

Silicon Valley Health Institute

host of the Smart Life Forum

www.svhi.com

NEXT MEETING: Thursday, April 19, 2012, at 7pm

Dave Asprey on *The Bulletproof Diet* and Alan Cash on *Increase in Lifespan Using BenaGene Supplementation*

Meet Dave Asprey



Dave Asprey is a Silicon Valley investor, computer security expert, and entrepreneur who spent 15 years and \$250,000 to hack his own biology. He upgraded his brain by >20 IQ points, lowered his biological age, and lost 100 lbs without using calories or exercise. The Financial Times calls him a "bio-hacker who takes self-quantification to the

extreme of self-experimentation." His writing has been published by the New York Times and Fortune, and he's presented at Wharton, Kellogg, the University of California, and Singularity University. Dave has a BS in Computer Information Systems from California State University (1995), and an MBA from the Wharton School of the University of Pennsylvania (2004).

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://www.SVHI.com/live>*

In This Issue

Meet Dave Asprey.,
main speaker page 1

Main Presentation:
'The Bulletproof Diet' pages 2 –6

Meet Alan Cash.,
short speaker pages 6-7

Short Presentation:
*Increase in Lifespan Using
BenaGene
Supplementation* pages 7- 11

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

April 27 Meeting: Amy L. Lansky, PhD will be the speaker. Most recently she has been active in the homeopathy community. Her website, www.renresearch.com/

May 25 Meeting: Russell Targ will speak about The Reality of ESP -- A Physicist's Proof of Psychic Abilities. His website, www.espresearch.com

Main Presentation:

The Bulletproof Diet

by

Dave Asprey

What if you could prevent disease, extend life, build muscle, avoid sickness, improve sleep, and maintain peak mental performance year round? Would you do it?

Harnessing the latest research on hormones, toxins, nutrients, and biochemistry, Dave Asprey talks about the diet he designed for optimal performance and health.

The Bulletproof Diet was originally designed by Dave and his wife Lana to increase their fertility. They spent years finding the most effective ways to use diet to produce smarter, healthier, and stronger children. What they found was that the same diet also made them stronger, smarter, and healthier. It improved brain function, energy, and performance across all realms. It made them Bulletproof.

Common dietary mistakes will sap your energy, lower your immunity, and make you cranky. Basic unsuspected foods can make you weak, soft, and fat. Diet is the foundation for total health of the mind and body. It's one of the most important things you can do to increase your performance across the board.

This diet allowed Dave to lose 100 pounds without cutting calories or exercise. He gained muscle, lost fat, and never felt hungry.

Starting with biochemistry and published research, Dave began looking at what foods were most beneficial, and what foods caused the most harm. Instead of focusing on calories, the quality of the food was what became important.

(continued on next page)

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.

Future Speakers:

May 15:

Robert Rowen, MD

June 21:

Ron Rothenberg, MD,
on Hormones

July 19:

Frank Shallenberger, MD

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 Mike Korek at (650) 941-3058.

(MAIN PRESENTATION, continued)

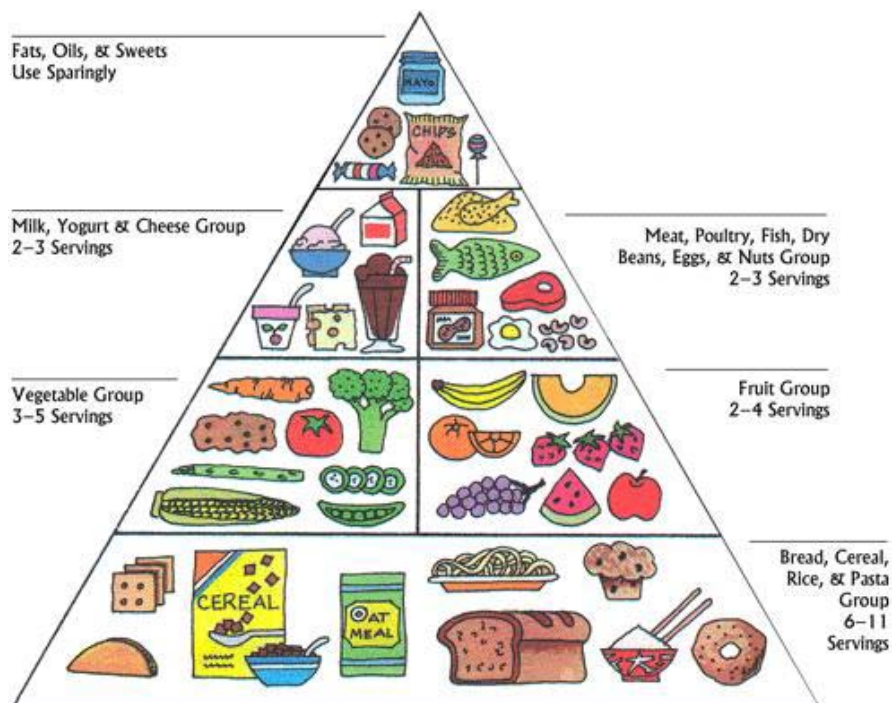
Principles

The Bulletproof Diet is built on three simple principles, radically different than the traditional advice given by nutritionists or the USDA via the “Food Pyramid” since the 1960’s:

1. Macronutrients are optimized.
2. Micronutrition is maximized.
3. Toxins are minimized.

Note that before World War Two, the European research community had realized that fats do not make people fat, and that all calories are not created equal. Gary Taube’s two landmark books, “Good Calories, Bad Calories” (2008) and “Why we Get Fat” (2011) detail the history and almost complete lack of credible science behind the traditional USDA’s food pyramid’s emphasis on carbohydrates.

USDA Food Pyramid: Emphasis on Carbohydrates, Low Fats



(continued on next page)

SmartLife Forum

Board of Directors

Dave Asprey, President
 Effie Mae Buckley
 Laurel Corcoran, CFO
 Susan Downs, MD, VP, Secy
 Bill Grant, Publicity
 Michael Korek, Programs
 Larry Wiessenborn, Sound

Founder

Kathryn Grosz

Advisory Board

Alan P. Brauer, MD
 Bernd Friedlander, DC
 Tim Gallagher, DDS
 Bill Grant, PhD
 Phillip Lee Miller, MD

Meeting Moderators

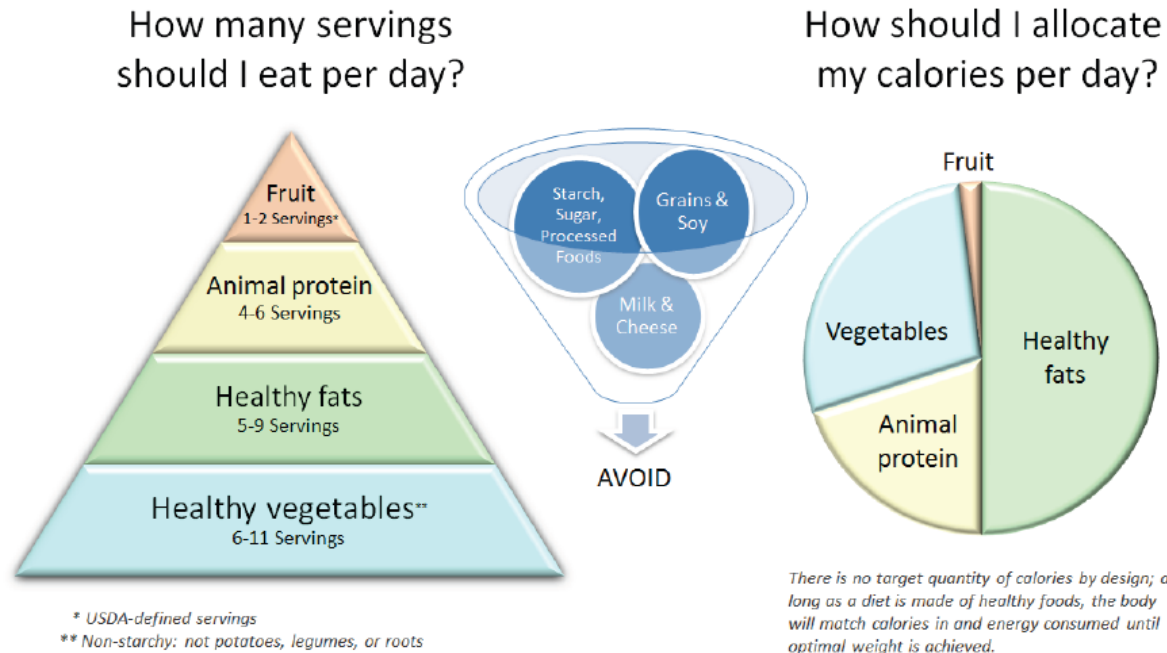
Dave Asprey, Stan Durst,
 Phil Jacklin, Mike Korek

Volunteers

Rob Baum, Assistant Editor
 Jake Brzakovic, Fitness Advice
 Laurel Corcoran,
 Records/Printing/Mailing
 Laura Dominguez-Yon, Newsletter
 Layout
 Steve Fowkes, Technical. Advisor
 Mike Korek, Newsletter Editor and
 Program Director
 Rob Larson, Equipment Mgr.
 Sharon Luehs, Associate Editor
 Don Southard, Reception
 Larry Wiessenborn, Audio Eng.
 Pamela Zuzak, Video Sales

(MAIN PRESENTATION, continued)

Bulletproof Diet Pyramid: Emphasis on Healthy Fats, Low Carbs



Why it works

There are thousands of studies behind the Bulletproof Diet, but there are 11 unique reasons it works.

1. It tastes good.

A diet is only as good as it can be adhered to. Tasty foods are easy to eat and don't leave you feeling deprived. Being satisfied prevents junk food binges and constant cravings.

2. You're never hungry.

Hunger is distracting, annoying, and sometimes painful. It's impossible to focus when all you can think about is food. The Bulletproof Diet keeps you full and energized throughout the day on high energy foods. The Bulletproof Diet lowers your set-point and prevents your body from wanting to maintain a high fat mass. This eliminates hunger.

3. Leptin is reset.

Leptin is a hormone which regulates energy expenditure, appetite, and movement. Toxins, dyslipidemia, and stress can all make you leptin insensitive. The Bulletproof Diet avoids the toxins which contribute to this, and prevents high triglycerides. These methods work in tandem to reset leptin and reboot your metabolism.

4. Vasoactive intestinal polypeptide (VIP) is regulated.

Vasoactive intestinal polypeptide (VIP) is a substance which functions as a neuromodulator and a neurotransmitter. It controls brain function, electrolyte balance, bile flow, sleep, glucose control,

(continued on next page)

(MAIN PRESENTATION, continued)

hormone secretion, migraines, and circadian rhythms. When leptin is out of balance, so is VIP. When leptin is reset, VIP is restored to optimal levels which improves performance in all aspects of life

5. It cleans your cells.

The Bulletproof Diet enhances cellular autophagy (a catabolic process involving the digestion of a cell's own components through the lysosomal machinery) by providing mild ketosis and, in the case of Bulletproof Fasting, limiting protein and carbs to certain parts of the day. Ketosis drives a small amount of autophagy, and restricting carbs and protein to a small window produces an even greater effect. This increases muscle mass, delays aging, prevents disease, and improves energy levels.

6. It optimizes bile turnover.

Low bile secretion can cause deficiencies in fat soluble vitamins. Bile is also needed to excrete toxins. Even more fascinating, bile acts as a signaling molecule for various functions. It can influence gene expression and change how you metabolize fat, protein, and carbs. The Bulletproof Diet optimizes bile turnover by avoiding toxins which interfere with liver function (which would be all of them). It also provides high amounts of saturated fat which stimulates the production of bile.

7. It controls inflammation.

Inflammation is the body's natural response to a pathogen, toxin, or trauma. It is needed for dealing with acute stressors, but it can cause serious problems if it continues for too long. Chronic inflammation is at the heart of almost every known disease. The Bulletproof Diet controls inflammation by reducing body fat, avoiding inflammatory food toxins, and optimizing gut flora.

8. It avoids food toxins.

Food toxins deplete nutrient stores, accelerate disease, sap energy levels, make you fat, and cause intestinal damage and inflammation. The Bulletproof Diet avoids foods containing gluten, phytic acid, lectins, and mycotoxins to ensure optimal health.

9. It avoids toxins from processing.

How you cook your food can be almost as important as the food itself. Improper cooking methods can produce mutagenic and carcinogenic compounds which are toxic to humans. Denaturing proteins through cooking can also reduce their benefits.

Cooking meat with the driest heat (as opposed to open flame), limiting the cooking time, continuously turning meat, and removing charred or blackened portions of meat can all reduce exposure to HCA's and PHA's, two of the most common toxins from processing (heterocyclic amines and polycyclic aromatic hydrocarbons respectively, both carcinogens).

The Bulletproof Diet uses these methods to decrease exposure to these toxins. All meat should be cooked for a short duration, preferably in water, and never at high temperatures.

(continued on next page)

(MAIN PRESENTATION, continued)

This also retains the juices, nutrients, and healthy fats that are lost during frying, grilling, and other cooking methods.

10. You enter ketosis often.

When carbohydrates are restricted below 100 grams/day, **<Note other literature says 50-60 grams per day>** your body begins to produce a large number of ketone bodies. The more you restrict carbs, the more ketones are produced (to a point). Once ketones reach a certain level in the blood, you are in a state of metabolic ketosis. Dipping into this metabolic state on a regular basis has several benefits.

Ketosis can enhance cellular autophagy, improve brain function, and protect against neurological disease. It can also help regulate the conversion of glutamate to aspartate, which can be neurotoxic. The Bulletproof Diet takes advantage of these benefits by limiting carbs to around 100 grams/day to supply a small stream of ketone bodies for brain function (the brain functions very well on ketones).

11. It limits excess fructose.

Excessive amounts of fructose damage the liver, increase visceral fat stores, and raise triglyceride levels. Fructose can also feed fungal infections which contribute to ill health and disease. Soda and other sweetened beverages are the largest source of fructose in the American diet, and these foods are never allowed on the Bulletproof Diet.

Starting the Bulletproof Diet is easy. You can find the complete 14 step guide to starting the Bulletproof Diet at www.bulletproofexec.com/start-the-bulletproof-diet/

Meet Alan Cash



Alan Cash earned his BA in Physics and Geology from the University of Maine, a Masters in Physics at the University of Oklahoma, and did Post Masters work at University of California San Diego in biological systems focusing on the molecular pathways of Calorie Restriction.

Since 2006 Alan is Managing Partner/ CEO Terra Biological, where he is responsible for marketing, sales, production and distribution of high-end nutraceuticals. The company does research into the molecular and genomic mechanisms of calorie restriction, invention and development of a "calorie restriction mimetic", and research collaborations with National Institute on Aging, Alzheimer Association, UCSD, UCLA, UCR, Pennington Biomedical Research Institute, and privately funded doctors.

(continued on next page)

(MEET ALAN CASH, continued)

Pennington Biomedical Research Institute, and privately funded doctors.

Alan's Recent Publications include: Aging Cell, 2009, "Oxaloacetate supplementation increases lifespan in *Caenorhabditis elegans* through an AMPK/FOXO-dependent pathway", Volume 8, pp. 265-268, Blackwell Publishing Ltd. ; Open Longevity Science, 2009, "Oxaloacetic Acid Supplementation as a Mimic of Calorie Restriction", Volume 3, pp. 22-27, Bentham Press; Anti-Aging Therapeutics, volume 12, 2010, Chapter on oxaloacetate supplementation, American Academy of Anti-Aging Medicine Press. Previously Alan served as VP, Sonic Environmental, responsible for remedial projects throughout Canada and US using the Terra-Kleen technology. From 1993-2005 Alan was President/CEO Terra-Kleen Response Group, Inc. San Diego, CA, where he invented, developed, and executed a unique innovative remediation technology to inexpensively remove pollutants from soil, sediments and sludge. Alan worked with US EPA, DOD, DOE and private firms to clean large polluted soil sites. Awards include: INC 500 company, Zweig-White "Hot Firm" 2 years, Deloitte & Touch Entrepreneur of the Year (runner up), Tech Fast 50.

Short Presentation:

Increase in Lifespan Using BenaGene Supplementation by Alan Cash, Biological LLC

"Calorie Restriction" is the reduction by 25% or more in calorie consumption as compared to a normal diet. Seventy years of research into "Calorie Restriction" has shown many benefits. These include:

1. Increases in average and maximal lifespan—up to a 40% increase in mammals.
2. Decreases in cancer incidence—up to a 55% decrease.
3. Decreases in neurodegenerative diseases such as Alzheimer's and Parkinson's.
4. Complete protection against type II diabetes.
5. Reduction in cardiovascular risk and, in particular, atherosclerosis.
6. Reduction in inflammatory diseases, such as auto-immune type diseases.

(continued on next page)

(SHORT PRESENTATION, continued)

A recent finding is that one of the molecular events in calorie restriction is a decrease in NADH levels and increases in NAD⁺ levels in the cell. Not only has this increase in the NAD⁺/NADH ratio has been tied to cellular survival, but it is also tied to activation of the “master switch of metabolism”--- AMP protein activated Kinase (AMPK) which interacts with FOXO transcription agents to modify gene expression. AMPK activation helps with glucose stability, is an essential step in mitochondrial biosynthesis, and is linked with reduced cancer incidence in meta studies.

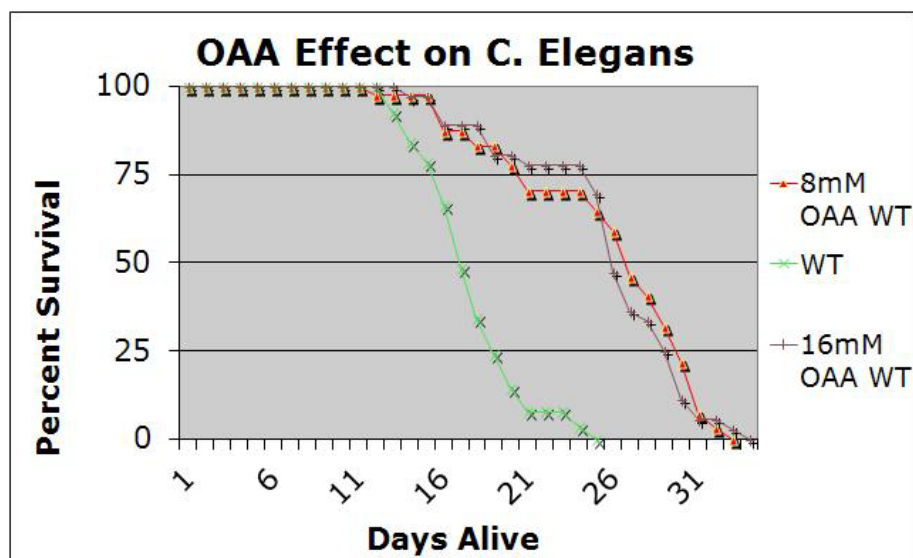
Another method of modifying the NAD⁺/NADH ratio is daily exercise. Moderate exercise at 40% of V_{O2} (low intensity workout) in 10 minute segments lowers NADH which increases the NAD⁺/NADH ratio.

Diet and Exercise. Who would have thought. But sometimes diet and exercise is not enough.

We have been studying a further method to increase the NAD⁺/NADH ratio using the natural metabolite “oxaloacetate”. OAA is a molecule central to metabolism and is an integral part of the Krebs cycle within the mitochondria. The mitochondria produce efficient energy for the cell. Oxaloacetate is also required for the first step of gluconeogenesis, which produces fuel for the body during fasting. Supplementation with Oxalocetic acid can increase the NAD⁺/NADH ratio. The conversion of oxaloacetate to malate is an energy favorable reaction in cells that promotes the conversion of NADH to NAD⁺.

Mimicking the increase in NAD⁺/NADH ratio with OAA may provide many of the benefits of calorie restriction without the need for greatly reduced calories. For example, in short-lived animals, increasing the amount of OAA in their diet increases average and maximal lifespan by about 25% (p<0.001).

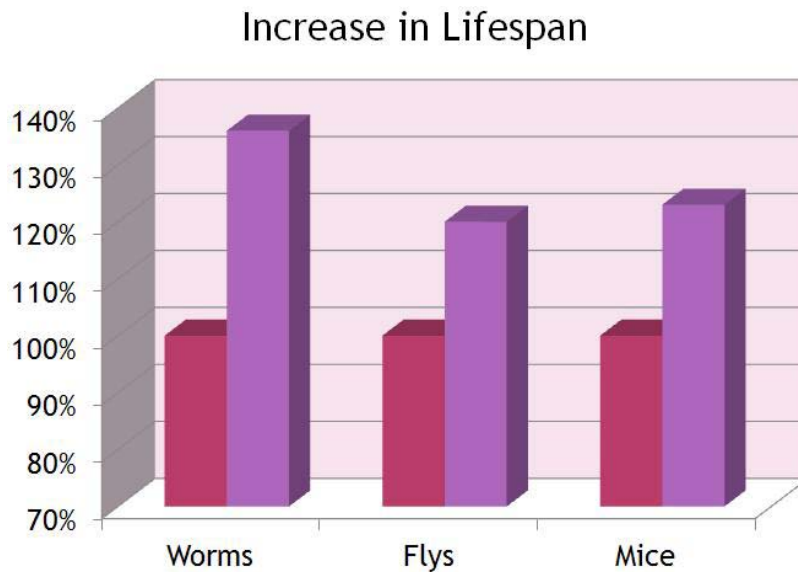
OAA & Lifespan: Effect on C. Elegans (nematode worm)



(continued on next page)

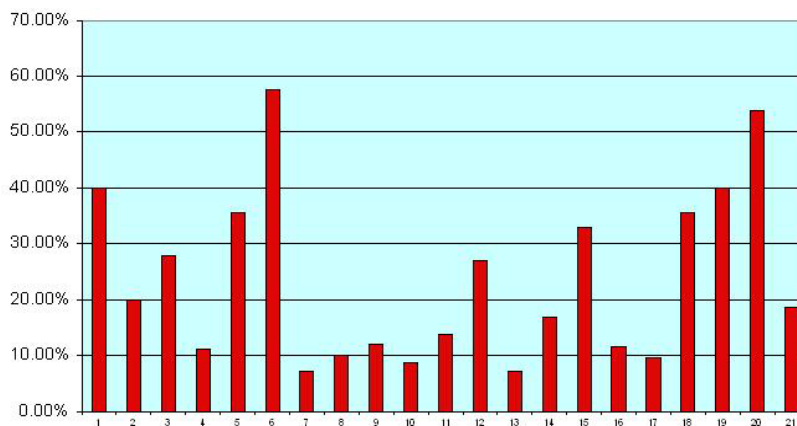
(SHORT PRESENTATION, continued)

OAA & Lifespan: Increase in Lifespan



There appear to be other benefits to OAA supplementation. In a clinical trial, sodium oxaloacetate reduced fasting glucose levels in 100% of the diabetics in the study. 80% of the diabetics were brought to near normal glucose levels in 45 days.

OAA & Glucose Control: Clinical Trial– Diabetic Patients

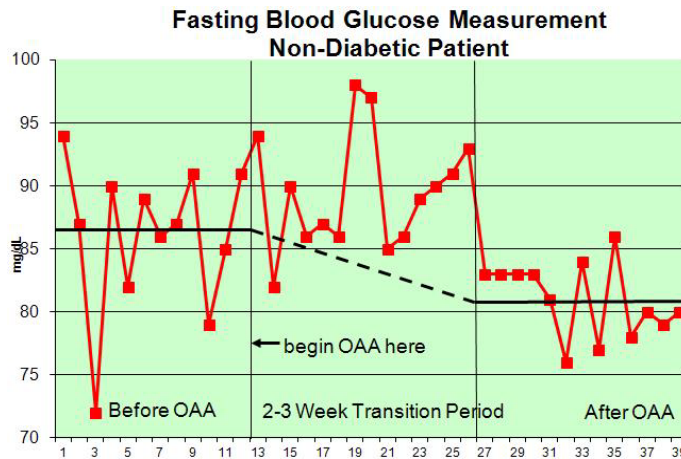


The average decrease in fasting glucose levels in the clinical trial was of 24% . But even non-diabetics see an improvement in glucose system functioning, with a reduction in the amplitude of the “swing” in their blood glucose levels by 55% without causing hypoglycemia. Stabilization of glucose means less highs and lows— reducing damage and controlling appetite.

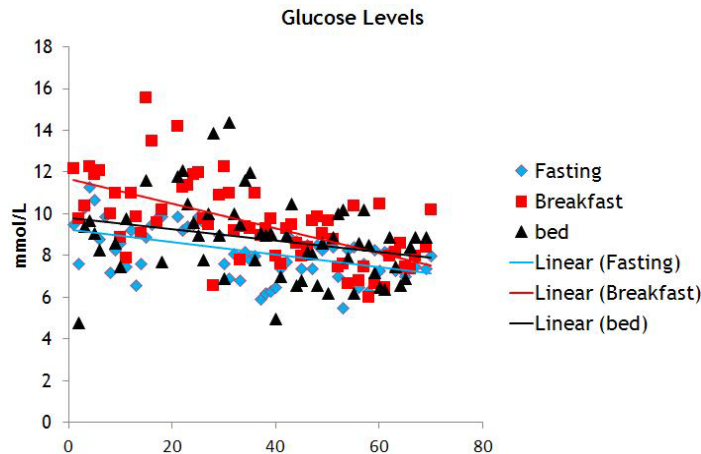
(continued on next page)

(SHORT PRESENTATION, continued)

OAA & Glucose Control



OAA & Glucose Control: Glucose Levels



OAA & Glucose Control

Fasting glucose levels dropped 23%.

Glucose levels after a meal dropped 34.5%, a major improvement in glucose management and glucose tolerance.

Metformin use reduced by 50% during the study.

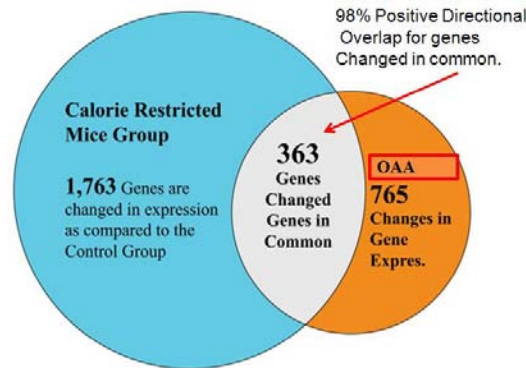
Results are statistically significant.

Similar to calorie restriction, OAA supplementation changes gene expression. Your DNA remains the same, but your genes turn on and off in response to the environment. Turning on genes that promote longevity is part of the reason that OAA is successful in prolonging life.

(continued on next page)

(SHORT PRESENTATION, continued)

OAA & Gene Response



OAA & Gene Response

One of the genes modified by OAA supplementation is the FOXO3a gene, which is associated with glucose homeostasis. Both a calorie restricted diet and an OAA supplemented normal diet causes increased production of the FOXO3a proteins

OAA & Gene Response

Gene Symbol	Gene Title	Affy-matrix Gene Number	Change in Gene Expression Calorie Restricted to Control	Change in Gene Expression benaGene to Control	Gene function
Foxa1	forkhead	2891	30% Increase	40% Increase	regulation of transcription, DNA-dependent // inferred from electronic annotation
Foxa3	forkhead	13370	100% Increase	70% Increase	cell glucose homeostasis // inferred from mutant phenotype // regulation of transcription, DNA-dependent // inferred from mutant phenotype /// cellular response to starvation // inferred from mutant phenotype
Foxq1	forkhead	6994	110% Increase	210% Increase	regulation of transcription, DNA-dependent // inferred from electronic annotation
Foxq1	forkhead	30006	190% Increase	220% Increase	regulation of transcription, DNA-dependent // inferred from electronic annotation

In Conclusion: OAA is a Powerful Calorie Restriction Mimetic.

Studies indicate Oxaloacetic Acid:

- Increases Lifespan (25%, $p << 0.001$) in short lived animals

- Lowers Glucose levels to normal, activates AMPK

- Has similar Gene Expression to CR

- Is a powerful anti-oxidant and protects mitochondrial DNA, pancreatic and neural tissues.

Our supplement, “benaGene” is composed of the combination of OAA with Vitamin C, and is yet another tool to help reduce aging and keep your body healthy.