ADRENAL GLAND MEDULLA & CORTEX

NUTRIENTS NEEDED
- Vitamin C (richest supply of C in the body)
- Vitamin B5
- Vitamin B6
- Vitamin B12
- 5-MTHF

PROTOMORPHOGENS
Glandular tissue, when applied to support a specific organ, can provide a balance of multiple factors to promote growth and maintenance of organs and glands, substances that include nuclei acids and organ-specific enzymes.*

ELEUTHERO
Supports adrenal function through its interactions with hormone receptors.* This optimizes cortisol levels which in turn provides support for endurance, immune function and energy levels.*

CORTISOL

SUPPORTS CORTISOL LEVELS
Optimizes HSP70 which supports
- Cell integrity*
- Cytokine activity*
- Antioxidant activity*

MAGNOLIA
Supports the inhibitory neurotransmitter effect at the GABA receptor site*

THEANINE supports GABA levels*

THEANINE acts as an excitatory neurotransmitter antagonist*

GABA RECEPTOR

GLUTAMATE RECEPTOR

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.
ADRENAL/CORTISOL PROTOCOL

NUTRIENTS NEEDED

- Vitamin C (richest supply of C in the body)
- Vitamin B5
- Vitamin B6
- Vitamin B12
- 5-MTHF

ADRENAL GLAND

MEDULLA & CORTEX

- Eleuthero supports adrenal function through its interactions with hormone receptors.
  - This optimizes cortisol levels which in turn provides support for endurance, immune function and energy levels.

PROTOMORPHOGENS

- Glandular tissue, when applied to support a specific organ, can provide a balance of multiple factors to promote growth and maintenance of organs and glands, substances that include nucleic acids and organ-specific enzymes.

CORTISOL

- GABA receptor
- Magnolia supports the inhibitory neurotransmitter effect at the GABA receptor site.
- Theanine acts as an excitatory neurotransmitter antagonist.
- Theanine supports GABA levels.

THE CIRCADIAN CLOCK

- LIGHT-DARK CYCLE
- Supports Cortisol levels
- Optimizes HSP70 which supports cell integrity
- Cytokine activity
- Antioxidant activity

OTHER SYSTEMS TO CONSIDER:

- FOR THYROID SUPPORT  see page 34-35
- FOR CARDIO SUPPORT  see page 12-15
- FOR METABOLISM SUPPORT  see page 30-31

PRINCIPLE SUPPORT| SECONDARY SUPPORT| TERTIARY SUPPORT
---|---|---
Metabolic Multi or Daily Best™ Ultra, Adrenal Benefits™, CocOmega™| Liposomal DHEA Spray, Omega 3 HP-D, Mega Probiotic-ND™| Mito Fuel, Spectra Oranges™

**IF CORTISOL IS ELEVATED:**

Metabolic Multi or Daily Best™ Ultra, Adrenal Benefits™, Liposomal DHEA Spray

- Metabolic Multi: 3 capsules twice daily
- Daily Best™ Ultra: 1 capsule daily
- Adrenal Benefits™: 2 capsules daily prior to 2 pm
- CocOmega™: 1 softgel daily
- Liposomal DHEA Spray: 1-2 sprays daily (depending on need as indicated in Adrenal Stress Index)
- Omega 3 HP-D: 1-2 capsules daily
- Mega Probiotic-ND™: 3 capsules daily (for supporting mineral bioavailability)
- Mito Fuel: 1 scoop daily
- Spectra Oranges™: 1 scoop daily

OTHER SYSTEMS TO CONSIDER:

**FOR THYROID SUPPORT**
- see page 34-35

**FOR CARDIO SUPPORT**
- see page 12-15

**FOR METABOLISM SUPPORT**
- see page 30-31

CONSIDER THESE TESTS TO PROVIDE THE BEST SUPPORT FOR ADRENAL HEALTH:

- Adrenal Stress Index
- Thyroid Panel
- Standing Blood Pressure Assessment
- Neurotransmitter Test

Jeffrey Gladd, M.D.

“Stress has an impact on all aspects of hormonal function. I encourage folks to use the free 10 day challenge within the Head Space app for guided meditation. Most really appreciate an immediate benefit.”
In certain brain areas, neurons can multiply and increase in number. A main component of that process is a growth hormone called Brain-Derived Neurotrophic Factor (BDNF), decreased levels of which have been linked to common brain disorders, like depression and Alzheimer’s. (Hall, O’Bryant, Johnson, & Barber, 2011).

Other factors that may affect memory include fat metabolism and energy, as they relate to nerve transmission. Sufficient methylation is important for neurological health as well.

Our memories are some of our most valued possessions. Keeping the processes that affect them in good working order is high on many patients’ health priority lists.

Several important physiological factors can affect our neurological function, and specifically, that of our memory. Hormones are incredibly important to our brain’s health, and excessive stress (prolonged cortisol hormone) can affect memory health. Further, structural hippocampal changes in rats have been attributed to stress-related adrenal hormones. (Gould, Woolley, & McEwen, 1991).

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Some folks really benefit by adding healthy fats to their day. An easy way to do this is blending extra-virgin coconut oil, MCT oil or grassfed butter into their tea or coffee.”

Jeffrey Gladd, M.D.
**METABOLISM PROTOCOL**

**BLOOD SUGAR**
- Glucovia*
- GlucodOX™*
- Berberine*

**INSULIN SENSITIVITY**
- Chromium*
- Alpha Lipoic Acid*

**SUPPORTING ESTROGEN LEVELS**
- DIM*
- Turmeric*
- Taurine*

**INRULIN SUPPORT**
- Chromium*
- Vanadium*
- R-Alpha Lipoic Acid*
- Trans Resveratrol*
- Vitamin D*
- B6*
- B12*
- Biotin*
- Cinnamon*

**PERIPHERAL NERVE FUNCTION**
- B6 (pyridoxyl 5 phosphate)*
- Benfotiamine*

**GLYCAZCATION SUPPORT**

**OTHER SYSTEMS:**
- Adrenal
- Blood Pressure
- Cholesterol
- Detox
- Weight

**CHROMIUM**
Interaction between chromium and insulin and insulin receptors supports glucose uptake into the cell.

**BENFOTIAMINE** supports the production of transketolase, an enzyme responsible for efficiently converting potentially harmful byproducts of glucose breakdown into easily eliminated, harmless compounds. This is one way benfotiamine helps support the small blood vessels and nerves in the distal extremities.*

**GLUCEVIA** is standardized to 10% Nuzhenide and GI3, two compounds that were shown in preclinical animal studies to support the rate of glucose absorption in liver and muscle.

**GlucodOX™** demonstrates energizing action through its ability to stimulate the production of AMPK.* AMPK acts as the body’s master regulator of glucose uptake.

In addition, GlucodOX™ supports the transformation of pre-adipocytes to adipocytes, which aids in supporting healthy leptin levels.*

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Metabolism and Metabolic Syndrome: The multifaceted nature of metabolic support involves many systems. This protocol outlines each individually. The needs of the patient will dictate the combination of systems that should be supported. Keep in mind there is product crossover with each of these protocols.

**TESTS: BASIC METABOLISM PROFILE:**
- CBC
- CMP
- Lipids
- Hgb alc.
- Thyroid panel (TSH, T4, T3 uptake, Free T3)

**EXPANDED CARDIAC ASSESSMENT:**
- hs-CRP
- Homocysteine
- Fibrinogen
- Vitamin D (25 OH)
- Cortisol
- DHEA-s
- Insulin
- B12 & Folate.
- NMR instead of regular lipid panel
  (NMR LipoProfile® test is an advanced cardiovascular diagnostic test that uses nuclear magnetic resonance (NMR) spectroscopy)

**FOR CHOLESTEROL SUPPORT**
see page 18

**FOR BLOOD PRESSURE SUPPORT**
see page 19

**FOR DETOXIFICATION SUPPORT**
see page 20-21

**FOR WEIGHT MANAGEMENT SUPPORT**
see page 42-43

**FOR ADRENAL SUPPORT**
see page 6-7
WHY IS SLEEP SO IMPORTANT?

Our circadian biological clock is controlled by a group of hypothalamic cells called the Suprachiasmatic Nucleus, which responds to light and dark signals received from the optic nerve of the eye. The SCN relays the signal to other parts of our brain, such as those that control hormones and body temperature. When SCN responds to natural light, (morning), the signal is: produce cortisol. It also signals that melatonin release should be delayed. At night, melatonin levels should rise and stay elevated, as signaled by the SCN.

THE HPA AXIS AND SLEEP:
Sleep initiation occurs concurrently with low HPA axis activation.

The paraventricular nucleus (PVN) in the hypothalamus acts on the anterior pituitary’s CRH receptors, causing ACTH release. ACTH acts on the adrenal cortex. The adrenal cortex produces and releases cortisol, and cortisol displays feedback inhibition on the PVN.

SLEEP DISRUPTORS

- Chemical Stimulants
- Jet Lag
- Daylight Savings Time
- Inconsistent Sleeping Schedule

NATURAL REMEDIES THAT WORK

- MELATONIN: Melatonin works through the MT1 receptor on the Suprachiasmatic Nuclei (SCN) and induce a muscle relaxation response. Melatonin seems to work best when administered 2-4 hours prior to bedtime.* Mol Cell Biol. 2003 Feb; 23(3): 1054–1060.


- SENSORIL: as a result of their mimicking action, glycowithanolides decrease serum cortisol (a stress hormone), pulse rate and blood pressure – and support a healthy circadian rhythm.*

- GABA: exerts its main action by binding to GABA-specific receptors on either or both the presynaptic and postsynaptic neurons and resulting in an outflow of potassium cations, making the cell increasing difficult to stimulate. This is the inhibitory effect of the is neurotransmitter.* Purves et al. Neuroscience. 4th ed. Sunderland (MA): Sinauer Associates, Incorporated; 2008.


- MAGNESIUM: natural N-methyl-D-aspartic acid (NMDA) antagonist and GABA agonist, Mg2+, seems to play a key role in the regulation of sleep.* J Res Med Sci. 2012 Dec; 17(12): 1161–1169.


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SLEEP PROTOCOL
NATURAL REMEDIES
THAT WORK

UT
NT
T
DISRUPTORS
Chemical
Jet Lag Daylight
Savings Time
Inconsistent
Sleeping Schedule
Chamomile or
Lavender Tea + Honey
Fruits like
Bananas & Cherries
Almonds

MELATONIN: Melatonin works through the MT1 receptor on the Suprachiasmatic Nuclei (SCN) and induce a muscle relaxation response. Melatonin seems to work best when administered 2-4 hours prior to bedtime.*

THEANINE: crosses the blood brain barrier and binds with specific receptors to aid in the balance of dopamine, GABA and glycine.*

SENSORIL: as a result of their mimicking action, glycowithanolides decrease serum cortisol (a stress hormone), pulse rate and blood pressure — and support a healthy circadian rhythm.*

GABA: exerts its main action by binding to GABA-specific receptors on either or both the presynaptic and postsynaptic neurons and resulting in an outflow of potassium cations, making the cell increasing difficult to stimulate. This is the inhibitory effect of the is neurotransmitter.*

BLUENESSE (LEMON BALM): appears to have GABAergic activity secondary to inhibiting the enzyme GABA transaminase.*

MAGNESIUM: natural N-methyl-D-aspartic acid (NMDA) antagonist and GABA agonist, Mg2+, seems to play a key role in the regulation of sleep.*

5-MTHF/B12: methyl donor that promotes serotonin synthesis. Serotonin is the precursor to the melatonin produced in the pineal gland.*

Our circadian biological clock is controlled by a group of hypothalamic cells called the Suprachiasmatic Nucleus, which responds to light and dark signals received from the optic nerve of the eye. The SCN relays the signal to other parts of our brain, such as those that control hormones and body temperature. When SCN responds to natural light, (morning), the signal is: produce cortisol. It also signals that melatonin release should be delayed. At night, melatonin levels should rise and stay elevated, as signaled by the SCN.

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Sleep initiation occurs concurrently with low HPA axis activation.
The paraventricular nucleus (PVN) in the hypothalamus acts on the anterior pituitary's CRH receptors, causing ACTH release. ACTH acts on the adrenal cortex. The adrenal cortex produces and releases cortisol, and cortisol displays feedback inhibition on the PVN.

WHY IS SLEEP SO IMPORTANT?

SLEEP
SLEEP
SLEEP
SLEEP
ADRENAL BRAIN
ESTROGEN
METABOLISM
METABOLISM
OTHER SYSTEMS TO CONSIDER:

PROTOCOL GUIDE | DaVinci® Laboratories
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PRIMARY SUPPORT
Sleep Benefits™
Tri Mag
5-MTHF/B12 MC 2000

SECONDARY SUPPORT
Cortisol Benefits™
5-HTP
L-Theanine
Relora® with Bacopa

Cortisol Benefits™: 2 capsules daily (first try in the evening in case ingredients cause drowsiness)
5-HTP: 3-4 capsules 2 hours before bed
L-Theanine: 2-3 capsules 2 hours before bed
Relora® with Bacopa: 1-2 capsules in the evening

Sleep Benefits™: 2 capsules 1-2 hours before bed
**As an alternative if patient responds well to individual nutrient:
Liposomal Melatonin Spray: 2-4 sprays
1-2 hours before bed
L-theanine: 2-3 capsules in the evening or before bed
Tri Mag: 3-6 capsules in the evening or before bed
5-MTHF/B12 MC 2000: 1-2 capsules daily (preferable in the morning)

CONSIDER THESE TESTS TO PROVIDE THE BEST SUPPORT FOR SLEEP HEALTH:
- Adrenal stress index
- Comprehensive Melatonin Profile
- Neurotransmitter Assessment

"Eat less food after 7 pm. Mid morning and mid afternoon snacking is important so during sleep the nervous system can rest and there is less digestion."

Barry Taylor, N.D.
The thyroid is a complex, delicately balanced gland. Comprehensive assessment is vital to ensure you are making the appropriate recommendations. Expanded blood profiles are required to accurately assess and address the thyroid gland. Based on those results, you can recommend the best integrative approach.

**SECONDARY CONSIDERATIONS**

**1 CONVERSION**

Possible needs
- SELENIUM
- LIVER SUPPORT
- PROBIOTIC BALANCE

**2 CORTISOL**

Excess Cortisol $\rightarrow$ T4 $\rightarrow$ T3
Reverse T3 (inactive form)

T3 is 5X more biologically active than T4

**T4** (80%)

**T3** (20%)

Conversion sites for T4 $\rightarrow$ T3
- LIVER
- KIDNEY
- GUT

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THYROID PROTOCOL

The thyroid is a complex, delicately balanced gland. Comprehensive assessment is vital to ensure you are making the appropriate recommendations. Expanded blood profiles are required to accurately assess and address the thyroid gland. Based on those results, you can recommend the best integrative approach.

SECONDARY CONSIDERATIONS

Possible needs:
- Selenium
- Liver support
- Probiotic balance

Excess Cortisol
- T4
- T3
- Reverse T3 (inactive form)

Conversion

1. Cortisol
2. T4 (80%)
3. T3 (20%)

Conversion sites for T4 and T3

T4 protects gut mucosal lining, mucosal integrity, and bacterial balance. T3 stimulates metabolic activity.

CONVERSION PROTOCOL GUIDE

<table>
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www.davincilabs.com

Immuno Benefits™: 1-2 capsules daily (to support any possible immune involvement)
Multiphase Detox™: 6 capsules daily
Tri-Mag 300: 3 capsules daily

Vitamin D 10,000 IU: 1/2 - 1 ml daily
Nondairy Probiotic 50: 1-2 caps during times of increased immune stress
G.I. Benefits: 1-2 scoops per day
Arabinogalactan Powder: 1-2 scoops daily (for added immune support*)

Metabolic Multi or Daily Best™ Ultra
Thyro Benefits™
Mega Probiotic-ND™

Immuno Benefits™: 1-2 capsules daily

Vitamin D 10,000 IU
Nondairy Probiotic 50
G.I. Benefits
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CONSIDER THESE TESTS TO PROVIDE THE BEST SUPPORT FOR THYROID HEALTH:

- sTSH
- Free T4
- Anti-TPO
- Free T3
- Reverse T3
- Anti-TG

Sandra Olic, N.M.D.

"Under diagnosis and under treatment are both problems. Also, supporting adrenals is key because a lot of these patients have adrenal fatigue or dysregulation and will continue to feel bad if not worse on thyroid replacement. Supporting digestion is also another leg of the stool because many will be low in HCL and enzyme production leading to low energy and decreased neurotransmitter production as a result of not being able to break down those proteins and poor absorption."
**WEIGHT PROTOCOL**

**WELLTRIM® IG (IGOB131®) AFRICAN MANGO EXTRACT:** Supports body weight and waist circumference as well as plasma total cholesterol levels, LDL cholesterol, metabolic function, adiponectin and, perhaps most importantly, C-reactive protein.* Healthy CRP levels can ultimately support healthy leptin levels.*

**WHITE KIDNEY BEAN (BEANBLOCK®):** Beanblock® contains an active ingredient, Alpha-amylase inhibitor isoform 1 (Alpha-AI1), that targets certain enzymatic activity which can lead to the breakdown and absorption of specific macronutrients such as starch. Affecting starch absorption can support healthy metabolic processes and satiety.*

**GREEN COFFEE BEAN:** Supports healthy levels of glucose-6-phosphate, which is responsible for converting glycogen into glucose.*

**GREEN TEA PHYTOSOME®:** Supports genetic signaling associated with Adiponectin and healthy fat accumulation by supporting lipolysis within adipocytes.*

**CORTISOL/DHEA RATIO**

**HEALTHY RATIO=**

- Healthy levels of abdominal adiposity

- Healthy levels of T4 to T3 conversion (T3 is one of the body’s most powerful metabolic hormones, 5x more potent than its precursor T4)

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**OTHER SYSTEMS:**

- **THYROID**
- **ADRENAL**
- **DETOX**
- **DIGESTIVE**
- **METABOLIC**
WEIGHT PROTOCOL

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ADRENAL DIGESTIVE
META BOLIC
CORTISOL/DHEA RATIO
HEALTHY RATIO=
Healthy levels of abdominal adiposity
Healthy levels of T4 to T3 conversion (T3 is one of the body’s most powerful metabolic hormones, 5x more potent than its precursor T4)

Source: J Agric Food Chem. 2010 Apr 14;58(7):4141-4

OTHER SYSTEMS:

ADK
Supports healthy osteocalcin
Supports metabolism
Insulin sensitivity
Visceral fat

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Beanblock® contains an active ingredient, Alpha-amylase inhibitor isoform 1 (Alpha-AI1), that targets certain enzymatic activity which can lead to the breakdown and absorption of specific macronutrients such as starch. Affecting starch absorption can support healthy metabolic processes and satiety.*

PROTOCOL GUIDE | DaVinci® Laboratories

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<tr>
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<tbody>
<tr>
<td>A•D•K</td>
<td>Lean Benefits™</td>
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<tr>
<td>Adipo-Leptin Benefits™</td>
<td>Citrin Plus</td>
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<tr>
<td>Right Whey™</td>
<td>Thermo-Set®</td>
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<tr>
<td>DIM® Plex</td>
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All weight management programs should include a multivitamin (Metabolic Multi or Daily Best™ Ultra)
A•D•K: 1 capsule daily
Mango-Plex: 1 capsule twice daily before a meal
Right Whey™: 1 scoop daily
DIM® Plex: 2-4 capsules daily
(if additional DIM is necessary, consider DIM Pro or DIM Pro 150)

POSSIBLY CONSIDER A DETOXIFICATION PROTOCOL

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<thead>
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<tr>
<td>Gluco Benefits™</td>
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<tr>
<td>Cortisol Benefits™ or</td>
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<tr>
<td>Adrenal Benefits™</td>
<td>Adrenal Benefits™</td>
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<tr>
<td>3 capsules daily</td>
<td>2 capsules daily</td>
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</table>

Lean Benefits™: 1-2 capsules for 60 days and reassess to determine ongoing need
Citrin Plus: 1-2 capsules daily and reassess to determine ongoing need
Thermo-Set®: 2-3 capsules daily (use this product if there is adrenal involvement)

CONSIDER THESE TESTS TO PROVIDE THE BEST SUPPORT FOR WEIGHT HEALTH:
- Basic
- CBC
- CMP
- Lipid Panel
- Thyroid Panel
- Adrenal Stress Index

"Counteract rising cortisol levels during times of elevated stress by decreasing coffee intake. Caffeine stimulates the production of cortisol and facilitates greater levels of belly fat."

AnnAlisa Behling, NMD

WEIGHT MANAGEMENT ENCOMPASSES NOT ONLY SUPPLEMENTS, BUT ALSO THE FOLLOWING:
- The right foods for the patient’s metabolic type
- Identifying any potential food sensitivities
- Hormonal balance
- Movement
- Need for detoxification

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