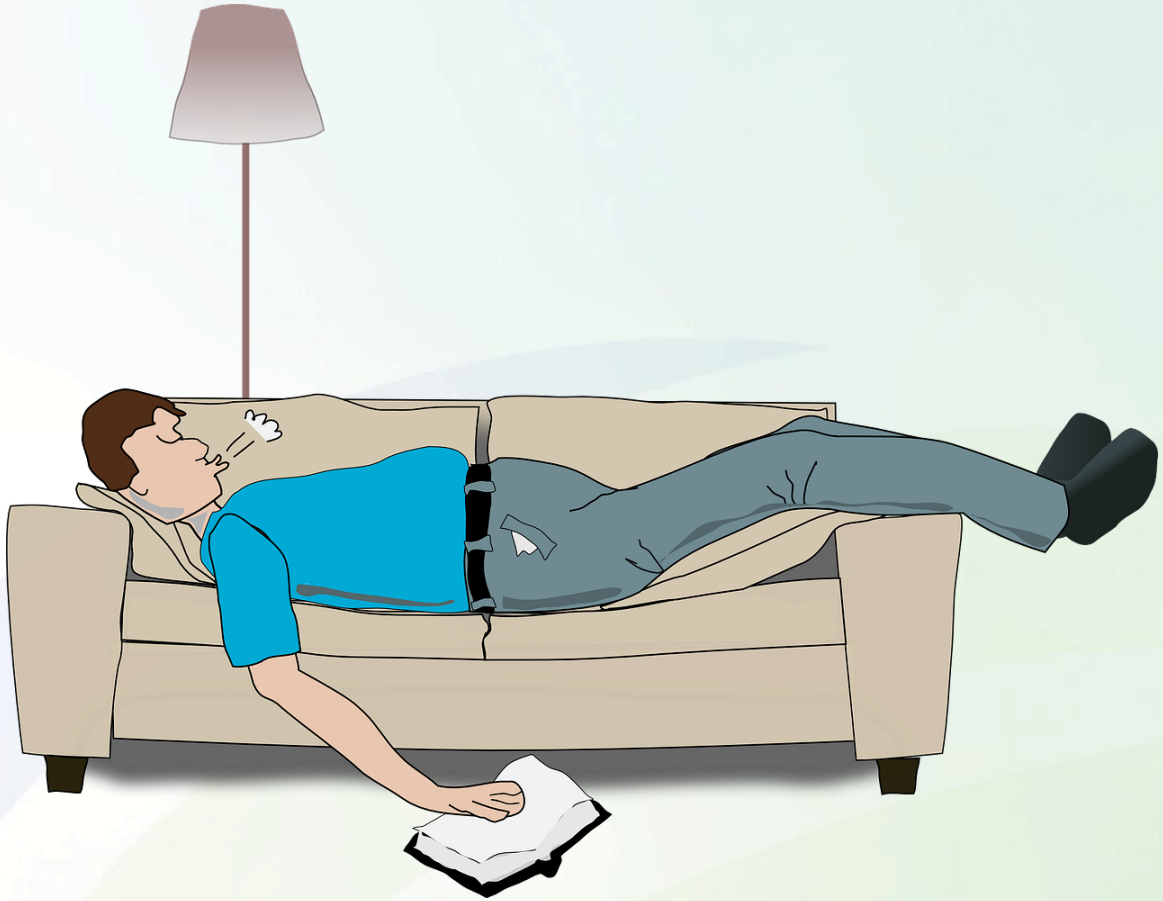
VITALLEO HEALTH

Sleep and Stress



Well Aligned

The Real Pandemic: A Parabolic Rise in Stress

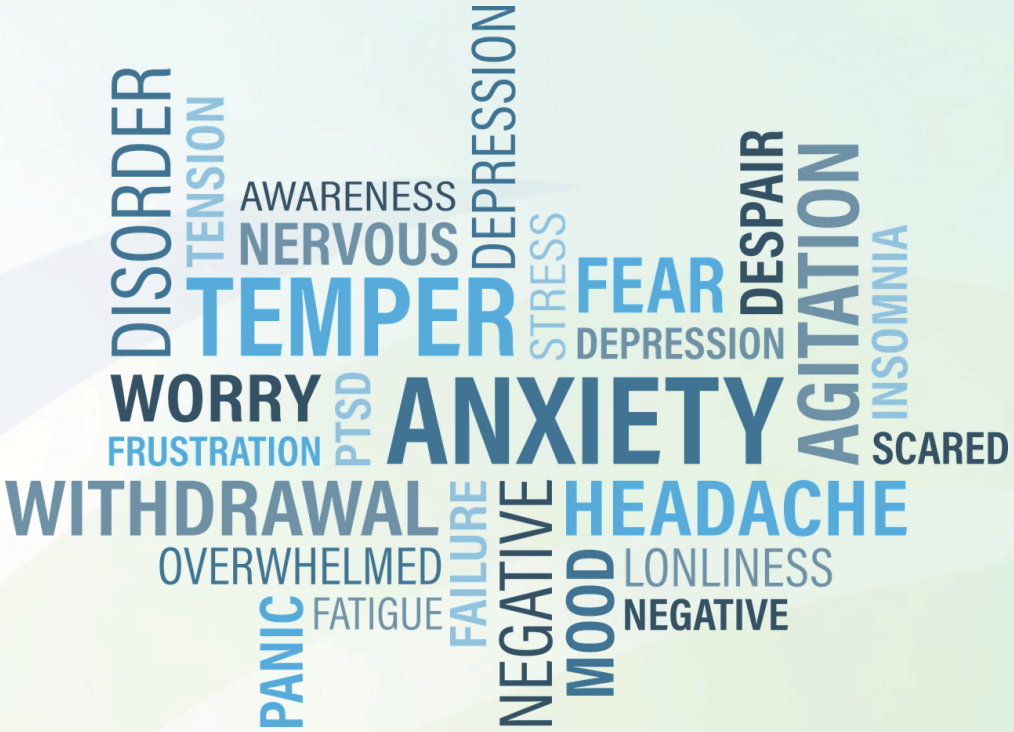
- Nearly half of Americans reported that the coronavirus crisis harmed their mental health, according to a Kaiser Family Foundation poll conducted in March 2020.

- A federal emergency hotline for people in emotional distress registered a more than 1,000 percent increase in April 2020 - a total of 20,000 people texted that hotline, run by the Substance Abuse and Mental Health Services Administration.

Corona Virus-Related Anxiety (CVRA)

A study of the Great Recession

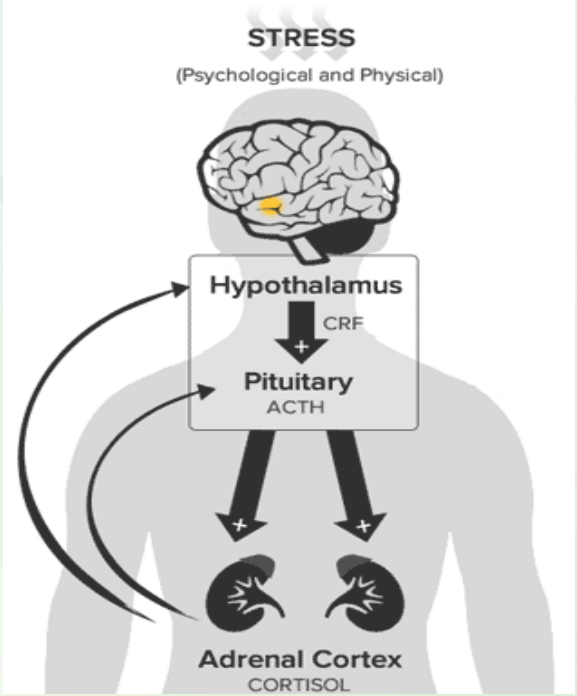
that began in late 2007 found that for every percentage point increase in the unemployment rate, there was about a 1.6 percent increase in the suicide rate.



The HPA Axis: Hypothalamus – Pituitary - Adrenal

Responsible for the neuroendocrine adaptation component of the stress response.

1. Hypothalamus releases CRH or corticotropin-releasing hormone.
2. Binds to anterior pituitary gland, adrenocorticotropic hormone (ACTH) is released.
3. ACTH stimulates adrenal release of cortisol.
4. In response to stress, cortisol will be released for several hours after encountering the stressor.
5. At a certain blood concentration of cortisol this protection is ostensibly achieved and the cortisol exerts negative feedback to the hypothalamic release of CRF and the pituitary release of ACTH (negative feedback).



HPA AXIS CARE

- Under conditions of normal exposure to cortisol, our tissues only experience fleeting glimpses of the alarm catecholamines and cortisol.
- With chronic stress, there are health consequences of stress
- Restoring homeostasis to the HPA axis is the primary goal of integrative care.

VITALLEO HEALTH

CORTISOL IS A SPRINTER, NOT A MARATHONER

- The stress response and cortisol are intended to shunt cellular processes away from long-term metabolic processes, and toward those that function primarily on immediate survival and homeostasis.
- Long term cortisol exposure to tissues is catabolic and immunosuppressive.
- Chronic and repeated stressors can lead to one or more forms of HPA axis dysregulation, altering appropriate cortisol secretion and affecting end-organ function.

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DHEA, an Important Source of Sex Steroids in Men and Women

- DHEA secretion decreases from the age of 30 years and is already decreased, on average, by 60% at time of menopause.

- "Since there is no other significant source of sex steroids after menopause, one can reasonably believe that low DHEA is involved, in association with the aging process, in a series of medical problems classically associated with post-menopause".

The Big Picture: Selye's General Adaptation Syndrome

Stage 1: Arousal

- Both cortisol and DHEA increase with episodic stress, but recovery occurs to baseline
- This may be asymptomatic

Stage 2: Adaptation

- Cortisol chronically elevated, but DHEA declines
- "Stressed," anxiety attacks, mood swings, depression

State 3: Exhaustion

- Adrenal insufficiency / Low cortisol and DHEA
- Depression and fatigued

DHEA Restoration—Beyond the Adrenals for Men

- In men, the contribution of **adrenal DHEA to the total androgen pool has been measured at 40% in 65-75-year-old men.**

Stress Response: HPA axis

- Chronic Stress causes sustained activation of the **HPA axis** resulting in in high cortisol initially and long-term burnout commonly called “Adrenal fatigue”
- DHEA is also produced by the adrenal cortex.
- Exposure to chronic stress and adrenal burnout leads to a substantial reduction in circulating levels of DHEA-S and DHEA and further damage to underlying metabolic processes.

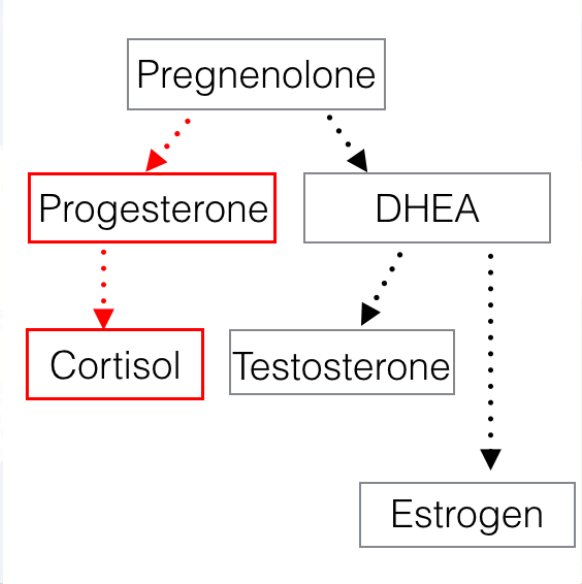
DHEA

- Dehydroepiandrosterone (DHEA) is produced in the adrenal cortex
- Secretion is affected by pituitary ACTH secretion
- Prevents systemic inflammation
- Protects the nervous system, particularly the hippocampus from cortisol (As does DHEA precursor pregnenolone).
- Exposure to chronic stress leads to a substantial reduction in circulating levels of pregnenolone, DHEA-S, and DHEA and further damage to underlying metabolic processes.
- Suboptimal levels of DHEA have been demonstrated in patients with numerous chronic disease states, including chronic inflammatory diseases (IBD, RA), mood disorders and chronic pain syndromes (CFS, fibromyalgia)

Stress Management

- Stress management is particularly important in the regulation of PMS.

- Stress has been shown to increase symptoms and decrease tolerance of symptoms in different studies. To combat stress, an effective strategy must be in place.



SEX HORMONES AND STRESS

- The response of the HPA axis to chronic stress is integrated with our sex hormones, including androgens and estrogens.

EXAMPLE STUDY:

Persistently low sexual desire in women is associated with HPA axis dysregulation, with both cortisol and DHEA alterations potentially detrimental to sexual desire.

DHEA: BODY AND SEX

- **DHEA** helps produce other hormones, including testosterone and estrogen. Natural DHEA levels peak in early adulthood and then slowly fall as you age.

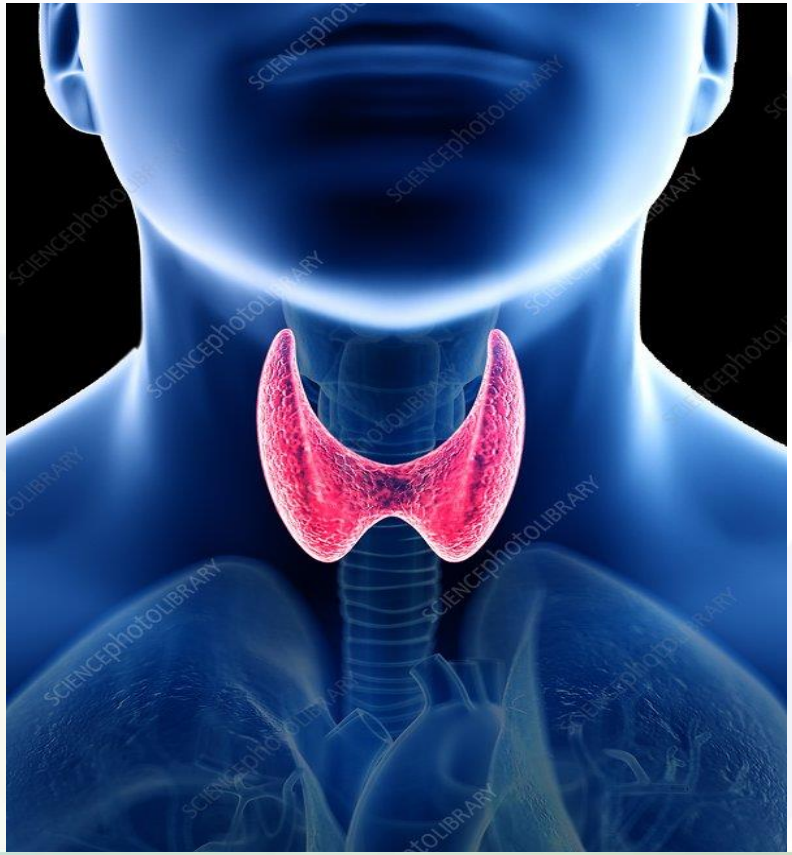
- A low level of DHEA may be due to or aggravated by adrenal insufficiency (Fatigue, burnout)

- DHEA plays an important role in sexual function. Low levels of DHEA were associated with a higher risk for ED in men and low sexual responsiveness in women.

CONDITIONS OF HPA AXIS DYSFUNCTION

- Cushing's syndrome
- Diabetes mellitus syndrome)
- Hyperthyroidism
- PMS
- Rheumatoid arthritis
- Chronic fatigue syndrome
- Depression, Anxiety, & Panic disorder
- Central obesity (metabolic
- Adrenal Insufficiency
- Hyperthyroidism
- Asthma, eczema
- Fibromyalgia

THYROID AND ADRENALS



HPA AXIS AND THYROID

- Hormones from your thyroid interact with the hormones from your adrenal gland and visa-versa.
- You can't just take Synthroid if the HPA axis is unhealthy.

STRESS, CYTOKINES, AND THYROID HORMONES

- The stress response often leads to increased levels of inflammatory molecules, called cytokines.

- Studies have shown that this inflammation can make your cells less responsive to thyroid hormones.

THYROID TO FIX ADRENALS

- In the Thyroid-Adrenal connection, studies have shown when thyroid hormones are low, the adrenal gland does not secrete as much cortisol and that cortisol is metabolized much slower.

- So if you have been focusing on treating your adrenal glands with little success, it may be time to investigate your thyroid.

DISCERNING BETWEEN THE TWO...

SYMPTOMS OF HYPOTHYROIDISM:

- fatigue
- weight gain
- weakness
- dry skin
- mental sluggishness
- hair loss & dry, course hair
- constipation
- cold intolerance

CAUSES OF HYPOTHYROIDISM:

STRESS

- Stress hormones can interfere with the thyroid gland and thyroid hormones, which results in hypothyroidism.
- Stress hormones, through the inflammation they cause, can stop the brain from sending signals to the thyroid, can stop the conversion of T4 to T3, and can interfere with how cells respond to T3.
- Best recommendation is getting your adrenal glands and stress hormones evaluated if you have a thyroid dysfunction.

Loss of Sleep and Stress

"Even partial acute sleep loss delays the recovery of the HPA, negatively affecting the stress response with accelerated development of metabolic and cognitive consequences."

50 - 70 Million US adults have a sleep disorder
50% of children experience sleep disorders

FDA Orders ‘Black-Box’ Warnings for Sleep Aids

Ambien, Edluar, Zolpimist, Lunesta and Sonata are among insomnia drugs affected by ruling

Why Sleep?

How the brain gets rid of waste (glymphatic system) including amyloid beta (Alzheimer's disease)

Sleep & Obesity:

- < 6 hours = obesity
- A 2015 study showed that as sleep decreased, the hunger hormone grehlin increased
- Negative impact on: Leptin, insulin, cortisol, and HGH

HEART AND IMMUNE FUNCTION

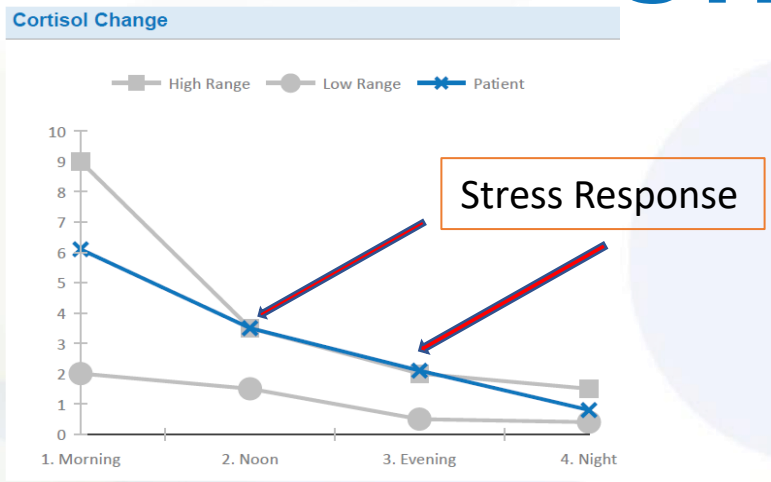
Poor sleep increases the risk of:

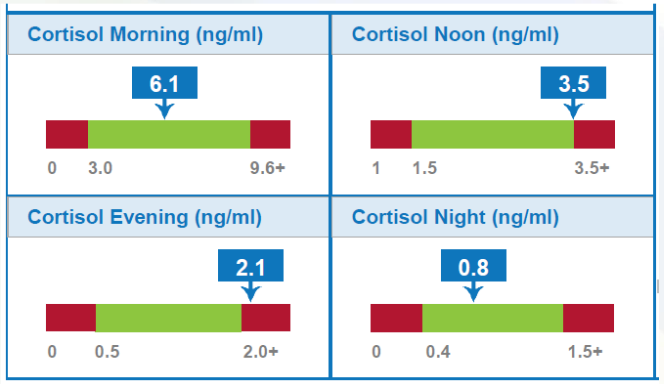
- High Blood Pressure
- Heart Attacks
- Strokes
- Heart Failure
- Arrythmias
- Blood Clots
- Viral Infections

COLDS AND INFECTIONS

A University of California study discovered that those who slept for only 6 hours or less were more likely to get ill than those who slept 7 hours or more when exposed to viruses

STRESS AND CORTISOL





Stress Response
(high cortisol levels)

Serving Size 2 Vegetarian Capsules
Servings Per Container 30

	Amount Per Serving	%DV
Thiamine (as thiamine mononitrate)	10 mg	833%
Riboflavin	10 mg	769%
Niacin (as niacinamide)	10 mg	63%
Vitamin B_6 (as pyridoxine HCl)	10 mg	588%
Folate (as folic acid)	333 mcg DFE (200 mcg folic acid)	83%
Vitamin B_{12} (as cyanocobalamin)	100 mcg	4,167%
Relora® (a proprietary blend of a patented** extract from *Magnolia officinalis* (bark) and a proprietary extract from *Phellodendron amurense* (bark))	500 mg	*

*Daily Value (DV) not established

Adreno Care Plus
(overall support plus
during low cortisol levels)

Serving Size 2 Capsules
Servings Per Container 60

Amount Per 2 Capsules		% Daily Value
Pantothenic acid (as calcium D-pantothenate)	100 mg	2,000%
Cordyceps (*Cordyceps sinensis*) (mycelium) (standardized to 7% cordycepic acid)	400 mg	*
Eleuthero Extract (*Eleutherococcus senticosus*) (root) (standardized to 0.8% eleutherosides)	200 mg	*
Rhodiola Extract (*Rhodiola rosea*) (root) (standardized to 5% rosavins)	50 mg	*

*Daily Value not established.

Relora® Research

RESEARCH ARTICLE Open Access

Effect of *Magnolia officinalis* and *Phellodendron amurense* (Relora®) on cortisol and psychological mood state in moderately stressed subjects

RESULTS:

After 4 weeks of supplementation, salivary cortisol exposure was significantly ($p<0.05$) lower (-18%) in the Relora group compared to Placebo. Compared to Placebo, the Relora group had significantly better ($p<0.05$) mood state parameters, including lower indices of Overall Stress (-11%), Tension (-13%), Depression (-20%), Anger (-42%), Fatigue (-31%), and Confusion (-27%), and higher indices of Global Mood State (+11%) and Vigor (+18%).

J Int Soc Sports Nutr. 2013 Aug 7;10(1):37. do.

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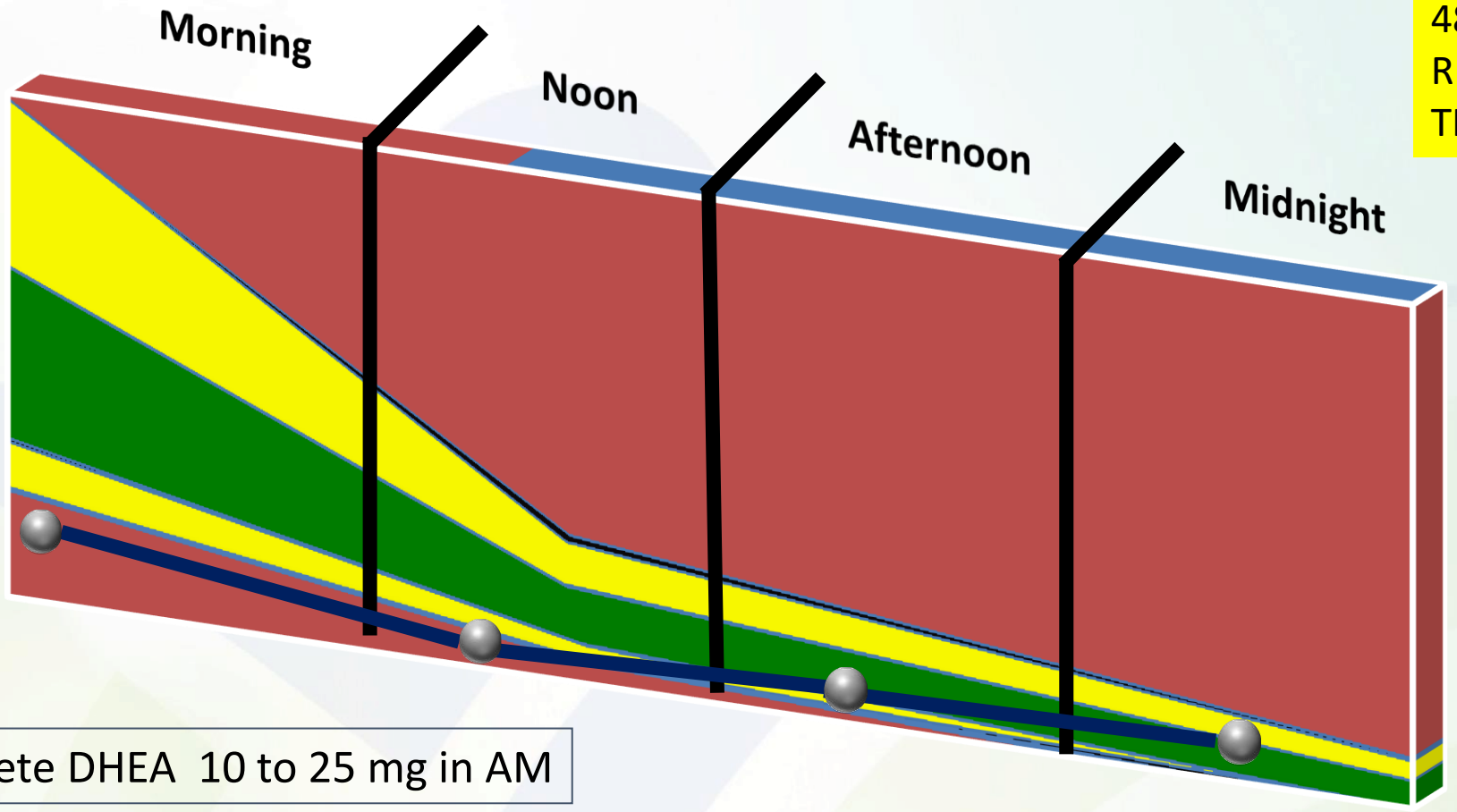
48 Year Old Man, That Feels REALLY OLD and SUPER TIRED with Low DHEA



Adrenal Care Plus, and If Stressed/Anxious, CBD+

Replete DHEA 10 to 25 mg in AM

Well Aligned

ADRENO CARE PLUS

- The ability of the adrenal gland to respond to physiological stress is supported by several botanicals with recognized adaptogenic properties.
- Eleuthero and Rhodiola have similar but somewhat different actions on neurotransmitter function, central nervous system, and cardiovascular function that help the body adjust appropriately when faced with various biological, physical, or chemical challenges.
- Cordyceps mushroom, known for its revitalizing effects, is included along with a significant amount of pantothenic acid, an essential B-vitamin required for adrenal hormone formation.

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RHODIOLA AT WORK

SUMMARY OF KEY RESEARCH STUDY RESULTS:

Mental Fatigue & Stress: Rhodiola improves cognitive function during times of stress and fatigue after only a single dose, and repeated administration.

Fatigue (Burnout) Syndrome: Rhodiola has an anti-fatigue effect during times of physical, emotional and mental exhaustion.

Mild Depression: Rhodiola has an anti-depressive effect.

Mental Performance: Rhodiola improves mental performance after a single dose.

Physical Performance: Rhodiola improves physical performance after a single dose.

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Endocannabinoid and Adrenal Support

CBD and palmitylethanolalamide **(PEA)** can help balance the endocannabinoid system. PEA also supports a healthy inflammatory responses

ADAPTOGENS:

Rhodiola and Maca both act as adaptogens that soothe the adrenal glands and help cope with stress.

Rhodiola enhances energy levels in times of stress. Maca promotes healthy testosterone levels, and maintains healthy prostate size, and increased satisfaction with sexual health in men.

Maca helps with fertility, sex drive, improved energy and stamina

L-theanine

An amino acid that increases alpha brain waves, which are involved in a relaxed state of alertness.

Reduces the cortisol response when exposed to stress.

Reduces heart rate and exhibits anti-stress effects via the inhibition of cortical neuron excitation.

Boswellia

Effective in managing inflammation and the effects of stress

DHEA THERAPY

- Starting Doses 10 mg to 25 mg
- Common Maintenance Dose 25 to 75 mg
- High Dosages 100 to 200 mg

Monitor:

(Before, 6 to 8 weeks after initial TX, then 3 to 6 months, then 6 to 12 months)

- DRE, DHEA, DHEA Sulfate, Testosterone, Estradiol, SHBG, PSA, CBC with Diff, Ferritin

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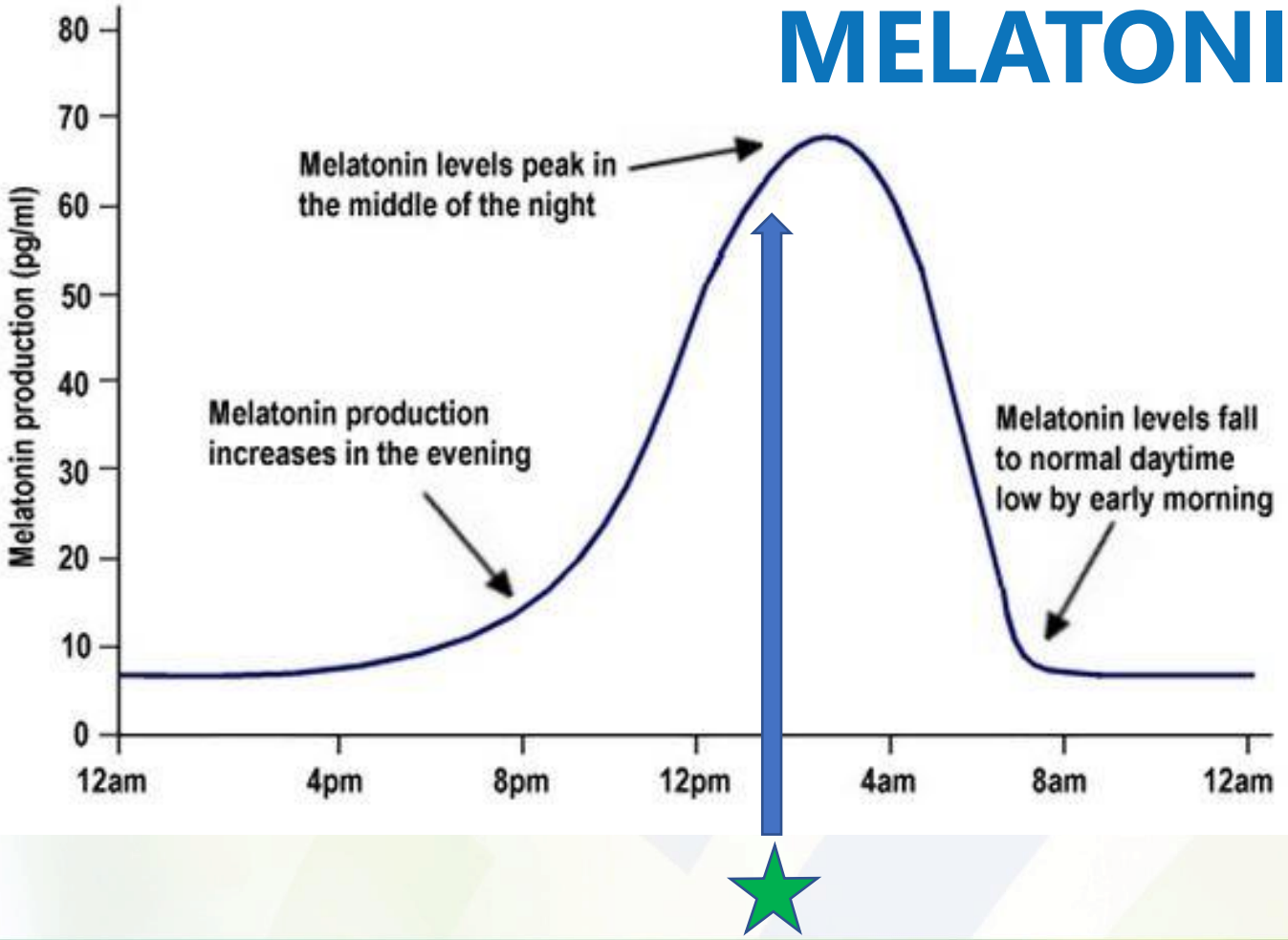
MELATONIN TEST



Trouble Falling Asleep– 1 lozenge 1 hour prior to bed

Melatonin 1 mg

Mannitol, stearic acid, citric acid, silicon dioxide, natural cherry flavor, croscarmellose sodium, and magnesium stearate.

Stay Asleep Sustained Release-All Night

Melatonin 2 mg

Microcrystalline cellulose, hydroxypropyl methylcellulose, vegetarian capsule

(hydroxypropyl methylcellulose, water), and magnesium stearate.

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BASIC SUPPLEMENTAL APPROACH

Good quality Multi-vitamin with special attention to:

- B-complex (co-factors in hormone production)
  - B5 – pantothenic acid (1000-1500 mg)
  - B6 – pyridoxine (50-100 mg) (Ideally P-5-P)
  - Biotin (1000 mcg)
  - Folic Acid (400-800 mcg)—Ideally MTHF
- Vitamin C (1-2 grams) and antioxidant blend
- Magnesium (400-600 mg) (Not oxide form)
- Omega-3 fatty acids (1-3 grams)

Eisenstein AB. Am J Clin Nutr. 1957 Jul-Aug;5(4):369-76.

*** Enter Your Clinic Offer Here ***

- For the month of March, Vitalleo is discounting the Sleep, Stress, & Adrenal Test by taking $10 off the kit cost. ~~$39.95~~ - $29.95
- Also, our CBD Be Calm Tincture is 20% off. ~~$49.95~~ -$39.96
- You can absorb these savings or pass the discounted pricing onto your patients.
- For any marketing, implementation, or product related questions please reach out to Austin@vitalleohealth.com

Use this slide to enter an offer to your patient base