How to Control Your Cortisol & Overcome Burnout

Complete Protocol Guide from Huberman Lab

5.5 hour episode · 27,000 words · Condensed to actionable protocols

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1 Executive Summary

The 1 Takeaway: Cortisol is NOT a “stress hormone” - it’s an **energy deployment hormone**. The key to health, performance, and avoiding burnout is getting your cortisol **rhythm** correct:

- **Morning:** HIGH cortisol (spike within first 60-90 min of waking)
- **Evening:** LOW cortisol (must stay low 4h before → 2h after sleep)

Get these two things right and everything else (energy, sleep, focus, mood) follows.

2 The Science: Why Cortisol Rhythm Matters

2.1 What Cortisol Actually Does

- Releases glucose into bloodstream for energy
- Directs energy to tissues that need it most (especially brain)
- Crosses blood-brain barrier (unlike adrenaline)
- High concentration of receptors in hippocampus (memory center)

2.2 The 4 Phases of Daily Cortisol

Phase	When	Cortisol Level
Phase 1: Minimal	4h before → 2h after sleep	Very LOW (critical!)
Phase 2: Preliminary Rise	3rd-5th hour of sleep	Slowly rising
Phase 3: Main Secretory	6th-8th hour of sleep	RAPIDLY rising (correlates with REM)
Phase 4: Awakening	First 60-90 min after waking	Peak amplification window

Why 8 Hours of Sleep Matters: If you sleep only 6-7 hours, you miss the main secretory phase entirely. This explains morning sluggishness and disrupted rhythms.

2.3 The HPA Axis & Negative Feedback

The Self-Regulating System:

Hypothalamus → CRH → Pituitary → ACTH → Adrenals → CORTISOL

When cortisol gets high enough, it **shuts down its own production**. This means:

- A **high morning spike** triggers the feedback loop
- Results in gradual decline through the day
- Leads to **low evening cortisol** → better sleep

3 Burnout: Two Distinct Patterns

3.1 Type 1: Morning Stress

- Wake up anxious, often too early
- Activated/wired through mid-morning
- Crash hard in afternoon
- **Root cause:** Cortisol rising too fast/steep

Protocol:

- NSDR/Yoga Nidra upon waking (10-30 min)
- Delay caffeine 60-90 min
- Hydration immediately
- Bright light after NSDR

3.2 Type 2: Night Stress

- Wake sluggish, no energy
- Dragging through morning
- Wired but tired at night
- **Root cause:** Cortisol rhythm shifted late

Protocol:

- Sunset walks (adjusts retinal sensitivity)
- Physiological sighs 3-5 min in evening
- Dim lights after sunset
- No caffeine after noon

Note: “Adrenal fatigue” is NOT real for most people. True adrenal conditions (Cushing’s, Addison’s) are rare. Most burnout = disrupted cortisol **timing**, not deficiency.

4 Morning Protocol: Spike Your Cortisol

The Golden Window: First 60-90 minutes after waking is your opportunity to amplify cortisol. Miss it, and you can't boost morning cortisol again until the next day.

4.1 Priority 1: Bright Light Exposure

- **Protocol:** Get outside within 30-60 min of waking
- Remove sunglasses, look toward (not at) sun
- Even more important on cloudy days
- **Effect:** Up to 50% increase in cortisol levels
- **Backup:** 10,000 lux light box if can't get outside

4.2 Priority 2: Hydration

- **Protocol:** 16-32 oz water immediately upon waking
- Add electrolytes if desired
- **Why:** Even mild dehydration impairs function; you're always somewhat dehydrated upon waking
- **Effect:** Increases pulsatile cortisol release

4.3 Priority 3: Caffeine Strategy

Situation	Protocol
You crash in afternoon	Delay caffeine 60-90 min after waking
You don't crash	Can take caffeine upon waking
Occasional user	Caffeine will spike your cortisol significantly

Key insight: Caffeine doesn't spike cortisol in chronic users, but it **extends its half-life** - making the curve decline more gradually.

4.4 Priority 4: Exercise Timing

- Exercise within first 3 hours of waking supports morning cortisol
- Same time daily (within 2-3h window) for 4-6 days creates **anticipatory cortisol rise**
- Novel exercise spikes cortisol more than familiar routines

4.5 Bonus Tools

Tool	Protocol	Effect
Cold exposure	1-2x/week max	Cortisol spike (diminishes with frequency)
Grapefruit	1 fruit or 6-8oz juice	Extends cortisol 25-50% via CYP3A4 inhibition
Black licorice	Small amount, be cautious	Potent cortisol increase (avoid if pregnant/hypertensive)

5 Evening Protocol: Keep Cortisol Low

The Critical Window: 6 hours before sleep + 2 hours after = when cortisol MUST stay low. Spiking cortisol here creates a cascade: poor sleep → blunted morning cortisol → next-day fog.

5.1 Light Management (Most Important)

- Dim all lights 2+ hours after sundown

- Use red/amber bulbs or blue-blocking glasses
- **Light position matters:** Floor lamps > table lamps > overhead (neurons detecting brightness are in lower portion of eyes)
- Phone: Use red screen filter (triple-click shortcut on Apple)

5.2 The Physiological Sigh (Fastest Calm-Down Tool)

1. Big, long inhale through nose
2. Second sharp inhale through nose (maximally inflate lungs)
3. Long exhale through mouth until empty
4. 1-3 sighs for acute stress, 3-5 minutes for extended calming

5.3 Nutrition Strategy

- Include starchy carbs in dinner (rice, potatoes, pasta)
- Blood glucose ↑ → Cortisol release ↓
- **Why comfort food "works":** Carbs suppress cortisol
- Eating 2-3 hours before bed is fine

5.4 Late Exercise Recovery Stack

If you must work out after sundown:

1. Eat starchy carbs + protein immediately
2. Long exhale breathing for 2-3 min
3. Hot shower/sauna (NOT cold - would spike cortisol again)
4. Dim lights immediately
5. No screens before bed

6 Supplements for Cortisol Control

Critical: Behavioral interventions FIRST. Supplements augment, not replace.

6.1 Evening Supplements (Cortisol Lowering)

Supplement	Dose	Timing	Effect
Ashwagandha	300-600mg	Evening only!	Reduces cortisol 11-29%
Apigenin	50mg	30-60 min before sleep	Moderate cortisol reduction
Mag Threonate	Standard	30-60 min before sleep	Indirect cortisol suppression

Warning: NEVER take ashwagandha (>100mg) in the morning - it will blunt the cortisol peak you need.

6.2 Huberman Sleep Stack

- Apigenin (50mg)
- Magnesium Threonate (or bisglycinate)
- Theanine
- Taken 30-60 min before sleep

7 Aging & Longevity Connection

7.1 Cortisol Curve Flattening

- After age 40, morning peak becomes more rounded
- Afternoon decline becomes more gradual
- **Flattened cortisol curve = predictor of shorter lifespan**

7.2 Cancer Survivability Data

- In cancer patients: flattened curves predicted worse outcomes
- Those who adjusted stress down in afternoon had better survivability
- **Bigger morning peak + steeper drop + lower nighttime = longer survival**

7.3 Hippocampus Protection

Chronically elevated cortisol at wrong times → neuronal degeneration in hippocampus → memory/cognition problems → impaired stress regulation → vicious cycle

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8 Quick Reference: The Complete Protocol

8.1 Morning Checklist

□ Hydrate (16-32 oz water) immediately
□ Bright light within 30-60 min
□ Delay caffeine 60-90 min (if you crash)
□ Exercise in first 3 hours
□ Optional: cold exposure, grapefruit

8.2 Evening Checklist

□ Dim lights after sunset
□ Starchy carbs with dinner
□ Physiological sighs if stressed
□ Ashwagandha (evening only)
□ No caffeine after 2-3 PM
□ No screens 1h before bed

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Full video: https://youtu.be/lbj1k3lZTNU