ETERNITY ACADEMY

RESTORATION OF HORMONES

eternity medicine

VI. Restoration of **Hormones (BHRT)**

More than two thirds of all human deaths involve the vascular endothelium (the single layer of cells that line all our blood vessels). Signals, especially hormones, act on the endothelium, are processed within the endothelium to exert specific functions.

In addition to the hormones, insulin and eicosanoids other hormones are involved in either promoting or reducing inflammation. For example, there are endothelial risks associated with a low testosterone. Low testosterone has been shown to impair sugar and lipid metabolism and increase your chances of dying from heart disease. As we age there is a decline in levels of several hormones in addition to testosterone. These other hormones like thyroid hormone are also important in reducing the risk of cardiovascular and metabolic disease.

As we age it is essential to have all your hormones measured. We aim to restore your hormone levels to the range of a 35 year old. All hormones are natural bio-identical hormones that are administered under medical supervision. Please see both Male and Female Bio-identical Hormone Replacement Treatment (BHRT) manuals and WellMan / WellWoman books by Dr. Graham Simpson, for full details about restoration of hormones.

There is much misinformation and ignorance about andropause and menopause. For example, progesterone is used both orally and transdermally. Oral progesterone is micronized (ground) to increase availability proved to relieve menopausal symptoms, either alone or in combination with oestrogen. It is more reliable in treating menopausal sleep disorders than synthetic progestins. Transdermal progesterone is often used as a component of compounded BHRT but has not been clinically proven to prevent endometrial hyperplasia, as oral progesterone has. The editors-in-chief of the scientific journal Climacteric state that the greatest difference in function between bio-identical and synthetic hormones may be found in progesterone's behavior compared with progestin. This progestin has emerged as the hormone largely responsible for the adverse effects in the WHI study in 2002. Laboratory studies have suggested that bio-identical progesterone binds primarily to progesterone receptors, while synthetic progestins activate other receptors with a variety of effects.

The editors suggested that progesterone may have neutral-to-positive effects on the cardiovascular system, and induce apoptosis in breast epithelial cells. They also called for more research to examine and confirm the effects of progesterone on health. Progesterone is approved for use by both the FDA and Health Canada as a brand-name oral preparation. The French epidemiological study Etude Epidemiologique aupres de femmes de L'Education Nationale suggested micronized progesterone may offer a reduced risk of breast cancer compared to other progestins, though large-scale clinical trials have not yet been conducted.

Considering we are living longer than our predecessors and knowing that we demand a quality life as we age free of chronic disease it is critical we have knowledge of hormones. Hormones are the "juice of life". Without correcting the hormone levels to the age of a 25 – 30 year old male or female, we cannot enjoy optimal health and prevent chronic disease.

HORMONE REPLACEMENTS FOR CARDIO-METABOLIC HEALTH

1. Thyroid
2. Testosterone in Males Oestrogen/ Progesterone in Females
3. DHEA
4. GH
5. Melatonin
6. Also review
   a) BHRT Male Manual
   b) BHRT Female Manual

1. THYROID

- Make the diagnosis History/Exam/Thyroflex Labs
- T4 must be in the Upper Tertile
- Improves insulin sensitivity
  (less 50% metabolic syndrome)
- Is anti-inflammatory
- T3 ↓ weight loss
- Improves lipid levels
- Rx T3/ T4
- Thyroid improves endothelial function
- TSH best if less than 0.4
- Add 12.5 mg Iodine daily

17.8 0 metabolic syndrome
17.6 1 metabolic syndrome
17.5 2 metabolic syndrome
17.1 3 metabolic syndrome

2. TESTOSTERONE (MALES)

- Testosterone top tertile ↓ metabolic syndrome
- ↑testosterone - ↓waist circumference (visceral fat)
- ↑testosterone - ↓ lower blood sugar/insulin levels (↓DM)
- Symptoms if in lower 50% range Rx!
- Testosterone ↑muscle mass + ↓insulin resistance (via mitochondria)
- Testosterone moves visceral fat → subcutaneous depots
- Rx 100 - 125 mg/ week

OESTROGEN (FEMALES)

- Low E2 - ↑heart diseases
- Improves endothelial function
- Improves insulin sensitivity
- Improves mitochondrial function
- Has anti-inflammatory effect
- Less coronary calcification
- ↑weight gain with↓E2
- Helps normalize the lipid profile

PROGESTERONE (FEMALES)

- ↓serum progesterone - ↑body weight
- PNS system – lowers anxiety
- Lowers cholesterol
- Is a natural diuretic
- Is anti-inflammatory
- Lowers blood pressure

▶E/P DEFICIENCY:↑DM/↑Obesity/ ↑Metabolic Syndrome/ ↑Cancer

3. DHEA

- DHEA builds muscle
- Low DHEA↑metabolic syndrome
- Low DHEA↑obesity
- DHEA reduces serum leptin levels
- 10 mg/ day in females, 25 mg/ day in males
- 20x more than any other hormone
- ↑DHEA↑youthful function
- ↓mood & libido +↑anxiety & poor erections with low DHEA
- ↓resistance,↓tolerance to noise with low DHEA
- ↑DHEA - less cataracts/ Alzheimer's/ Osteoporosis
- ↑DHEA -↓IMT,↓CAD
- ↑DHEA↓Diabetes
- ↑DHEA↓Cancer

4. GROWTH HORMONE

- Inverse relationship between IgF and obesity
- ↑ risk metabolic syndrome in lowest two tertiles (near linear relationship)
- ↑ level GH less hypertension
- ↑ glucose levels when GH low
- GH ↓ visceral and subcutaneous fat
- GH ↓ IMT
- Rx 0.3 mg/ day

5. MELATONIN

- ↓ melatonin ↑ metabolic syndrome
- Inhibits oxidation of LDL-C
- ↓ melatonin ↑ obesity
- Lowers risk CAD
- ↑ leptin
- Low levels ↑ SNS at night
- ↑ ghrelin (↑ appetite carbs)
- Inhibits platelet aggregation

Note: Review use Peptides in Module 7

(insert 106-161)