

Treatment Considerations to Optimize the Cortisol Awakening Response (CAR)

The Cortisol Awakening Response (CAR) is a natural and dramatic feature of a healthy diurnal cortisol rhythm. All examples of treatment options below are for illustrative and or educational purposes only and should not be misconstrued as medical advice. Consider all potential treatment protocols within the context of the patient's overall clinical presentation and other factors, including family history.

Targeted Treatment Options for an Exaggerated CAR:

- Identify and Address the Underlying Cause:
 - Rule out Contamination of the Saliva Sample(s)
 - Rule out Recent Exposure to Bioidentical Steroid Hormones
 - Rule out Low Blood Protein Levels
 - Rule out Cushing's Disease
 - Review "Health Concerns Associated with an Abnormal Cortisol Awakening Response"
- Exercise¹
- Vitamin C²
- Vacation³
- *Rhodiola rosea*⁴
- Mindfulness Training⁵
- Prebiotics⁶
- Probiotics⁷
- Increase Friendly Hugs⁸
- Reduce Intake of Sugar-Sweetened Beverages⁹
- Reduce Visceral Adipose Tissue^{9,10}
- Aspirin¹¹

Targeted Treatment Options for a Blunted CAR:

- Identify and Address the Underlying Cause:
 - Rule out HPA Axis Suppression Due to Recent Use of Corticosteroid Medications, Opiates, Accutane, or Aspirin.^{11,12,13,14,15}
 - Rule out Elevated Blood Protein Levels
 - Rule out Addison's Disease and Adrenalectomy
 - Rule out Non-Classical Congenital Adrenal Hyperplasia and other Genetic Disorders
 - Confirm Saliva Sample Collection at the Appropriate Times^{16,17}
 - Review "Health Concerns Associated with an Abnormal Cortisol Awakening Response"
- Treat Underlying Cause(s) of Chronic Disease
 - Long-Term Pain, Inflammation, Infection^{18,19,20,21}
- Reduce Elevated Bedtime Cortisol²²
- Support Optimal Sleep Quality and Sleep Hygiene^{23,24}
 - Ensure Darkness and Quiet During Sleep^{25,26}
- Increase Leisure Time Physical Activity²³
- Increase Social Support²⁷
- Exposure to Sunlight or Therapeutic Light Box Upon Waking^{28,29}
- Vitamin C³⁰
- A Service Dog, When Medically Appropriate^{31,32}
- Stress Management^{27,33,34}
- Probiotics³⁵
- Yoga^{36,37}

- Health Retreat³⁶
- Nordic Walking³⁶
- Meditation³⁷
- Aerobic Exercise³⁸
- Multivitamin with Folate³⁹
- Melatonin Supplementation⁴⁰
- Reduce or Avoid Consumption of Alcohol⁴¹
- Napping⁴²
- Adrenal Glandular Supplementation Upon Waking
- Steroid Hormone Precursor Support
- Hydrocortisone and DHEA Replacement
- Mitochondrial Support
- Anti-inflammatory Support Until the CAR Normalizes⁴³
- Avoid Use of Cell Phone, Exposure to EMFs, and Blue Light Before Bed^{44,45}
- Test Lead Levels and Reduce Exposure to Lead⁴⁶
- CPAP Therapy When Indicated⁴⁷
- 5-HTP^{48,49}

General Treatment Options to Support a Healthy Circadian Rhythm:

- Adrenal Support
 - Adaptogens^{50,51}
 - Vitamin C
 - Magnesium
 - B Vitamins
 - Omega 3-Fatty Acids
 - Phospholipids/Seriphos™
- Optimize Sleep Quality
 - Calming Nutraceuticals at Bedtime
 - L-theanine⁵²
 - GABA⁵³
 - *Magnolia officinalis*
 - *Scutellaria* spp.⁵⁴
 - Passionflower
 - Magnesium⁵⁵
 - Glycine⁵⁶
 - Lavender^{57,58,59}
- Optimize Sleep Hygiene
- Nutrient-Dense Diet with Whole Foods
- Ensure Optimal Vitamin D Status^{60,61}
- Biofeedback⁶²
- Optimize Blood Glucose Management
- Ensure Awakening Time, Bedtime, Meal Times, and Exercise Times are Similar Daily^{63,64}
- Neuro Support (Omega 3-Fatty Acids, Phospholipids, Seriphos™, Bacopa, *Ginkgo biloba*, etc.)
- Homeopathic Remedies and Other Energy Medicine, e.g., Acupuncture and Craniosacral Therapy
- Avoid or Minimize Exposure to Artificial Lighting⁶⁵
- Smoking Cessation⁶⁶
- Support a Healthy Gut Microbiome
- Support Optimal Melatonin Production^{40,67}
- Support Optimal Sex Hormone Production^{68,69}

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