



AGE MANAGEMENT MEDICINE

SAFELY NAVIGATING THE RISKS AND
BENEFITS OF HORMONE THERAPY

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Age Management VS “anti-aging” – What is it?

- Term is confusing, ill-defined and misunderstood
- A medical intervention program to allow a longer “healthspan”, not just lifespan
- “Quality of Life” medicine

Aging – a “natural” process?

- Diminished capacity for cellular protein synthesis (tissue repair)
- Decline in immune function
- Loss of muscle mass = decreased strength
- Increase in body fat mass, especially abdomen
- Decrease in bone density

Age Related Disability

- Weakness, muscle atrophy (loss)
- Impaired mobility
- Poor strength, endurance
- Loss of energy
- Loss of desire/libido
- Activity results in pain = Less active lifestyle
- Osteoarthritis → painful joints

Age Related Physical Frailty

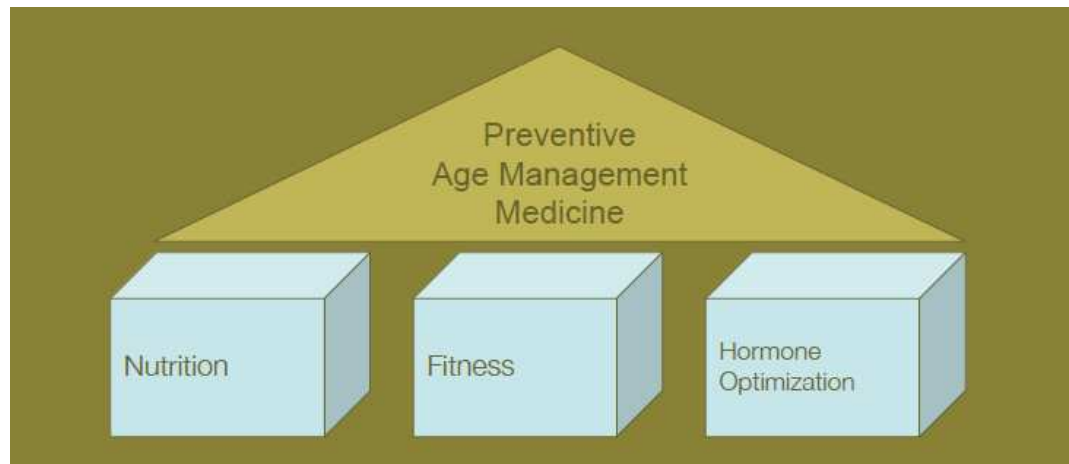
- Falls
- Fractures
- Impairment of activity
- Loss of independence
- Chronic Debility
- Poor quality of life

Goals of Age Management Medicine

- Increase health span, not just life span
- Who wants to live forever with debility, chronic illness, or cognitive impairment
- Quality of life, not quantity of life
- Increase lifespan if:
 - Strong and vigorous
 - Happy, content, creative
 - Healthy and motivated

Age Management Medicine Incorporates the Best Science Regarding:

1. Nutrition (Diet, supplements, vitamins)
2. Exercise (medical fitness/lifestyle change)
3. Hormone Optimization



Age Management Medicine is:

- Evidence Based Medicine (EBM)
- Well documented in peer reviewed journals
- Preventive medicine
- Not “alternative” medicine

Simply put, instead of treating disease:

- Coronary Heart Disease
- Cancer
- Dementia
- Diabetes
- Arthritis
- Osteoporosis
- Loss of Libido
- Immune system compromise

Prevent these diseases from occurring: FitMed = Preventive Age Management



Let's Talk about HORMONES



- IMHO: The essential foundation for preventive age management therapy is Hormone Optimization Therapy (H.O.T.)

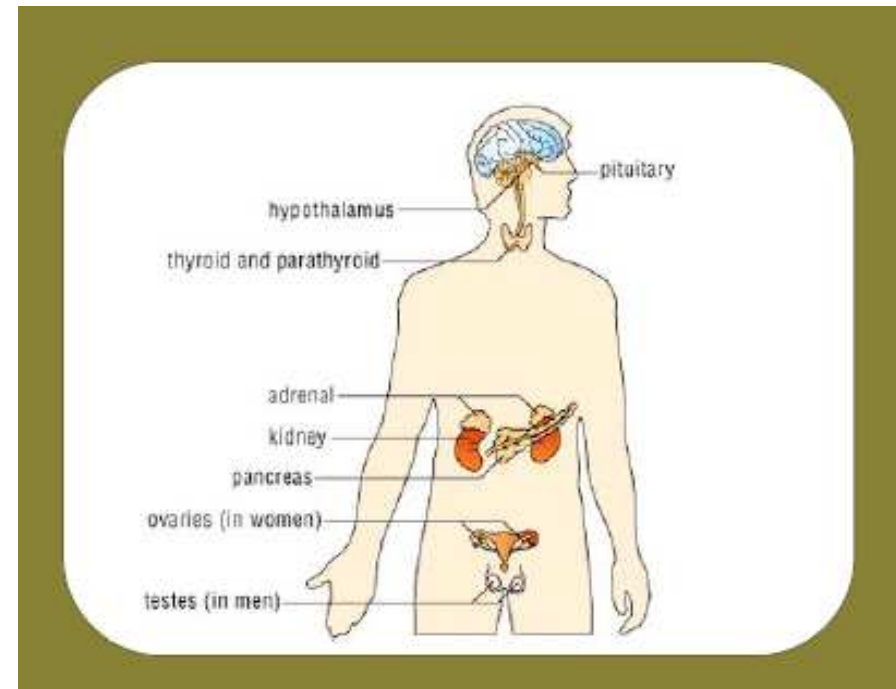
Optimization of Hormones:

- Prevent symptoms of aging
- Significantly improves morbidity/mortality
- Enhances quality of life
- Preserves independence

**Balanced Hormone Therapy = Preventive
Medicine**

Hormones: Which Ones?

- “Sex Hormones”
 - Estrogen
 - Progesterone
 - Testosterone
- Thyroid
- “Vitamin D”
- DHEA
- Melatonin
- Pregnenolone
- HGH – Human Growth Hormone*



BHRT and BHRT

- BHRT=Bioidentical Hormone Replacement Therapy
- BHRT=Balanced Hormone Replacement Therapy
- All hormones restored to levels of 25-30 year old and monitored and adjusted by regular blood testing
- All hormone therapies should provide natural, bio-identical hormones

Bio-Identical Hormones: What are they?

- Chemically identical to hormones produced by humans
- Not xeno (plant) hormones or horse hormones
- Are extracted and synthesized from plants (soy, yam)
- Some produced by DNA recombinant synthesis (hGH)
- NOT patentable by PHARMA!



“Synthetic” Hormones: What are they?

- Chemically modified to allow better absorption
- Provera®
- Frequently obtained from non-human sources
- Premarin® = Pregnant Mare Urine
- Contain metabolites that result in increased health risks
- Are patentable (\$\$\$) by PHARMA

Common Misconceptions about Bio-Identical Hormones

- They are “naturally” produced by plants. (yes, but – Diosgenin)
- They are best used as creams/pellets. (route of administration is critical depending on the individual)
- They are obtained over the counter. (pharmaceutical grade hormones require physician prescription)



What do “Hormones” do?

- Chemical messengers, produced within the body, that send messages to other parts of the body (“receptors”)
- Plants produce phytohormones
- Animals produce hormones transported by bloodstream (endocrine system)

Loss of Estrogen results in:

- Urogenital atrophy → incontinence
- Sagging skin and breasts
- Increased wrinkles on face
- Mood swings, depression
- Fatigue
- Loss of libido

Estrogen Protects against Disease

- Heart Disease, Stroke
- Colon Cancer
- Osteoporosis
- Urinary tract infections
- Alzheimer's disease
- Macular degeneration. Cataracts

Hormones: Estrogen

- Primarily secreted by the ovaries
- Protects against heart disease, stroke, Alzheimer's disease, osteoporosis
- Protects against vaginal atrophy, urinary incontinence
- Prevents menopausal hot flashes and night sweats
- Preserves balance, preventing falls

Hormones: Estrogen Replacement

- Replace primarily estradiol (E2) – Estrace®
- Oral vs. transdermal forms – Vivelle®
- Biestrogen= estradiol (E2) + estriol (E3)
- Vaginal delivery – Estrin®[®], Femring®



Hormones: Progesterone

Progesterone is important in:

- Menopausal women
- Perimenopausal women
- Premenopausal Women
- Pregnant women

i.e. – ALL women!

Progesterone

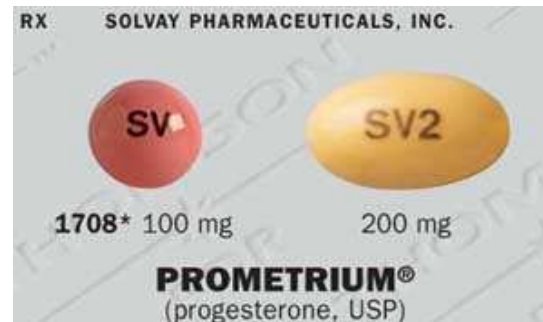
- Secreted by the ovary only; menopausal women levels = 0
- Has many health benefits
- The “Feel Good” Hormone – “Progestational”
- **ALL** menopausal women should be given progesterone – uterus or not
- IMHO: No menopausal women should be given MPA, (Provera, Prempro)

Progesterone

- Protects against uterine and breast cancer, osteoporosis, fibrocystic disease, and ovarian cysts
- Dramatically reduces menopausal symptoms
- Most U.S. physicians prescribe synthetic progestins which cause bloating, headaches, fatigues, weight gain

Hormones: Progesterone replacement

- Oral micronized progesterone significantly improves sleep
- Sublingual triturates may be compounded and will raise blood levels without drowsiness
- Creams are generally ineffective in providing satisfactory blood levels.



Testosterone

- Secreted by testes, adrenal glands, and ovaries
- Increases muscle mass, strength and endurance, decreases body fat, increase exercise tolerance, enhances well-being
- Protects against cardiovascular disease, hypertension, body fat, arthritis
- Increases bone density, decreases cholesterol

Testosterone

- Increases skin tone and thickness
- Increases libido and sexual performance in men and women
- Used to treat FSD in women
- Improves healing, tissue repair, “recovery”
- Improves cognition, memory

Testosterone

- Lowers insulin resistance, metabolic syndrome
- Decreases all harmful cardiovascular risk factors
- Increases all beneficial cardiovascular risk factors
- No drug does all this and improves quality of life

Testosterone Replacement

- Patches: may cause skin problems, adherence
- Androgel® 1%, 10 mg/gm, more \$\$
- Lipoderm Gel –100 mg/gm
- Injectables: Weekly, simple, painless
- Oral: concern with liver toxicity
- Pellets: Replace every 3 months, costly, implanted procedure, absorption variable



Thyroid Hormone

- Produced by thyroid gland that regulates:
 - Temperature
 - Metabolism
 - Energy levels – MCC of fatigue in women
- “Subclinical hypothyroidism” – normal lab tests, but still have symptoms
- Fibromyalgia patients

Loss of Thyroid Hormone results in:

- Weakened, cold, tired, fatigued
- Thin hair, thin skin, thin nails
 - MCC of hair loss in women
- Weight gain, increased body fat
- Loss of energy, concentration, motivation

Thyroid Function declines three ways:

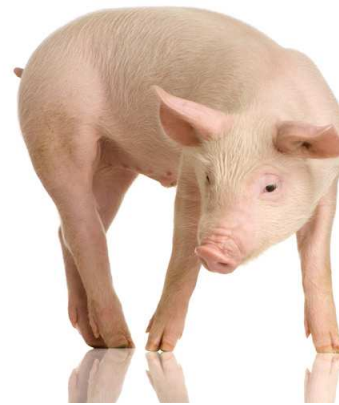
1. Decreased production by thyroid gland (TSH increased)
2. Decreased conversion to T3 (TSH normal)
3. Decreased receptor sensitivity (TSH, T3, T4 “normal”)

Low T3 Syndrome

- Low T3 (Triiodothyronine) at cell level is responsible for symptoms
- Not TSH, not T4 – Typical Lab Testing
- Measure FREE T3!
- A.C.E. paradox: when do you treat?

Thyroid Replacement

- T4 Only - Synthroid®
- T3 Only - Cytomel®
- T4 and T3 - Armour®
- Armour Thyroid = Natural Thyroid



Hormones: Are they Safe?

“Fear of breast cancer is the strongest factor limiting post menopausal hormone use. The most powerful studies to date definitively demonstrated that estrogen use does not cause an increased risk of cancer.”

Journal of the American Medical Association, 2004

Female Hormone Safety Concerns; The “Infamous” WHI Study

- Women’s Health Initiative
- Average age of women = 63 years old
- “Estrogen” only group used Premarin®
- “Estrogen and Progestin” group used Prempro®
- Both drugs taken orally



WHI Study: Breast Cancer

- Progestin (MPA= Provera®/Prempro®) is NOT Progesterone
- MPA blocks protective breast proteins (BCRPs)
- Natural Progesterone enhances BCRPs
- Only those women taking Prempro® showed increased risk of breast cancer
- Study stopped in 2002 because of this issue

WHI Study: Heart Disease/Blood Clots

- Women taking oral estrogen early in menopause have greatest cardiovascular protection
- Women taking oral estrogen late (greater than 10 years after menopause) have increased risk of CV disease the first year

WHY?

- Oral estrogen prevents endothelial plaque if started early – liver enhances esterification of FFAs
- Oral estrogen destabilizes established plaque in older women – ↑ MMPs via liver metabolism

WHI Study: Take Away Messages

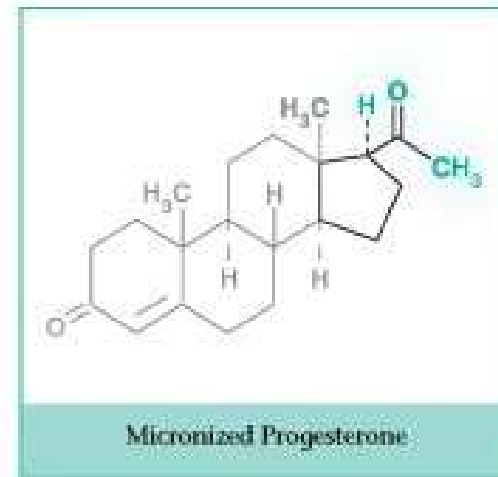
- Best protection afforded when HRT started early in menopause
- Women at high risks (> 60 yrs., > 10 years since menopause, history of clot) should take transdermal estrogen (patch/cream)
- No women should be taking Provera®/Prempro®
- All women should be taking micronized progesterone with the estrogen

WHI Study: Take away Message

Prempro® ≠ Micronized Progesterone



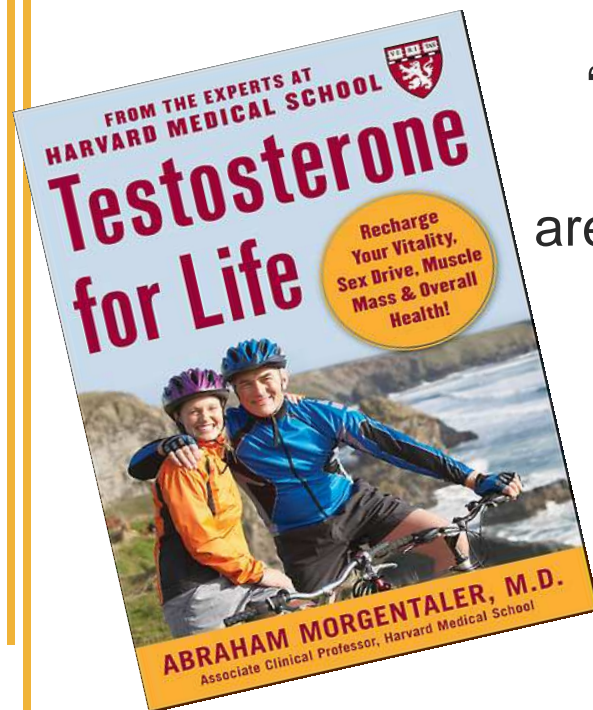
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Male Hormone Safety Concerns: Prostate

“None of the 12 longitudinal population based studies found any increased risk of prostate cancer in men with higher levels compared to men with lower levels of testosterone.”

New England Journal of Medicine, 2004



“It is a tragedy that so many men with low Testosterone are never diagnosed or treated.”

*Abraham Morgentaler, MD, FACS
Harvard Medical School
2009*

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Natural Hormone Replacement Therapy: The Evidence

- Many physicians resist concept of bio-identical hormone replacement therapy citing “Lack of Evidence” or “No long term studies”

WHAT?

The Evidence: Estrogen

“Estrogen deficiency greatly increases mortality from cardiovascular disease and osteoporosis. Over 90% of women will die from cardiovascular disease which estrogen can prevent. Over 40 years of study have well documented the cardiovascular protective effects of estrogen.”

Obstet Gynecol, 1996

“Estrogen reduces the incidence of Alzheimer’s disease by 50%.”

Journal of the American Medical Association, 2002

“Estradiol and progesterone (BHRT) demonstrated no increased risk of breast cancer. Synthetic estrogen and progestins all dramatically increased the risk of breast cancer.”

Breast Cancer Res Treat, 2007

The Evidence: Progesterone

“Progesterone should be administered to all women, hysterectomy or not.”

Infertility and Reproductive Medical Clinics of North America, 1995

“Natural estrogen and progesterone offer substantial clinical benefit over the synthetic hormones and should be the agents of choice for menopause.”

Obstetrics Gynecology, 1989

The Evidence: Testosterone

“Low testosterone levels increase cardiovascular disease. High testosterone levels protect against cardiovascular disease.”

Diabetes Metabolism, 1995

“Testosterone levels have nothing to do with causing prostate cancer.”

Cancer, 1999

“Higher testosterone levels increase cognition and memory.”

Neurology, 2005

“Men with low values of testosterone have the highest risk of mortality.”

J Clin Endocrinol Metab. 2009



The Evidence: Thyroid

“Patients that took a combination of T4/T3 (Armour) experience better mood, energy, concentration, and memory and improved well-being. Patients on just T4 (Synthroid) experienced no change.”

New England Journal of Medicine, 1999

“Thyroid levels should be raised to the upper normal range for a young person. This results in optimal cognition, memory, cerebral function.”

Journal of Gerontology, 1999

* Human Growth Hormone (hGH)

- Probably the most controversial and misunderstood hormone
- The “healing hormone”
- Strict FDA guidelines: short stature in children, adult acquired GH deficiency
- Daily subcutaneous injection
- At present, quite costly (\$\$\$)

Balanced Hormone Replacement Therapy

Summary

- All hormones returned to 25-30 year old levels and monitored by regular blood testing
- Utilize only natural, bioidentical hormones that have a clinically proven safety profile
- The sooner, the better – BUT, advantageous at any age
- Provides the foundation for a preventive age management program



THANK YOU

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QUESTIONS and ANSWERS



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Preventive Age Management

Bioidentical Hormone Therapy Male

Bioidentical Hormone Therapy Female 49

