Silicon Valley Health Institute

Host of the Smart Life Forum

Next Meeting: Thursday, August 18, 2016

Main Speaker: Joe Cohen

"Self Hacking to Wellness"

Secondary Speaker: John Furber

"Latest From Recent Healthy Aging Conferences"

Smart Life Forum Presentation Location

Cubberley Community Center

Room H1

4000 Middlefield Road

Palo Alto, California

Directions on our website:

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

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Announcements & Upcoming Events

Upcoming Speakers:

SEPTEMBER 2016
Filomena Trindade, MD, MPH
"Diabesity"

OCTOBER 2016
Peter Glidden, ND
Steve Blake, ScD - "Stop Strokes Before They Start"

NOVEMBER 2016
Dale Breseden, MD - "Reversal of Memory Loss in Alzheimer's Disease"

DECEMBER 2016
Elizabeth Mazzio, PhD

Upcoming Foundation for Mind Being Research Meeting (FMBR)

Friday, August 26, 2016 @ 7:30pm

Stanley Krippner, PhD

"The Spiritual Transformative Power of Ayahuasca"

Unity Community Church
Y.E.S. Hall
3391 Middlefield Rd, Palo Alto, CA

Please visit www.FMBR.org for more info.

Volunteer Positions Available!

SVHI is looking for volunteers for:

- *Video Assistant*

If you have questions please email: susanrdowns@hotmail.com Thank you.

News Alert!

The board has decided to provide transcripts for our speakers' presentations. These transcripts will be provided for members only, and are expected to increase internet traffic to our site. These transcripts are provided by a generous donation by our chair, Dave Asprey. We will be working on these transcripts, so stay tuned!

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Main Presentation Speaker: Joe Cohen!

Joe is the owner and main writer at Selfhacked.com. Since upgrading or 'biohacking' himself, Joe has become an investor and entrepreneur, founding SelfDecode, SelfHacked and the SelfhackedStore.

SelfDecode is a biotech company that helps people understand their genetics in order to optimize their health. It uses genetics, blood tests, symptoms and other health data to predict beneficial outcomes for drugs, supplements, lifestyle and dietary changes in order to optimize health. Joe also consults with high profile executives, self-hackers & companies and is writing a book about optimizing health.

(End of Meet Joe Cohen!)

Main Presentation by Joe Cohen

"Self Hacking to Wellness"

The Challenge

Each person is different with biological differences. It is important to find the root cause for ailments that an individual might have. Mr. Cohen refers to many mechanisms leading to poor health. These include an imbalanced microbiome, poor mitochondrial function, oxidative stress, inflammation, impaired methylation disorders, poor blood flow, and malfunctioning biological pathways. These are all interconnected with one leading to the other. Underlying all of these are oxidative stress and inflammation.

Risk factors increasing inflammation and oxidative stress include:

- Psychological stress,
- Marathons/Excess exercise,
- A vegan/vegetarian diet - which is lower in Vitamin A and other nutrition and higher in lectins. Retinol is critical for immune tolerance and a high lectin load for a sustained period will create chaos.
- Less sun exposure (UV and infrared are the best ways to shut the immune system down. UVB also helps create vitamin D3, which is necessary for immune tolerance),
- Less consumption of DHA, which is critical for immune balance,
- Chronic circadian disruptions, which imbalances the gut immune system,
- Infections/Biotoxin exposure,
- Sleep deprivation, which will disturb your immune system.
- Antibiotics, which will disturb the gut flora...
- EMF exposure -

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Specific irregularities that Mr. Cohen believes are important factors in contributing to disease and inflammation are:

- Nf-kB and toll like receptor activation.
- MHC (Major histocompatibility complex) I and II co-stimulation which causes immune activation in the gut
- Lower cannabinoid/ CB 1 activation which explains anxiety and thinness in some people
- Lower PPAR gamma explaining thinness in some people
- Higher STAT explaining why people are more likely to be thin and have gut inflammation
- Lower NAD+/SIRT1 - caused by hypoxia, superoxide, poor mitochondrial function, etc...
- Lower T regulatory cells

Based on physiology and observations, Joe defines eight areas to explore in improving health. These eight categories include:

1) Diet
2) Sleep
3) Sun/Light Exposure
4) Circadian Rhythms
5) Stress management
6) Lack of natural stressors
7) Toxins
8) Infections/Injuries

I. DIET

The Standard American Diet

The standard American diet (SAD) is a recent phenomenon. In early times, fruits and vegetables were organic and eaten seasonally; animals were grassfed. The American foods (coffee, squash, corn, nuts, seeds, goji, cocoa, sugar, etc.) did not exist. Wheat was very different, and grains were not eaten before 10,000 years ago. Fruit was eaten in season, and persons close to the equator had more carbohydrate tolerance.

Today, Westerners eat too many carbs with a high glycemic diet and excess unhealthy fats. These diets do not include sufficient hydration, DHA/omega 3s, fiber, resistant starch,

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polyphenols, and other nutrients. Not enough micronutrients - vitamin D, iodine, zinc, magnesium, potassium, calcium, iron, b vitamins, k2, Vitamin A, or Vitamin C. Current diets are highly allergenic including lectins and allergens such as gluten, dairy - lactose, casein, whey eggs, beta lactoglobulin, and galactose. Food is adulterated by the addition of food additives and preservatives.

The impact of the diet is exacerbated by toxins in the environment such as - mycotoxins, pesticides, antibiotics, heavy metals, and bacteria.

Risk Factors For Food Sensitivities

It is important to eat an anti inflammatory diet and to avoid food to which one has sensitivities. Food sensitivities lead to an altered microbiome initiating inflammatory pathways which can lead to chronic diseases. An inflammatory diet can lead to stress; nutrient deficiencies; increased susceptibility to toxins and infections; circadian irregularities and sleep issues

Symptoms of food sensitivities include:

- Gut problems such as IBS, IBD
- Bloating
- Autoimmune conditions
- Fatigue
- Brain Fog
- Low BMI or high BMI
- Cold intolerance
- Low blood pressure
- Immune imbalances
- Excessive anxiety, perfectionism, procrastination, paranoia, OCD and in inability to let go of thoughts
- Skin problems
- Not handling glucose or carbs well (getting hypoglycemic often)
- Joint discomfort
- Pain in random places like back aches, etc…
- Water retention, puffiness around the eyes, extremities

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- Some types of headaches/migraines
- Sleep and circadian issues
- Post-nasal drip
- Tonsilitis
- Th1 or Th2 dominant

Interesting facts:
A study was done on 800 people with autoimmune conditions who ate a diet that avoided grains, sprouted grains, pseudo-grains, beans and legumes, soy, peanuts, cashews, nightshades, melons, squashes, non-Southern European cow milk products (Casein A1), and grain and/or bean fed animals. Most of these people previously had elevated TNF alpha which normalized after six months for all the patients who were compliant with this diet. The study concluded that elevated Adiponectin is a marker for lectin and gluten sensitivity, while TNF-alpha can be used as a marker for gluten/lectin exposure in sensitive individuals (Gundry SR, 2014).

II. SLEEP

Humans are the only mammals that willingly delay sleep. Poor sleep leads to inflammation, oxidative stress, and diseases including depression and slowing of cerebral metabolic processes. Sleep is important for autophagy and for the production of BDNF. Being awake for 16 hours straight decreases performance as much as a blood alcohol level of .05% (legal limit is .08%). Sleep deprivation has a detrimental effect on cognitive tasks.

The circadian rhythm is a 24-hour cycle in the body, which has been shown to continue even in the absence of environmental cues. Sleep is regulated by two parallel mechanisms: homeostatic regulation and circadian regulation which is controlled by the hypothalamus and the suprachiasmatic nucleus (SCN). These two systems oppose each other and act like a see-saw opposing each other (Saper CB, Scammell TE et al.)

Saper CB, Scammell TE,Lu J. Hypothalamic regulation of sleep and circadian rhythms. Nature 27 Octotber 2005. 437 (7063): 1257–1263.
Saper CB, Scammell TE,Lu J. Hypothalamic regulation of sleep and circadian rhythms. Nature 27 Octotber 2005. 437 (7063): 1257–1263.

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The SCN enhances wakefulness and opposes the homeostatic rhythm which acts like a switch and shuts off the arousal system. This sleep drive is thought to be caused partially by the accumulation of adenosine.

Importance of Sleep

Sleep can also serve to weaken non essential synaptic connections that were acquired over the course of the day. In doing so, the resource non essential demands can be lessened, so the essential synaptic connections involving protein synthesis etc. can be strengthened. Hormones that are sleep dependent include growth hormone (GH), prolactin, cortisol, and TSH. Sleep is critical for clearing toxins from the body through an increased flow of cerebrospinal fluid in the brain.

III. SUN/ LIGHT EXPOSURE

In the past people were outdoors most of the time. Currently, people spend a lot of time indoors and cover themselves with clothes, make-up, and sunscreen when they go outdoors. Mr. Cohen states that people who avoid sun exposure have a higher cancer risk and a reduced life expectancy of 0.6 -2.1 years. He further points out that sun exposure is associated with a reduced risk of non hodgkin lymphoma and colorectal, breast, and prostate cancers. Vitamin D levels are associated with the risks of these diseases. Sunlight also stimulates, mitochondria, nitric oxide, vitamin D, beta endorphins CD8 Cells, MSH, blood flow, metabolism, immunosuppression, and the synthesis of sulfhydryl groups which are necessary for glutathione synthesis.

Benefits of sun light

Affects dopamine and serotonin production. Sleep relaxes the nervous system, breaks down the hormones adrenaline, estrogen, cortisol, and has anti-microbial actions

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IV. CIRCADIAN RHYTHMS

Bodily processes function like in a symphony with a certain rhythm and flow. The body conducts this orchestra with 'clock genes', which get activated in many cells in the body, in a synchronous way. These rhythms are adversely affected by the avoidance of daytime sunlight and the increased light exposure from computers and TVs during the night. These diurnal rhythms are adversely affected by controlling temperature variations, lack of exercise, eating after sundown and skipping a protein breakfast.

Circadian Rhythm of Hormones

- In the morning, light on the retinas signals the SCN to shut off melatonin (Beck M. 2015)
- Prolactin is secreted early after sleep onset and rises through the night (Wikepedia)
- GHRH spikes at about midnight and growth hormone gets released shortly after
- TRH spikes at 3-4AM, followed by TSH, T4 and T3
- Metabolism is lowest at about 4AM and this corresponds to our lowest body temperature
- Toward the end of the sleep phase, before early morning, the renin-angiotensin system increases. This increase causes aldosterone to also increase (before cortisol rises) (Hurwitz, Cohen et al. 2004)
- Cortisol spikes at 6AM. CRH and ACTH precede the cortisol spike by an hour or so
- Aldosterone and cortisol both cause a blood pressure spike
- VIP is highest at 6 AM and lowest at 6 PM
- In lean people, ghrelin rises rapidly at midnight and peaks about 2:30AM, but not in obese people, where it stays flat This burst of ghrelin stimulates growth hormone. (Yildiz, Suchard et L. 2004)
- Ghrelin continues to be high until the morning. Ghrelin stimulates NPY in the hypothalamus increasing our desire and ability to eat a lot more. Melatonin is known to acutely decrease ghrelin
- Light at night can disturb the ghrelin release (Fonken LK, Nelson RJ, 2014)
- Leptin rises as the day goes on and peaks at midnight and is at the lowest point between 9AM-12PM. The timing of your meals affect when you have a peak of leptin (Schoeller et al. 1997)
- Testosterone secretion peaks at about 9AM. This is preceded by FSH and LH secreted at about 6AM

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- At 6:30 PM we see our highest blood pressures due to changes in atrial natriuretic factor and antidiuretic hormone (ANF, ADH).

Interesting facts:

- 30-90% of genes are controlled by our biological rhythm
- Tiredness peaks twice a day at 2am and 2pm
- Circadian biology has a massive influence on energy balance and metabolism (Summa, Turek 2014)
- Most hormone receptors have been observed to exhibit circadian rhythms of expression (thyroid hormones) (Summa, Turek 2014)
- The daily timing of food intake has been shown to affect body weight regulation in mammals though the regulation of genes that control metabolism (Summa, Turek 2014)
- Clock genes control NAD+/SIRT1. Low levels of these proteins result in mitochondria dysfunction, fatigue, slower metabolism, and faster aging (Summa, Turek 2014)
- Clock genes control epigenetics through SIRT1.
- Many variations in genes of the circadian rhythm raise the risk of diabetes (Summa, Turek 2014)
- Adrenal fatigue is nothing more or nothing less than a circadian disorder
- Cortisol secretion is controlled by the SCN-adrenal pathway. The SCN directly transmits light information to the gland that leads to increased cortisol release, independent of HPA axis activation. Adrenaline release by the adrenals are responsible for the transmission of the photic signal to the adrenal cortex. Second, sensitivity to ACTH is a strong determinant of cortisol release, which is controlled by the circadian rhythm (Chung et al. 2011)
- At 6:30 PM we see our highest blood pressures due to changes in atrial natriuretic factor and antidiuretic hormone (ANF, ADH).

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Solution/Ramifications:

- Scientists at the University of Colorado Boulder found that going to bed at least an hour earlier and waking up an hour earlier results in increased alertness because the internal clock and external reality are more in sync. The sun adjusts your clock to what may be its natural state, undoing the influence of light bulbs (Shrukin 2013).
- Oxidation in the day - sun, exercise, to increase adenosine build up
- Consuming protein during the day activates mTOR and increases metabolism
- Acidic beverages - vinegar, kombucha - stimulate metabolism
- Nutrients to enhance circadian rhythm include
- Selenium (Fang et al. 2011)
- Vitamin A (Navigatore-Fonzo LS et al. 2013)
- Methyl groups
- Vitamin B 12 and many other nutrients.

V. STRESS

Stress has increased during recent times and is associated with health issues. There is increased competition, pressure to climb the career ladder and achieve economic success. The consumer culture further increases the economic stressors. The Western culture emphasizes hard work and achievement of external success. Stress activates the HPA axis and lead to inflammation, increased cortisol, weight increase and an increased risk for diseases.

Mr. Cohen found the following to be helpful.

- You're The Problem
- Trying to Change Makes Things Worse
- You Can't Change Your Level of Motivation With Will Power (in the long run)
- Simple, But Not Easy
- There's Nothing You Have to Do to Get Where You Want to Be
- I Realized That This Is It: The Logic Behind Living In The Moment
- I Simplified
- I Go Along With It: The Principle of Judo
- I Stopped Feeding The Striving

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- Meditation and Mindfulness
- I Stopped Trying To Change Who I Am
- I Stopped Thinking About the Past and The Future
- I Became More Aware of Negative Thoughts and Emotions
- I Started "Doing" Less and "Being" More
- If It Feels Effortful, I Don't Do It
- I Follow My Passion
- I Don't Take Life So Seriously
- I Started Accepting
- I Started Letting Go
- I Started Accepting My Mortality
- I Stopped Judging As Much
- I Lost Hope
- I Became Less Busy
- I Cultivated Patience
- I Stopped Trying to Change or Convince People
- I Started Realizing That Everything That Happens is Destined to Happen
- I Got Rid of Energy Suckers, Narcissists, Negative and Crazy People – and People Who Tried to Change Me
- I Became More Autonomous
- I Started To Imagine Everything Turning Into Dust

VI. NATURAL STRESSORS- COLD, HEAT, EXERCISE

In the past, temperature variations and exercise were a normal part of existence.

VII. TOXINS

Currently, we have higher levels of toxins. The air quality it poor with ozone, particulates, etc… Indoor air quality is marred by mold, formaldehyde, toxins from carpets and furniture. Other toxins include:

- BPA, Phthalates, Heavy metals, Fluoride
- PCBs, Dioxin
- Toxins in water, (bottled, etc..)

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- Toxins in cleaning and personal care products
- Pesticides, Food additives
- Tobacco smoke
- Teflon cookware
- EMF : cell phone, wifi all or which are associated with inflammation.

VIII. INFECTIONS / INJURIES

Currently, we live in a global world with more exposure to infections. Infections are more likely to take hold with an unhealthy gut microbiota.

Suggestions for healthy living: How Mr Cohen lives his life.

- Diet: I eat seafood, meat, chicken mostly in the morning and afternoon….and hi-maize cookies
- I get sun daily - I make sure to live south enough and be in a place that is comfortable enough to be outside most of the day
- I reduce/cut out food and light at night, increase protein in the day
- Stress reduction…Nothing is too important - letting go
- I'm outdoors most of the day
- I try to avoid germs and toxins,

REFERENCES

Beck M. Your Body's witching hours, The Wall street Journal June 2, 2015.

Chung S, Son GH et al. Circadian rhythm of adrenal glucocorticoid: Its regulation and clinical implications. Biochim Biophys Acta. 2011 May;1812(5):581-91.

Fang MZ, Zhang X et al. Methylselenocysteine Resets the Rhythmic Expression of Circadian and Growth Regulatory Genes Disrupted by Nitrosomethylurea in vivo. Cancer Prev Res ((Phila). 2010 May;3(5):640-652.

Fonken LK, Nelson RJ. The effects of light at night on circadian clocks and metabolism. Endocr Rev. 2014 Aug;35(4):648-70.

(Continued on Next Page!)

Gundry Sr. Abstract P354: Elevated Adiponectin And Tnf-alpha Levels Are Markers For Gluten And Lectin Sensitivity. Circulation. March 25, 2014,Volume 129, Issue Suppl 1.

Hurwitz S, Cohen RJ, Williams GH. Diurnal variation of aldosterone and plasma renin activity: timing relation to melatonin and cortisol and consistency after prolonged bed rest. J Appl physiol (1985). 2004 Apr;96(4):1406-14.

Navigatore-Fonzo LS, Golini RL et al. Retinoic acid receptors move in time to the clock in the hippocampus. Effect of a vitamin A-deficient diet. J Nutr Biochem. 2013 May;24(5):859-867.

Saper CB, Scammell TE,Lu J. Hypothalamic regulation of sleep and circadian rhythms. Nature 27 Octotber 2005. 437 (7063): 1257–1263.

Schoeller DA, Cella LK et al. Entrainment of the diurnal rhythm of plasma leptin to meal timing. J Clin Invest. 1997 Oct 1; 100(7): 1882–1887.

Summa KC, Turek FW. Chronobiology and Obesity: Interactions between Circadian Rhythms and Energy Regulation. Adv Nutr. 2014 May; 5(3): 312S–319S.

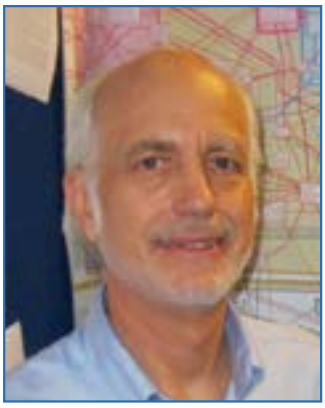
Surkin JN. Trouble sleeping? Go camping. Scientific American Aug 2, 2013.

Yildiz BO, Suchard MA, et al. Alterations in the dynamics of circulating ghrelin, adiponectin, and leptin in human obesity.Proc Natl Acad Sci USA. 2004 Jul 13;101(28):10434-9.

Wikipedia: Neuroscience of Sleep

(End of Main Presentation!)

Secondary Presentation Speaker: John Furber!



John D. Furber is the CEO and founder of Legendary Pharmaceuticals. He is a scientist and entrepreneur who has been studying the biology of aging, development, and regeneration for more than 25 years. He earned a Bachelor of Arts degree in Physics and Mathematics from the University of California at Santa Cruz in 1975, and a Master of Science degree in Biological Sciences from the University of California at Irvine in 1990. Between degrees, he served the United States Congress as a Technology Policy Analyst in the Congressional Office of Technology Assessment.

Professional affiliation:

- American Aging Association (Former VP and member of Board of Directors)
- Gerontological Society of America
- International Aging Research Portfolio (IARP) (Scientific Advisory Board)
- Global Healthspan Policy Institute (Scientific Advisory Board)
- Alzheimer Research Forum
- Federation of American Scientists
- The Lifeboat Foundation (Advisory Board)
- Mitochondria Interest Group at the U.S. National Institutes of Health.
- Oxygen Club of California

He is a frequent contributor at meetings in the fields of aging, mitochondria, autophagy, and oxidative stress. These include: Gordon Research Conferences, Cold Spring Harbor Conferences, Ellison Colloquia, Harvard/Glenn Symposia, SENS Conferences, Oxygen Club of California World Congresses, and the Bay Area Aging Meetings. From 2000-2011, he served on the Board of Directors of the American Aging Association.

He has created several web pages that provide useful links for researchers and the lay public interested in Aging, Nutrition, Bioinformatics, Genomics, and Molecular Cell Biology. For further details, please see *www.LegendaryPharma.com/chartbg.html*

(End of Meet John Furber!)

Secondary Presentation by John Furber

"Latest From Recent Healthy Aging Conferences"

John Furber will present the latest research from three healthy aging meetings

- "Rejuvenation Biotechnology at the Buck Institute August 2016"
- The Harvard/Glenn Symposium on the Biology of Aging (in Boston), and
- The annual meeting of the American Aging Association (in Seattle).

(End of Secondary Presentation!)

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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