

Bioidentical Hormone Restoration Best Medical Practice

HormoneRestoration.com

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Relax: This presentation is available online.

Topics

- ✦ Bioidentical Hormones are not Drugs
- ✦ Hormone **Loss** with Age
- ✦ The Problem with Reference Ranges
- ✦ **Cortisol** and **Thyroid Deficiencies**
- ✦ **Testosterone** for Men and Women
- ✦ **Estradiol** and **Progesterone** for Menopause
- ✦ **Progesterone** prevents **Breast Cancer**
- ✦ **Pharmaceutical** Hormone **Substitution**
- ✦ Compounding Pharmacies
- ✦ What can you do?

Conventional Medicine is Pharmaceutical Medicine

- ✦ **Pharmaceutical corporations** fund all medical schools, journals, organizations, research—follow the money
- ✦ Bioidentical molecules cannot be patented
- ✦ Hormone deficiency symptoms labeled as syndromes and treated with **drugs** (depression, fatigue, fibromyalgia, anxiety disorder, PMS, insomnia, etc.)
- ✦ Doctors follow **pharma-funded** org. guidelines
- ✦ Hormone and nutrient deficiencies **misunderstood, underdiagnosed** and **undertreated**

Hormones

- ✦ The most **powerful** molecules in biology
- ✦ Parts of our integrated neuro-endocrine-immune system
- ✦ Travel via blood to all cells
- ✦ **Control** cells' proliferation, differentiation, protein synthesis, metabolic rate, etc.
- ✦ **Optimal** levels and effects are essential for **health** and **quality of life**

PITUITARY
Master Gland

HYPOTHALAMUS
Central Control

TSH

THYROID
T3, T4

ACTH

ADRENAL CORTEX
Cortisol, DHEA
Aldosterone

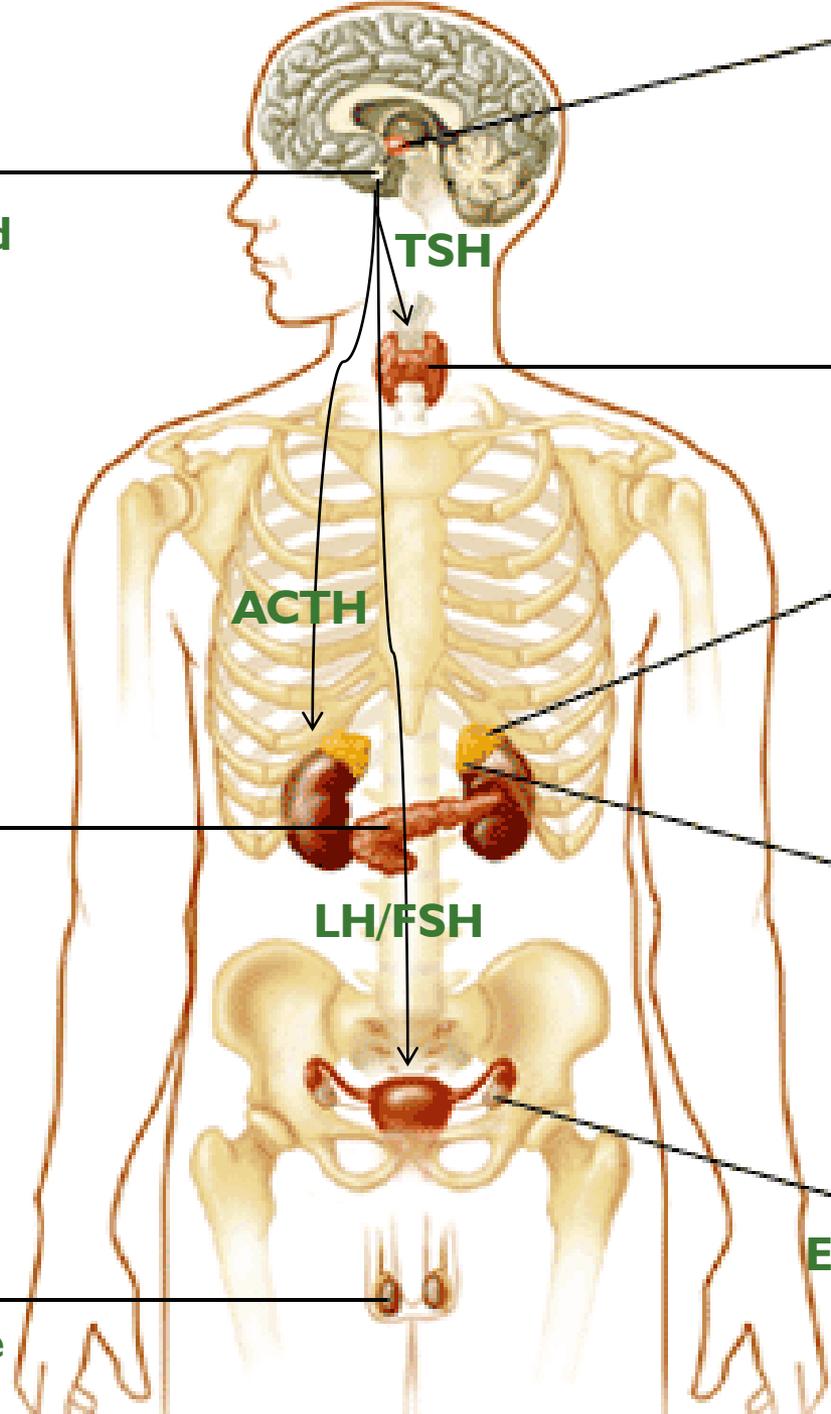
PANCREAS

ADRENAL MEDULLA
Epinephrine
Norepinephrine

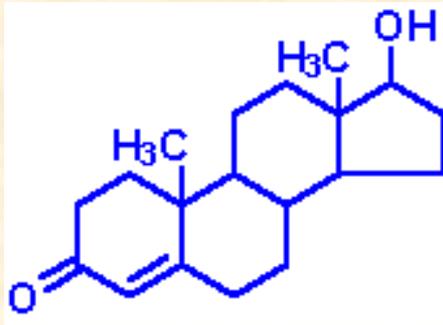
LH/FSH

OVARIES
Estradiol, Progesterone
Testosterone

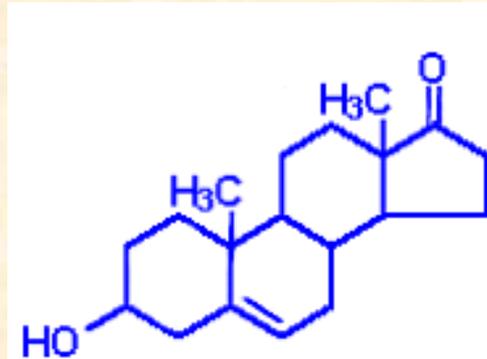
TESTES
Testosterone



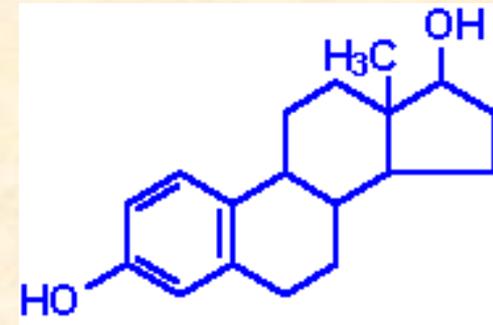
Human Steroid Hormones



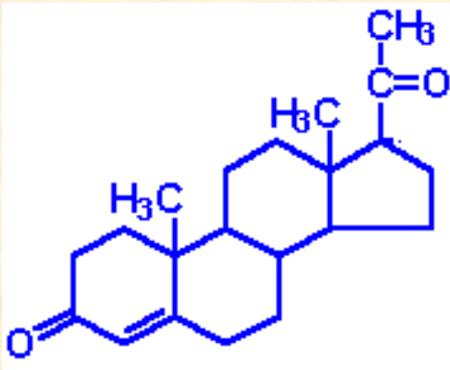
Testosterone



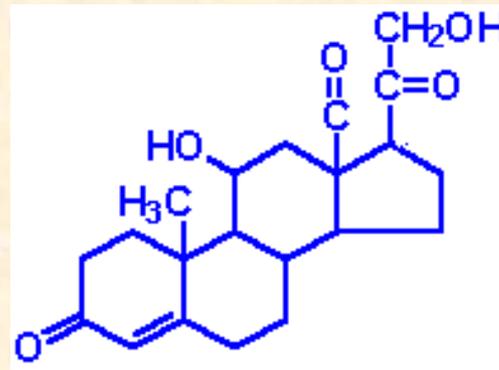
DHEA



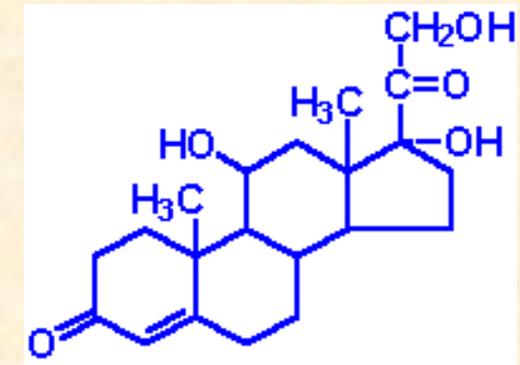
Estradiol



Progesterone



Aldosterone



Cortisol

Drug companies have patented ~5 to 200 variations of each molecule.

Bioidentical Hormones are not **Drugs**

- ✦ **Correct molecular structure**—same action at receptors, same metabolism and elimination.
- ✦ **Proper dose** determined by blood tests
- ✦ **Non-toxic:**
 - ◆ **No side effects**, only effects
 - ◆ **No interactions** with drugs
 - ◆ **No allergic reactions**
- ✦ **Safe** in youthful physiological levels/balance
- ✦ **Negative effects??** Only with **excessive** dose, **wrong delivery** method, or **imbalance** with other hormones

Bioidentical Hormone Restoration is Best Medical Practice

✦ If a hormone is missing, **replace it!**; if present but deficient, **optimize it!**

- ◆ Male hypogonadism: bioidentical testosterone
- ◆ Hypothyroidism: bioidentical T₄
- ◆ Growth hormone def.: bioidentical **GH**
- ◆ Adrenal insufficiency: bioidentical cortisol

✦ The Controversies:

- ◆ How do we diagnose **deficiency**?
- ◆ How do we decide what dose is **right**?
- ◆ What do we do about hormones lost due to **aging**?

Why Docs Don't Get It:

Reference Range Endocrinology

✦ “Normal” ranges on reports are misunderstood:

May mean

1. 2 standard deviations from the mean ~95% of **all persons tested** (only 2.5% **low**)
2. 95% of tested persons of **same age**
3. Adjudicated **optimals** (glucose, cholesterol)

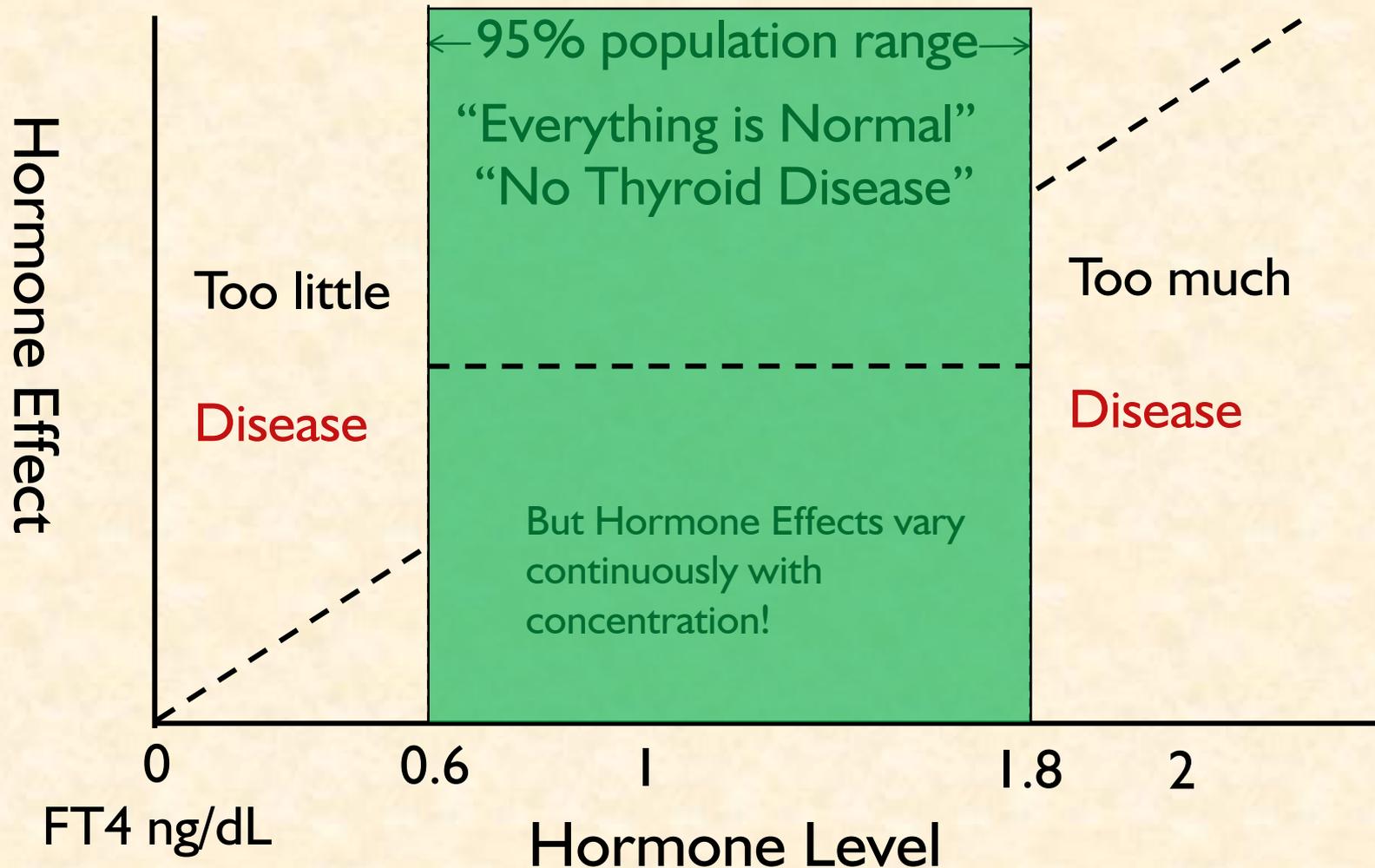
✦ Docs assume that all ranges are **optimals!**

- ◆ Male free testosterone: 35-155 **5x!**
- ◆ Female free testosterone: 0.0-2.2 ∞!
- ◆ Thyroid - Free T4: 0.6-1.8 **3x!**

✦ Ranges extend far too low to be optimal levels!

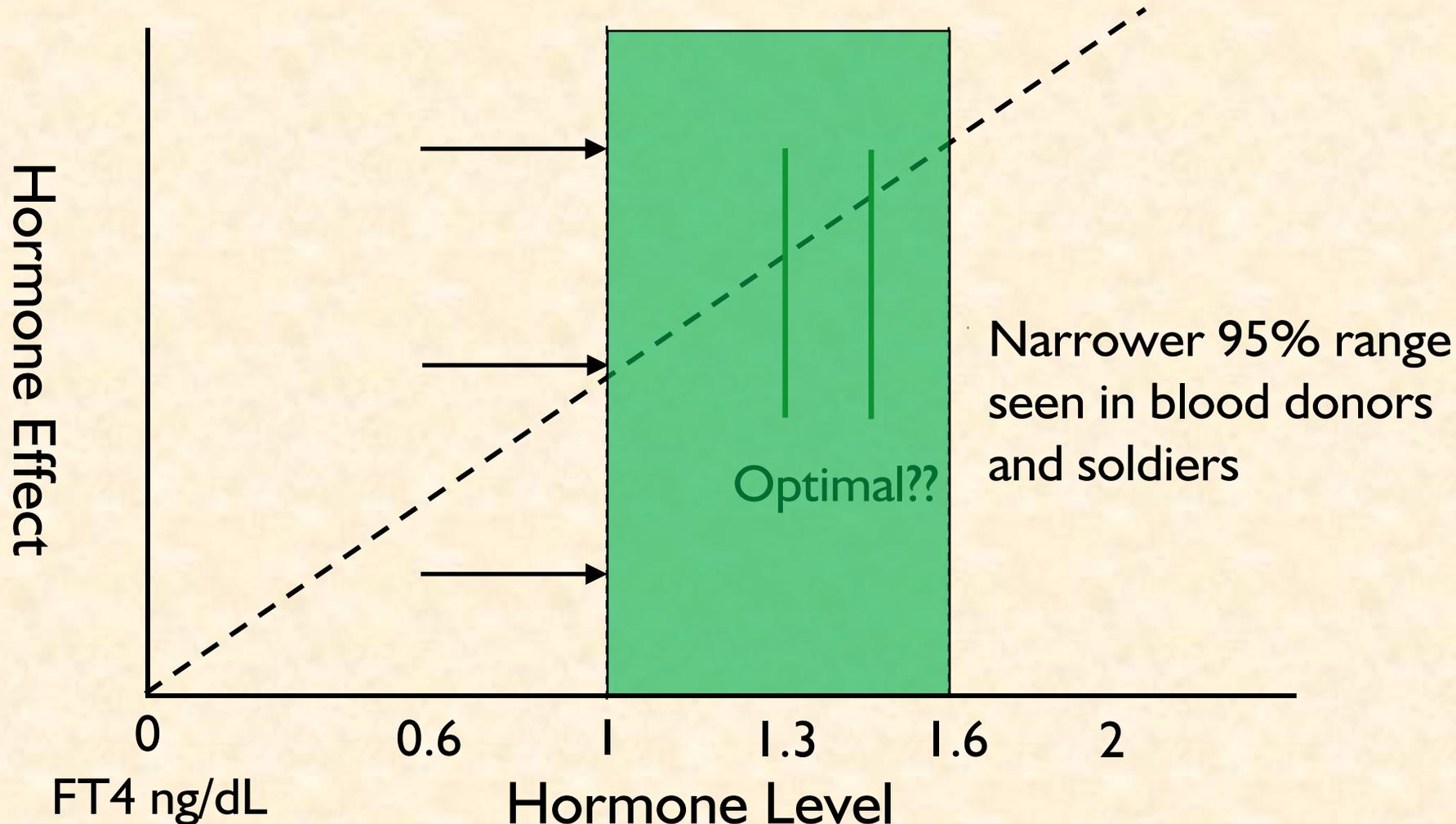
✦ “**Normal**” →no hormonal dx/rx→**drugs**

Reference Range Endocrinology



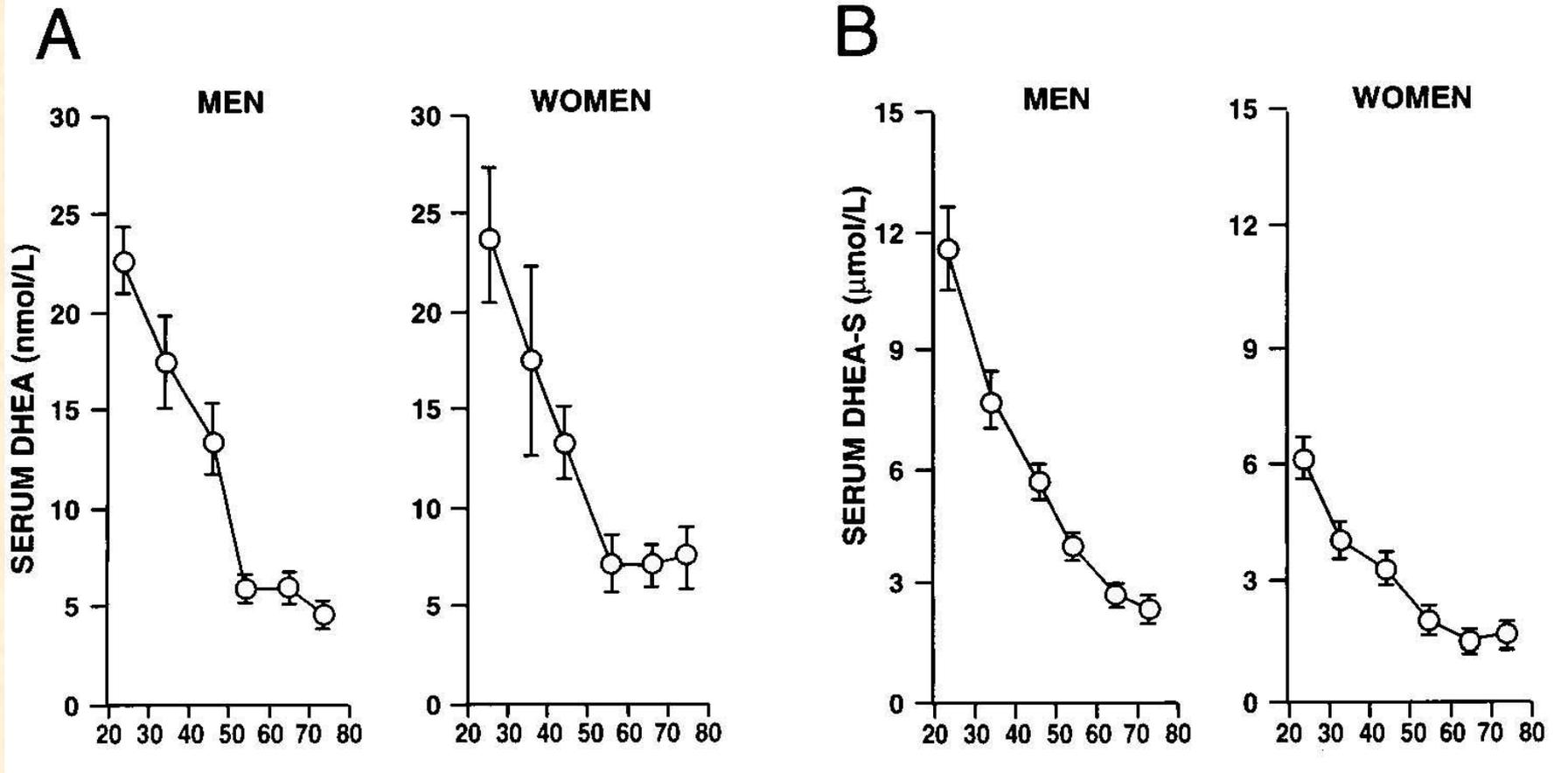
Intelligent Endocrinology

Tighter optimal range based on healthy persons and on research
Individualized diagnosis and treatment



What about Losses due to Aging?

DHEA \leftrightarrow DHEA-S



Thyropause

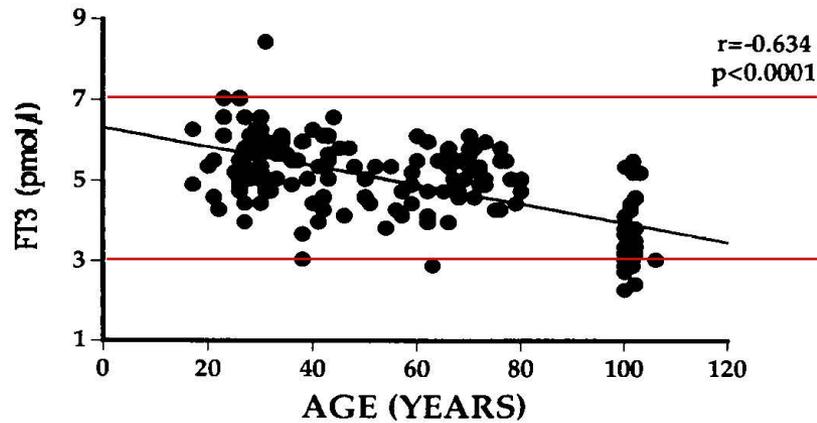


FIG. 7. Age-dependent variations in serum FT₃ concentration in healthy human subjects up to centenarians [Modified from S. Mariotti *et al.*: *J Clin Endocrinol Metab* 77:1130–1134, 1993 (147), with publisher's permission. © The Endocrine Society.]

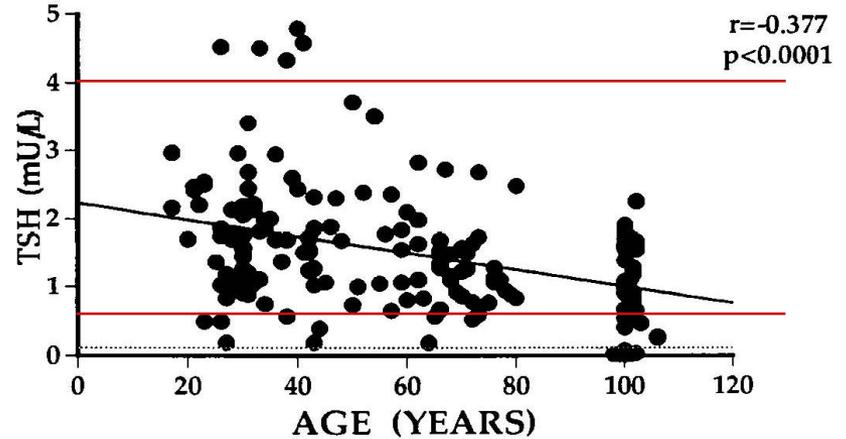
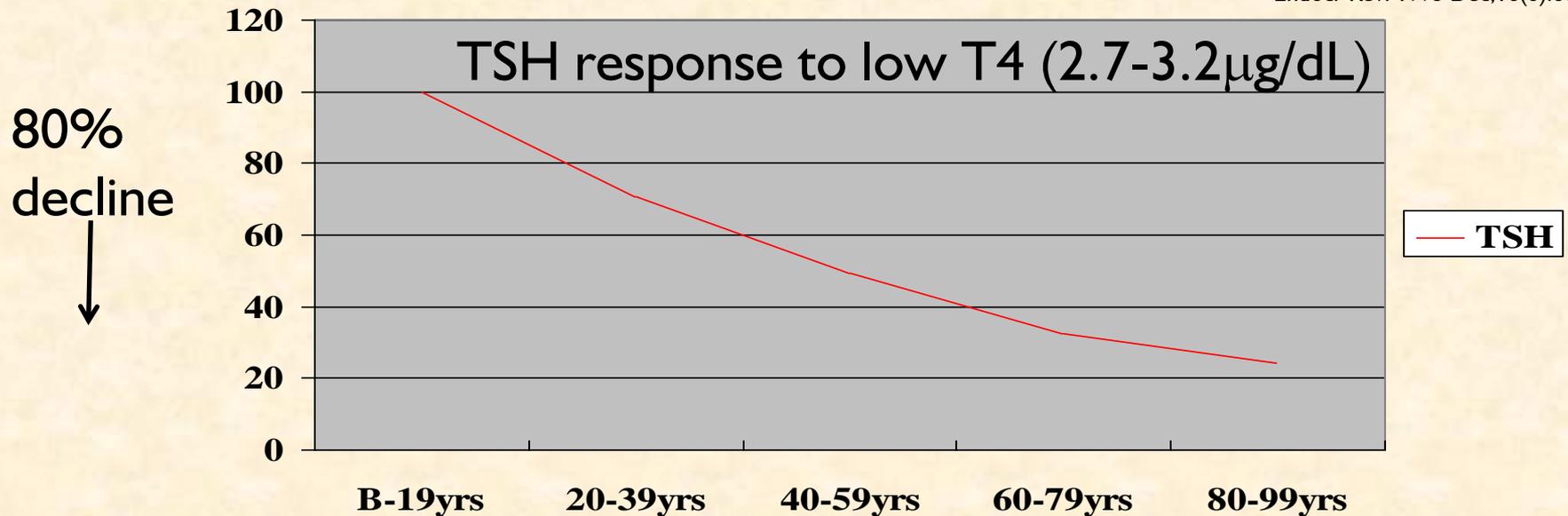
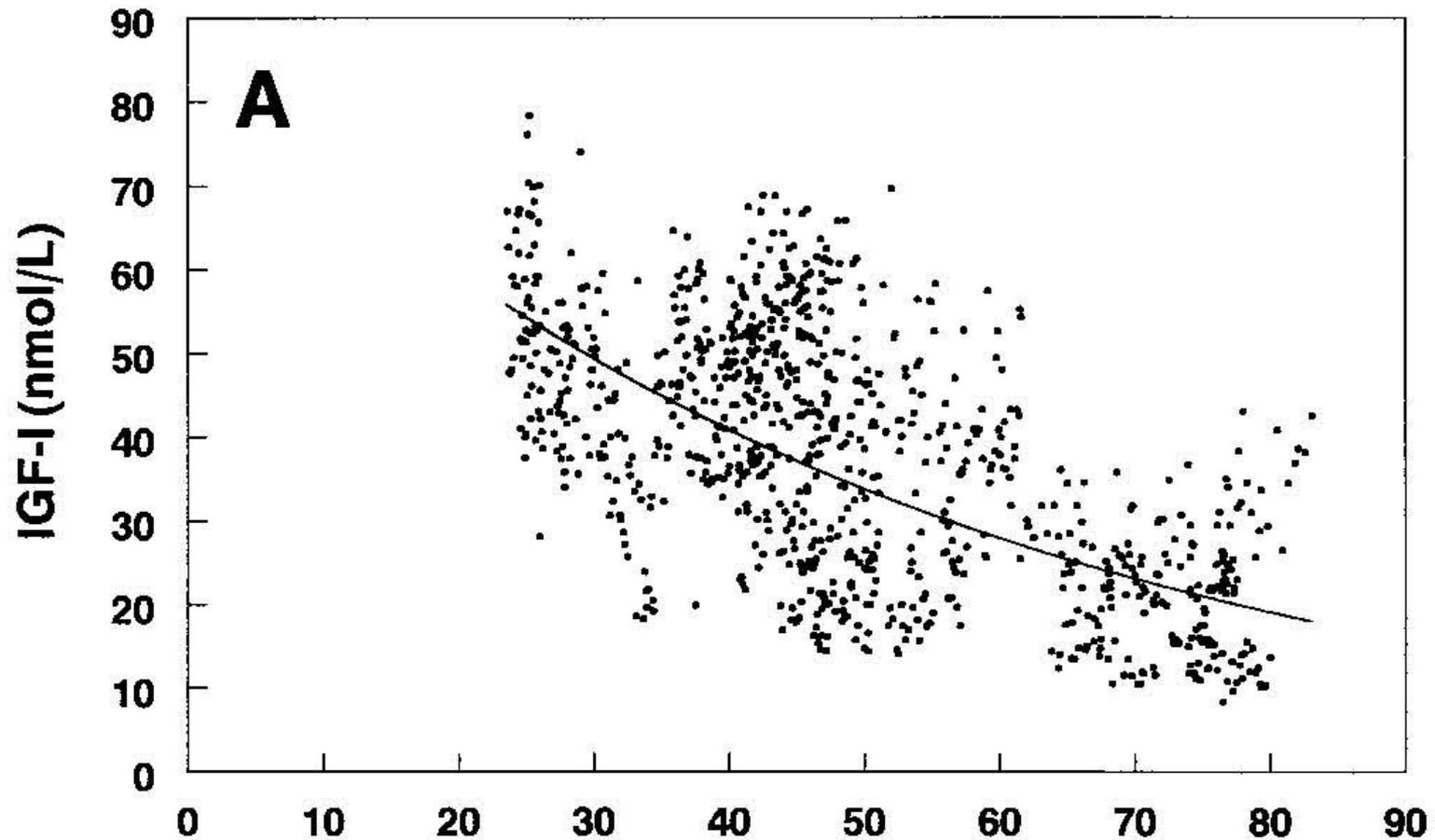


FIG. 8. Age-dependent variations in serum TSH concentration in healthy human subjects up to centenarians [Modified from S. Mariotti *et al.*: *J Clin Endocrinol Metab* 77:1130–1134, 1993 (147), with publisher's permission. © The Endocrine Society.]

Endocr Rev. 1995 Dec;16(6):686-715

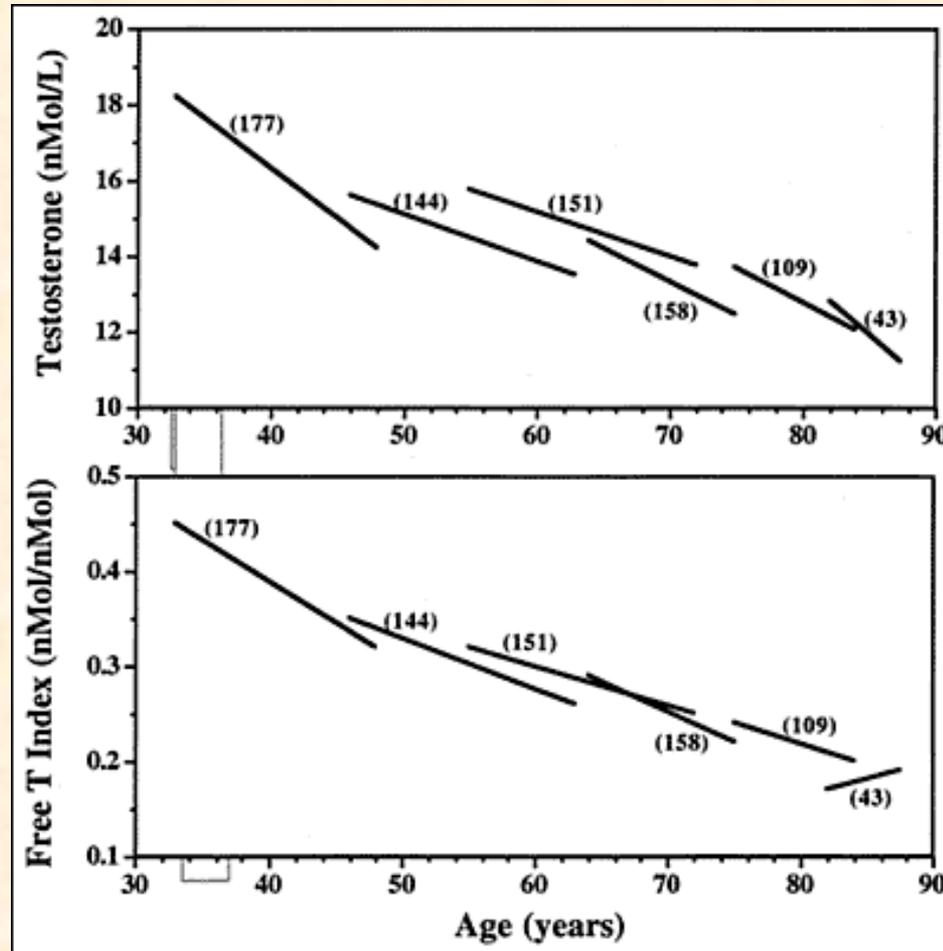


Somatopause Growth Hormone (GH)



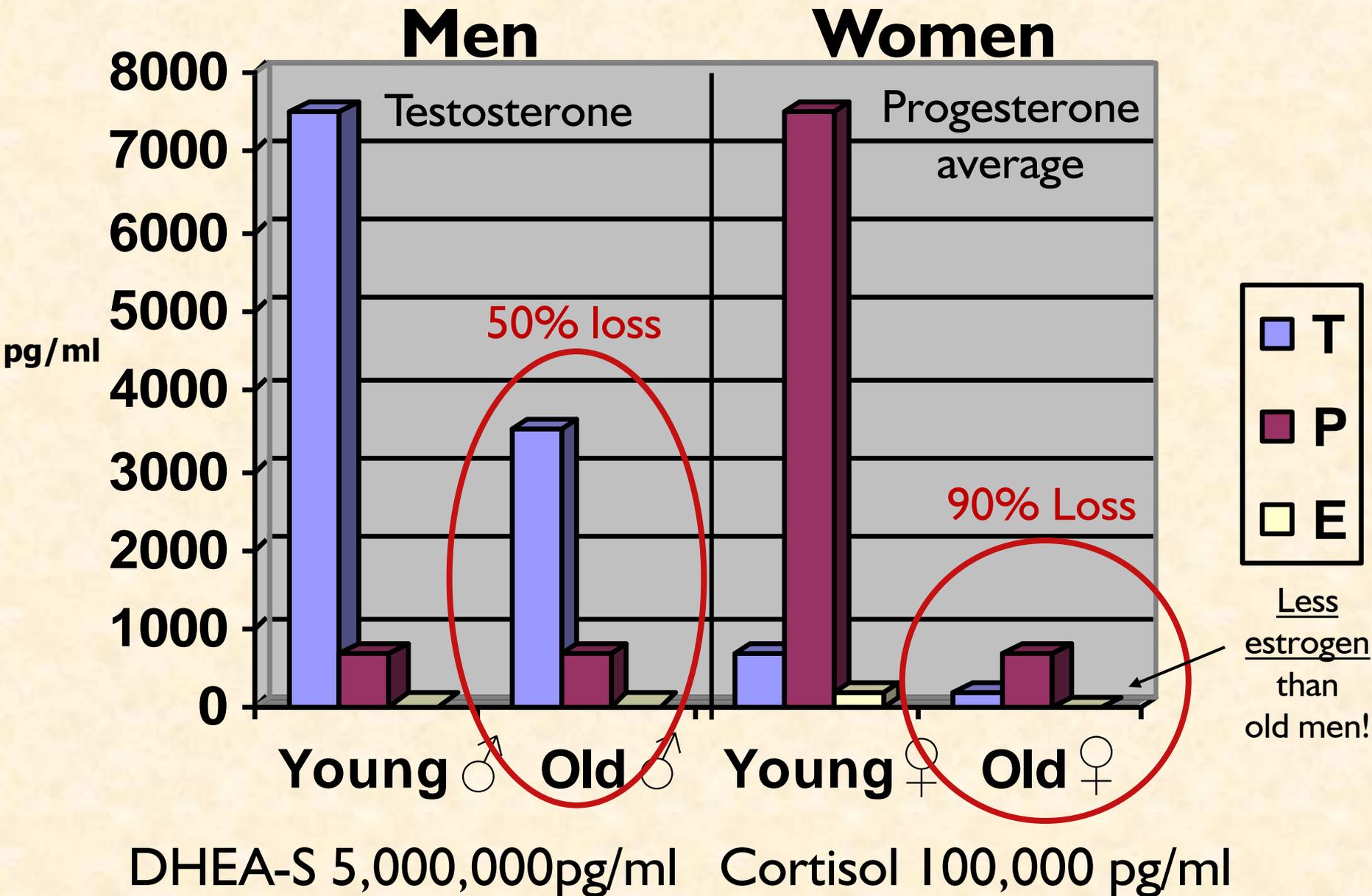
Andropause

Testosterone in Men



Baltimore Longitudinal Study of Aging (BLSA). Harman et al., 2001

Steroid Loss in Women >> Men



Common View

- ✦ Persistence of youthful levels of hormones would cause more **heart attacks** and **cancers** as we age (?)
- ✦ The loss of hormones is **adaptive**—helps us to live longer (?)
- ✦ Fits the **Pharmaceutical Agenda: Take drugs** for every symptom and disorder caused by hormone loss (!?!)

Against the Common View

- ✦ **Aging** is a natural **self-destruct program** that kicks in around age **25** in humans
- ✦ Obesity, high blood pressure, diabetes, heart attacks, autoimmune diseases, and many cancers **increase years after** hormone **deficiencies** set in **and occur more often** in those with **lower** levels!
- ✦ **Aging** and the **loss** of hormones due to it are **both natural** and **bad** for you!
- ✦ Studies of **balanced hormone restoration** show the expected **youthful benefits and improvements** in these disorders--and **no proof of harm!!**

New Paradigm: Restorative Endocrinology

- ✦ Endocrine glands **and** hypothalamic-pituitary control systems **deteriorate** with age.
- ✦ Our bodies **cease** to regulate our hormones for **optimal health**.
- ✦ These partial hormone deficiencies are **harmful**.
- ✦ The restoration of **youthful/optimal** nutrient and **hormone** levels is:
 - ◆ **Essential** to **preventative medicine**
 - ◆ **Essential** to the **treatment** of all **disease**
 - ◆ **Essential** to our **quality of Life!**

Fatigue, Depression, Pain

Thyroid and Cortisol Deficiencies

- ✦ **Thyroid** sets throttle, **cortisol** delivers the fuel.
- ✦ Thyroid determines metabolic rate in every tissue.
- ✦ Lack of either leads to **hypometabolism**.
- ✦ Health and quality of life require **optimal** levels of both!
- ✦ Conventional tests and ranges are **insensitive**.
- ✦ **Irrational fear** of **thyroid** and **cortisol supplementation**
- ✦ **Underdiagnosed, undertreated**—Docs prescribe **pharmaceuticals** instead (SSRIs, amphetamines, anti-seizure drugs, anti-psychotics, sedatives, etc.)

Cortisol

- ✦ **Foundation of the hormonal system**—all other major hormones counteract cortisol
- ✦ **Vitality**—brain and muscle function
- ✦ **Enables** brain/body to cope with stress
- ✦ **Controls** our immune system—deficiency causes **allergies, autoimmune diseases**.
- ✦ **Maintains** blood sugar and blood pressure
- ✦ **Excess** causes ↑ blood sugar, blood pressure, abdominal fat, bone loss

Cortisol Deficiency

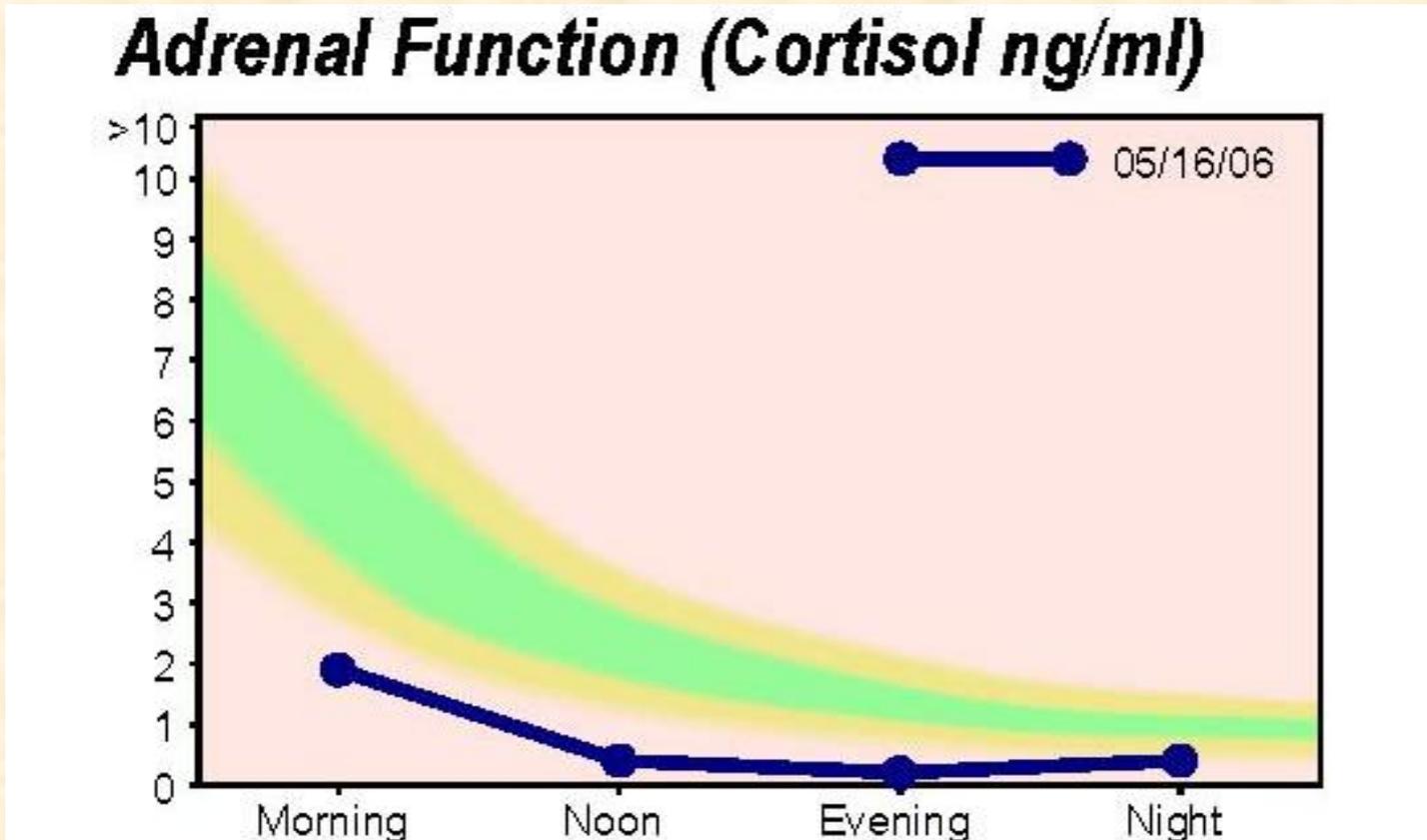
- ✦ Fatigue --“Adrenal Fatigue”
- ✦ Depression
- ✦ Aches & pains
- ✦ Anxiety, irritability
- ✦ Insomnia—frequent awakening
- ✦ Severe PMS, PMDD
- ✦ Hypoglycemia
- ✦ Allergies
- ✦ Can't cope with stress or exertion
- ✦ Variability: good days, bad days

Cortisol Deficiency

- ✦ **Common:** women » men
- ✦ **Explains** greater incidence of **chronic fatigue, pain, depression,** and **autoimmune diseases** in women
- ✦ **Clue:** Feels much better on prednisone, often needs steroids for allergies, illnesses, etc.
- ✦ **Unrecognized:** Docs taught to recognize only **Addison's Disease** (near total adrenal gland failure)

Diagnosis of Cortisol Deficiency

Symptoms and low saliva cortisol levels



Cortisol Restoration

- ✦ Use hydrocortisone (cortisol), 2-4 doses /day
- ✦ Safe in physiological doses and balance with other hormones
- ✦ Cortisol replacement suppresses **DHEA** levels
- ✦ Must replace **DHEA** to prevent bone loss, increased blood sugar, etc.
- ✦ Must maintain thyroid/cortisol balance.
- ✦ Must optimize sex hormones .

See Dr. William Jeffries' *Safe Uses of Cortisol*

DHEA:

The Other Adrenal Hormone

- ✦ Most abundant steroid hormone; yet **ignored**
- ✦ Cells make **testosterone** and **estradiol** from it
- ✦ Levels **decline** with age, stress and disease
- ✦ **Lower** levels assoc. with ↑disease, ↑mortality
- ✦ **Balances** and **counteracts** cortisol's effects
- ✦ Reduces **pain** and **inflammation**
- ✦ Improves immune system function
- ✦ Improves fertility and sexual function in women

Hypothyroidism

- ✦ Mental fog, poor concentration, depression
- ✦ Fatigue, need for excessive sleep
- ✦ Cold extremities, always feels cold
- ✦ Aches and pains
- ✦ Thinning, dry, coarse scalp hair
- ✦ Weight gain
- ✦ Constipation
- ✦ Ankle swelling, puffy face
- ✦ Increased cholesterol, atherosclerosis

Diagnosing Hypothyroidism

- ✦ **First:** symptoms and physical signs
- ✦ **Second:** low free T_4 and free T_3 levels—even if within laboratory reference range (“normal”)
- ✦ **Third:** TSH level—indirect, fallible test, only useful to determine the cause of hypothyroidism
- ✦ **Ultimately—response** to therapeutic trial of thyroid optimization
- ✦ Conventional medicine relies on TSH only—has it backwards!

Restorative Thyroidology

- ✦ **Standard Treatment:** give only **T₄** (Levoxyl, Synthroid) to “normalize” the TSH level.
- ✦ Standard treatment often inadequate, resulting in **lower free T₃** levels, persistence of symptoms
- ✦ The TSH **cannot** be used to determine dose.
Fraser WD, Br Med J (Clin Res Ed). 1986 Sep 27;293(6550):808-10.
- ✦ Give **T₄** plus **T₃** (Armour[®], levothyroxine + Cytomel[®])
- ✦ Adjust dose according to **symptoms** and free **T₄** and free **T₃** levels

Not Just “Sex Hormones”

Estradiol, progesterone, testosterone and DHEA are required for the function, growth, and maintenance, of **all tissues** in **both sexes!**

- ◆ **Maintain brain function and health**—neurosteroids affect mood, cognition, memory, pain, etc.
- ◆ **Maintain the immune system**—progesterone and testosterone are mild immunosuppressants
- ◆ **Maintain connective tissue:** skin, hair, bone, muscle
- ◆ **Improve insulin sensitivity:** prevent **diabetes, fatty liver**
- ◆ **Reduce blood pressure**—improve endothelial function
- ◆ **Prevent atherosclerosis** (plaques in arteries)

Male Andropause

- ✦ Testosterone levels **decline** slowly in men—“just getting old.”
- ✦ Fatigue, reduced mental function
- ✦ Passivity and moodiness—loss of drive and ambition
- ✦ Loss of muscle, increased abdominal fat
- ✦ Increased blood sugar and blood pressure
- ✦ Loss of libido, spontaneous erections, and eventually erectile function.

Testosterone Restoration for Men

- ✦ Improves mood and sociability
- ✦ Restores energy and ambition
- ✦ Improves cognition, probably protects against **Alzheimer's disease**
- ✦ Increases libido and sexual performance
- ✦ Increases muscle and bone mass
- ✦ Reduces abdominal fat, improves insulin sensitivity, lowers blood pressure--counteracts **metabolic syndrome (Syndrome X)**

Testosterone and the Heart

- ✦ **Low** testosterone levels correlate with **coronary artery disease** and **stroke**

Arterioscler Thromb. 1994; 14:701-706

Eur Heart J 2000; 21; 890-4

Int J Cardiol. 1998 Jan 31;63(2):161-4

Arterioscler Thromb Vasc Biol. 1996 Jun;16(6):749-54

- ✦ **Testosterone dilates** coronary arteries—improves angina

- ✦ **T increases** heart muscle size, strength

- ✦ **T decreases** fibrinogen levels—prevents blood clots

Endocr Res. 2005;31(4):335-44

Testosterone and the Prostate

- ✦ Lower testosterone levels increase the risk of **prostate cancer**. J Natl Cancer Inst. 2008 Feb 6;100(3):170-83, also Morgenthaler A, Urology 2006;68:1263-7
- ✦ Testosterone supplementation **does not** increase the risk of **prostate cancer**.
Morgenthaler A, Can J Urol. 2006 Feb;13 Suppl 1:40-3
- ✦ **Low** testosterone associated with **more aggressive prostate cancers**
Slater S, Drugs Aging 2000 Dec;17(6):431-9
- ✦ Testosterone is a prostate growth factor, but does not promote **prostate cancer**.
- ✦ **Prostate cancer** growth can be temporarily slowed only by eliminating all testosterone from the body.

Read *Testosterone for Life*, Dr. Abraham Morgenthaler

Female Andropause

- ✦ Young woman's free **testosterone** level is **2x** her free **estradiol**
- ✦ **DHEAS declines with age**—main source of androgen effect and 50% of circulating testosterone in women
- ✦ Female **testosterone** levels **decline 50%** between age 20 and 45.
- ✦ **Oral estrogens** and **birth control** pills **reduce** free **testosterone** and **DHEAS** levels

Women Need Testosterone

- ✦ Improves energy, mood, and mental function

- ✦ Improves sexual desire and sensation

- ✦ Increases muscle and tissue strength

- ✦ With **estradiol**, increases bone density

J Reprod Med. 1999 Dec;44(12):1012-20

- ✦ Opposes estradiol-induced breast stimulation and reduces risk of **breast cancer**

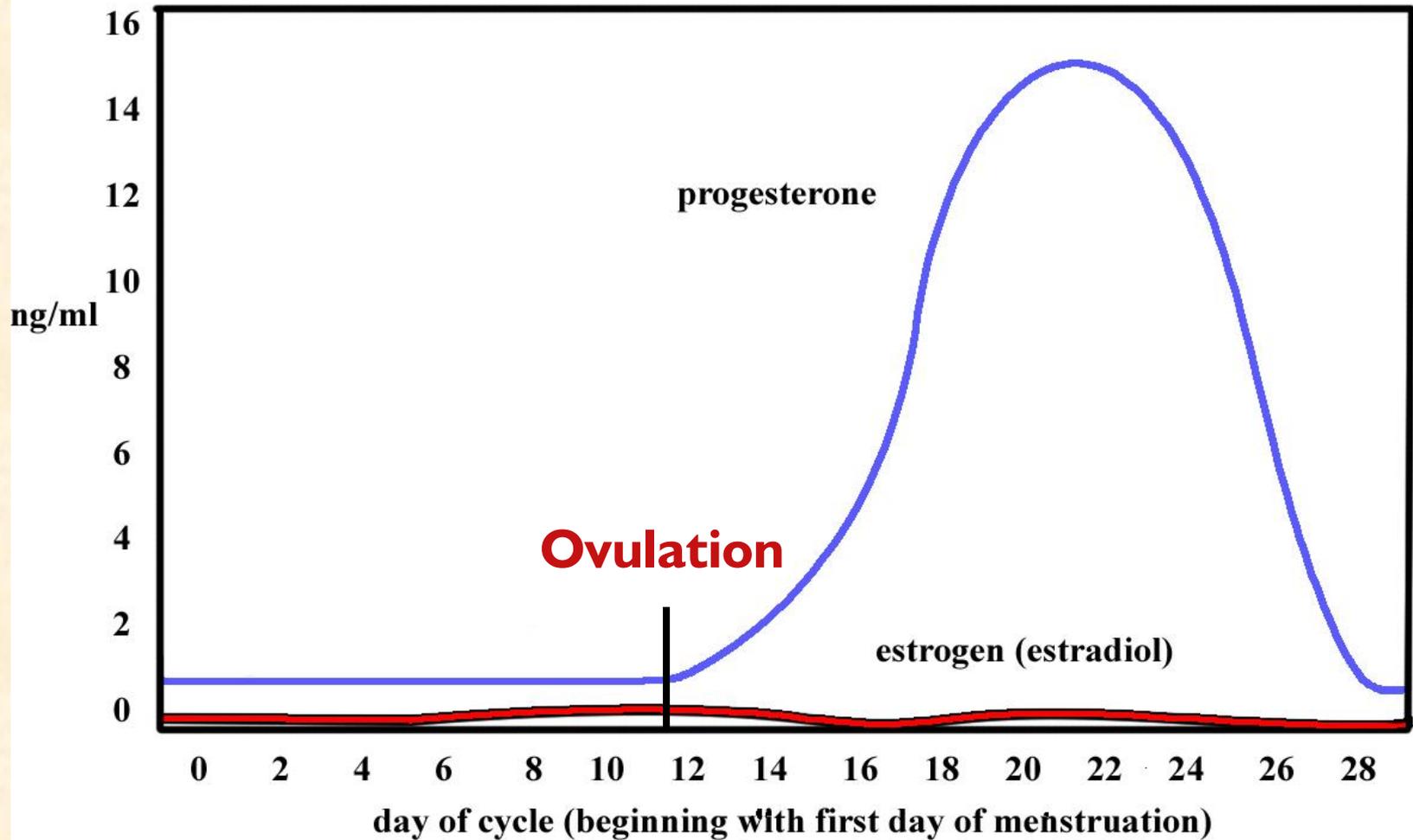
Menopause. 2003 Jul-Aug;10(4):292-8, Endocr Rev. 2004 Jun;25(3):374-88

Menopause. 2004 Sep-Oct;11(5):531-5, FASEB J. 2000 Sep;14(12):1725-30

Female Endocrinology: Estradiol and Progesterone

- ✦ Nature makes special demands on the female body for **reproduction**.
- ✦ More **complex** hormonal system than men
- ✦ Breast, uterine and ovarian tissues undergo a **monthly cycle** of proliferation, differentiation, and breakdown
- ✦ **Defects** in this cycle can lead to **cancers** in female organs and to many **medical disorders**.

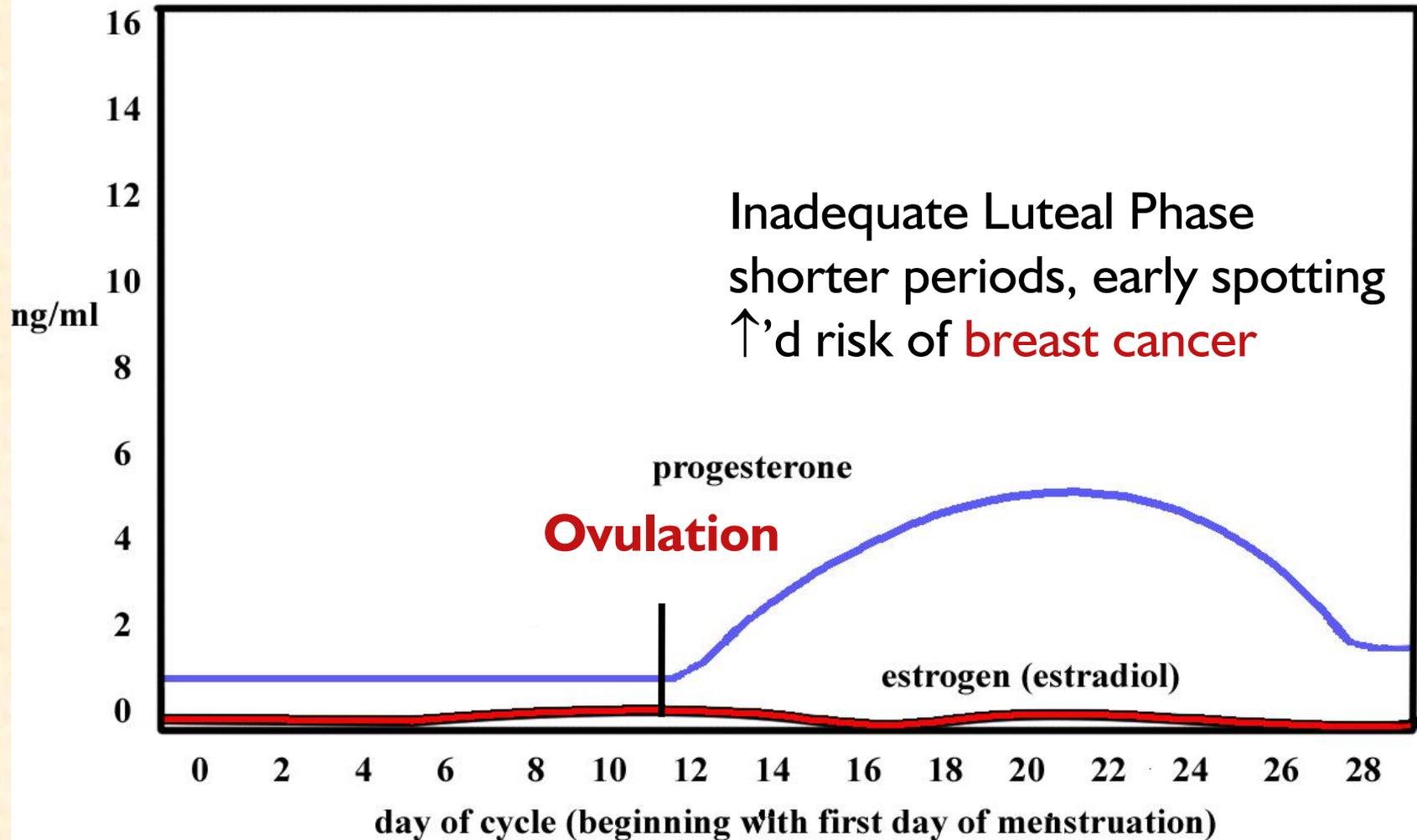
Normal Progesterone Dominance



Menstrual Cycle

Perimenopause

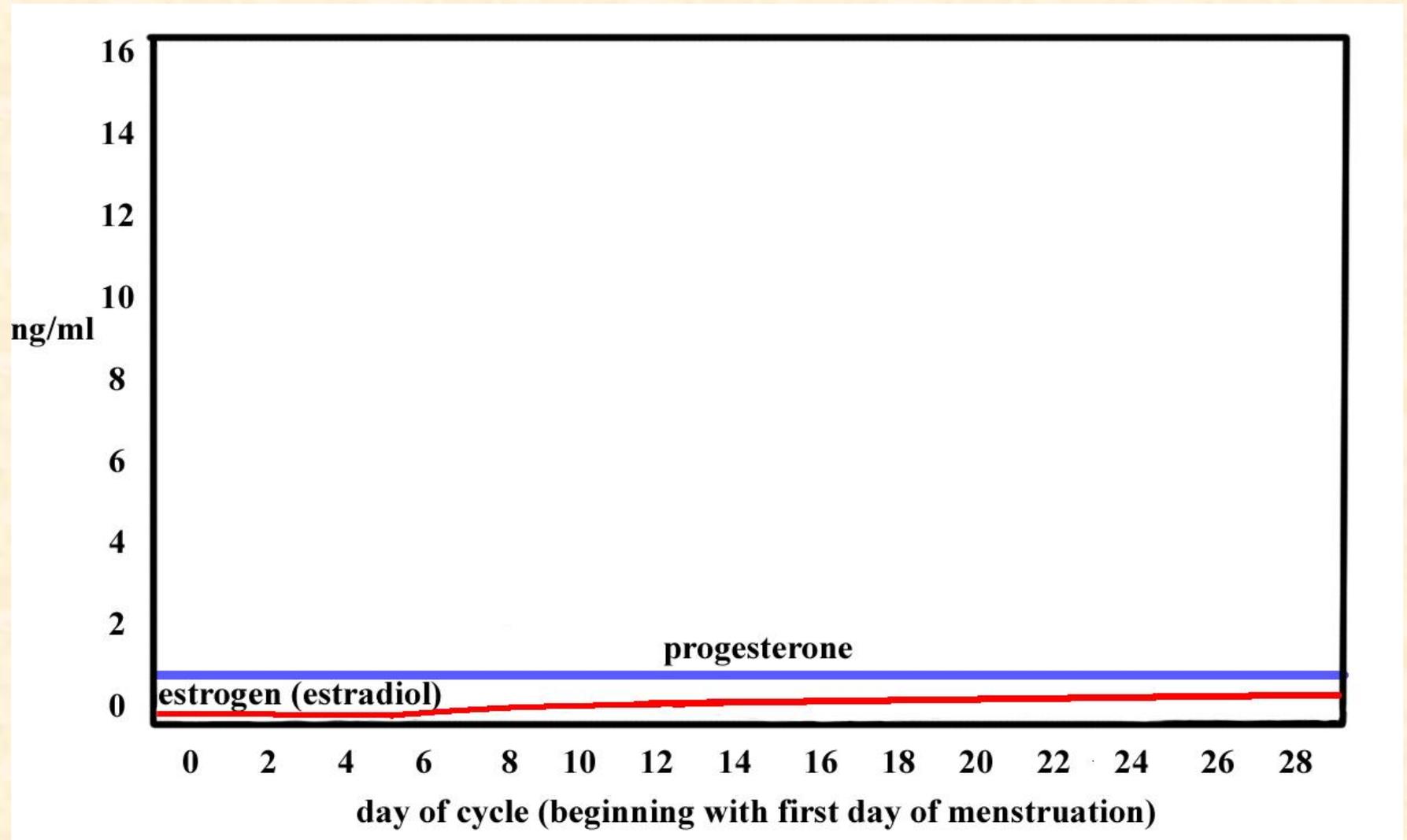
Luteal Insufficiency = Estrogen Dominance



Menstrual Cycle

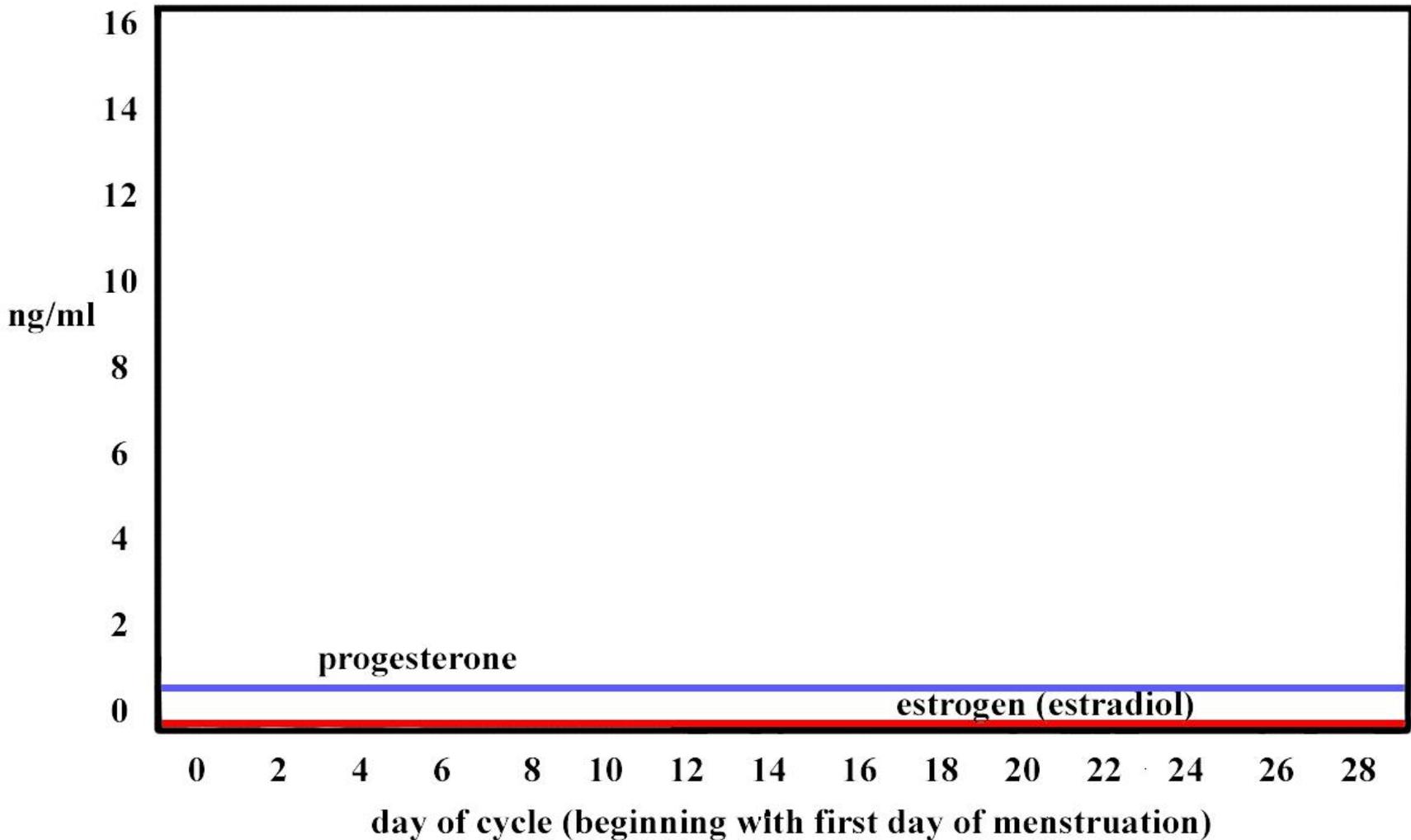
Perimenopause

Anovulation = Estrogen Dominance



Menstrual Cycle

Menopause



Estradiol and Progesterone Deficiency

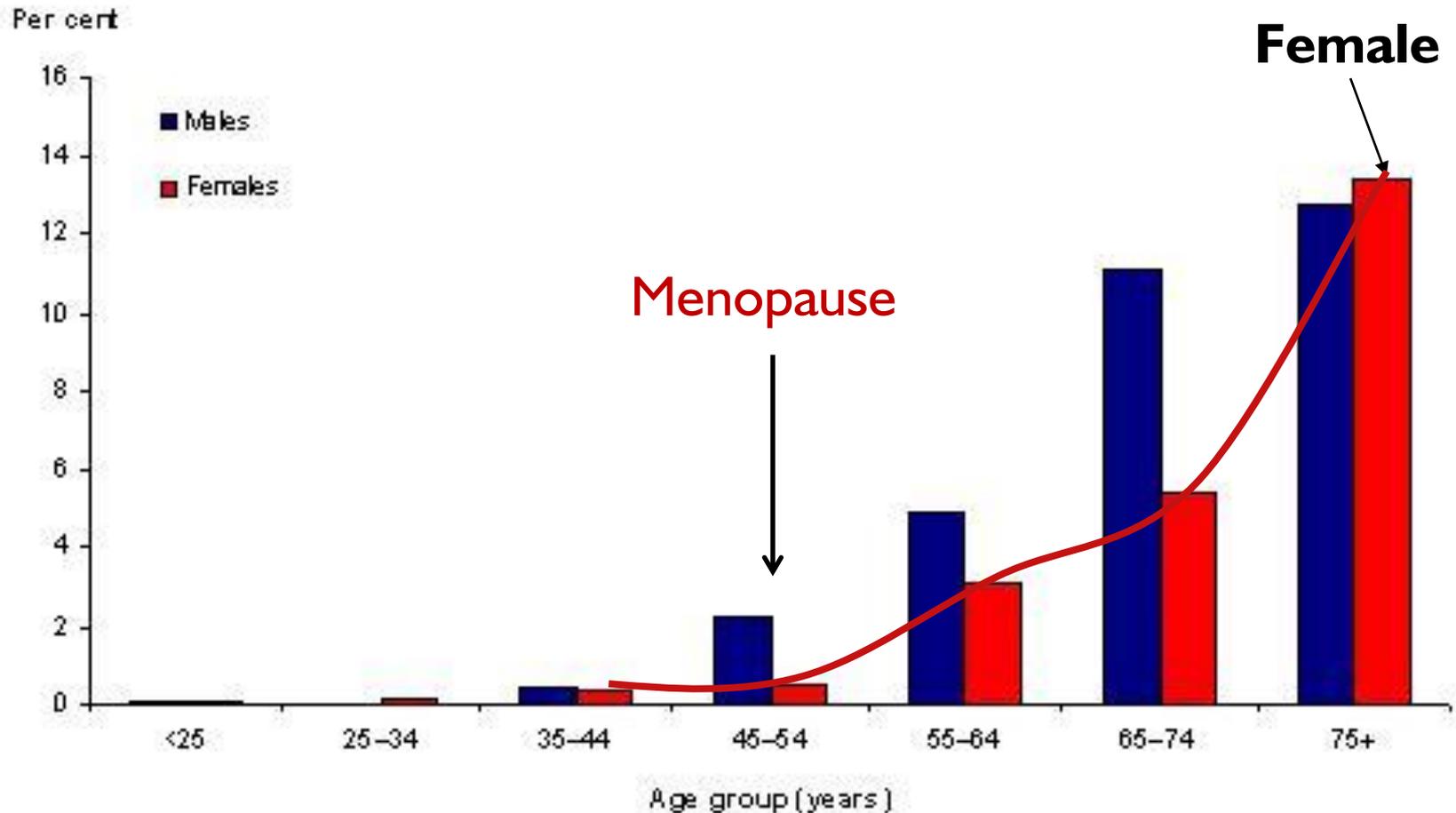
What Causes Menopause?

- ✦ Females born with a **fixed** no. of oocytes which are continually lost
- ✦ With aging, oocytes of lower quality are left → **reduced estradiol** and **progesterone** production beginning as early as **age 30**
- ✦ Eventually no functional eggs are left
- ✦ **Perimenopause** = infrequent ovulation, low progesterone
- ✦ **Menopause** = Ovarian Failure

Women Killers and Hormones

- ✦ Cardiovascular disease (CVD), osteoporosis, dementia and breast cancer are all rare before menopause.
- ✦ The first 3 are clearly related to estradiol deficiency ; breast cancer is related to progesterone deficiency.
- ✦ Early removal of ovaries increases risk of heart disease, osteoporosis, and dementia. Parker WH, Womens Health (Lond Engl). 2009 Sep;5(5):565-76.
- ✦ Youthful hormone levels protect women from these diseases.

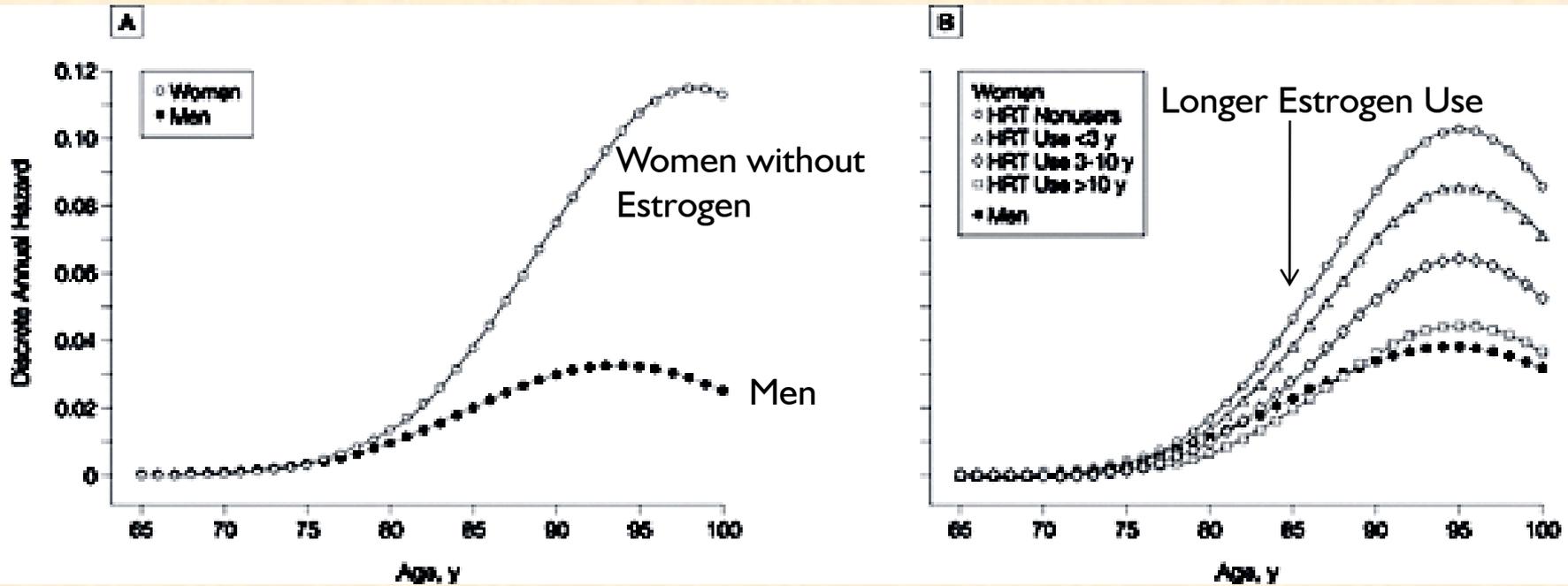
Coronary Heart Disease vs. Age



Estradiol vs. Cardiovascular Disease

- ✦ Prevents the oxidation of LDL
- ✦ Improves lipid profile
- ✦ Reduces lipoprotein (a)
- ✦ Reduces blood pressure
- ✦ Improves endothelial function
- ✦ Reduces plaque formation
- ✦ Improves insulin sensitivity

Estrogen Replacement Prevents Alzheimer's Disease



72% used Premarin[®] only

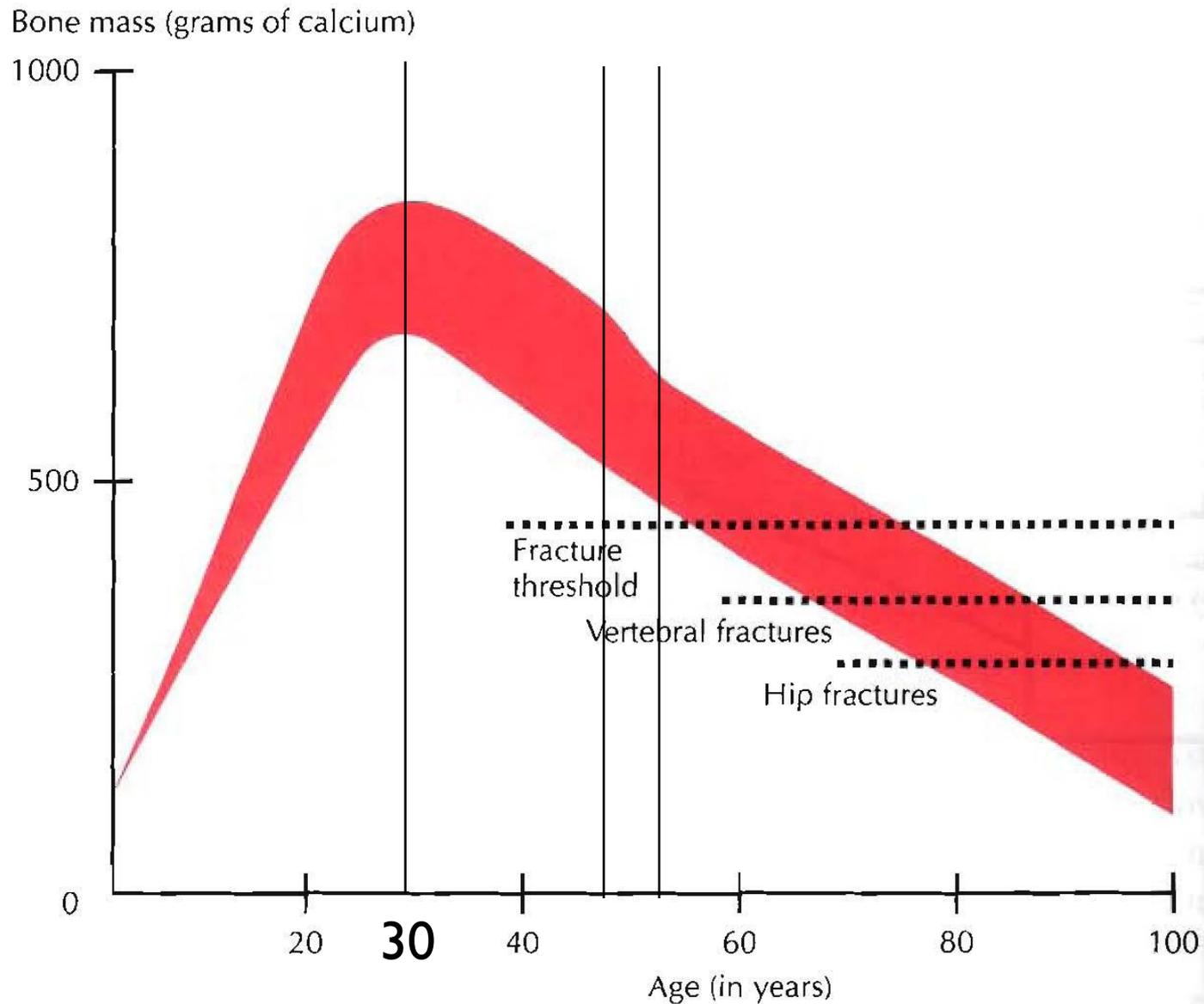
Zandi PP, et al., Cache County Study. JAMA. 2002 Nov 6;288(17):2123-9.

RR 0.46 in Kawas C, The Baltimore Longitudinal Study of Aging. Neurology 1997;48:1517-1521

RR 0.65 Paganini-Hill A, Arch Intern Med 1996;156:2213-2217.

RR 0.4, Tang M-X, Lancet 1996;348:429-432.

Changes in Women's Bone Mass with Age



Osteoporosis

- ✦ In menopause 5% bone loss each year for first 5 years = 25%—due to **loss** of **estrogen**!
- ✦ 20 yrs. post menopause—**50% reduction** in trabecular bone, 30% in cortical bone
- ✦ 50% of women >65 yrs. old have **spinal compression fractures**

Osteoporosis

Prevention and Treatment

- ✦ **A hormone deficiency** disease—the proper prevention and treatment is **hormone restoration**.
- ✦ **Estradiol** prevents resorption of old bone while **testosterone, DHEA** and **GH** build new bone.
Raisz LG, J Clin Endo Metab. 1996; 81:37-43
Barrett-Connor E, J Reprod Med. 1999 Dec;44(12):1012-20
- ✦ **Bisphosphonates** (Fosamax[®], Actonel[®], Boniva[®]) stop bone remodeling, **suppress** bone formation→non-traumatic **fractures** after >5yrs, and “rotting jaw” syndrome
- ✦ **Hormone restoration** including Vit. D increases bone density better than **bisphosphonates** and preserves normal bone remodeling

Estradiol Restoration

- ✦ Protects against heart disease, dementia and osteoporosis.
- ✦ Improves insulin sensitivity—prevents diabetes
- ✦ Eliminates hot flashes, restores sleep
- ✦ Restores cognitive function and mood
- ✦ Maintains thickness, fullness of skin and hair
- ✦ Maintains genital/pelvic health-helps with vaginal lubrication, incontinence, bladder infections
- ✦ Protects against colon cancer and macular degeneration

Q: OK, estradiol has many benefits, but doesn't it increase my risk of **breast cancer**?

A: Only if **progesterone** is **deficient**

Estradiol

- ✦ **Angel of Life**—stimulates growth of female organs necessary for reproduction; maintains female health and quality of life
- ✦ **Angel of Death**—promotes **cancer** and other medical disorders— **if not balanced** with **progesterone** and **androgens**

Estrogen Dominance

- ✦ Allergies
- ✦ Autoimmune diseases
- ✦ Anxiety, moodiness
- ✦ PMS
- ✦ Bloating, fluid retention
- ✦ Fibrocystic breasts
- ✦ Heavy periods
- ✦ Endometriosis
- ✦ Breast cancer
- ✦ Ovarian cancer
- ✦ Uterine cancer
- ✦ Gallstones

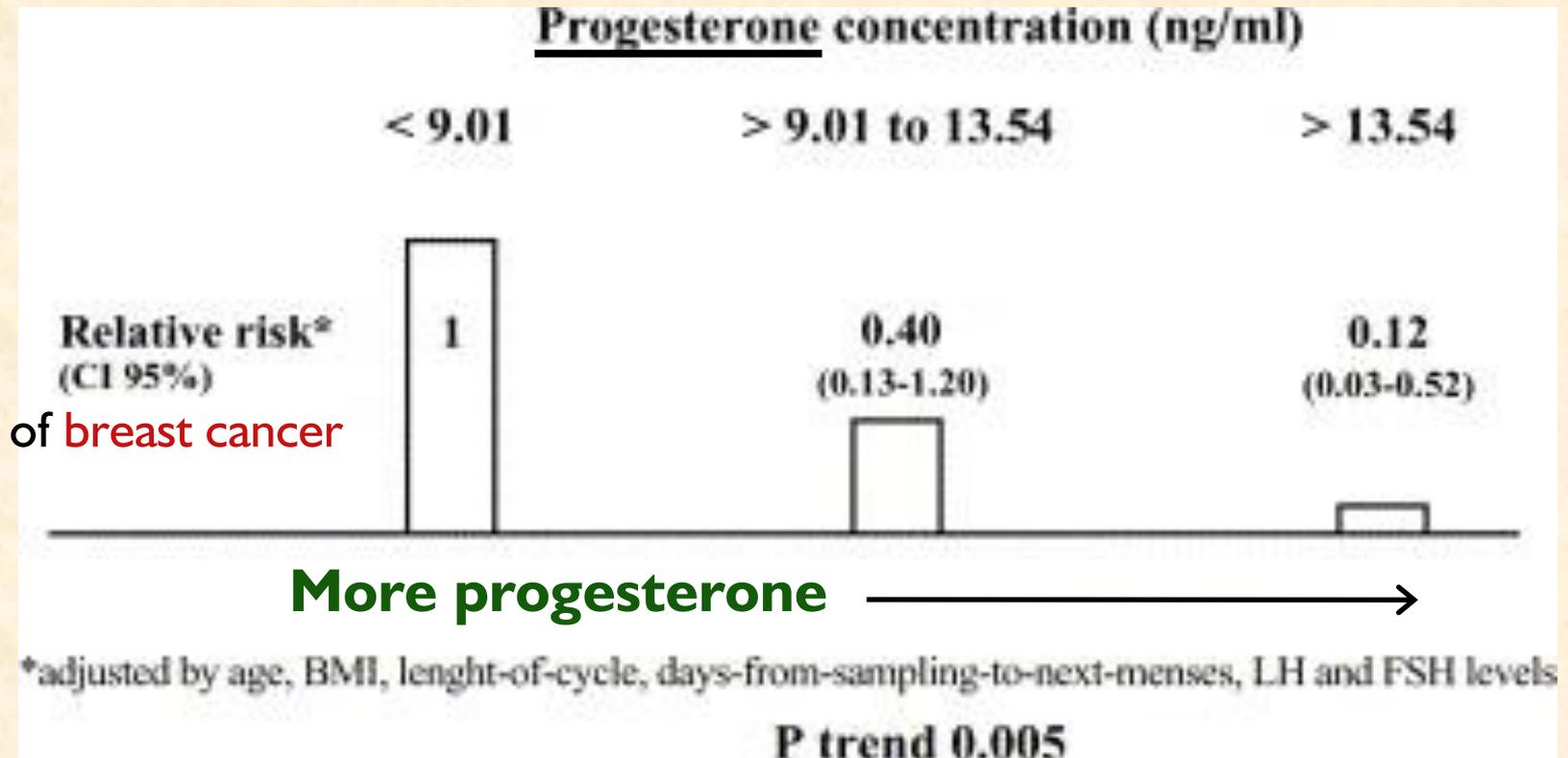
Progesterone is the only effective treatment for **estrogen dominance**

Estradiol—Progesterone Complementarity

- ✦ Estradiol (human estrogen) promotes breast/uterine proliferation and growth.
- ✦ Progesterone **stops** proliferation and promotes maturation and differentiation.
- ✦ Differentiated cells can't become **cancers**.
- ✦ High progesterone/estradiol ratio suppresses **proliferation** and prevents **cancers**
- ✦ Progesterone is well-known to prevent **uterine cancer**, what about **breast cancer**?

Progesterone vs. Breast Cancer in menstruating women

6,000 women
5 yr. F/U



Higher progesterone = lower risk of breast cancer

Progesterone's Anti-Estrogenic Actions in Uterus and Breast

- ✦ Interferes with estradiol's binding to receptors.
Di Carlo F, Tumori. 1975 Nov-Dec;61(6):501-8
- ✦ Decreases synthesis of estradiol receptors
- ✦ Increases conversion of estradiol to estrone (weak estrogen) by inducing 17 β -hydroxysteroid dehydrogenase Type 2
- ✦ Reduces conversion of estrone to estradiol by inhibiting 17 β -HSD Type 1
- ✦ Increases sulfation (inactivation) of estrogens

Progesterone vs. Breast Cancer

- ✦ Progesterone cream applied to the breast reduces proliferation.

Chang KJ, Fertil Steril 1995; 63:785-91

Barrat J, J Gynecol Obstet Biol Reprod (Paris). 1990;19(3):269-74

Foidart JM, Fertil Steril. 1998 May;69(5):963-9

- ✦ Estradiol is carcinogenic in breast cell cultures unless progesterone is present.

Russo J, J Steroid Biochem Mol Biol. 2003 Oct;87(1):1-25

- ✦ Normal breast cells proliferate after E2 treatment, but become quiescent when P is added.

Malet C, J Steroid Biochem Mol Biol. 2000 Jun;73(3-4):171-81

Foidart JM, Fertil Steril. 1998 May;69(5):963-9

- ✦ Estradiol upregulates cancer-promoting gene bcl-2, progesterone downregulates it.

Formby B, Ann Clin Lab Sci. 1998 Nov-Dec;28(6):360-9

Progesterone vs. Breast Cancer

- ✦ Premenopausal women with **low progesterone** levels had 5.4x **risk** of early **breast** and other **cancers**

Cowan LD, Am J Epidemiol 1981;114:209-17

- ✦ **Breast cancer** victims have **progesterone resistance**

Simpson HW, Br J Obstet Gynaecol. 1998 Mar;105(3):345-51

- ✦ **BRCA1** gene causes **progesterone resistance**.

Ma Y, Mol Endocrinol. 2006 Jan;20(1):14-34

- ✦ **Progesterone** decreases proliferation and induces **apoptosis** in breast cancer cell lines.

Ansquer Y, Anticancer Res. 2005 Jan-Feb;25(1A):243-8

Groshong SD, Mol Endocrinol. 1997 Oct;11(11):1593-607

- ✦ **Progesterone** receptor positivity predicts better long-term survival with **breast cancer**

Costa SD, Eur J Cancer. 2002 Jul;38(10):1329-34

Lamy PJ, Breast Cancer Res Treat. 2002 Nov;76(1):65-71

Key to Breast Cancer: Hormones within the Breasts

- ✦ Compared to the premenopausal breast, postmenopausal breast nipple aspirate fluid has:
 - ✦ Same **estradiol** concentration (youthful serum conc.)
 - ✦ Much lower **progesterone** concentration

Chatterton RT Clin Endocrinol Metab. 2005 Mar;90(3):1686-91

✦ Breasts make estradiol from adrenal androgens

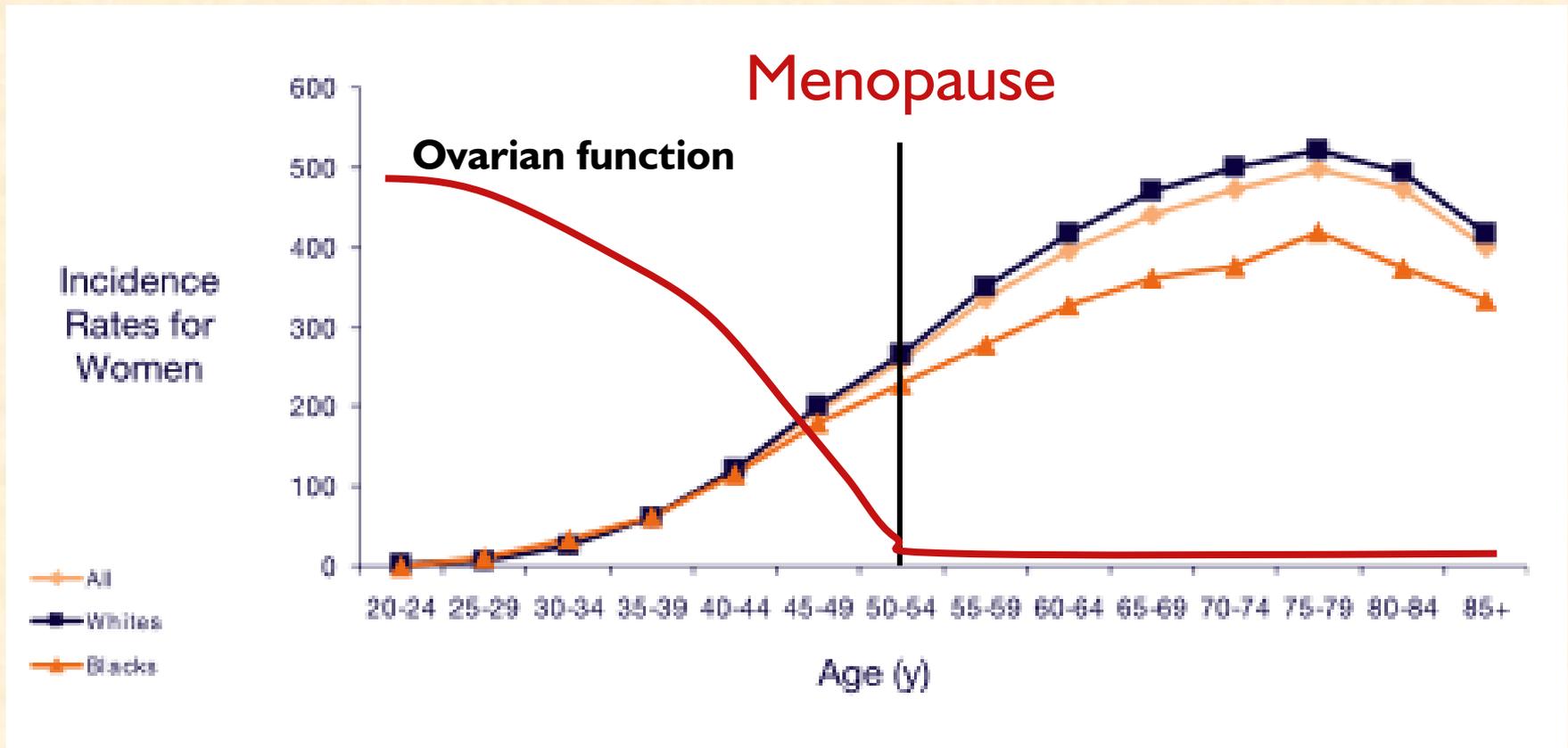
✦ Breasts must get progesterone from the blood

Gann PH, Cancer Epidemiol Biomarkers Prev. 2006 Jan;15(1):39-44

✦ In peri-menopause/menopause: No **progesterone** → **estrogen dominance** in the breasts → **breast cancer**

Breast Cancer Rate vs. Age

Loss of progesterone → higher risk of breast cancer



Who Needs Progesterone Supplementation?

- ✦ Irregular menstrual cycles
- ✦ No periods—**amenorrhea**
- ✦ Heavy bleeding
- ✦ Fibrocystic breast disease
- ✦ **Endometriosis/adenomyosis**
- ✦ Every woman in **menopause**

So **why** are most doctors
saying that all female
hormone replacement is
dangerous?

Conventional HRT is really HST: Hormone Substitution Therapy!

- ✦ Estradiol substitutes: conjugated equine estrogens (CEE-Premarin[®]) and ethinyl estradiol (in birth control pills)—all are called “estrogen”
- ✦ Progesterone substitutes: medroxyprogesterone acetate (MPA-Provera[®]) and 30+ other “progestins”—all are called “progesterone”
- ✦ Testosterone substitute: methyltestosterone

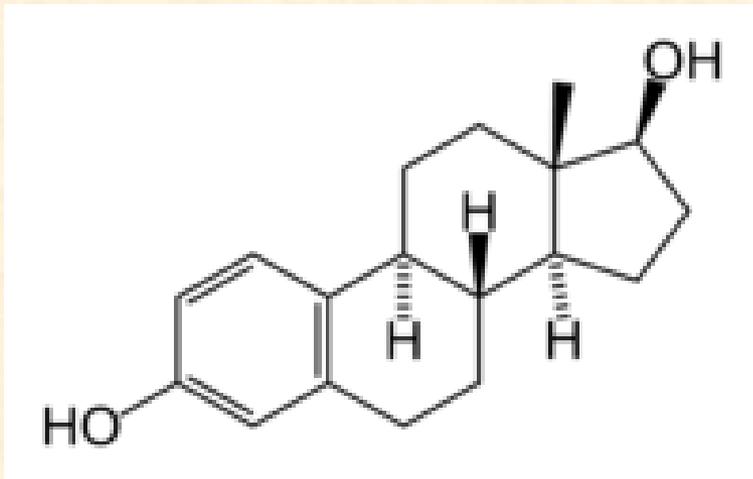
Patented drugs—not human hormones!

Most docs don't know the difference!

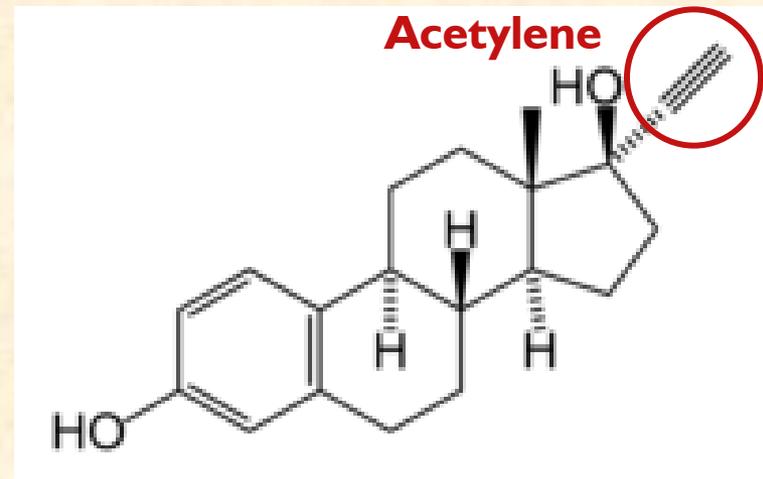
Human hormones cannot be patented, no profits

EE in Birth Control Pills

Estradiol



Ethinyl Estradiol

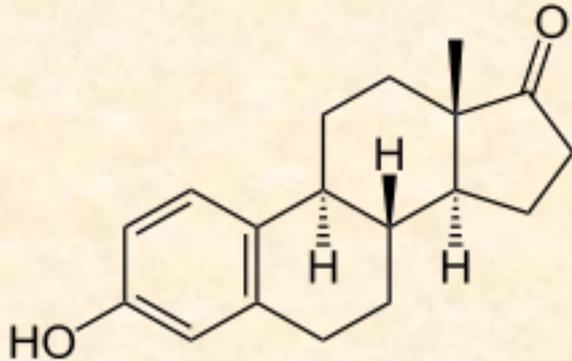


- EE cannot be **inactivated** by normal oxidation!
- EE does not interact with estrogen receptor β !
- EE is 12,000-60,000 times more potent by weight!
- EE is thrombogenic \rightarrow DVTs, pulmonary emboli

Premarin[®]

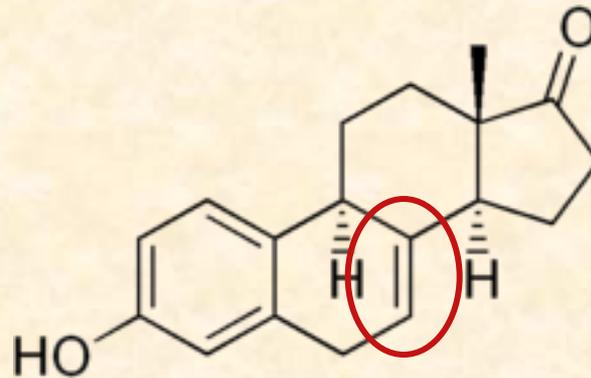
Conjugated Equine Estrogens

Human



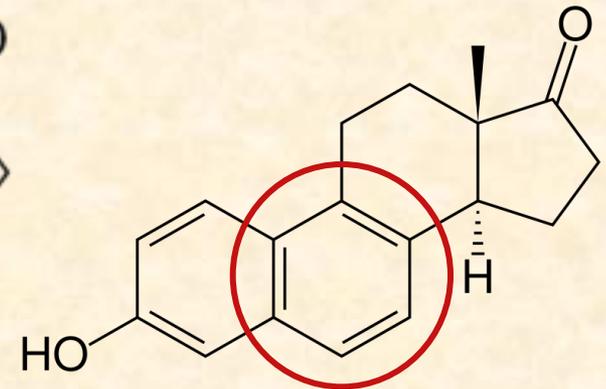
Estrone

Horse



Equilin

Horse



Equilenin

CEE contains at least 10 estrogens, only 3 are human; also contains horse androgens and progestins.

Klein R The Composition of Premarin. 1998 Int J Fertil 43:223

Oral Estrogens are Dangerous

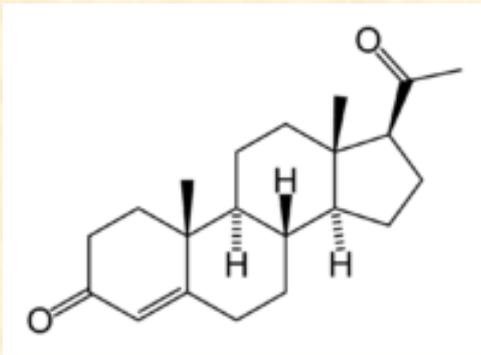
- ✦ First-pass effect on the liver → ↑CRP, ↑clotting factors → **blood clots, strokes, heart attacks** in the first year
- ✦ Transdermal estradiol mimics normal production and does not increase blood clotting!

“Oral but not transdermal estrogen is associated with an increased VTE risk.”

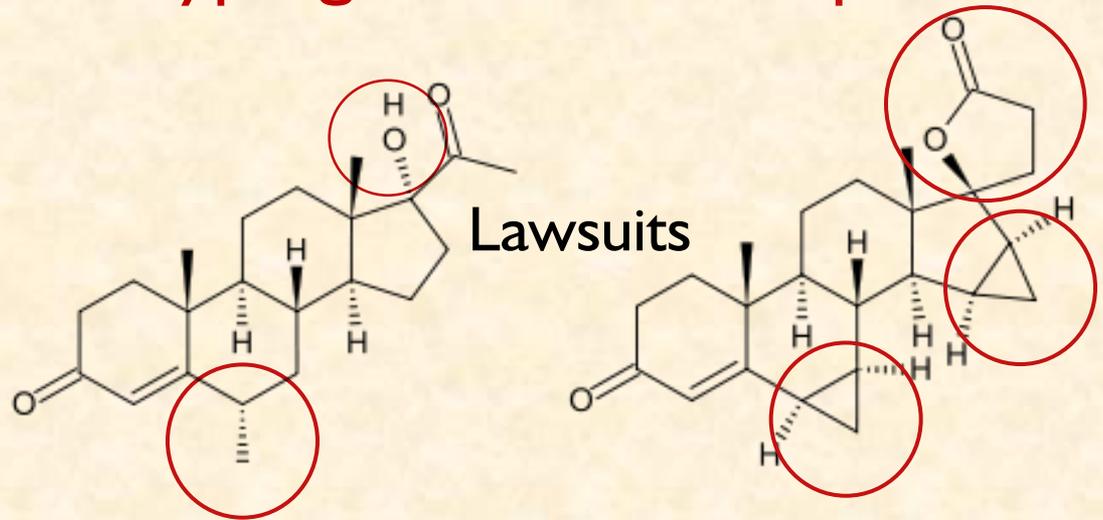
Canonico M, ESTHER study. Circulation. 2007 Feb 20;115(7):840-5

Progestins \neq Progesterone

Progesterone \neq Medroxyprogesterone Drospirenone



\neq



Lawsuits

Provera[®] Prempro[®]

Yasmin[®]

Confusion:

Progestins are often called “progesterone”, in the media and in scientific papers!

Scientific studies show that:

Provera[®]

≠

Progesterone

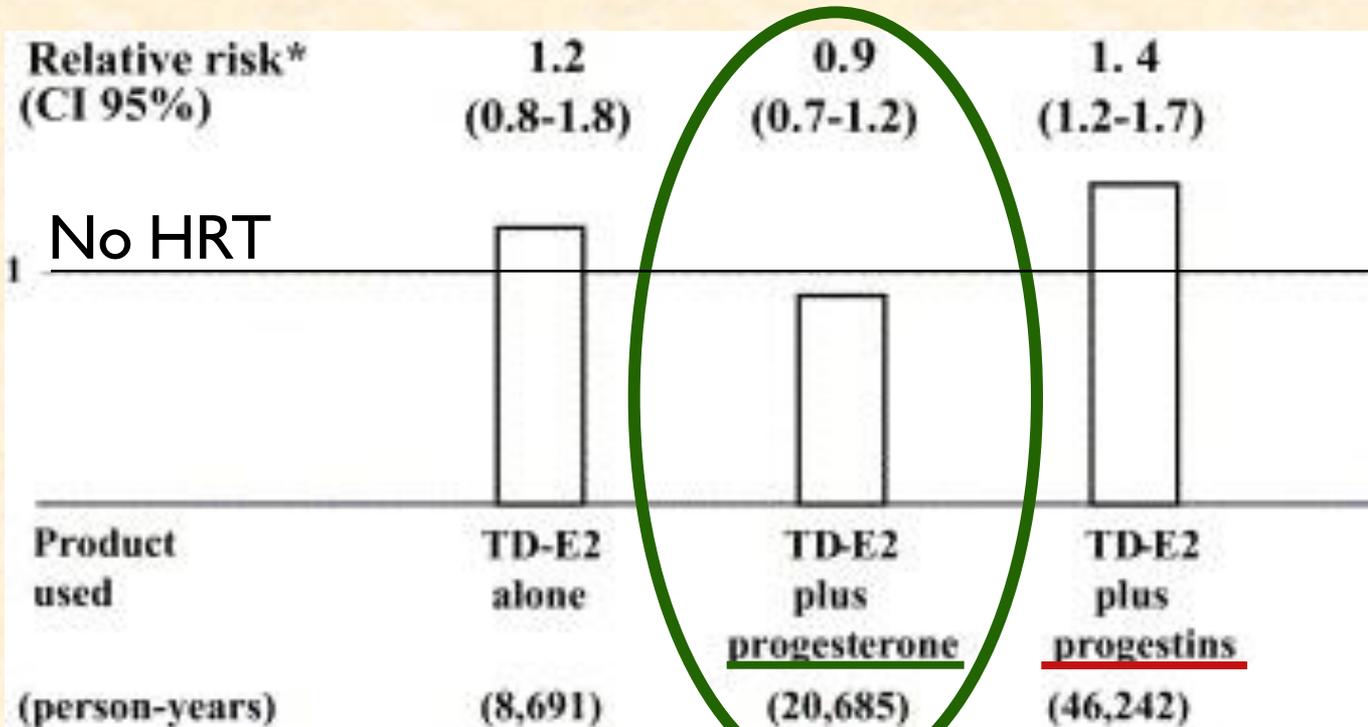
- Causes birth defects
- Can cause depression
- Insomnia, irritability
- Fluid retention
- Raises blood sugar
- Counteracts estrogen-induced arterial dilation
- Worsens lipid profile
- Causes heart attacks
- Increases estrogenic stimulation of breasts
- **Causes breast cancer**

- Maintains pregnancy
- Improves mood
- Improves sleep
- Diuretic
- No effect on blood sugar
- Maintains estrogen-induced arterial dilation
- Improves lipid profile
- No evidence of ↑ CVD
- Reduces estrogenic stimulation of breasts
- **Prevents breast cancer**

E3N-EPIC Study

TD-E2 = transdermal **estradiol**

Cohort study
55,000 women
8 years f/u
c/w WHI--
16,000, 6 yr. f/u



Int J Cancer. 2005 Apr 10;114(3):448-54

E2 plus progesterone: no increased risk of breast cancer!

Similar study: **estradiol + progesterone 0.4**; **estradiol + synthetic progestin 0.94**

Espié, Gynecol Endocrinol. 2007 Jul;23(7):391-7.

Top European Researchers Agree!

“The hypothesis of progesterone ...decreasing the **proliferative** effect of estradiol in the postmenopausal breast remains highly plausible and (progesterone) should be, until the coming of new evidences, the **first choice** for symptomatic postmenopausal women.”

Modena MG, Sismondi P, Mueck AO, Kuttann F, Lignieres B, Verhaeghe J, Foidart JM, Caufriez A, Genazzani AR; The TREAT. Maturitas. 2005 Sep 16;52(1):1-10.

2002 WHI Study—“HRT” is Dangerous!

- ✦ **Premarin[®]** alone given to older postmenopausal women caused adverse effects in the **first year** (**strokes, blood clots**)
 - ◆ Oral estrogens cause blood clots, transdermal estradiol does not
- ✦ Adding **Provera[®]** (**Prempro[®]**) caused more adverse effects (**breast cancers, heart attacks, dementia**)
 - ◆ Provera increases breast cancer and vascular inflammation. Progesterone does neither.
- ✦ Thousands of lawsuits pending; drug companies running a legal-protection propaganda campaign to paint all “hormones” as equally dangerous!

As Women Choose Bioidenticals: Docs Cave In to Pharma Pressure

ACOG October 31, 2005 “...(*compounded bioidentical hormones*) should be considered to have the same safety issues as those hormone products that are approved by the FDA... ..*hormone therapy does not belong to a class of drugs with an indication for individualized dosing*” (????)

The Endocrine Society October 2006 “...*all estrogen-containing hormone therapies, “bioidentical” or “traditional,” would be expected to carry essentially the same risks and benefits (as those products used in the WHI study).*”

North American Menopause Society July 2008 “...*the generalized benefit-risk ratio data of commercially available HT products should apply equally to BHT.”*”

ACOG, The Endocrine Society, and NAMS are all funded by **pharmaceutical corps** that make the **hormone substitutes**.

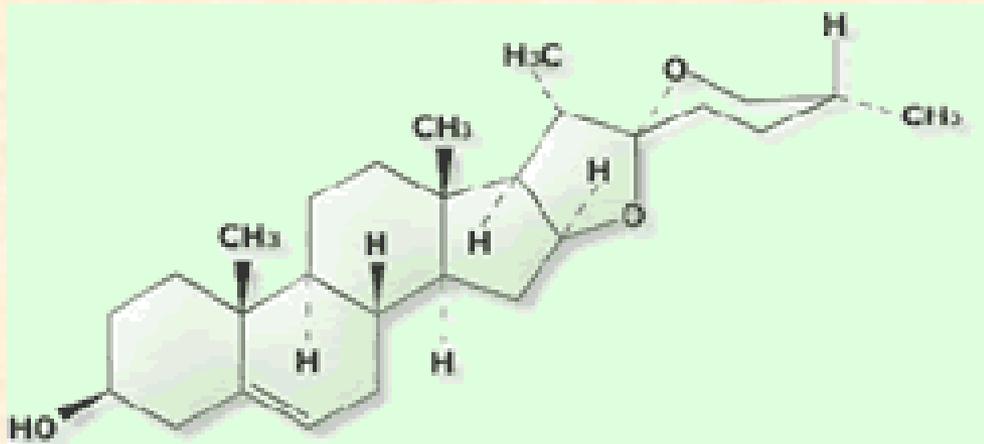
Doctors assume that these are unbiased experts!

Menopausal Hormone Restoration

- ✦ Transdermal **estradiol** combined with sufficient **progesterone** (oral, sublingual, vaginal, transdermal).
- ✦ Daily use: No need to cycle and bleed—uterine lining remains thin.
- ✦ To cycle: **Progesterone** 2 weeks on, 2 weeks off.
- ✦ **Life-Long Restoration**—no reason to stop
- ✦ Include **testosterone** and **DHEA** for **optimal** results.

Where Do They Come From?

- ✦ All bioidentical steroid hormones (and **substitutes** too) are chemically synthesized from diosgenin (from wild Mexican yams and soy).



Avoid ambiguous terms: “natural”, “synthetic”

Compounding Pharmacies

- ✦ USP-certified **bioidentical** hormones mixed into creams, sublingual tablets, capsules, etc.
- ✦ Convenient, low cost, locally-made
- ✦ Individual preparations not studied, the hormones themselves are extremely well-studied.
- ✦ Dose adjusted by symptoms and blood levels
- ✦ **Winola Pharmacy**—Lake Winola, 378-2885
- ✦ **Fino's Pharmacy**—Dallas, 675-1141
- ✦ **Harrold's Pharmacy**—W-B, 822-5794
- ✦ **Hazle Drugs**—Hazelton 1-800-439-2026

What Can You Do?

✦ Self Help Book: *Natural Hormone Balance for Women*
by Dr. Uzzi Reiss OB-GYN

- ◆ Over-the-counter **progesterone** cream, highest dose
- ◆ **Progesterone** 50 to 100mg capsules @ progest50.com

Ask your doctor to prescribe:

✦ From any drugstore : (FDA-approved **bioidenticals**):

- ◆ **Estradiol** gel/patches (Estrogel[®], Climara[®], Vivelle Dot[®] etc.)
- ◆ **Progesterone** Prometrium[®] 100 or 200mg capsule orally or vaginally@bedtime

✦ From a compounding pharmacy:

- ◆ **Estradiol** 1.5mg/0.5ml cream—apply to face and neck daily
- ◆ **Progesterone** 100mg tabs sublingually/vaginally @bedtime

For More Information

- ✦ *The Hormone Solution—Stay Younger Longer*
Thierry Hertoghe, MD
- ✦ *How to Achieve Healthy Aging—Look, Live, and Feel Fantastic After 40* Neal Rouzier, MD
- ✦ Life Extension Foundation (www.lef.org)
- ✦ Information and hundreds of scientific studies at www.hormonerestoration.com.
- ✦ Contact me: Henry@hormonerestoration.com
- ✦ My assistant: Carol@hormonerestoration.com

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