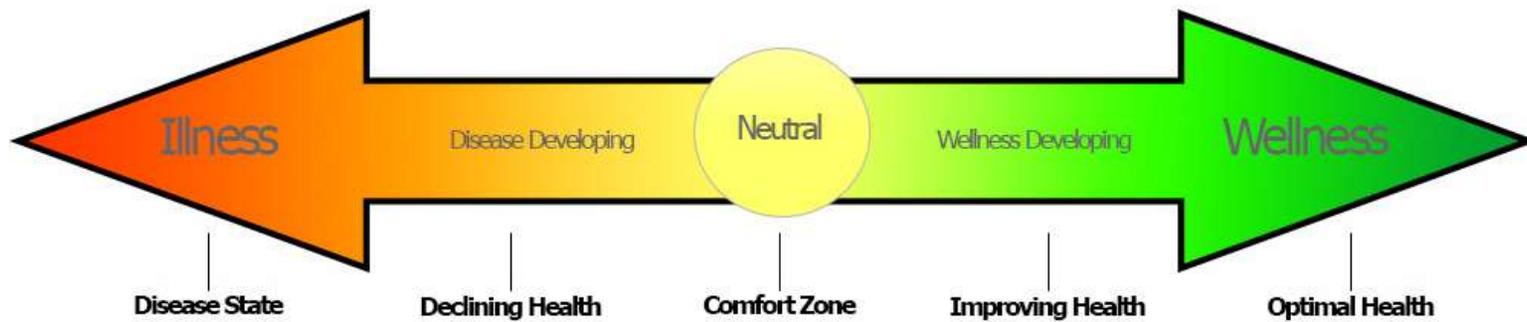


# Revital Men Health Through Optimal Hormones

Our goal is to prevent the preventable and delay the inevitable, which is done by



# ILLNESS-WELLNESS : *Paradigm Shift*

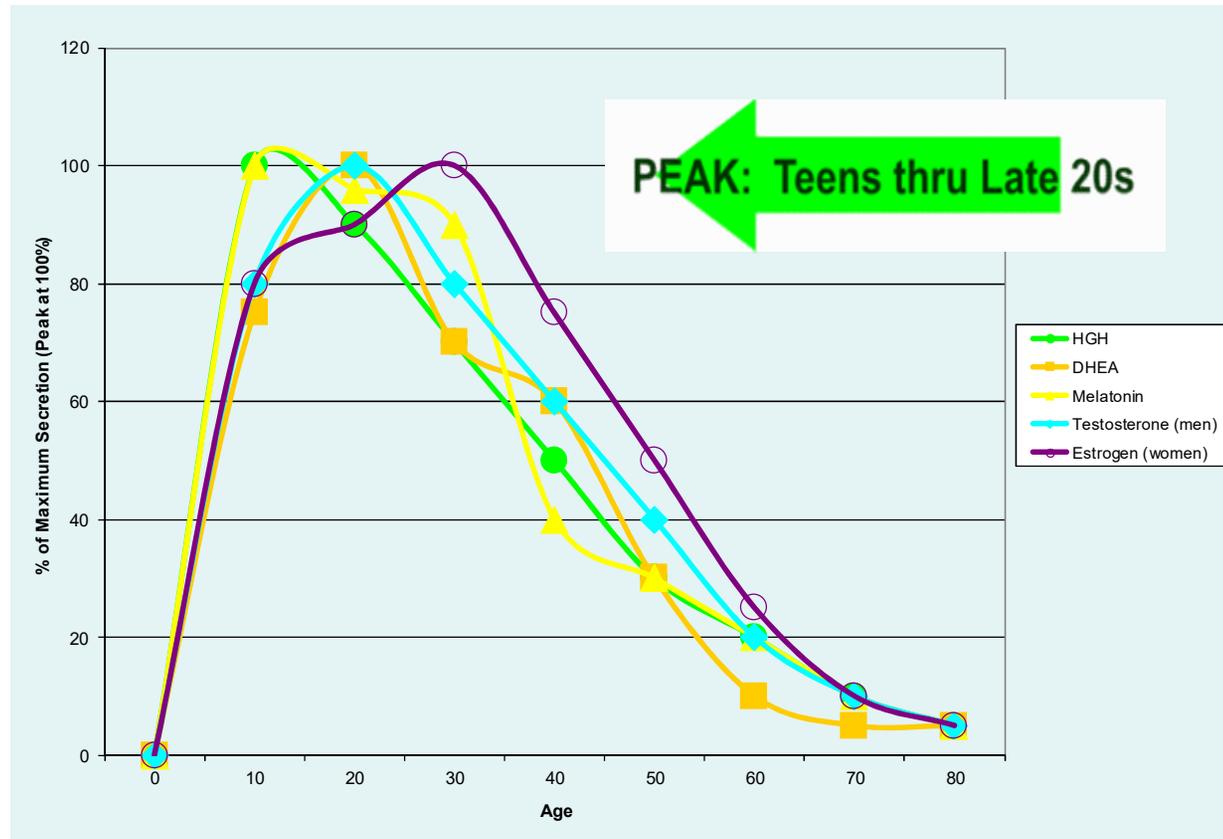


# HORMONE BALANCE is one of the foundation of Wellness

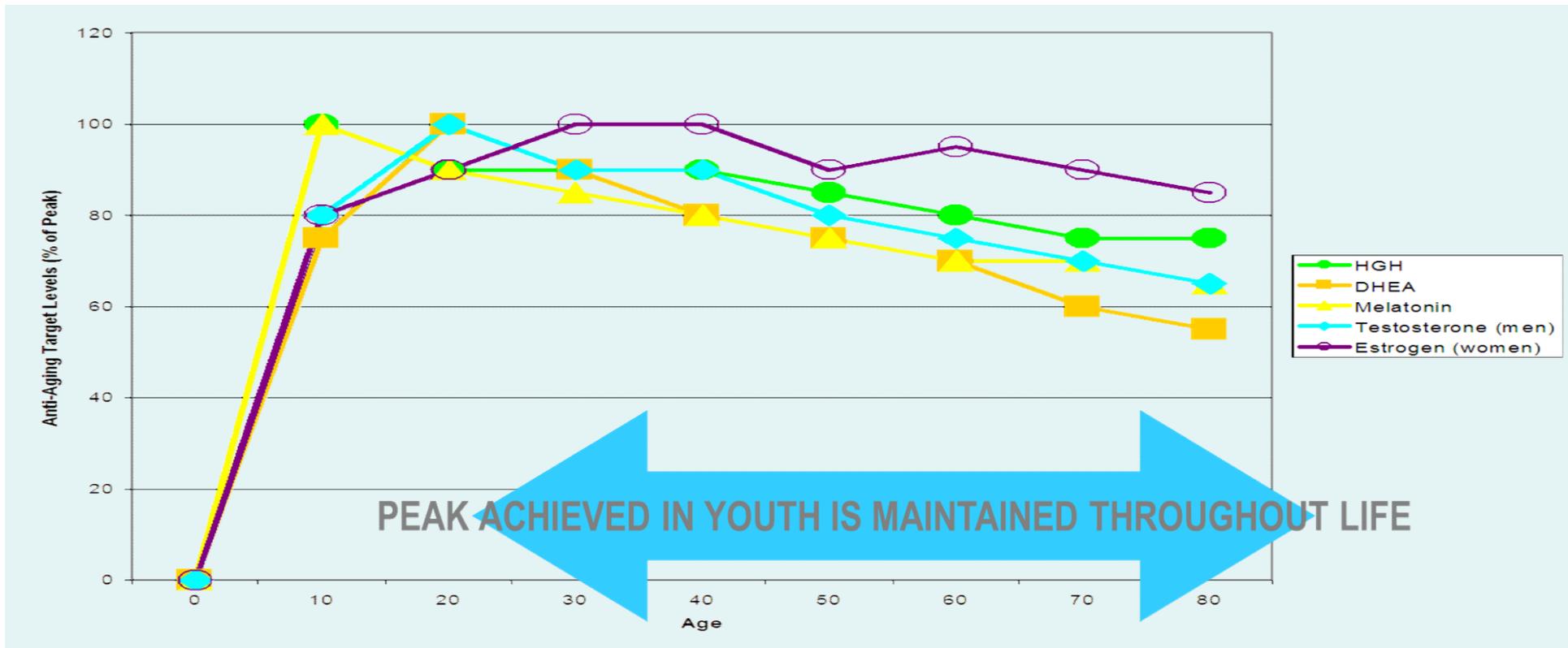
- **Optimal Hormone level lead to Optimal Health**
- **Optimal Hormone level had Protective and Vitality effects**



# Hormones decline as we age



# Restoration Hormones for Vitality



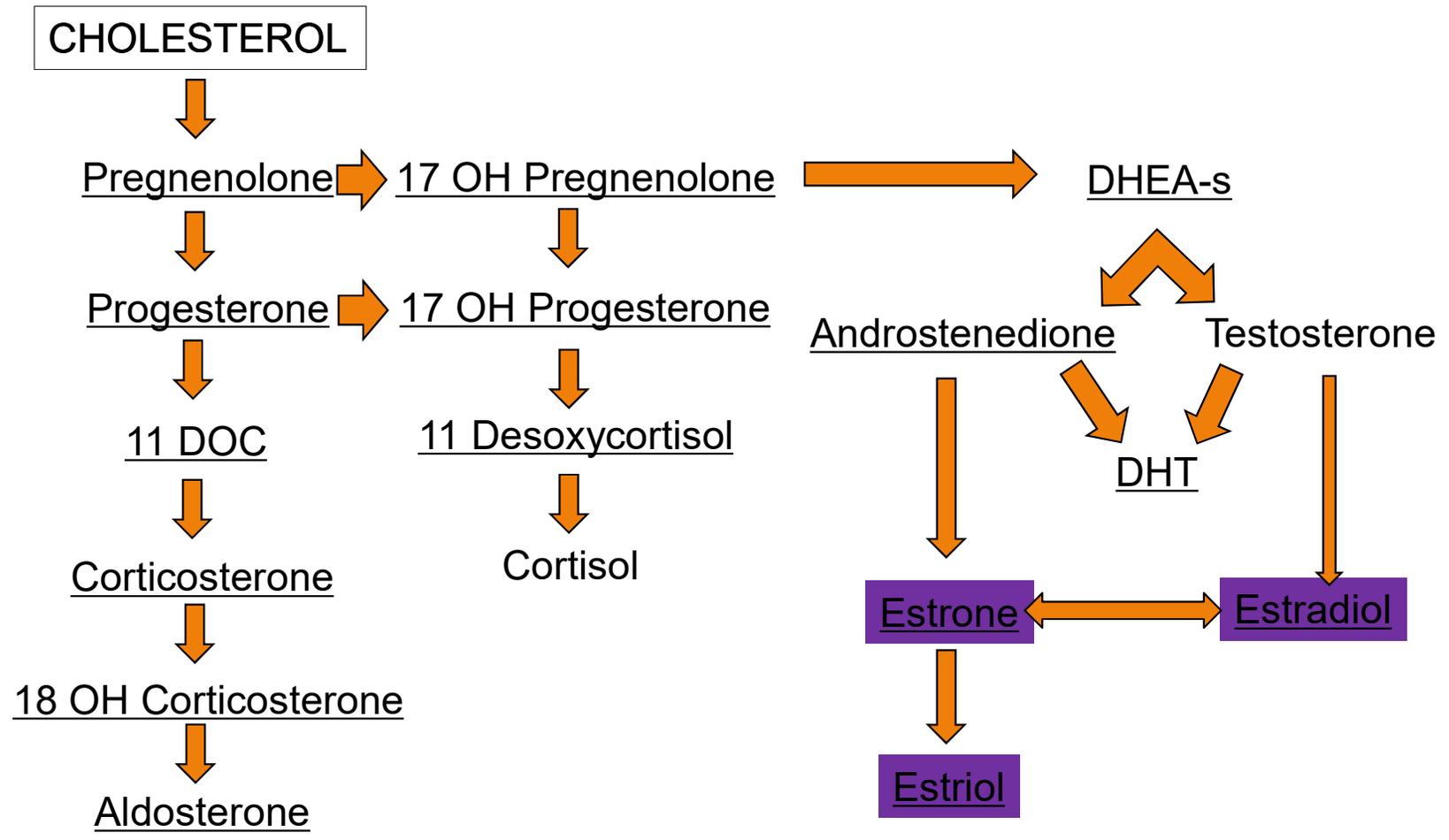


A class of regulatory biochemical produces in particular parts of organism by specific cells , gland and/or tissues, and then transport by bloodstream to other parts of the body, with the intent of influencing a variety of physiological activities such as growth, metabolism , reproduction and apoptosis

# BIOIDENTICAL HORMONES FOR VITALITY



- Growth Hormone
- Insulin
- Thyroid hormones
- Parathyroid hormone
- Adrenal hormones ( *DHEA* , *Cortisol* )
- Male Sex hormones :  
*Testosterone, Estrogen, Progesterone*
- Serotonin and Melatonin



# BIOIDENTICAL HORMONES SUPPLEMENT AND/OR REPLACEMENT

- **Natural, not synthetic agents**
- **Bioidentical to Hormones that utilized in human body**
- **Optimal dosing, not supra-physiologic dosing**
- **Multiple hormones supplement for balancing ( not overriding)**
- **Regular schedule of consultation follow-up, including labs testing, to monitor outcome and safety**



## ‘MULTIPLE HORMONES DEFICIENCY’ THEORY OF AGING



- In the human body, the productions, levels and cell receptors of most hormones progressively decline with age.
- In aging, the well- balanced endocrine system can fall into a chaotic condition with losses, phase advancements, phase delays, unpredictable irregularities of hormone cycles, in particular in very old or sick individuals.
- Multiple hormone deficits and spilling through desynchronization constitute the major causes of human senescence, and they are treatable causes.

***“Hormones for HEAL not for CURE “***

Ann N Y Acad Sci. 2005; 1057: 448-65.

## IS HUMAN SENESENCE CAUSED MAINLY BY MULTIPLE HORMONE DEFICIENCIES?



- Many signs, symptoms and diseases (cardiovascular diseases, cancer, obesity, diabetes, osteoporosis, dementia, skin aging) of senescence are similar to consequences of hormone deficiencies and may be caused by hormone deficiencies.
- Causes of senescence such as excessive free radical formation, glycation, cross-linking of proteins, imbalanced apoptosis system, accumulation of waste products, failure of repair systems, deficient immune system, may be caused by hormone deficiencies.
- “Well-dosed and balanced hormone supplements may slow down or stop the progression senescence and may reverse or even cure them

Ann N Y Acad Sci. 2005; 1057: 448-65.

# OPTIMIZING HORMONES FOR VITALITY BEING WELL THE NATURAL WAYS

## Life style change

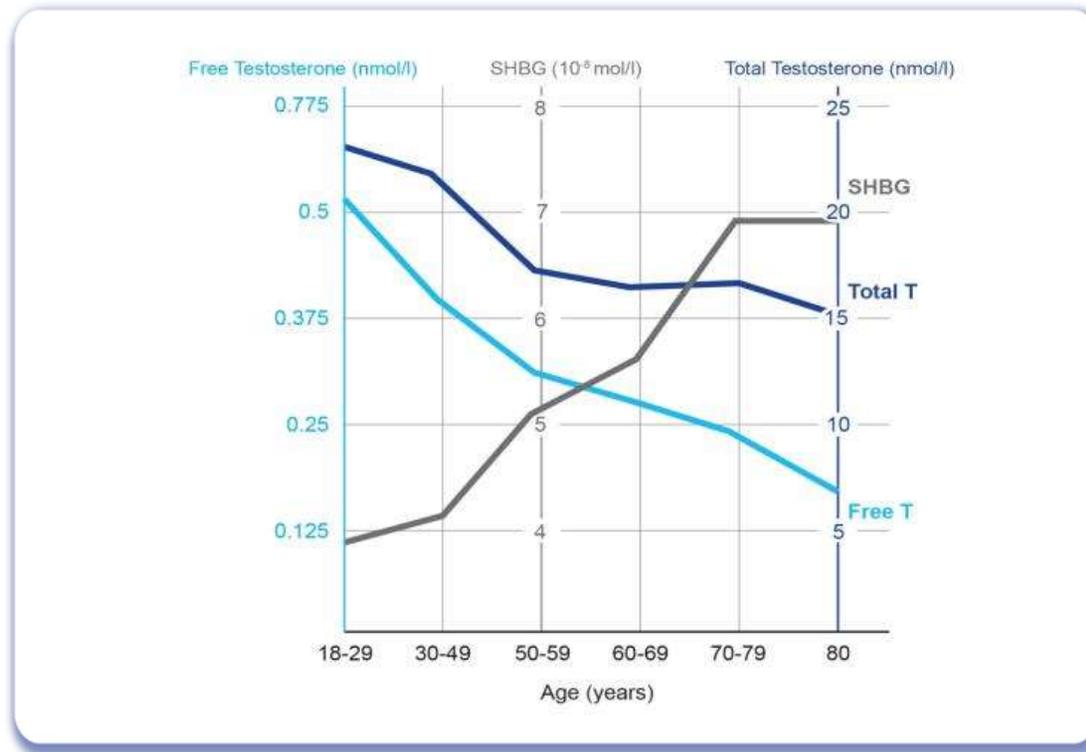
- Maintaining a healthy weight and BMI
- Exercise regularly
- Sleep well / Stress free
- Relaxation response techniques
- Healthy diet with lot of antioxidants

## Antiaging & Rejuvenation

- Bioidentical hormones therapy
- Antioxidant/Micronutrients/Herbal remedies



## Age-related decline in testosterone



Harman SM, et al. *J Clin Endocrinol Metab.* 2001 Feb;86(2):724-31.

# Clinical Features of Testosterone deficiency

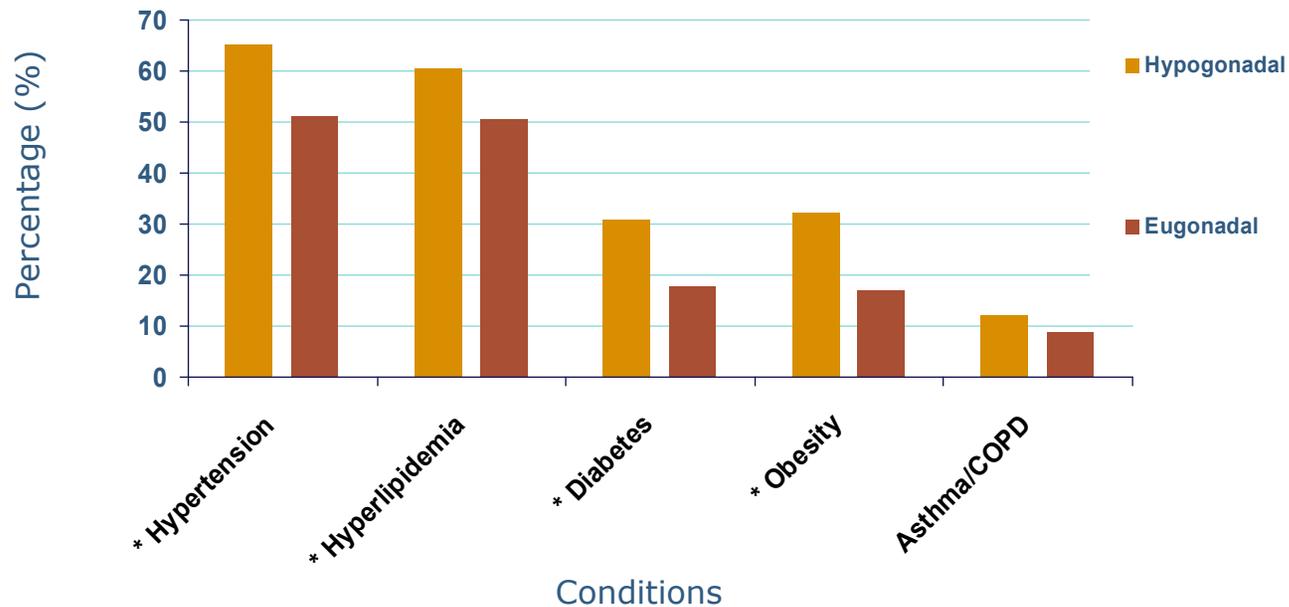
## Signs and Symptoms

- **DECREASE LIBIDO**
- **ERECTILE DYSFUNCTION**
- Regression of secondary sexual characteristics
- Oligospermia / azoospermia
- **INCREASE VISCERAL FAT**
- Sweating
- Decrease in muscle mass and strength
- Decrease in bone density & increased risk of fracture
- **FATIGUE**
- Loss of sense of well-being
- **DEPRESSED MOOD**

**Plymate S.** *In Androgens in Health and Disease.* 2003: 45-76.  
**Tenover JL.** *Endocrinol Metab Clin North Am* 1998; **27**: 969-987.

# Co-Morbidities Occur More Often in Men WITH Testosterone deficiency (HIM Study)

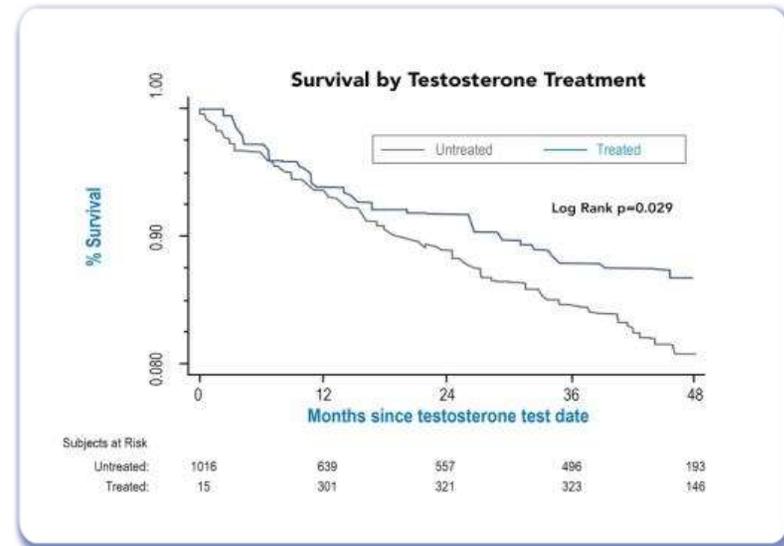
Data from 2165 men aged  $\leq 45$  yrs seen in primary care practice



Mulligan T, Frick MF et al. *Int J Clin Pract.* 2006; **60**:762-769.

## Testosterone Therapy and Mortality

- Observational cohort of 1,031 males >40 years old
- Testosterone treatment was associated with **LONGER SURVIVAL TIME** compared with no testosterone treatment
- Overall mortality in testosterone-treated men compared with untreated men was 10.3 and 20.7% ( $P < 0.001$ ).



## Bioidentical Testosterone Therapy

- Optimally, testosterone therapy should:
  - raise circulating testosterone levels to **optimal physiologic level**
  - provide a daily testosterone release similar to normal endogenous production
  - reproduce fluctuations that match the **circadian rhythm**
  - deliver serum testosterone that can be converted at tissue level to its metabolites at the desired concentrations
  - have **little or no negative effects** on the prostate, liver, lipid profile, or cardiovascular system
- **Convenient**
  - **Enable flexible dosing** and, if required, be possible to **easily/rapidly discontinue**

## Testosterone Therapy: Testosterone Values

### 2010: US Endocrine Society

- Substitution required with levels below

TT = 300 ng/dl (10.4 nmol/L)

FT = 50 pg/dl (0.17 nmol/L)



## TRT: For whom?

- TRT is indicated in men diagnosed as hypogonadal and in whom no contraindications exist
  - Diagnosis should be based on the presence of signs/symptoms of T deficiency and unequivocally low serum T levels
- TRT is contraindicated in men with:
  - prostate cancer
  - PSA > 4 ng/ml
  - breast cancer
  - severe sleep apnoea
  - haematocrit > 50%
  - severe lower urinary tract symptoms due to BPH
  - As TRT may suppress sperm production, it is not recommended in men who wish to retain fertility

## Adverse effects linked to TRT

- Erythrocytosis
- Prostate changes
- Leg oedema and worsening of heart failure
- Reduced sperm production and infertility
- Acne, oiliness of skin
- Breast tenderness
- Induction/worsening of obstructive sleep apnoea
- Gynaecomastia
- Growth of breast cancer
- Male pattern balding
- Formulation-specific effects

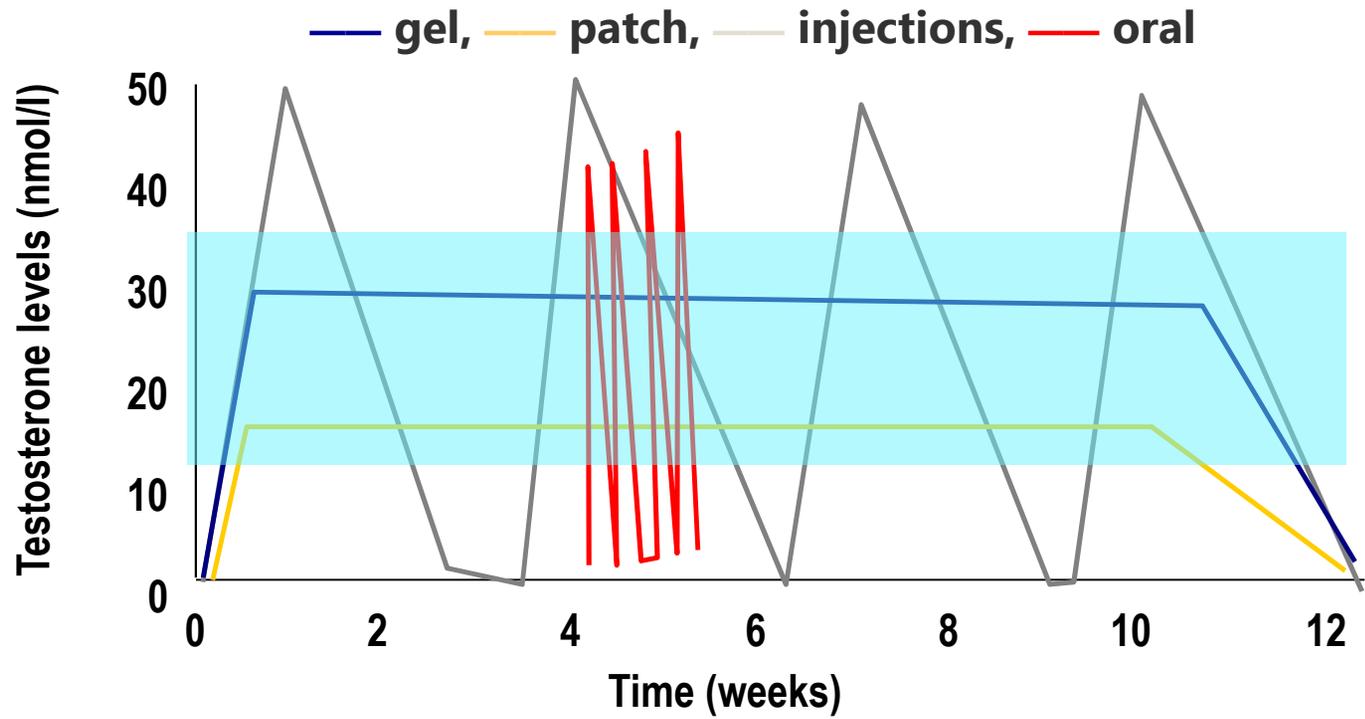
Weak evidence  
of association  
with TRT

Bhasin S, Basaria S. *Best Pract Res Clin Endocrinol Metab.* 2011; 25: 251-270. Bhasin S, et al. *J Clin Endocrinol Metab.* 2010; 95: 2536-2559.

# Available Testosterone Therapy on the Market



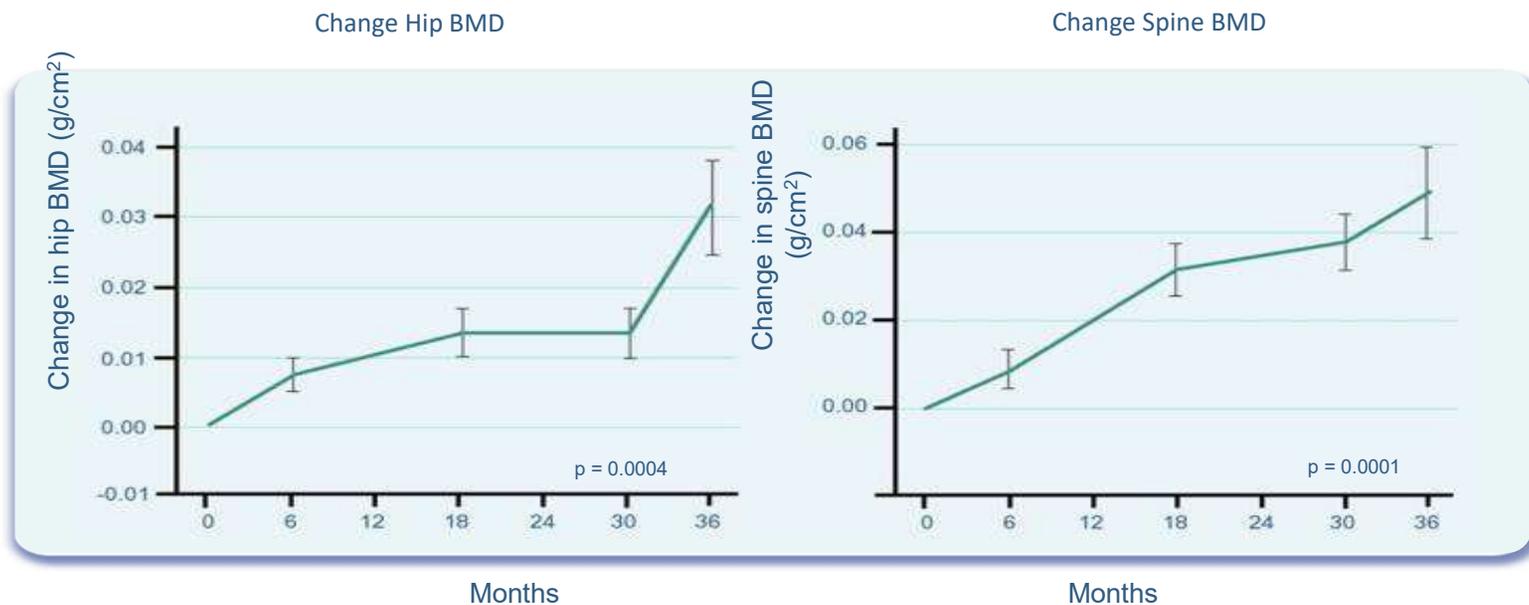
# Testosterone delivery Pharmacokinetics of actual marketed products



# Effects on Bone Mineral Density

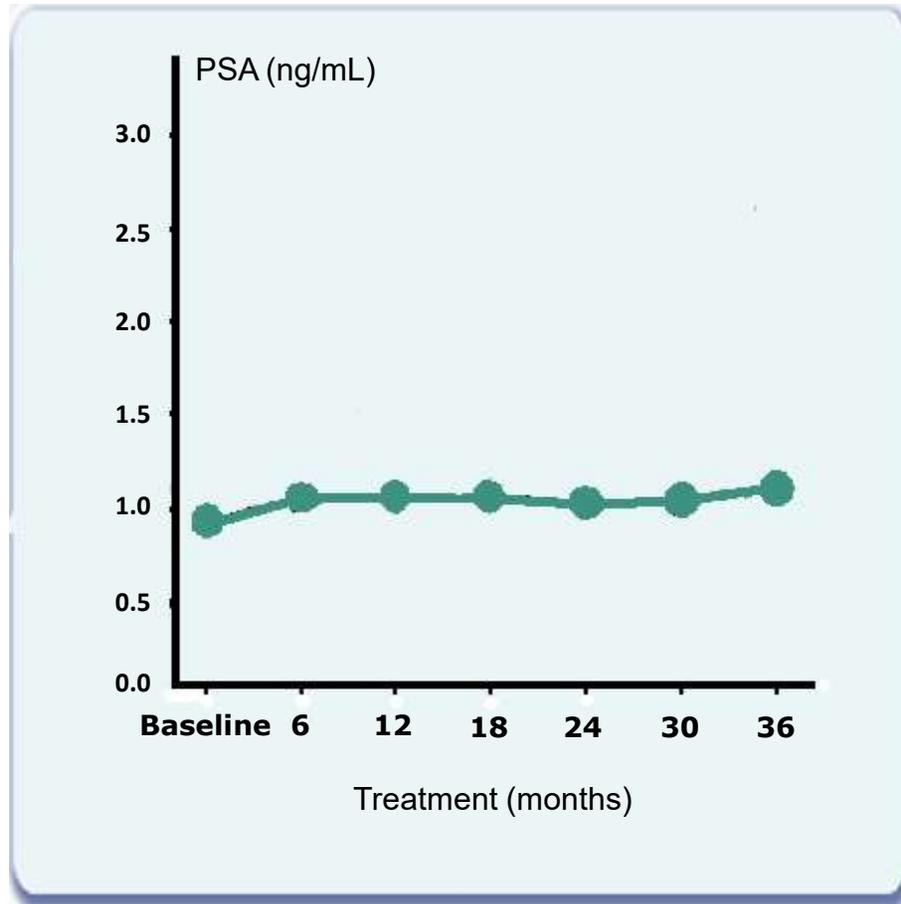
: Results from 3 Years Long-Term Study)

- **BMD showed significant gradual and progressive increase from baseline**



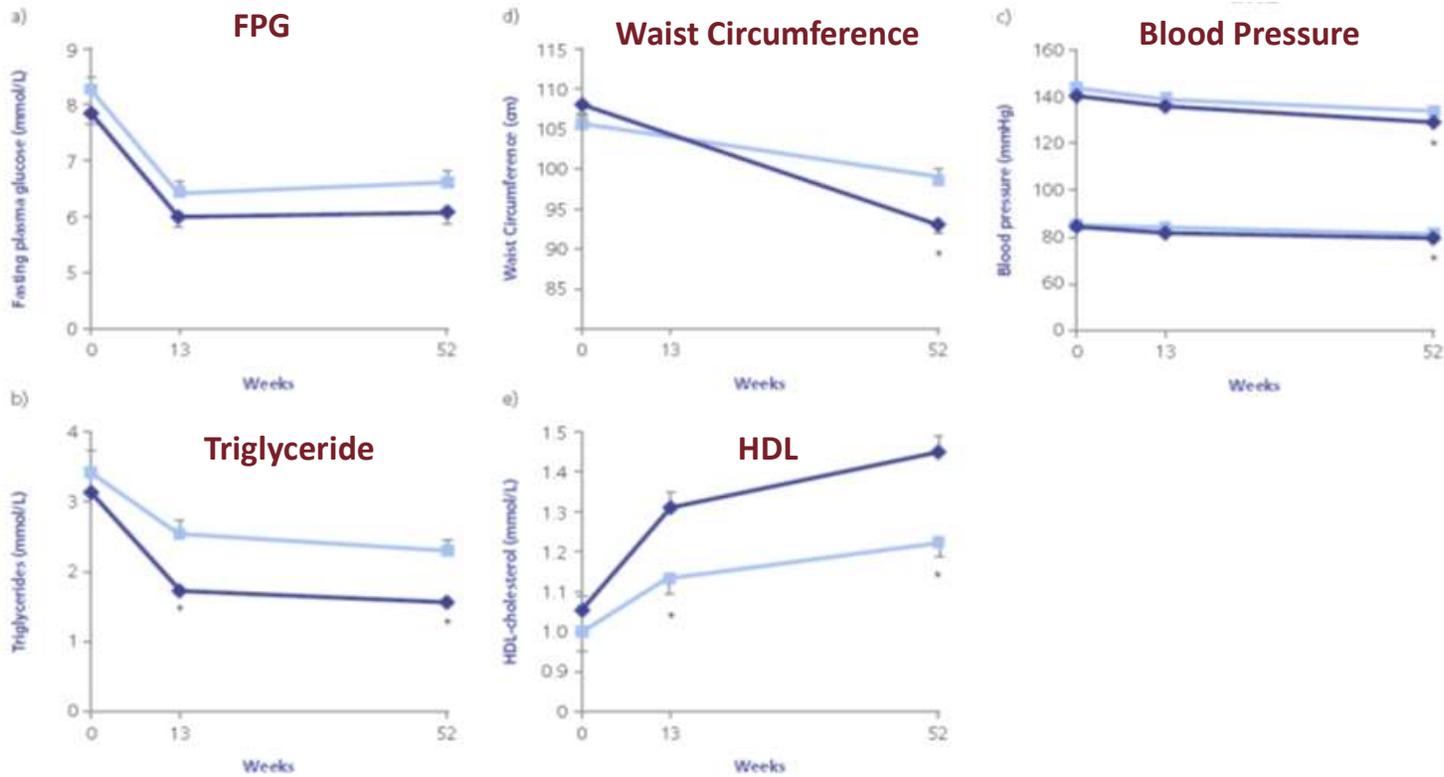
Wang C, Cunningham G et al. *J Clin Endo Metab* 2004; **89**:2085-98.

## **EVOLUTION OF Prostate Specific Antigen (PSA) by Duration of Treatment in Long-Term Study (Final)**

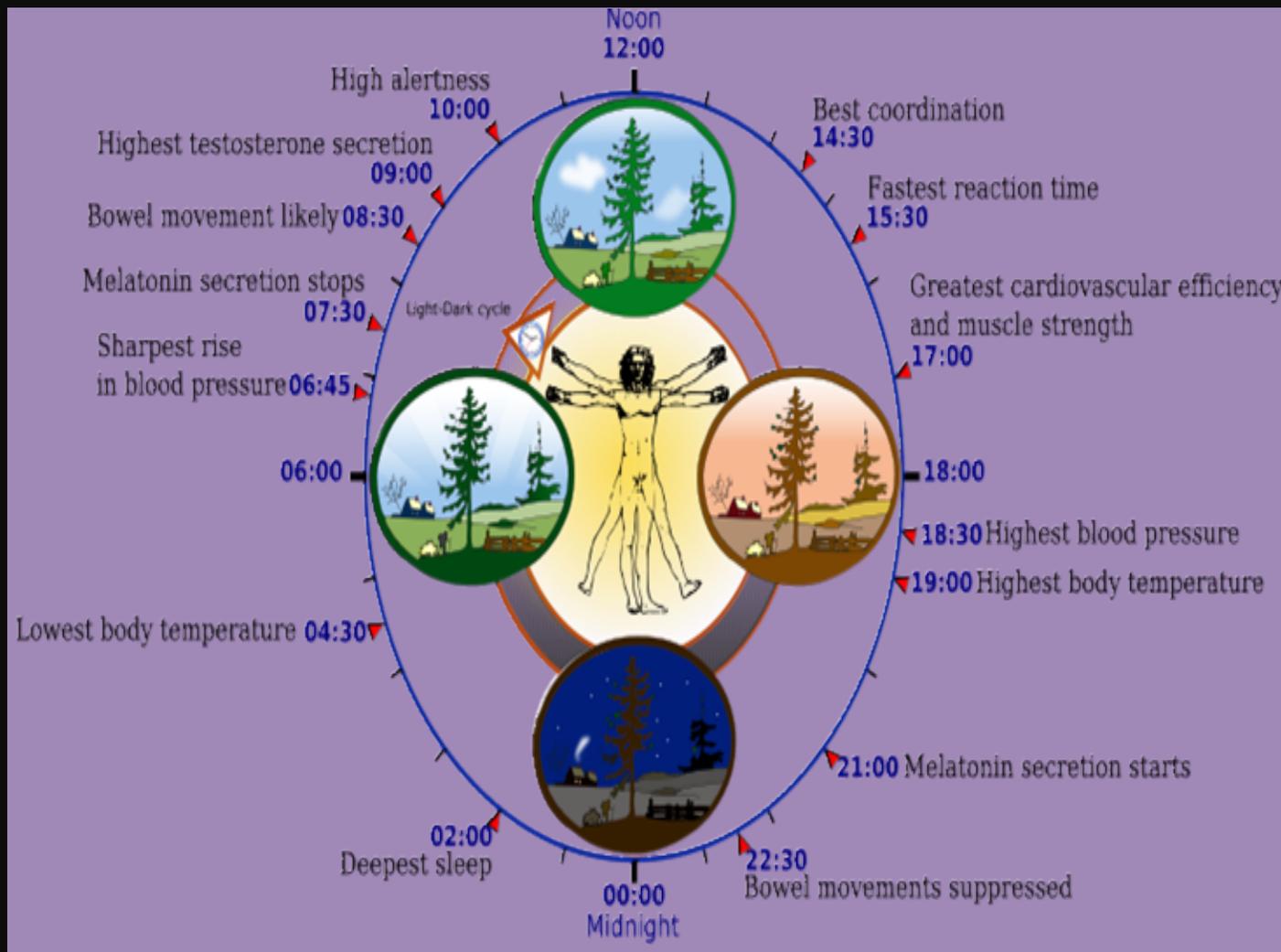


Wang C, Cunningham G *et al.* *J Clin Endo Metab* 2004; **89**:2085-98.

# Components of Metabolic Syndrome improve after 52 weeks of treatment



# THE DIURNAL BIOLOGICAL CLOCK

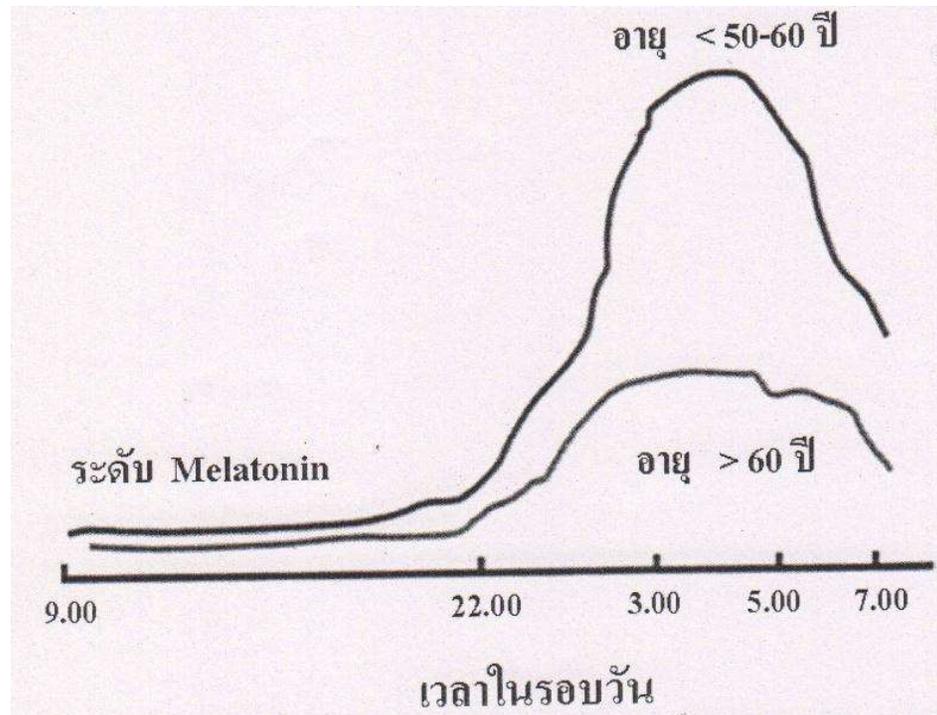


# SLEEP, RHYTHMS, AND THE ENDOCRINE BRAIN: INFLUENCE OF SEX AND GONADAL HORMONES.

Mona JA ;The Journal of Neuroscience. <sup>1</sup>*Department of Pharmacology and Experimental Therapeutics and Program in Neuroscience, University of Maryland School of Medicine, Baltimore, Maryland 21201-1559,2011*

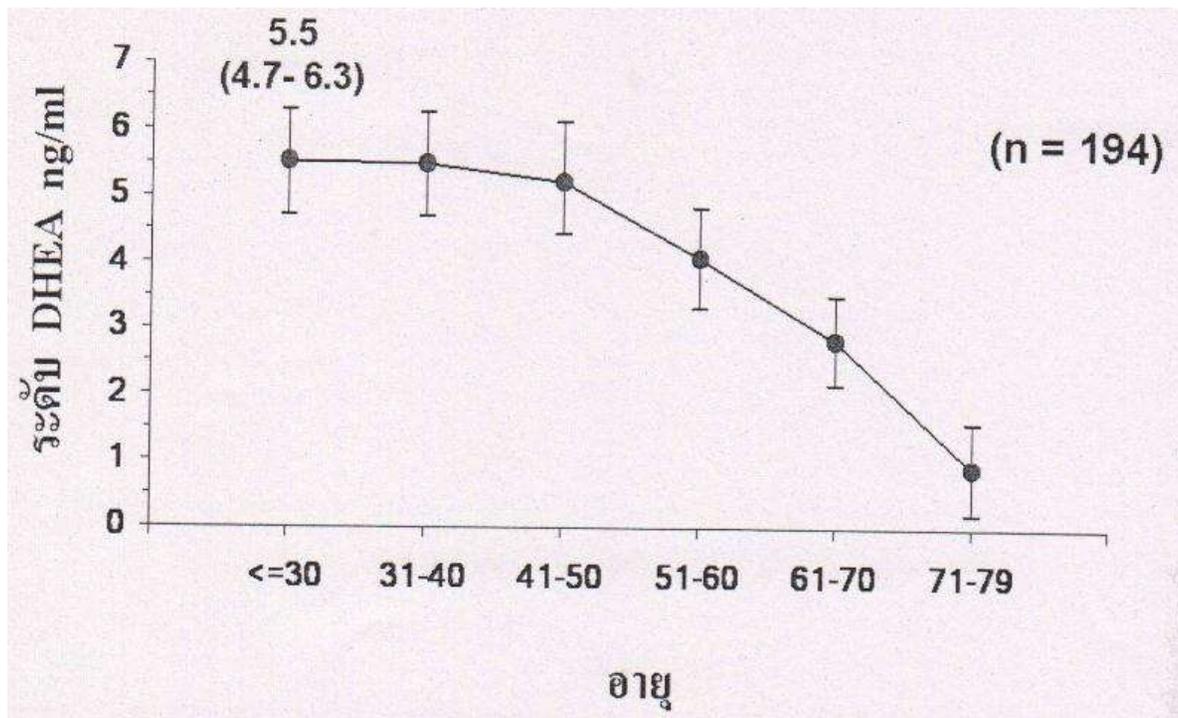
- Surprising findings that androgens, acting via androgen receptors in the master “circadian clock” within the suprachiasmatic nucleus, modulate photic effects on activity in human point to novel mechanisms of circadian control.

## Melatonin level in different age



Level of Melatonin decrease as we aged

## Level of DHEA-S decrease as we age



## SLEEP WELL WITH MELATONIN

- Immediate-release melatonin has a rapid onset to high levels and is rapidly metabolised
- Prolonged-release melatonin circumvents both the build-up of high levels and the fast clearance of melatonin by releasing it over a predefined extended period of time

