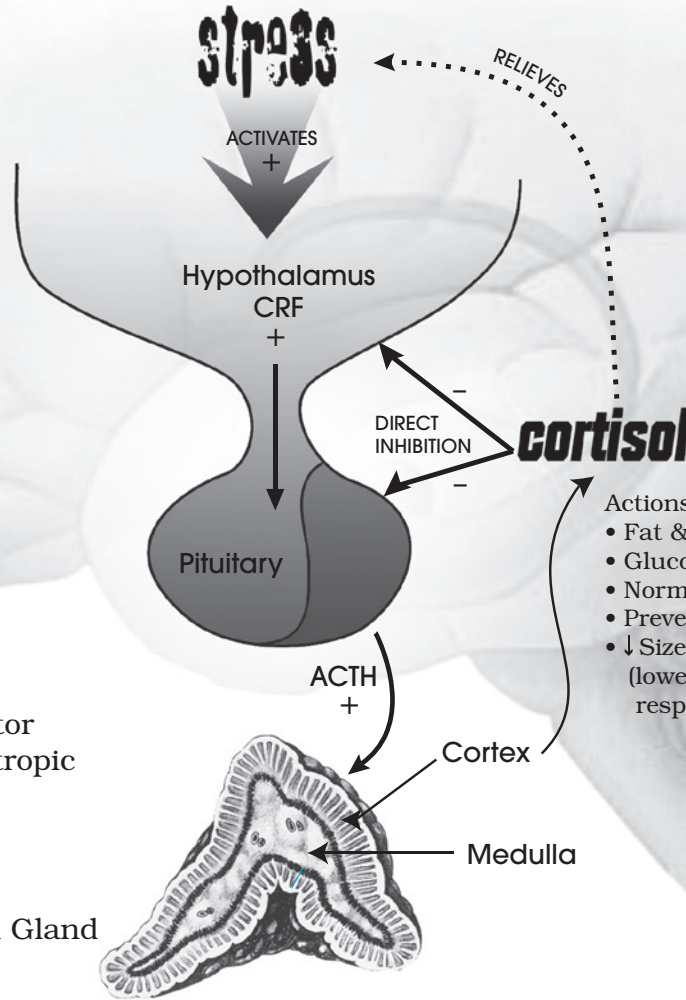


HPA Axis Dysfunction

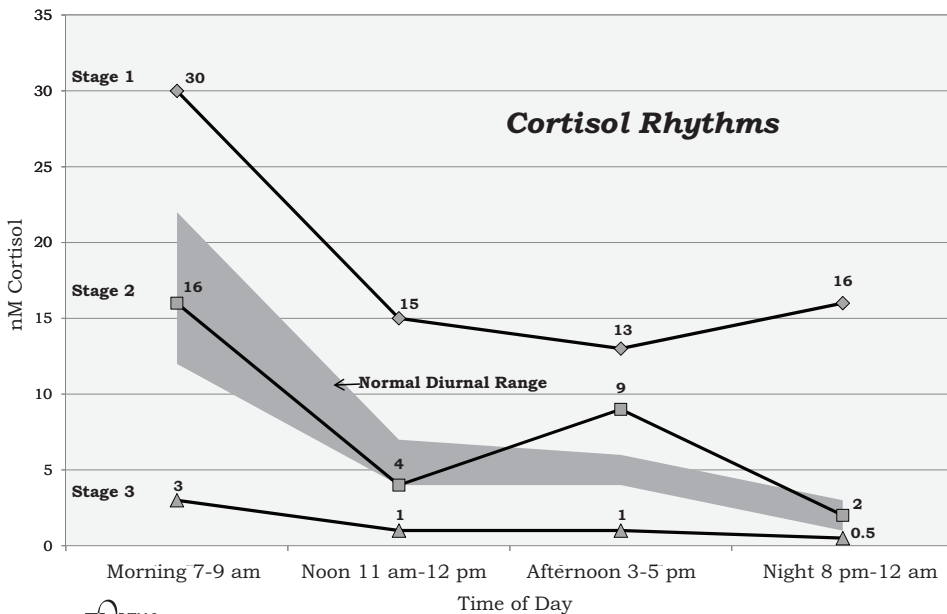
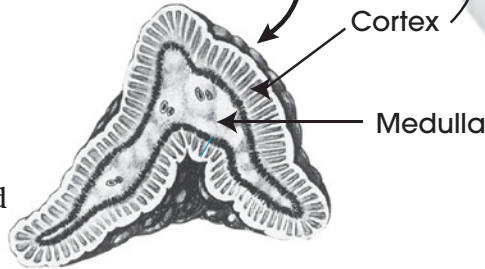
Actions, Repercussions & Recovery



- Actions:**
- Fat & Protein Mobilization
 - Gluconeogenesis (Liver)
 - Normalized Blood Sugar
 - Prevents Inflammation
 - ↓ Size of lymphatic tissues (lowering the immune response)

CRF = Corticotropin Releasing Factor
 ACTH = Adrenocorticotropic Hormone

Adrenal Gland



STAGE 1

Hyper Cortisol

Distinguishing Features

- High Stress Reaction
- Elevated Cortisol
- Sleep Disturbances
- Immune Suppression

Telltale Signs: "Superman Complex"

STAGE 2

Cortisol Dominant

Distinguishing Features

- Irregular Cortisol Rhythm
- Additional Hormonal Irregularities

Telltale Signs: "Sometimes Cranky"

STAGE 3

Hypo Cortisol

Distinguishing Features

- Low Cortisol
- Severe Hormonal Depletions

Telltale Signs: "Down & Out"



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Stress Factors

Blood Sugar

Decreased HDL
Increased Oxidative Stress
(decreased antioxidant reserve)
Elevated Fibrinogen
Abdominal Obesity
Blood Pressure
HDL Cholesterol
Triglycerides
LDL Cholesterol

Sleep

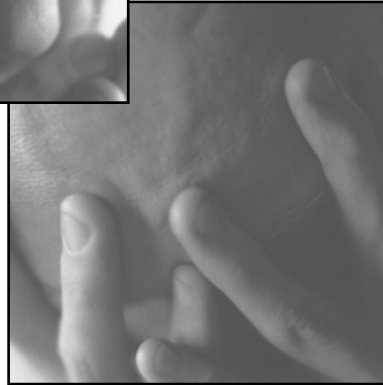
Racing Thoughts
High Nighttime Cortisol
Low Bedtime Melatonin
Low Progesterone
Undiagnosed Inflammation
Inconsistent Sleep Schedule
Insufficient Sleep Time

Mental/Emotional

Fear/Anger
Death of a Loved One
Birth of a Child
In-Laws
Major Personal Injury or Illness
Home/Move
Job/Financial Worries
Relationships/Marriage/Divorce

Inflammation

(acute or chronic)
Lupus
MS
Diabetes/Diet
Crohn's/Colitis
Lyme Disease
Hepatitis
Chronic Infection
Rheumatoid Arthritis



Taking Back Glycemic Control is the Foundation of HPA Axis Recovery

Figure 1

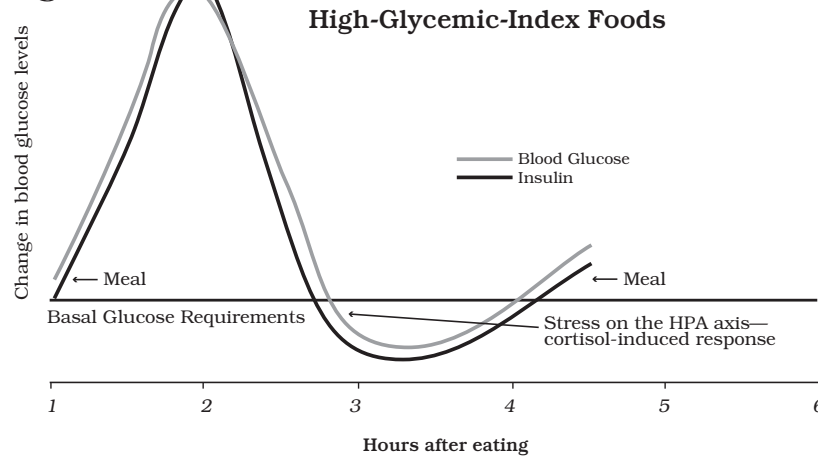


Figure 1 shows the effect of high-glycemic meals, skipping meals or going longer than three to four hours between meals, which causes stress on the HPA axis and a cortisol-induced response.

As shown in Figure 2, consuming a low-glycemic meal containing balanced protein, carbohydrates, fat and supportive nutrients help maintain blood glucose for longer periods.

Supportive Nutrients:

- **Fermentable Soluble Fibers**
- **Vanadyl Sulfate**
- **Lipoic Acid**
- **Chromium**

Figure 2

