

More than **100 natural remedies**
for **today's common conditions**

With a Foreword and Medical Review by **T. C. THEOHARIDES, PH.D., M.D.**

Professor of Pharmacology, Internal Medicine and Biochemistry
Tufts University School of Medicine

7-SYNDROME *Healing*

Supplement

Essentials for the

Mind and Body

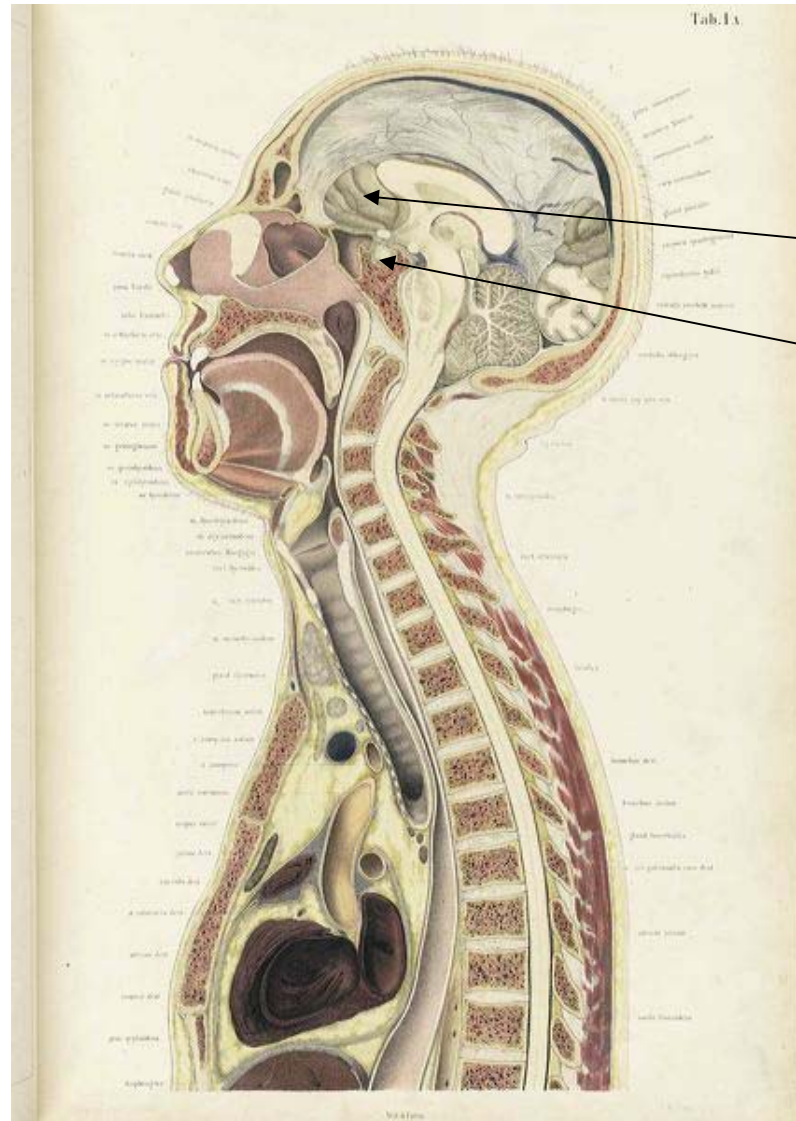
MARCIA ZIMMERMAN, CN
& JAYSON KRONER, CSN

Audio Presentation 7 The Hormone Syndrome

*helping everyone
understand natural
healing*
by Marcia Zimmerman

www.marciazimmerman.com

Hormone Syndrome



Hypothalamus

Pituitary

Hormones

- Chemical messengers or signaling molecules
- 130 currently identified
- Some secreted by “endocrine” glands (sex glands, pancreas, adrenals)
- Others by groups of cells not organized as glands (gastrin, secretin, CCK)
- Feedback mechanism

Classes of Hormones

- Systemic (secreted & stored in glands until a signal is received from HPA to release into general circulation)
- Paracrine (secreted close to site of activity)
- Autocrine (act on cell that released them)
- Neurotransmitters (released from brain, nervous system, adrenals and circulate in entire body)
- Steroids (derived from cholesterol, uptake by receptors in targeted organs)

Hormone Receptors

- Presence, specificity and abundance of receptors in tissues determines their responsiveness to hormones
- Two general types
 - Cell surface receptors (catecholamines, glucagon, insulin)
 - Intercellular receptors (glucocorticoids, thyroid, steroids)
- Activate “second messengers” (cAMP, cGMP) within the cell that cause a specific biological response

Hormone Molecules

- Amino acid-derived hormones
- Autoimmune antibodies acting like hormones
- Fatty acid hormones
- Polypeptides and proteins
- Steroids
- Second messengers

Steroid Hormones

Class	Steroid	Action
Estrogens	Estradiol	Female characteristics
Androgens	Testosterone	Male characteristics
Progestins	Progesterone	Endometrium
Glucocorticoids	Cortisol	Stress response
Mineralocorticoids	Aldosterone	Electrolyte balance
Vitamin D	1,24 DHD-3	Growth factor
Bile acids	Cholic acid	Digestive stimulant

Other Hormones

Class	Hormone	Action
Amino acid-derived	Epinephrine histamine	Stress, immune
Autoimmune	Anti-insulin	Metabolic syndrome
Fatty acid	Prostaglandins	Pro- and anti-inflammatory
Peptides and proteins	Leptin, gastrin	Fat cells, digestion
Steroids	Cortisol	Stress response
Second messengers	Cyclic AMP, cyclic GMP	Phosphorylation; ATP, RNA, DNA

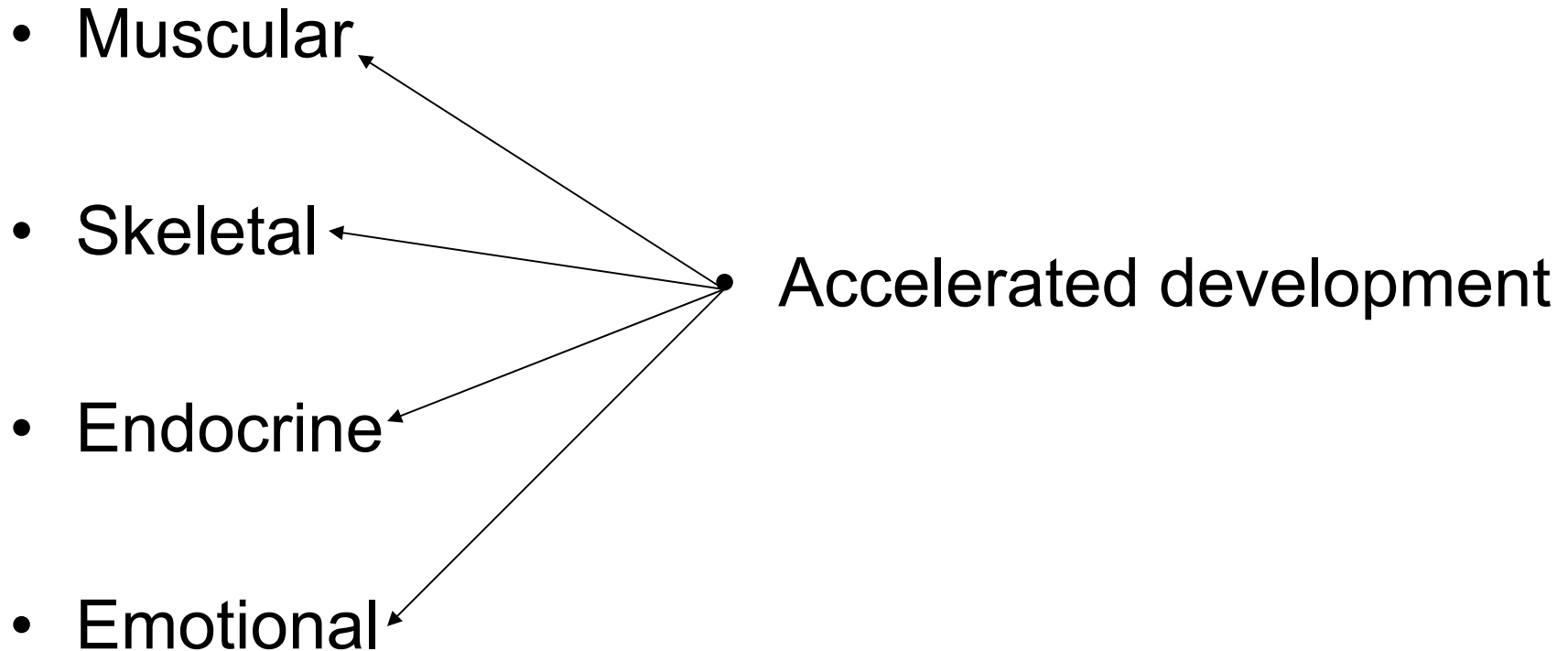
Metabolic Hormones

- **Anabolic hormones – build protein** (growth hormone, insulin, testosterone)
- **Catabolic hormones – breakdown protein** (cortisol, glucagon, epinephrine) **STRESS**
- **Cytokines – peptides secreted by macrophages in inflammatory response and breakdown protein** (IL-1, IL-6, TNF alpha) **INFLAMMATION**

Regulation of Hormone Secretion

- Feedback mechanism – perceived “need” for a specific biological response
 - Hypothalamus, pituitary, adrenal (ACTH, cortisol)
 - Need directly prompts gland to secrete hormone (blood glucose level, elevated Ca^{+2})
- Systemic effects (fight or flight)
- Circulating hormones feedback to brain (reduced levels of stimulating hormones)

Puberty and Adolescence



Nutrient Intake Among Adolescents

- Folate
 - Girls: 42% have inadequate intakes
 - Boys: 17 % have inadequate intakes
- Calcium and Iron
 - Girls: longstanding calcium and iron inadequacies
- Macronutrients
 - Girls: overeaters and undereaters IMAGE!
 - Boys: eat lots but higher activity levels

Teenage Hormone Related Problems

- Acne
- Eating disorders
- Alcohol
- Depression
- Teenage pregnancy
- Dysmenorrhea

Male Hormones



Steroid Hormones Related to Male Development

Hormone	Produced In	Function
Testosterone	Testes	Male characteristics, reproductive function, muscle growth
Dihydrotestosterone (DHT)	Prostate	Growth of male reproductive tract
Dehydroepiandrosterone (DHEA)	Testes	Precursor of testosterone
Androstenediol	Testes	Not known with certainty
Estradiol, estrone	Testes, brain, liver, fat and skin	Action on CNS and brain

Testosterone Maintains

- Physical and sexual characteristics
- Male libido and virility
- Muscle
- Burns fat
- Optimal skin function
- Bone density and strength
- Immune function
- Mental performance

Male Hormones and Aging

- By mid-thirties
 - Testosterone levels begin to decline
 - Estrogen levels stay about the same
- Mid-life (andropause)
 - T/E ratio has slipped even further
 - Less energy, increased midline girth, loss of muscle tone
 - Reduced fertility
- Older men
 - Low sexual drive
 - Fatigue, low stamina, depression, indecisiveness
 - Hair loss,
 - Loss of bone mass

Causes of Shifts in T/E ratio

- Age-related increases in aromatase activity
- Alteration in liver function
- Zinc deficiency
- Obesity
- Overuse of alcohol
- Drug-induced estrogen imbalance (beta-blockers, cimetidine)
- Ingestion of estrogen-enhancing foods (beef, dairy products, fatty foods)
- Endocrine disrupters

Helpful Remedies

- Low testosterone – (7-Keto DHEA)
- Virility (Tribulus, ZMA, Testo-Jack)
- Prostate health (Prostate Support; saw palmetto, pygeum, nettles, lycopene)
- Energy and Sleep (melatonin, GABA)
- Urinary tract (cranberry, D-mannose, vitamin C, AHCC)

Virility

- Low libido affects 25% of men over 50 years of age, about 15 million men in US
- May be psychological or result of conditions (atherosclerosis, diabetes, hypothyroidism, multiple sclerosis)
- **A result of medications** (Proscar, Avodart, blood pressure lowering drugs, tranquilizers, sedatives)
- Overuse of alcohol
- Treatment for prostate cancer
- Prostate surgery

Natural Remedies for Low Libido

- *Ginkgo biloba* 24% ginkgoflavonglycosides
- Asian Ginseng (*Panax ginseng*) 5% standardized extract
- *Tribulus terrestris* 45% steroidal saponins, *protodioscin*
- LJ100™ Tongkat Ali (*Eurycoma longifolia*)
- Muria puama (*Ptychopetalum olacoides*)
- DHEA
- AAKG – L-arginine, alpha ketoglutarate

The Prostate Gland

- Small walnut-sized gland located just under the urinary bladder
- Wraps around the upper part of the urethra, the tube that carries urine from bladder out through the penis
- Secretes fluid to nourish and activate sperm
- Comprises 90% of semen
- Goes through two growth phases, the first during puberty and the second a slow enlargement that becomes most noticeable after age 40

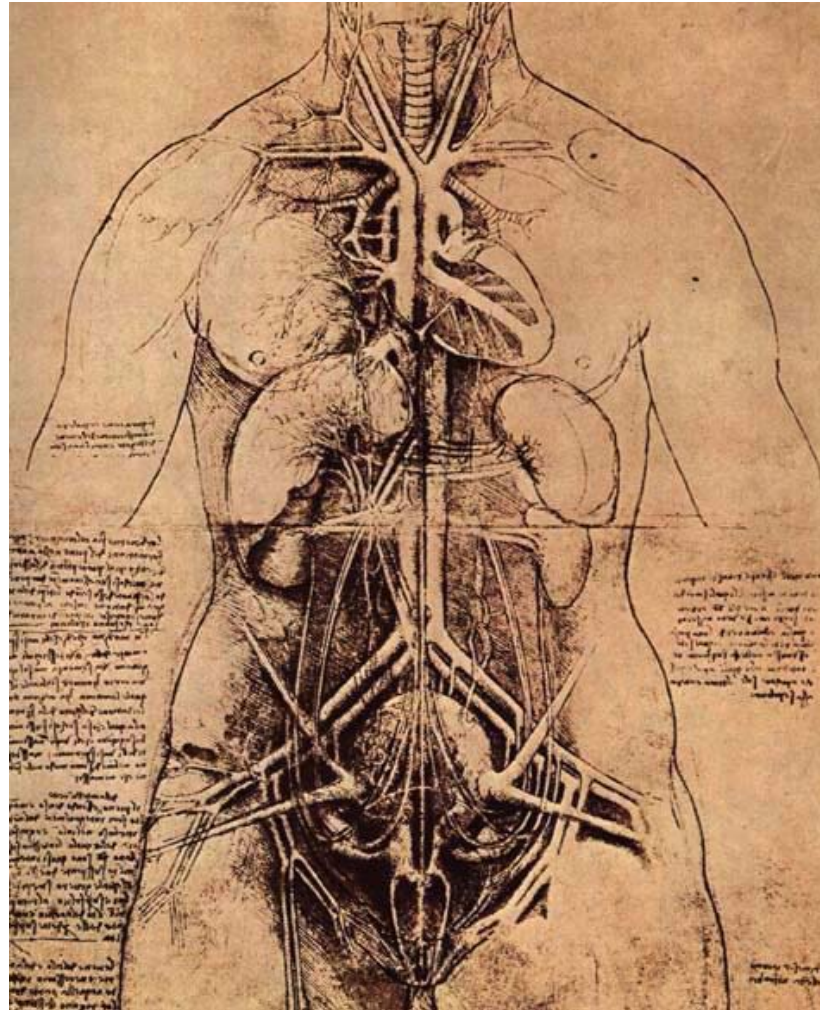
Prostate Enlargement

- Occurs mainly in older men (50 to 60% of men between 40 and 59 years of age)
- Natural balance between testosterone and estrogen shifts
- Estrogenic factors increase cell growth
- Anti-estrogenic factors in cruciferous vegetables (indoles) may be helpful
- DHT (dihydrotestosterone) may accumulate
- BPH symptoms (weak stream, urgency, leaking or dribbling, frequency, especially at night)
- Does not necessarily increase chance of cancer

Natural Remedies

- Saw Palmetto (*Serenoa serrulata sabal*)
- Pygeum (*Prunus africanum*)
- Nettle root (*Urtica dioica*)
- Essential fatty acids
- Pumpkin seed oil
- Zinc (ZMA®) and vitamin B-6
- Selenium and Lycopene
- Broccology, soy isoflavones, IP-6, I-3-C
- AHCC

Female Hormones



Birth to Puberty

- 7 million germ cells in female fetus
- ½ million eggs in the ovaries at birth
- Development inhibited until 9 – 10 years
- Hypothalamus/pituitary stimulation, follicles begin to mature
- Estrogen release – secondary sexual characteristics
- Androgens inhibit follicle development
- 500 mature eggs produced during the average female lifetime

Menarche

- Average age is 12 to 14 years
- Range between 10 and 18 years
- Precocious puberty, what is normal?
- Role of endocrine disrupters
- Dietary factors and heredity determine age
- Body weight needs to be 105 pounds
- Ovulation stabilizes around 17 – 18 years
- Many hormonal fluctuations

Steroid Hormones Related to Female Development

Hormone	Produced In	Function
17 β -estradiol	Ovary and follicle	Cell proliferation
Estrone	Placenta	Endometrium
Dehydroepiandrosterone sulfate (DHEA)	Adrenals	Converted into estriol
Estriol (from DHEA sulfate)	Placenta	Cell growth and differentiation
Progesterone	Corpus luteum	Endometrium, mammary gland

Female Peptide Hormones Non-Pregnant

Hormone	Produced In	Function
Follicle-stimulating hormone (FSH)	Anterior pituitary	Stimulates estrogen production, maturation of follicle
Luteinizing hormone (LH)	Anterior pituitary	Stimulates progesterone production

Female Peptide Hormones During Pregnancy and Lactation

Hormone	Produced In	Function
Prolactin	Anterior pituitary	Simulates milk production
Human chorionic gonadotropin (HCG)	Placenta and embryo	Stimulate progesterone production
Human placental lactogen (HPL) also known as (HCS)	Placenta and embryo	Peripheral insulin resistance in mother
Relaxin	Ovary	Softening of uterine cervix
Oxytocin		Uterine contractions, milk release
Prostaglandins	Fetus	Uterine effects

Estrogen Affects

- Uterus
- Vulva and vagina
- Breasts
- Bones
- Hair and skin
- Heart
- Central nervous system, brain
- Immune system

PMS

- May follow any interruption in the normal menstrual cycle
- Sterilization by tubal ligation or hysterectomy
- Pregnancy complications
- Postpartum depression

PMS Affects

- 20 to 50% of all menstruating women
- 50% of gynecological patients
- Spouses and families
- Professional performance
- Cyclic co-ordination among women
- Characteristics that increase risk of PMS
- Increases chances of menopausal symptoms

Peri-Menopause

- Regular periods, may become irregular
- Only about half are ovulatory
- Usually after the age of 40
- May present difficulty in conceiving
- May produce a “change of life” pregnancy

Menopause

- 50 ova left by age 40
- Diminished and sporadic release
- Estrogen drops, estrone less so
- Corpus luteum ceases to function
- Progesterone drops

Effects of Stress on Women

- Disorganization
- Decision making difficulties
- Dependency – fantasies
- Depression

Helpful Remedies

- Menarche (Cal/Mag + D softgels, multiple with B-vitamins)
- PMS (Chaste tree berries, 5-HTP, Super Primrose oil)
- Menopause (Menopause Support; red clover, black cohosh, dong quai. Estrogen dominance, progesterone crème, pomegranate, resveratrol, isoflavones, indol-3-carbinol)
- Energy – thyroid energy, melatonin, DHEA

Hormone Related Cancers

- Prostate cancer –
 - Most common form of solid tumor
 - 220, 000 diagnosed, 31,000 deaths per year
 - Nearly 100% survivable, early detection is key
- Breast, cervix, Endometrium, ovary cancers –
 - 250,000 diagnosed, 70,000 deaths (44,000 from breast)
 - Survival rates: 72.5% and 86 % for breast
- Modifiable risk factors

Urinary Tract

- Cranberry (*Vaccinium macrocarpon*)
- Natural vitamin C (*Phyllanthus emblica*)
- D-mannose
- Quercetin
- Glucosamine sulfate complexed with hyaluronic acid
- AHCC

Vitamin D $(1,25(\text{OH})_2\text{D}_3)$

- Part of the endocrine system
- Modulates other hormones (estrogen, calcitonin, growth hormone, prolactin, insulin, glucocorticoid)
- Receptors on target cells (adrenals, bone, bone marrow, brain, breast, cartilage, colon, epididymis, hair follicle, intestine, kidney, lungs, smooth and cardiac muscle, osteoblast, ovary, pancreas, parathyroid, parotid, pituitary, placenta, prostate, retina, skin, stomach, testis, thymus, thyroid, uterus)
- New evidence of anti-cancer effects, need for increased amounts (2,000 IU soft gels)

To Sum It All Up

- Hormones come in many forms
- All are chemical messengers
- Intimately involved with all 7 syndromes
 - Stress
 - Metabolic
 - Cardiovascular
 - Immune
 - Osteo