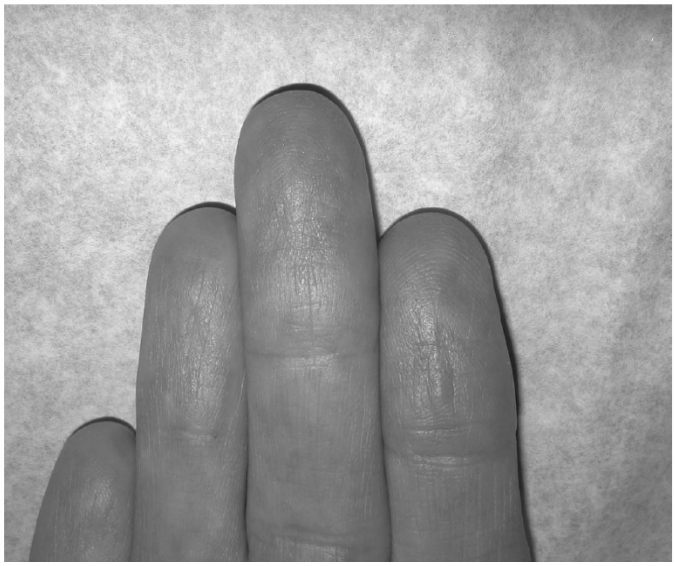
Mesomorphs --- Strong Adrenals

Ectomorphs ---- Weak Adrenals

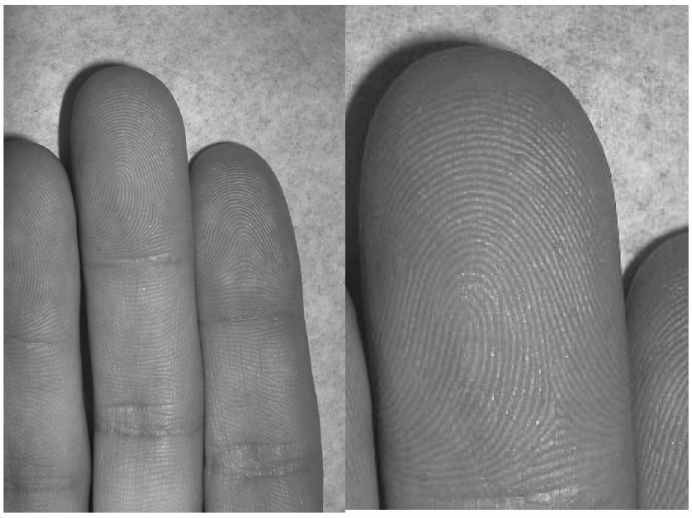
Connective tissue quality = collagen or tissue protein quality

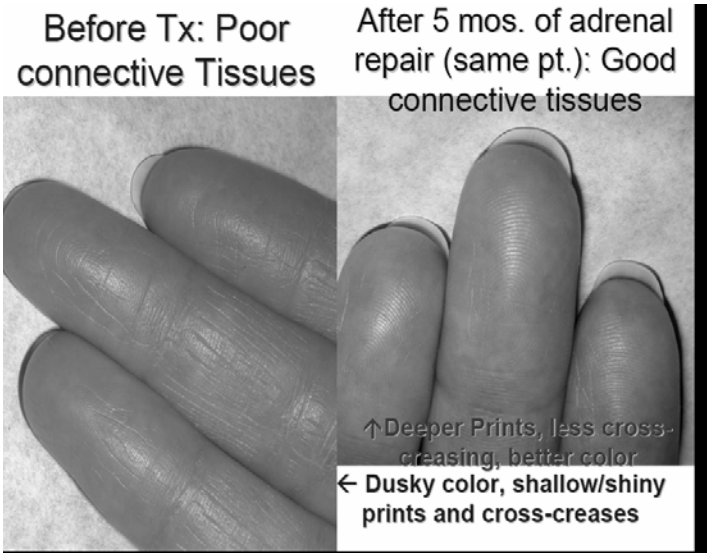
The protein quality in any part of the body reflects the rest of the proteins in the body

Shallow Fingerprints & Cross Creases



Good Fingerprints





Skin of entire body improves, not just fingerprints

Identifying Adrenal Dysfunction

Evaluating Inguinal Ligament Tenderness

This test can be evaluated by physician and patient or both. The physician will feel a taunt or tightness unilaterally upon palpation, almost like a rubber band, in the inguinal area. See enclosed chart for specific testing area.

There may be pain associated with the palpation depending upon the severity of the condition. The greater the experienced pain or tautness the greater the adrenal stress. Ask the patient to rate the tenderness on a scale of 1-10.

In this scale 1 = NO TENDERNESS, 10 = EXTREME TENDERNESS.

Record the patient response on the adrenal stress evaluation form.

Important: This test WILL change using neurolingual testing, you can use it both to identify adrenal stress levels and also to test nutrients that may be appropriate for the patient.

Identifying Adrenal Dysfunction

Evaluating Medial Knee Tenderness

Apply pressure at the insertion of the sartorius muscle at the pes anserinus. See chart for location. The indication may be unilateral or bilateral. Ask the patient to rate the tenderness on a scale of 1 to 10 (10 being extreme tenderness) and record the patient's response.

Important

This test WILL change using neurolingual testing, you can use it both to identify adrenal stress levels and also to test nutrients that may be appropriate for the patient.

Identifying Adrenal Dysfunction

Evaluating Chronic Short Leg

Due to posterior inferior ilium

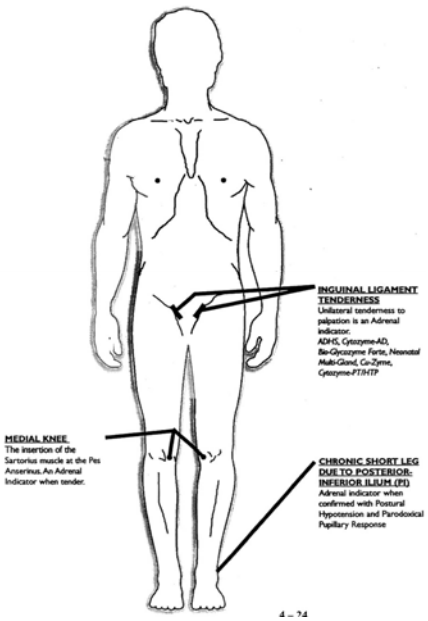
When structural or genetic weakness have been ruled out this test can be confirmed with the Postural Hypotension and Paradoxal Pupillay Response tests. Record the approximate difference in leg length in inches on the Adrenal Stress evaluation form.

After neurolingual testing each nutrient it is important to have the patient stand and walk a few steps or manually lift the patients pelvic area to reset the muscles and allow the change in leg length to occur. When the correct nutrient or group of nutrients is tested neurolingually the leg length will return to normal for the patient.

Important: This test WILL change using neurolingual testing, you can use it both to Identify adrenal stress levels and also to test nutrients that may be appropriate for the patient.

Functional Evaluation of Sugar Handling Problems

(Adrenal, Liver, Pancreas)



Identifying Adrenal Dysfunction

With Blood Chemistry Laboratory Findings

Hypoadrenia

- ✓ ↑ potassium (K)
- ✓ ↓ sodium (Na)
- ✓ ↓ fasting glucose <80
- ✓ ↓ Aldosterone
- ✓ ↓ or N chloride (Cl)
- ✓ ↓ DHEA (generally)
- ✓ ↓ cortisol (salivary, serum)

Hyperadrenia

- ✓ ↓ potassium (K)
- ✓ ↑ sodium (Na)
- ✓ ↑ fasting glucose >100
- ✓ ↑ triglycerides
- ✓ ↑ Aldosterone
- ✓ ↑ or N chloride (Cl)
- ✓ ↑ DHEA (generally)
- ✓ ↑ cortisol (salivary, serum)

Identifying Adrenal Dysfunction

With Salivary Laboratory Findings

Hypoadrenia

- ✓ ↓ DHEA
- ✓ ↓ cortisol

Hyperadrenia

- ✓ ↑ DHEA
- ✓ ↑ cortisol

Identifying Adrenal Dysfunction

With Urinary Laboratory Findings

Koenisburg's Test

Discussion:

This is a simple, yet highly accurate test at demonstrating adrenal function. The test demonstrates the effects of stress as well other factors associated with the stresses of daily living. Adrenal health is the cause of a number of health problems in America today.

The Koenisburg's test is actually measuring the amount of chloride being spilled into the urine. Whether the levels are elevated or decreased it provides a useful measure of adrenal stress. Adrenal stress is a major cause of illness in this country. As the body's level of aldosterone and cortisol change we can measure this by measuring chloride in the urine.

Results

1 to 6 of silver nitrate needed
Low urinary chloride
Adrenal hyperfunctioning causing an increase in aldosterone secretion from the cortex of the adrenal which leads to an increase in renal resorption of sodium and chloride ions which leads to a decrease in urine chloride ions.

7 to 8 drops of silver nitrate needed
Normal urinary chloride

9 or greater of silver nitrate needed
High urinary chloride
Adrenal hypofuctioning causing a decrease in aldosterone secretion from the cortex of the adrenal which leads to a decrease in renal resorption of sodium and chloride ion which leads to an increase in urine chloride ions

Koenisburg's Test

Summary of results:

↓ Koenisburg's(1-6)	↑ (Hyperadrenia)	Compensation stage	↓ chloride	↑ aldosterone
Normal Koenisburg's (7)				
↑ Koenisburg's (>8)	↓ (Hypoadrenia)	Exhaustion stage	↑ chloride	↓ aldosterone

Adrenal Hyperfunction Protocols

- ✓Celtic Sea Salt in a glass of tepid water
- ✓ADHS™
- ✓Bio-GGG-B ™
- ✓GlucoBalance ™
- ✓OptimalEFAs ™ /Biomega-3 ™
- ✓Cytozyme-PT/HPT ™
- ✓De-Stress ™
- ✓Phophatidylserine ™
- ✓Bio-CMP ™

Adrenal Hypofunction Protocols

- ✓Celtic Sea Salt in a glass of tepid water
- ✓Cytozyme-AD ™
- ✓ADB5-Plus ™
- ✓Bio-Glycozyme Forte ™
- ✓Bio-3B-G ™
- ✓Optimal EFAs ™
- ✓7-Keto-Zyme ™
- ✓DHEA ™
- ✓B6 Phosphate ™

Questions