

Silicon Valley Health Institute

host of the Smart Life Forum

NEXT MEETING: Thursday, February 21, 2013, at 7pm

Bernd Friedlander, DC, Phillip Miller, MD and Douglas Husbands, DC, CCN “Mitochondrial Health”

Note: Main Presentation precedes Short Talk.

***Meet the Panelists, Bernd Friedlander, DC,
Phillip Miller, MD and Douglas Husbands, DC,
CCN:***



Bernd Friedlander, D.C., has a Bachelors Degree in Physical Education with emphasis in applied kinesiology from San Francisco State University, and a Doctorate of Chiropractic Degree from the Los Angeles College of Chiropractic. He has been involved in developing nutritional therapies since 1982. As result of his therapeutic formulas, he pioneered the research and use of nutrition and free form amino acids for improving athletic performance as a safe

alternative to steroids.

During his career Dr. Friedlander has served as a nutritional and sports injury consultant for athletic members of track teams at UCLA, USC Berkeley, Stanford and many professional track and field athletes from all over the U.S. He has also worked with professional players from the Los Angeles Rams, Los Angeles Raiders, Los Angeles Clippers, Los Angeles Lakers and the San Diego Chargers. In 1984 he served as a chiropractor and a nutritional

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Presentation Location:

Cubberley Community Ctr.
Room H1
4000 Middlefield Rd.
Palo Alto, California
Driving directions on our website,
www.SVHI.com

***For those who cannot attend
we have live streaming and
video archiving at
<http://bit.ly/ZpId3o>***

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MD, D Husbands, DC, .CCN.*
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Membership Formpage 8

Foundation for Mind Being Research (www.FMBR.org)

February 22 Meeting: Dr. Keith Scott-Mumby, will be our speaker.

His topic will be: “Informational Medicine”. His websites: alternative-doctor.com, and www.scott-mumby.com

(MEET THE PANELISTS, continued)

consultant to numerous members of the U.S. Olympic Track and Field Teams and U.S. Olympic Crew Teams.

In the ensuing years, Dr. Friedlander has also developed a number of proprietary nutritional formulas. These products are designed to maintain and promote health and longevity.

He is an experienced speaker who has lectured across the country for over 30 years on nutrition and anti-aging and has made numerous TV and radio appearances. He has written sports and nutritional articles and has given interviews for numerous magazines.



Dr. Philip Lee Miller, MD, Founder and Medical Director of Los Gatos Longevity Institute, has been in medical practice for over 36 years. The Institute enjoys a world wide reputation.

He graduated from UC Berkeley in 1968 (Centennial Class) with a degree in Biochemistry, later graduated from the School of Medicine at UC San Diego in 1972 with an MD degree in the school's first (charter) graduating class, and went on to pursue further training in Neurology at UC Davis. He has been ABEM Board Certified in Emergency Medicine and is now a Diplomat of the ABAAM Board.

Dr. Miller has become a leader in non-traditional medicine with a close one-year association with Dr. Julian Whitaker of the Whitaker Wellness Institute in Newport Beach, California.

He is currently a charter member of the American Academy for Anti-Aging Medicine and has passed the first-ever Board Exams in Anti-Aging Medicine in December 1997 and December 1998, becoming Board Qualified by the ABAAM Board (American Board on Anti-Aging Medicine). He holds distinctive memberships in the American Academy of Anti-Aging Medicine (A4M), European Academy for Quality of Life and Longevity (EAQUALL), the American College for the Advancement in Medicine (ACAM), (past) American Academy of Neurology (AAN), as well as the Santa Clara Medical

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Future Speakers:

March 21, 2013:

James LaValle, R.Ph, CCN, NMD:

"Metabolic Wellness: Cracking your Metabolic code and Personalizing Your Health Choices to Create a Health-Style"

April 18, 2013:

Jerry Kartzinel, MD:

"Multi Prong Approach to Autism"

May 16, 2013:

Mahtab Jafari, Pharm D

"What is real in anti aging medicine"

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. For questions, please contact Susan Downs at susanrdowns@hotmail.com

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Society, and the California Medical Association (CMA).

Dr. Miller co-authored the seminal book on Anti-Aging Medicine, *The LEF Revolution: The New Science of Growing Older without Aging* released in 2005. Dr. Miller has written cogent and provocative blogs for Huffington Post and submits similar blogs on Health Medicine Update.



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

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(MAIN PRESENTATION)

[Note: Main Presentation precedes Short Talk this month.]

Main Presentation Panelist Topic:

Mitochondrial Health

by
Susan Downs, MD, MPH, SM, MS

Physics defines “energy” the ability to do work. This energy is needed to drive bodily functions such as muscle contraction, the beating of the heart, conduction of messages among neurons and the migration of white blood cells to a site of injury in the immunological response.

Mitochondria are located in the cell membrane and are the cellular powerhouses that generate adenosine triphosphate (ATP), the energy source that powers cellular activities. ATP is produced in cells by from (the oxidation of) carbohydrates, proteins and fats. ATP is also the energy source produced during photosynthesis in plants. Mitochondria also participate in signaling, cell differentiation, cell death as well as control of the cell cycle and cell growth.

The mitochondrial content of tissues can undergo adaptive increases or decreases in responses to changes in energy demand and substrate supply. The cells of the brain, skeletal muscle, heart muscle, and the eye have the highest energy demands and contain the highest number of mitochondria (approximately 10,000 per cell) while the skin which does not require as much energy contain only a few hundred mitochondria. The mitochondrial production of ATP results

in the creation of free radicals. Free radicals can damage other tissues by stealing electrons. This is referred to as oxidative stress or oxidative damage. Free radicals can also damage mitochondrial DNA (leading to genetic mutations) and a depletion of telomeres which help in cell repair. Free radicals can also oxidize proteins such as LDL which promote atherosclerotic plaque.

At low levels, these free radicals (reactive oxygen and nitrogen species) are signaling molecules. If the free radical load is too great (either because there are too few free mitochondria or because the mitochondria are not working properly) some free radicals escape and will do damage particularly to the mitochondria. Damaged mitochondria results in energy depletion, accumulation of toxic substances within the cell and cell death. When the mitochondria are not overburdened, there is less free radical creation during ATP production.

Mitochondrial health is an important factor for health and aging. The disruption of mitochondrial function has been implicated in many disease including atherosclerosis, ischemic heart disease, cancer, diabetes and neurodegenerative diseases such as Alzheimer’s disease, Parkinson’s disease, Huntington’s disease and ALS. With aging and cumulative free radical attack, mitochondrial health deteriorates.

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(MAIN PRESENTATION, continued)

WAYS TO INCREASE MITOCHONDRIAL HEALTH

Poor mitochondria function can result from nutritional deficiencies and environmental toxins. Hence, the approach to improve mitochondrial health will include life style changes such as diet, supplements, exercise and avoiding exposure to environmental toxins).

Exercise

Exercise especially endurance training increases mitochondrial function, sparks neurogenesis (the creation of new brain cells.) It increases the muscle density of mitochondria in muscles and all other tissues.^{1,2} Exercise also increases neurogenesis, and neuronal stem cells, increases the size of the hippocampus (one of the early targets of Alzheimer's Disease), and improves memory and cognition

Diet

Mitochondrial health depends on a diet that stabilizes blood sugar, and normalizes fatty acids. Fresh vegetables, healthy fat such as olive oil, avocado oil, coconut oil and products, nuts, seeds, and grass fed and free range animals.

Turning away from sugar burning to fat and ketone burning can help mitochondrial health. Mitochondria burn fatty acids cleaner than they burn carbohydrates. Generating ATP via fats/ ketone produces fewer free radicals because it is more efficient and sustains mitochondrial health.

Minimizing methionine consumption can reduce mitochondrial oxygen radical production.³ High levels of methionine is found in eggs, sesame seeds, brazil nuts, fish, meats, and cereal grains. Most fruits, vegetables and legumes are low in methionine.

Caloric restriction not only increases energy output (mitochondrial biogenesis), but it reduces oxidative stress, inflammatory factors, and decreases apoptotic factors (factors leading to cell destruction). It also is neuro-protective, improves memory and helps regulate gene expression. While some researchers found that caloric restriction increased mitochondrial function, Hancock et al. found that a 30 % caloric restriction did not increase mitochondrial biogenesis.⁴

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(MAIN PRESENTATION, continued)

, Telomere dysfunction induces metabolic and mitochondrial compromise. ⁵ Life style choices results in shortened telomeres. Telomeres shorten with age, birth from older parents, stress, environmental toxins such as toluene, benzene, and poly aromatic hydrocarbons. Telomeres can be improved with antioxidants, exercise, decreased poly unsaturated fatty acids, and control of blood sugar, blood pressure, homocysteine, and c reactive protein levels. Avoiding excess iron levels is also essential to mitochondrial health. ⁶

SUPPLEMENTS

There are many supplements including minerals, amino acids, and antioxidants that boost mitochondrial function

Acetyl L carnitine improves mitochondrial function. It transports fatty acids to the mitochondrial membrane so it can be converted to ATP. Acetyl L carnitine also protects brain cells and has been postulated to protect brain cells from the toxic effects of the aggregated amyloid beta plaques (which are found in Alzheimer's Disease). It helps neutralize free radicals.

Carnosine is an antioxidant and free radical scavenger. It prevents age related damage known as glycation (contributing to wrinkles and the corneal opacity of cataracts)

Lipoic acid decreases oxidative stress and improves mitochondrial function and protects brain cells . It is a potent antioxidant. It regenerates levels of vitamin C, vitamin E and boosts the antioxidant, glutathione. it also helps in diabetic neuropathy, glycemic control and to protect brain cells.

Glutathione supports mitochondria function and supports ketogenic burning so less energy is diverted to cleaning up free radicals. Supplementation with glutathione difficult because glutathione is poorly absorbed

Co Q 10 is a powerful antioxidant, cofactor in cellular energy and is vital in the production of ATP. It plays a unique role as an electron carrier in the electron transport chain in the inner mitochondrial membrane and in the production of ATP.. It prevents the breakdown and loss of ATP metabolites. It has cardioprotective, neuroprotective properties and is a calcium channel blocker and cell membrane stabilizer

Vitamin K2 is a mitochondrial electron carrier resulting in more efficient ATP production.⁷

Autophagy, (cell destruction) at controlled levels can help regulate mitochondrial function.

Nicotinamide enhances mitochondria quality possibly by regulating the levels of autophagy.⁸⁻¹⁰

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Videos for Sale

Smart Life Forum offers an extensive video library of most of our meetings, available on DVD. You may purchase a DVD at the meeting, or request a DVD via email. Please see our website for meeting information and how to order.



(MAIN PRESENTATION, continued)

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