

"Got Stress?: Adrenal Overload and Chronic Fatigue Syndrome"

The Latest Research in Diagnosis and Holistic Treatment of Adrenal Gland Disorders.

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I. Foundational health-care principles



❖ Alternative Medicine

Medical therapies and procedures not taught in medical schools or used in hospitals

❖ Functional Medicine (Functional Health Care)

A science-based field of health care based on:

1. Biochemical individuality
2. Patient-centered care
3. The dynamic balance of health processes
4. Health as a positive vitality
5. Human body functions as a network of interconnected systems rather than individual systems functioning autonomously (physical, mental, emotional, spiritual, environmental inputs, etc.)

Endocrinology 101

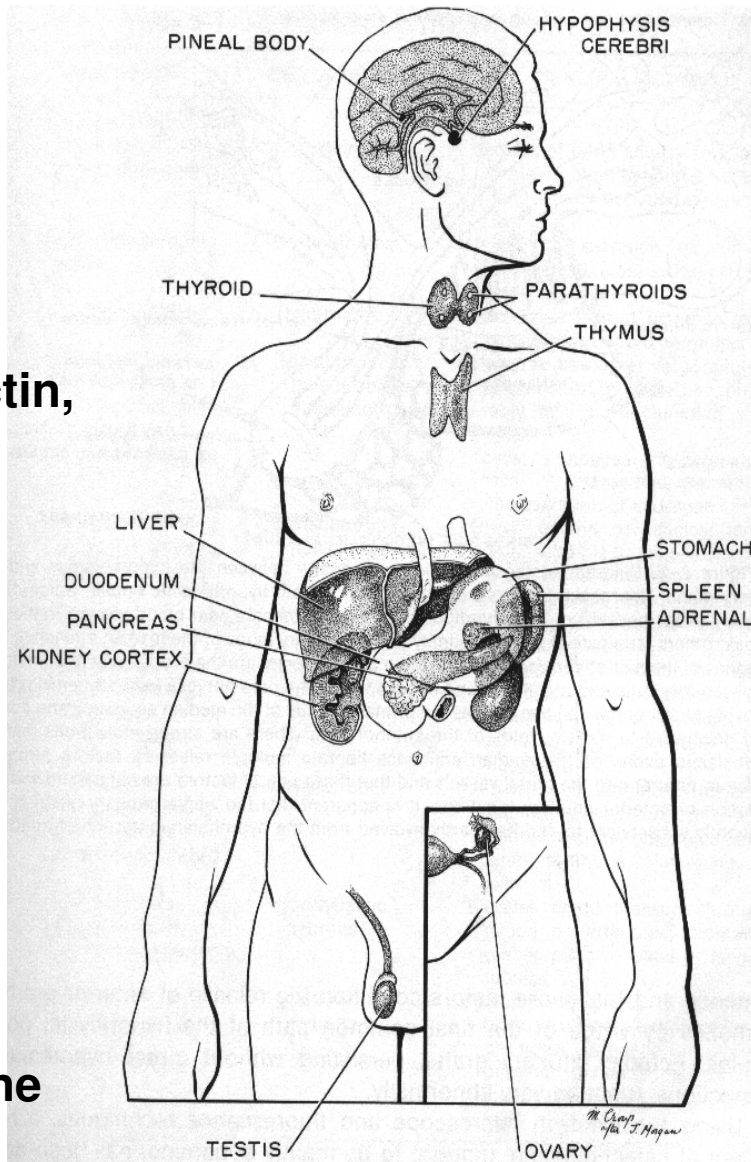
HYPOTHALAMUS
releasing
inhibiting

PITUITARY
GH, ACTH, TSH,
FSH, LH, ADH, prolactin,
oxytocin

ADIPOSE
leptin

PANCREAS
insulin
glucagone

TESTES
testosterone
estrogen



THYROID
thyroxine, T3
calcitonin

PARATHYROID
PTH

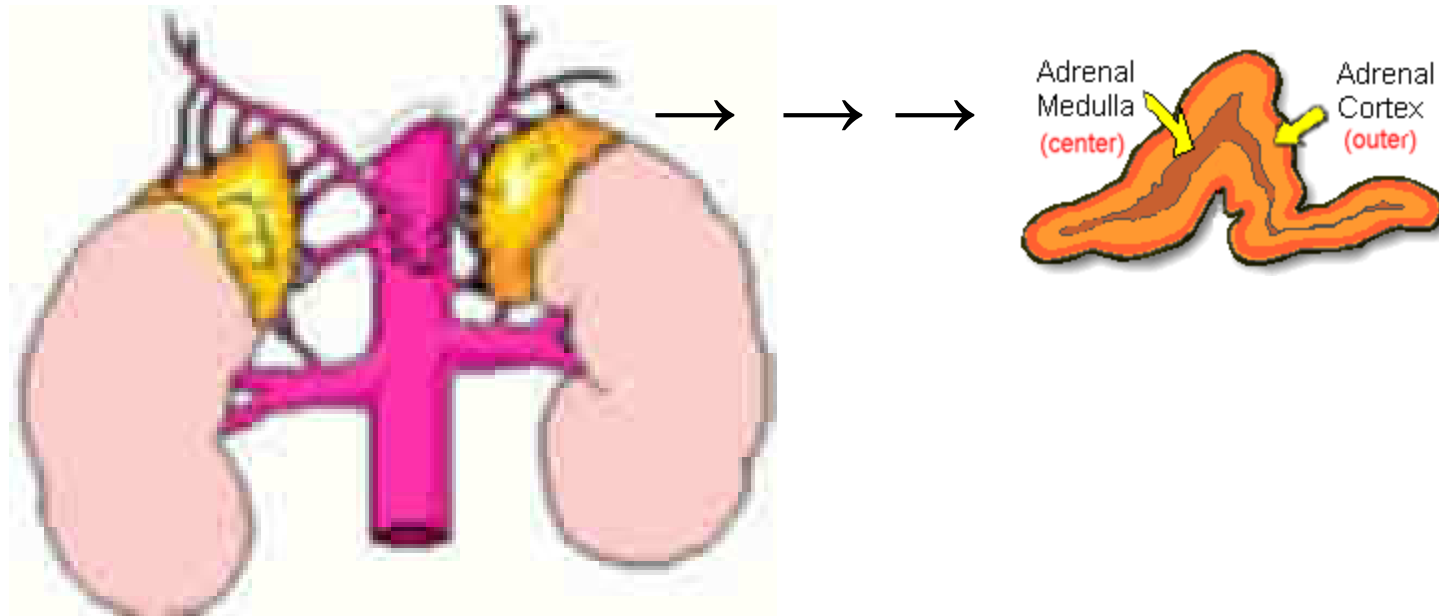
ADRENALS
cortisol, aldosterone,
epineph., norepi.

OVARIES
estrogen
progesterone
testosterone

What are and Where are the Adrenal Glands

“The adrenal glands are the glands of stress and they are the first to fail under stressful conditions.”

- Dr. Hans Selye

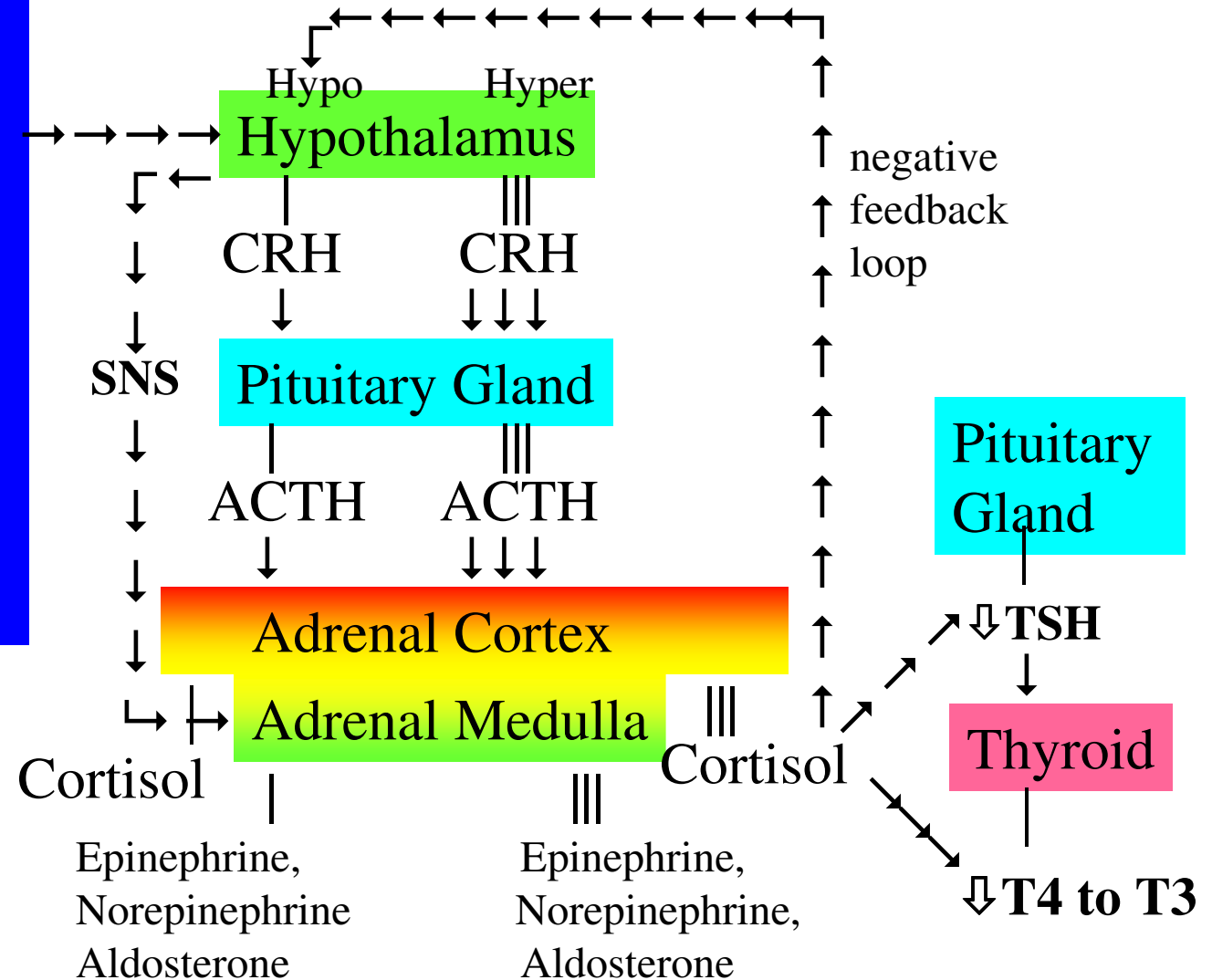


Fundamental Principles: Physiology of the Stress Response

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Stress:

- Trauma
- Infection
- Sleep Deprivation
- Allergies
- Psychological
- Electromagnetic
- Gastrointestinal injury (Dysbiosis)
- Environmental toxins
- High sugar diet



Abbreviation Key: ACTH=adrenocorticotrophic hormone; CRH=corticotropin-releasing hormone; SNS=sympathetic nervous system; TSH=thyroid stimulating hormone

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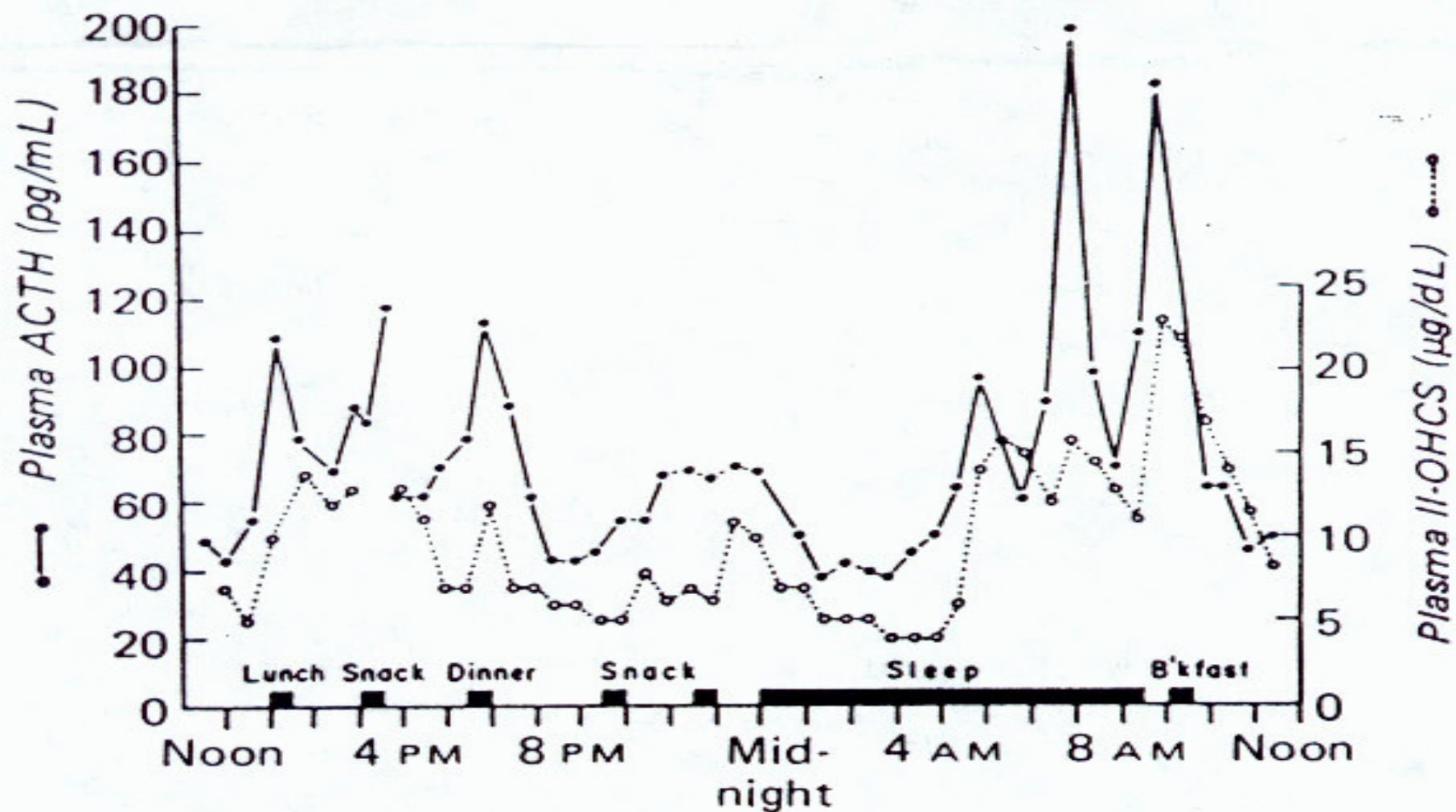


Figure 12–7. Fluctuations in plasma ACTH and glucocorticoids (11-OHCS) throughout the day. Note the greater ACTH and glucocorticoid rises in the morning before awakening. (Reproduced, with permission, from Krieger DT et al: *J Clin Endocrinol Metab* 1971;**32**:266.)

Symptoms/Conditions

Associated with Adrenal Gland

Hypo-function:

- Fibromyalgia
- Chronic fatigue syndrome
- Rheumatoid arthritis
- Most autoimmune disorders
- Cancer survival
- AIDS survival
- Influenza
- Most diseases for which corticosteroids are involved in treatment
- Poor wound healing
- Hypoglycemia
- Difficulty conceiving

Symptoms/Conditions

Associated with Adrenal Gland

Hyper-function:

- agitation/irritability
- anxiety
- restless sleep
- fatigue
- depression
- bone loss
- dry skin/skin disorders
- central obesity
- muscle wasting
- increased cholesterol
- increased triglycerides
- increased blood pressure
- reduced immune defense
- reduced libido
- impaired memory/learning

Symptoms/Conditions

Associated with Adrenal Gland

Hypo-function:

- many pre-pregnancy, during pregnancy and post-pregnancy related problems
- fatigue/malaise
- apathy
- inability to cope
- inability to do routine tasks
- myocardial infarction
- anorexia
- weight loss
- chronic pain
- inflammation
- asthma
- allergies

Symptoms/Conditions

Associated with Adrenal Gland

Hyper-function:

- agitation/irritability
- anxiety
- restless sleep
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- central obesity
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- reduced immune defense
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“This is what a disorganized lifestyle, poor meal planning, no exercise, poor sleep, reacting rather than thoughtfully responding, and relying completely on traditional western medicine got me! I’ve followed the Standard American Diet, tried a little of Atkins, Pritikin, Sugerbusters, and the Zone. I’ve tried various medications but they don’t really solve my problems.

Now I’ve been diagnosed with CFS, Metabolic Syndrome, and Adrenal Exhaustion. There must be another way!”



Why Physicians Do Not Recognize Adrenal Fatigue

- *It is not looked for:*

Physicians have been taught that the only deficiency of the adrenal glands is Addison's disease, near or at the failure of the adrenal glands

Thus, conventional medicine uses tests (blood cortisol, ACTH challenge test) that only recognize if the adrenal glands are failing and then it is only considered in the diagnosis

Review

Functional somatic syndromes: one or many?

S Wessely, C Nimnuan, M Sharpe

We review the concept and importance of functional somatic symptoms and syndromes such as irritable bowel syndrome and chronic fatigue syndrome. On the basis of a literature review, we conclude that a substantial overlap exists between

“Patients seek help from doctors for symptoms and doctors diagnose diseases to explain them. Symptoms are the patient’s subjective experience of changes in his or her body. Difficulties arise when the doctor can find no objective changes to explain the patient’s subjective experience. The symptoms are then referred to as medically unexplained or functional....We postulate that the existence of specific somatic syndromes is largely an artifact of medical specialization. *That is to say that the differentiation of specific functional syndromes reflects the tendency of specialists to focus on only those symptoms pertinent to their specialty, rather than any real differences between patients.*”

somatic symptom as one that, after appropriate medical assessment, cannot be explained in terms of a conventionally defined medical disease.

example, chronic fatigue syndrome is associated with worse disability than conditions such as heart failure.⁷

Conventional medical therapy is fairly ineffective for these patients. The result is frustrated physicians and disabled and dissatisfied patients with chronic symptoms. In a follow-up study of patients with non-cardiac chest pain, Potts and Bass⁸ found that three quarters of patients had symptoms more than 10 years after presentation.⁸ The resulting costs to patients and to the health system are substantial, especially if patients undergo repeated investigation and treatment in hospital. Thus, functional somatic complaints constitute a large, clinically important,

Wessely, S et al.

The Lancet

1999, V. 354

and
Wessely MD,
University of
Edinburgh



S Wessely, T Chalder, S Hirsch, P Wallace, and D Wright

The prevalence and morbidity of chronic fatigue and chronic fatigue syndrome: a prospective primary care study

Am J Public Health, Sep 1997; 87: 1449-1455.

“CONCLUSIONS: Both chronic fatigue and chronic fatigue syndrome are common in primary care patients and represent a considerable public health burden.”

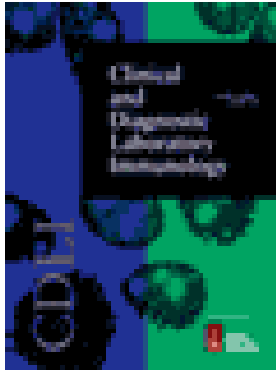


Anthony J. Cleare

The Neuroendocrinology of Chronic Fatigue Syndrome

Endocr. Rev., Apr 2003; 24: 236 - 252.

“Given the many factors that may impinge on the HPA axis in CFS, such as inactivity, sleep disturbance, psychiatric comorbidity, medication, and ongoing stress, it seems likely that HPA axis disturbance is heterogeneous and of multifactorial etiology in CFS.”



Clinical and Diagnostic Laboratory Immunology

S. J. Hanson, W. Gause, and B. Natelson

Detection of Immunologically Significant Factors for Chronic Fatigue Syndrome Using Neural-Network Classifiers

Clin. Diagn. Lab. Immunol., May 2001; 8: 658 - 662.

Study summary: This study showed an objectively measured difference in the function of various immune system cells in Fibromyalgia and Chronic Fatigue Syndrome that is a consequence of immune system dysregulation.

- ❖ Numerous research studies show that there are multiple factors influencing the origin and severity of Fibromyalgia (FM) and Chronic Fatigue Syndrome (CFS).
- ❖ Left unresolved, FM and CFS will lead to life-threatening diseases.
- ❖ For resolution, multiple factors must be addressed. Metabolic processes must be transformed to more healthful processes.
- ❖ Nutritional and lifestyle factors *must* be the first line of factors addressed!

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Aging, natural death, and the compression of morbidity

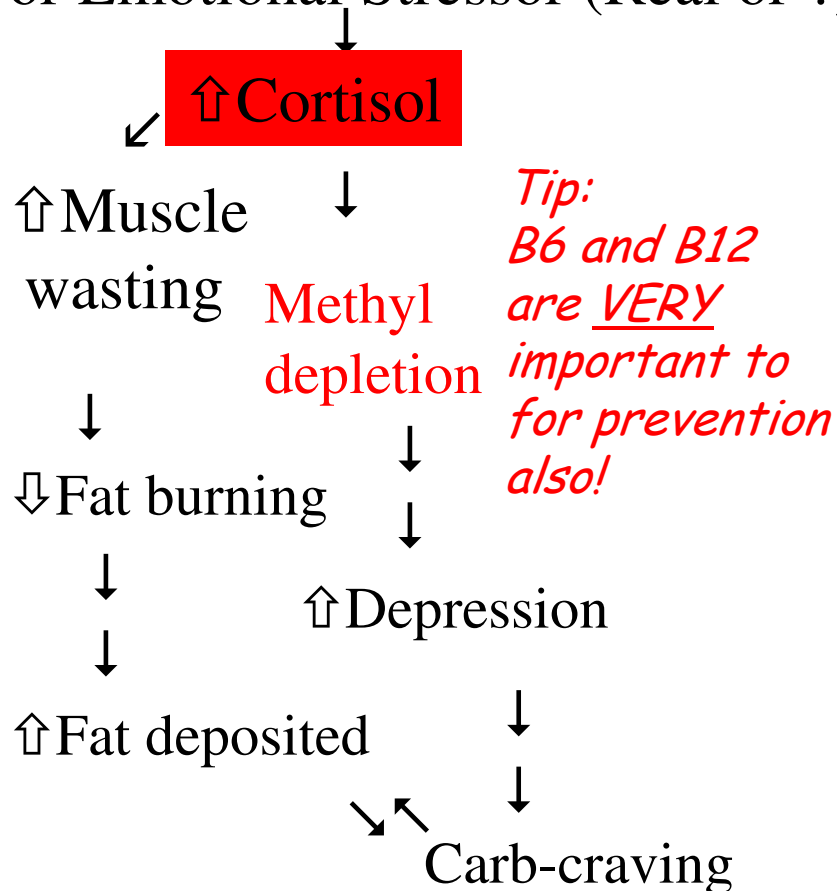
JF Fries

“Chronic illness may presumably be postponed by changes in life style, and it has been shown that the physiologic and psychologic markers of aging may be modified. Thus, the average age at first infirmity can be raised, thereby making the morbidity curve more rectangular.”

Nutritional and Lifestyle Factors Positively Influencing the Processes of FM and CFS

Metabolic Problems:

Physical Illness/Nutrient Def.
or Emotional Stressor (Real or ?)



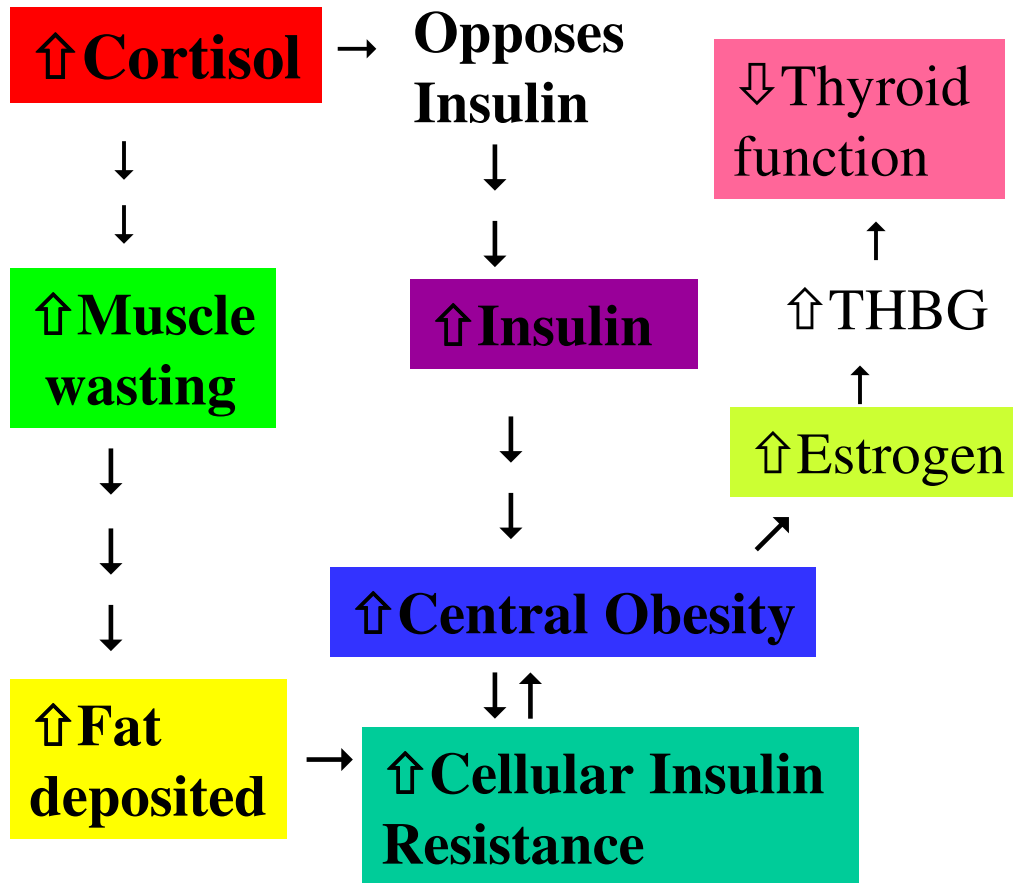
Practical Nutritional/Lifestyle Solutions:

❖ Methylation is one of the main ways that our bodies detoxify. Methyl group depletion is also associated with cardiovascular disorders, neural tube birth defects, senile dementia, stroke, and cancer.

❖ Folate is needed to prevent depletion of methylation in the body.

But...Most people don't **eat enough dark green vegetables** to get enough folate and many people have a genetic defect where they can't convert folate into the active form the body uses. **Supplemental folate, in the form of 5 methyl-tetra-hydrofolate (5-MTHF)** does not need to be enzymatically converted by our body to be used directly by our body.

Metabolic Problems:



Practical Nutritional/Lifestyle Solutions:

- ❖ **Weight training and aerobics 3-4 times/week.**
- ❖ **Stress reduction through organization, relaxation exercises, yoga, tai-chi.**
- ❖ **Adaptogens (Ginseng, Cordyceps, Rhodiola), controlled thinking and responses.**
- ❖ **Indole 3-carbinol.**
- ❖ **Gymnema sylvestre, vanadyl sulfate, chromium, zinc, momordica charantia, small frequent meals, garlic, onions, alpha lipic acid.**
- ❖ **Iodine, sea kelp, sea salt**
- ❖ **Creatine monohydrate.**
- ❖ **Omega 3 fatty acids (DHA, EPA).**

**“I hope this presentation has
been enjoyable, informative and
enlightening!”**

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