

# Silicon Valley Health Institute

Host of the Smart Life Forum

**Next Meeting: Thursday, November 21, 2013**

**Short Presentation: Dr. Anne Chang, MD**  
*“Reversing Aging Skin”*

**Main Presentation: Dr. Doug Husbands, DC, CCN**  
*“Optimizing Adrenal Function for Healthy Aging”*

## **Smart Life Forum**

### **Presentation Location**

Cubberley Community Center

Room H1

4000 Middlefield Road

Palo Alto, California

Directions on our website:

[www.SVHI.com](http://www.SVHI.com)

For those who cannot attend,  
you can view livestreaming at

<http://bit.ly/Zpld3o>

See our archived videos at

[http://tinyurl.com/  
smartlifeforum](http://tinyurl.com/smartlifeforum)



*Meet Dr. Doug Husbands*  
Page 3



*Meet Dr. Anne Chang*  
Page 11

## **Newsletter Table of Contents**

Page 2 - Announcements/Upcoming Events

Page 3 - Meet Dr. Doug Husbands, DC, CCN!

Page 4 - Main Presentation #1: *“Optimizing Adrenal  
Function For Healthy Aging”*

Page 11 - Meet Dr. Anne Chang, MD!

Page 11 - Short Presentation: *“Reversing Aging Skin”*

Page 12 - Become a member of the SLF Community!

## **Announcements/Upcoming Events**

### **Foundation for Mind Being Research Meeting**

**Friday, November 22, 2013 @ 7:30pm**

Speaker: Laura Stuve, PhD

Will speak about Body Talk.

Please go to [www.FMBR.org](http://www.FMBR.org) for more information.

### **Commonwealth Club Meeting**

**Expert Roundtable on cell phone hazards**

**December 9, 2013 @ 11:00am-2:30pm**

Panelists will include: Devra Davis, founder of the Environmental Health Trust with world renown researchers on the health effects of cell phones.

### **Upcoming Speakers:**

#### **DECEMBER**

Sherril Sellman, ND - "Hormone Issues"  
Pot Luck Dinner

#### **JANUARY**

Garry Gordon, MD, DO  
Melissa Ponce, DC - "Biofilms"

#### **FUTURE SPEAKERS:**

Beverly Rubik  
Mahtab Jafari - "Truth About Anti-Aging Medicine"  
Ari Vojdani - "Immunity Issues"  
Diana Schwarzbein, MD  
Devra Davis, Ph.D. - "Disconnect: Cell Phones and Industrial Response"

***If you have questions please email [susanrdowns@hotmail.com](mailto:susanrdowns@hotmail.com) or call 650-704-7710.***

Thank you.

## ***Presentation #1 Speaker: Meet Dr. Doug Husbands, DC, CCN!***



Dr. Douglas Husbands, DC, CCN has been helping people resolve chronic illness and improve their health in California for over 20 years. He has worked in health care for over 25 years.

Dr Husbands is one of the best trained holistic doctors in the U.S. He graduated from San Francisco State University with a B.S. degree in Biology/Human Physiology in 1983. In 1991, he graduated from Cleveland Chiropractic College of Los Angeles and became a Doctor of Chiropractic. In 1996, he earned his post-graduate board certification as a Certified Clinical Nutritionist with the International and American Associations of Clinical Nutritionists, and in 2000, he became a certified Anti-Aging Health Care Practitioner with the American Board of Anti-Aging Health Practitioners. In 2003, he became a Functional Medicine physician after completing training at the Institute for Functional Medicine.

Prior to becoming a Chiropractor in 1991, he worked in Sports Medicine as a physical therapy aide and had a personal exercise training business in the 80's.

Dr. Husbands has been sought for expert opinion by national health magazines and been published in peer-reviewed journals. He has taught many classes and lectured extensively to a wide variety of audiences on natural health topics and functional medicine.

His clinic is located at Rivera Chiropractic Group in San Carlos, at the center between the San Jose (South Bay) and San Francisco. He offers phone consultations for people outside of the San Francisco bay area. His website is [www.HolisticHealthBayArea.com](http://www.HolisticHealthBayArea.com).

*(End of Meet Dr. Husbands!)*

# Presentation #1

## by Dr. Doug Husbands, DC, CCN

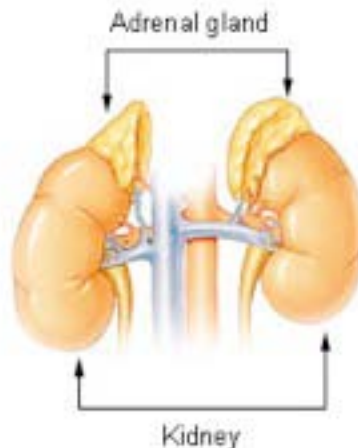
*“Optimizing Adrenal Function for Healthy Aging”*

A sentinel is defined as one who watches over and guards. The adrenal gland is the key sentinel organ of the internal environment in the human body.

### Adrenal Gland Basic Concepts

The adrenal glands are small glands on top of each of the two kidneys, as illustrated below:

#### Adrenal Gland



In human adults, the combined weight of the adrenal glands is only about 7 to 10 grams, or about one-third of an ounce. The glands consist of an outer cortex and an inner medulla.

### Summary of Primary Functions of the Adrenocortical Hormones:

#### 1. Cortisol

Cortisol is the primary glucocorticoid, a steroid hormone which regulates glucose. Cortisol is generally a catabolic hormone. Catabolic is a term used to refer to the breaking down of more complex substrates into less complex molecules to be used for energy.

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The amount of cortisol present in the blood undergoes diurnal variation; levels normally peak at about 8:00 a.m., drops significantly by about 12:00 noon, gradually declines throughout the afternoon and early evening, and reaches its lowest level at about midnight to 4:00 a.m. The primary regulator of cortisol is the hypothalamic Corticotropin Releasing Hormone (CRH). CRH is controlled by cognitive perception of stress by the individual. CRH regulates pituitary adrenocorticotrophic hormone (ACTH), which controls adrenal cortisol output. Hypothalamic-pituitary-adrenal feedback normally provides constant regulation of proper secretion levels.

***Cortisol:***

- Mobilizes glucose from our tissues during stress to raise glucose via a process known as gluconeogenesis. Gluconeogenesis is the process by which glucose is derived from substrates of fats and proteins.
- Maintains adequate levels of glucose to provide energy for brain function while we are in a fasting state during sleep at night, via gluconeogenesis.
- Down regulates Interleukin 2, resulting in decreased B-cell antibody production. This results in anti-inflammatory and anti-allergenic effects.
- Increases osteoclastic activity and hinders osteoblastic activity in chronically elevated states, thereby decreasing bone density. When chronically elevated, it also promotes proteolysis, the breakdown of proteins into amino acids. For those with chronically elevated cortisol, this is a major reason for loss of muscle mass, aka sarcopenia.
- Induces lypolysis (breakdown of fats) under some conditions, but can also induce adipose tissue deposition in other conditions.

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## 2. Dehydroepiandrosterone (DHEA)

This is the main androgen produced by the adrenals. It is also the most abundant circulating steroid. An androgen is defined as a steroid that stimulates and controls the development and maintenance of male characteristics. Androgens, such as DHEA, generally have anabolic properties. Anabolic means “building up” of more complex substrates from smaller molecules. Anabolic processes require energy from nutrients.

### *DHEA:*

- Is primarily a metabolic intermediate in the synthesis of androgens and estrogens
- Functions as a weak agonist of the androgen receptor
- Acts as a weak partial agonist of Estrogen Receptor Alpha (ER- $\alpha$ )
- Acts as a strong activator of Estrogen Receptor Beta (ER $\beta$ ), to even a slightly greater extent than estradiol activates ER $\beta$
- Functions as a “neurosteroid”, due to its indirect agonistic effects on the NMDA receptor, helping brain plasticity

## 3. Aldosterone

The major mineralocorticoid. Mineralocorticoids function as regulators of sodium, calcium, potassium and other minerals.

### *Aldosterone:*

- Is the primary hormone controlling regulation of blood pressure
- Induces the kidney’s distal convoluted tubule to reabsorb sodium and excrete potassium and hydrogen ions

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### Summary of Primary Functions of the Adrenomedullary Hormones:

#### 1. Adrenaline (epinephrine)

The main catecholamine produced by the adrenals. It acts as a hormone and neurotransmitter. The adrenal medulla receives input from the sympathetic nervous system through preganglionic fibers originating from the fifth to the eleventh thoracic spinal cord levels (T5–T11).

#### *Epinephrine's hormonal effects:*

- Induces the “flight or fight response”
- Increases the heart rate
- Increases respiratory rate
- Stimulates glycogenolysis, the breakdown of glycogen to glucose in the liver to be used for energy
- Induces lipolysis, the breakdown of triglycerides into free fatty acids
- Dilation of skeletal muscle's blood vessels
- Induces skeletal muscle contraction
- Induces smooth muscle relaxation of respiratory bronchioles

#### 2. Noradrenaline (norepinephrine)

The other catecholamine secreted by the adrenals in about one-fourth the amount as epinephrine. Like epinephrine is also a hormone and neurotransmitter.

#### *Norepinephrine's hormonal effects:*

- Assists in the “flight or fight response”
- Increases the heart rate
- Constricts peripheral blood vessels

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Therefore, though small in weight and size, the adrenals have essential health maintaining and life-sustaining functions. Maintaining healthy adrenal function is an important component in healthy aging.

However as alluded to, the entire hypothalamic-pituitary-adrenal-thyroidal-gonadal-gut axis (HPATGG) must be considered due to the intricately connected functions. To maintain the highest functionality possible throughout life for healthy aging, one should vigilantly seek to optimize HPATGG function.

### *Overview of the Hypothalamic-Pituitary-Adrenal-Thyroidal-Gonadal-Gut (HPATGG) Axis*

With advanced diagnostic testing available now – advanced diagnostic laboratory evaluations, diagnostic imaging methods, and other advanced methods including measuring the energy fields within the body – it is becoming more clear that body systems function in an interdependent manner. 21<sup>st</sup> century health care must have the perspective towards looking at how systems work in coordinated, integrative, complex, interdependent mechanisms. One of the key integrated multisystem complexes is the HPATGG axis (hypothalamic-pituitary-adrenal-thyroidal-gonadal-gut axis).

Hypothalamic releasing hormones act as regulators to pituitary hormones. The pituitary hormones in turn have a stimulatory effect on the corresponding hormones of the target endocrine gland. The target endocrine gland releases hormones into the bloodstream, giving various systemic effects.



### A note from Dr. Husbands:

The focus of this presentation is the adrenal glands and the cross-talk between the thyroid, and testes or ovaries. There is bidirectional feedback throughout the HPATG axis for stimulatory and inhibitory effects to maintain systemic homeodynamics within a life-sustaining range. Due to the multitude of neuroendocrine connections and bidirectional feedback to the gastrointestinal tract (aka the “gut”), any discussion of the neuroendocrine system must include consideration of gut function.

The presentation will cover:

1. Review of the fundamental endocrine functions of some of the key adrenal hormones
2. Summary of the importance of healthy interplay between the hypothalamic-pituitary-adrenal-thyroidal-gonadal-gut (HPATGG) axis
3. Brief discussion on diagnostic methods for identification of dysfunctional and healthy adrenal function
4. Correlate how these factors influence how we age
5. Summary of dietary and lifestyle recommendations for improving and optimizing HPATGG function.

*(End of Main Presentation #1)*

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### **About Smart Life Forum**

Smart Life Forum, Inc. is a 501(c)(3) California nonprofit corporation whose primary mission is to provide credible health education to the public with an emphasis on optimal wellness, anti-aging medicine, and longevity.

Annual memberships in Smart Life Forum, Inc. and charitable donations are tax deductible to the extent allowed by law. For information on how to join or make a donation, please visit our website: [www.SVHI.com](http://www.SVHI.com).

For questions, please contact Susan Downs at [susanrdowns@hotmail.com](mailto:susanrdowns@hotmail.com).

### **Become a Member!**

Smart Life Forum, Inc. (SLF) is a California qualified 501(C)(3) nonprofit corporation organized under state law for educational and scientific purposes as a public benefit corporation. Please make your check payable to "Smart Life Forum, Inc." Please send your email address as well.

#### **Donations Welcome!**

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**Annual Membership \$60 (per household)**

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## ***Main Presentation #2 Speaker: Dr. Anne Chang, MD!***



Dr. Chang is the Director of the Advanced Basal Cell Carcinoma Clinic at Stanford and is the Director of Adult dermatological Clinical Trials. She completed medical school at Harvard, and residency in Dermatology at Stanford University Medical Center and is a board certified dermatologist.

She has completed numerous clinical research trials and over 40 publications.

Her interests include skin problems in older adults, genetics and epigenetics of healthy skin aging, novel therapies to promote healthy skin aging. She also studies new treatments for skin cancers.

*(End of Meet Dr. Anne Chang, MD!)*

## **Short Presentation: by Dr. Anne Chang, MD** *“Reverse Aging Skin”*

Dr. Chang will discuss the possibility of reversing skin aging. She will describe recent technologies their possible effects on reversing aging. She will explore what promotes aging, what protects against aging and how the skin provides a window into aging in the human body.

*(End of Short Presentation)*

**Join Us!** First time Visitors and Non-Members \$10 per meeting (at door).

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