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?
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
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 Good Medical Practice

- If a hormone is low, restore optimal levels!
  - Type 1 Diabetes: bioidentical insulin
  - Hypothyroidism: bioidentical T4 (Synthroid, Levoxyl)
  - Growth hormone deficiency: bioidentical GH
  - Adrenal insufficiency: cortisol (hydrocortisone)
  - Non-bioidenticals: Menopause, autoimmune dz, allergy

The Controversies:
- How do we diagnose deficiency?
- How do we decide which dose is right?
- What do we do about deficiencies due to aging?
Why Docs Don’t Get It: Reference Range Endocrinology

“Normal” ranges are **not** optimal ranges!

- Include 95% of tested persons of **same decade in age**
- Subjects **not** screened for ideal health
- Only some are **diagnostic** ranges (glucose, cholesterol)

Docs assume that all ranges are **diagnostic**, but

- Male free testosterone: **35-155** \(5x!\)
- Female free testosterone: **0.0-2.2** \(\infty!\)
- Thyroid - Free T4: **0.6-1.8** \(3x!\)
- AM serum cortisol **5-25** \(5x!\)

“Normal” result → no hormonal dx/rx → **drugs**
Reference Range Endocrinology

Hormone Effect

FT4 ng/dL

Hormone Level

95% population range
“Everything is Normal”
“No Thyroid Disease”

But Hormone Effects vary continuously with concentration!

Too little
Disease

Too much
Disease
Intelligent Endocrinology

Tighter optimal range based on healthy persons and on physiological research

Individualized diagnosis and treatment

Narrower 95% range

Seen in blood donors and soldiers

What about Losses due to Aging?

DHEA ↔ DHEA-S
Thyropause

80% decline

TSH response to low T4 (2.7-3.2μg/dL)

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.]
Somatopause
Growth Hormone (GH)
Andropause
Testosterone in Men

Baltimore Longitudinal Study of Aging (BLSA). Harman et al., 2001
Steroid Loss in Women >> Men

Men

Testosterone

Women

Progesterone average

According to the graph:

- In young men, the average testosterone level is much higher than in young women.
- In old men, the testosterone level decreases by 50% compared to young men.
- In old women, the testosterone level decreases by 90% compared to young women.

Less estrogen than old men!

DHEA-S 5,000,000 pg/ml  Cortisol 100,000 pg/ml
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
- Our body’s **natural** “steroid”—**anti-inflammatory**
- **We need more cortisol** with stress, inflammation, and **disease**.
- **Too much**→ Diabetes, HTN, belly fat, osteoporosis
- **Too little**→ fatigue, depression, aches & pains, anxiety, hypoglycemia, insomnia, inflammation
- **Modulates** the immune system—prevents and controls **allergies** and **autoimmune diseases**
Cortisol Deficiency

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

Women make 1/2 as much cortisol as men and release less cortisol under stress.

Explains much greater incidence of chronic fatigue, pain, depression, and autoimmune diseases in women

Rheumatic diseases assoc. with ↓HPA activity, lower cortisol levels, and relative adrenal insufficiency

Anti-depressants increase cortisol levels and effects.
Sagud M, Neuropsychobiology. 2002;45(3):139-43
Diagnosis of Cortisol Deficiency

Serum cortisol and ACTH stimulation tests are insensitive

Clue: Feels much better on prednisone, often needs steroids for allergies, illnesses, etc.

Should be assumed in anyone whose condition improves with steroids—artificial versions of cortisol

Unrecognized: Docs only know Addison’s Disease (near total adrenal gland failure)
Diagnosis by Saliva Testing

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 and abdominal fat, 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
All persons on cortisol or steroids must take DHEA
Reduces pain and inflammation
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
- High cholesterol, increased 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!
“Standard” Treatment: give only T₄ (Levoxyl, Synthroid) to “normalize” the TSH level.

Often inadequate, resulting in lower free T₃ levels, higher reverse T₃, persistence of symptoms

Give T₄ plus T₃ (Armour®, levothyroxine + Cytomel®)

Adjust dose according to symptoms and free T₄ and free T₃ levels

The TSH cannot be used to determine dose.

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, 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

**Testosterone dilates coronary arteries—improves angina**

**T decreases fibrinogen levels—↓ risk of blood clots**

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

**T increases heart muscle size, strength**

**Androgen deprivation therapy for prostate cancer causes heart attacks, strokes, diabetes** (FDA 2010)
Testosterone and the Prostate

Lower testosterone levels increase the risk of prostate cancer. J Natl Cancer Inst. 2008 Feb 6;100(3):170-83
Morgenthaler A, Urology 2006;68:1263-7

Testosterone supplementation does not increase the risk of prostate cancer. Morgentaler 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 Morgentaler
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

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

Inadequate Luteal Phase
shorter periods, early spotting
↑’d risk of breast cancer

Ovulation

progesterone

estrogen (estradiol)
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.
  

- **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
Transdermal Estradiol Prevents Heart Attacks

Estrogen Replacement Prevents Alzheimer’s Disease

72% used Premarin® only

Changes in Women’s Bone Mass with Age

Bone mass (grams of calcium)

Fracture threshold
Vertebral fractures
Hip fractures

Age (in years)

Speroff L, Fritz M Clinical Gynecologic Endocrinology and Fertility, 7th Ed.
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

Speroff L, Fritz M Clinical Gynecologic Endocrinology and Fertility, 7th Ed.
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?
Higher progesterone = lower risk of breast cancer

6,000 women
5 yr. F/U

**Progesterone vs. Breast Cancer in menstruating women**

![Graph showing the relationship between progesterone concentration and relative risk of breast cancer](image)

*Adjusted by age, BMI, length-of-cycle, days-from-sampling-to-next-menses, LH and FSH levels

P trend 0.005
Progesterone’s Anti-Estrogenic Actions in Uterus and Breast

- Interferes with estradiol’s binding to receptors.  

- Decreases synthesis of estradiol receptors

- Increases conversion of estradiol to estrone (weak estrogen) by inducing 17β-hydroxysteroid dehydrogenase Type 2

- Reduces conversion of estrone to estradiol by inhibiting 17β-HSD Type 1

- Increases sulfation (inactivation) of estrogens

Williams Text. of Endocrinology, 10th Ed., p. 612
**Progesterone vs. Breast Cancer**

**Progesterone** cream applied to the breast reduces proliferation.  

**Estradiol** is **carcinogenic** in breast cell cultures **unless** progesterone is present.  

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

**Estradiol** upregulates **cancer-promoting** gene bcl-2, **progesterone** downregulates it.  
Progesterone vs. Breast Cancer

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

- Breast cancer victims have progesterone resistance

- BRCA1 gene causes progesterone resistance.

- Progesterone decreases proliferation and induces apoptosis in breast cancer cell lines.
  Ansquer Y, Anticancer Res. 2005 Jan-Feb;25(1A):243-8

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

In peri-menopause/menopause: No progesterone → estrogen dominance in the breasts → breast cancer
Breast Cancer Rate vs. Age

Loss of progesterone $\rightarrow$ higher risk of breast cancer

Menopause

Ovarian function

Incidence Rates for Women

Sunlight, Vitamin D, and Breast Cancer Mortality in the U.S.
Vitamin D Prevents Breast Cancer

Relative risk of breast cancer mortality, by baseline serum 25-hydroxyvitamin D concentration, divided at the median, NHANES III cohort, 1988-2000

Uterine Cancer Rate vs Age

Figure 1.2: Numbers of new cases and age specific incidence rates, uterus cancer, UK 2006

- Menopause
- Ovarian function
- Progesterone levels

Cancer Research UK 2006
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 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 → 2x risk of DVTs, pulmonary emboli
Premarin®
Conjugated Equine Estrogens

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

Oral Estrogens are Dangerous

First-pass effect on the liver → \(\uparrow\) CRP, \(\uparrow\) 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.”

Progestins ≠ Progesterone

Confusion:
Progestins are often called “progesterone”, in the media and in scientific papers!
Scientific studies show that:

<table>
<thead>
<tr>
<th>Provera®</th>
<th>≠</th>
<th>Progesterone</th>
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<tbody>
<tr>
<td>Causes birth defects</td>
<td></td>
<td>Maintains pregnancy</td>
</tr>
<tr>
<td>Can cause depression</td>
<td></td>
<td>Improves mood</td>
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<tr>
<td>Insomnia, irritability</td>
<td></td>
<td>Improves sleep</td>
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<tr>
<td>Fluid retention</td>
<td></td>
<td>Diuretic</td>
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<tr>
<td>Raises blood sugar</td>
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<td>No effect on blood sugar</td>
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<tr>
<td>Counteracts estrogen-induced arterial dilation</td>
<td></td>
<td>Maintains estrogen-induced arterial dilation</td>
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<tr>
<td>Worsens lipid profile</td>
<td></td>
<td>Improves lipid profile</td>
</tr>
<tr>
<td>Causes heart attacks</td>
<td></td>
<td>No evidence of ↑ CVD</td>
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<tr>
<td>Increases estrogenic stimulation of breasts</td>
<td></td>
<td>Reduces estrogenic stimulation of breasts</td>
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<tr>
<td>Causes breast cancer</td>
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<td>Prevents breast cancer</td>
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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

No HRT

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
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.**”

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!
Conventional Medicine is Pharmaceutical Medicine

- Pharmaceutical corporations fund medical schools, journals, organizations, research—follow the money
- Bioidentical molecules cannot be patented
- Pharma Agenda: Sell more high-profit drugs
- Pharma Influence: Label hormone-related symptoms and disorders as syndromes to be treated with drugs (depression, fatigue, fibromyalgia, anxiety, impotence, PMS, osteoporosis, insomnia, etc.)
- Doctors follow pharma-funded org. guidelines
- Hormone and nutrient deficiencies misunderstood, underdiagnosed and undertreated
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
- Only a pharmaceutical corporation could hate compounded bioidentical hormone preparations!
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, forms, and hundreds of scientific studies at [www.hormonerestoration.com](http://www.hormonerestoration.com).