

NUTRI-SPEC



Live Stronger Longer

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THE NUTRI-SPEC LETTER

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BURN FAT? OEA DOES THAT!

Dear Doctor,

Much of the fat you eat is turned into signaling molecules. OEA (Oleoylethanolamide) is one.

Signaling molecules? Imagine a magical communication system found nowhere in the body --- yet everywhere in the body.

OEA demonstrates this magic perfectly.

OEA signals that you are happy when you eat a fat food.

OEA signals your appetite center to “Go for it” --- increasing appetite.

But then a short while later, OEA signals, “You are full, so quit eating.”

OEA is good stuff ...

OEA is a key Adaptogen in your Energetics G.

With benefits far greater in scope than appetite control --- OEA --- along with Carnitine and Benfotiamine (other Adaptogens in Energetics G) --- pushes your mitochondria into fat-burning energy production.

The Liver-Adipose Axis moves into high gear. The Liver-Adipose-Muscle trio revs up for maximum performance.

Efficient fat burning is all about Glucogenic/Ketogenic balance feeding mitochondria the ideal blend of Glucose and Fatty Acids to maximize energetics --- meeting the specific needs of brain tissue, muscle tissue, and adipose tissue, and healthfully maintaining the liver as conductor of the orchestra.

Consider this study (Tutunchi), *A Systemic Review of the Effects of Oleoylethanolamide, a High-Affinity Endogenous Ligand of PPAR- α , on the Management and Prevention of Obesity ...*

OEA plays important roles in various metabolic functions. It has beneficial effects on:

- body composition
- regional fat distribution
- control of food consumption
- effective weight management

OEA leads to satiation and meal termination. OEA stimulates fatty acid uptake, lipolysis, and β -Oxidation, and also promotes food intake control. Its satiety-inducing effects are mediated via activation of hedonic dopamine receptors in the brain, while also increasing oxytocin.

You must repeatedly remind yourself that at least 35% of your adult patients suffer some degree of Metabolic Associated Fatty Liver Disease (MAFLD), and fully 60% of your patients over age 60 have some degree of Fatty Liver. Fatty Liver is nothing more than one of the automatic sequelae of Insulin Resistance and the rest of the pathway to Metabolic Syndrome. Some of these patients desperately need OEA supplementation to restore mitochondrial control in balancing fatty acid and glucose energetics.

Consider this study (Pouryousefi), *Improved Glycemic Status, Insulin Resistance and Inflammation After Receiving Oral OEA Supplement with Pre-Diabetes; a Randomized Controlled Trial ...*

Pre-diabetic subjects, when supplemented with 125 mg OEA daily for 8 weeks show significant improvements in:

- blood sugar
- insulin
- insulin resistance
- HbA1c
- C-reactive Protein (CRP)

This study confirms the association between Insulin Resistance and Oxidative Stress. In non-diabetic individuals this connection becomes stronger in those who are overweight, or have impaired fasting glucose tolerance.

The increase in Reactive Oxygen Species (ROS) leads to impaired glucose uptake by muscle and adipose tissue and reduces insulin secretion from pancreatic β cells. Oxidative Stress is associated with increased inflammatory cytokines, and one of the causes of inflammation is the accumulation of Triglycerides in non-adipose tissues.

This study also emphasizes that Metformin, the most common drug used to control and treat pre-diabetes, is less effective at improving Insulin Resistance than are lifestyle interventions, including reduced calorie intake and vigorous physical activity, and especially when the physical activity includes strength training.

The small amount of OEA naturally occurring in the upper intestinal tract has several roles:

- improving inflammatory processes
- boosting the immune system
- stimulating lipolysis
- efficient lipid β -oxidation energy (ATP) production
- reducing all the risk factors for Metabolic Associated Fatty Liver Disease

After 8 weeks of OEA supplementation, and with no change in dietary intake:

- the fasting blood sugar in diabetic individuals decreased from 116 to 102, a decrease of 12%
- blood sugar two hours after the main meal, decreased from 162 to 137, a decrease of 16%
- HbA1c dropped from 6.5 to 5.6.; Insulin dropped from 12.36 to 10.12
- the HOMA measure of Insulin Resistance dropped from 3.55 to 2.54
- CRP dropped by 11%

This study reports that there is also significant decrease in the inflammatory cytokines IL-6 and TNF- α after 8 weeks of OEA supplementation. It is noted that inflammatory markers such as CRP, IL-6, and TNF- α involve a vicious cycle in diabetic individuals, such that the inflammatory process is causative in Insulin Resistance, but the diabetic condition increases the inflammatory state, which in turn accelerates the pathology.

The OEA anti-INFLAM-AGING benefits are emphasized in this study (Shivyari): *Examining the OEA Supplement Effects on Glycemic Status, Oxidative Stress, Inflammation, and Anti-Mullerian Hormone in Polycystic Ovary Syndrome ...*

The research shows improvement in Fasting Blood Sugar, Insulin Resistance, Total Antioxidant Capacity, MDA as an indicator of Oxidative Stress, C-reactive Protein, TNF-a, and Anti-Mullerian Hormone. In particular, the researchers stated, “The improvements in Total Antioxidant Capacity and Anti-Mullerian Hormone were quite remarkable.”

Lose fat? Lower triglycerides? ----- Consider this study (Ostadrahimi): *The Effect of OEA Supplementation on Lipid Profile, Fasting Blood Sugar and Dietary Habits in Obese People ...*

OEA is expressed in tissues such as neurons, the small intestine, and adipose tissue. OEA occurs naturally in food but in only very small quantities. The most significant sources are cocoa powder and oatmeal. The study confirms the protective role of OEA in inflammation and in neurodegenerative diseases such as Parkinsons Disease, and that it also has benefits in pain relief, apoptosis induction, weight loss, lipolysis stimulation, and fatty acid oxidation enhancement.

In this study supplementation with 125 mg of OEA twice daily for 8 weeks in obese subjects decreased Triglycerides by 14%.

OEA works toward the efficiency of Fatty Acid burning in preference to excessive reliance on Glucose, but there is very definitely a quantitative limit to dietary fat intake that maximizes the fat-burning benefits of OEA. Consider this study by Sihage: *The Role of Bioactive Lipid Amide in Modulating Eating Behavior ...*

This study emphasizes the role of dietary fat in activating taste receptors in the mouth and in the upper small intestine, leading to the formation of OEA. OEA then enables fat oxidation in the liver, resulting in enhanced energy production.

However, the critical point is that a high-fat meal or a high-fat diet sustained over time, abolishes signaling from OEA. The result is the reverse of OEA benefits, namely, reduced satiety and increased appetite and obesity.

Pump up your energy level while simultaneously losing body fat and decreasing blood lipids? Consider the work by Duszka: *Peroxisome Proliferator-activated Receptors and Caloric Restriction — Common Pathways Affecting Metabolism, Health, and Longevity ...*

OEA reduces meal size and prolongs eating latency, thereby leading to body weight loss. OEA stimulates lipolysis and decreases lipid content in hepatocytes, as well as decreasing serum cholesterol and triglycerides.

OEA also has a major influence on your gut microbiota. Imagine the amplified benefits of OEA if you take it with your Immuno-Symbiotic. Consider this study by Grabacka: *The PPAR- α Regulation of the Gut Physiology in Regard to Interaction with Microbiota, Intestinal Immunity, Metabolism, and Permeability ...*

OEA increases microbiota diversity and shifts the colonic microbiota composition toward higher Bacteroidetes and lower Firmicutes. On the Genus level, OEA decreases Bacillus and certain Lactobacillus (Firmicutes) counts. The decrease in the Firmicutes/Bacteroidetes ratio from OEA mimics the effect of a high-carbohydrate, low-fat diet.

The altered microbiota composition has implications for the mucosal immune system. Peyer's patches are less prone to induction of proinflammatory responses to Endotoxin (LPS). They show significantly less IL-6, IL-17, IFN- γ , and shift the T-cell polarization from Th1 to Th2.

Evidence from many studies shows that the low F/B ratio is associated with lean body proportions with smaller percentage of body fat, and correlates with weight loss in obese individuals. OEA supplementation in obese subjects significantly increases the probiotic *A. muciniphila* abundantly, while reducing caloric intake.

Saturated Fat ethanolamide and OEA exert powerful cytoprotective effects. They attenuate peripheral inflammation and neuronal toxicity. Particularly, they protect against the toxic effects of endotoxin/lipopolysaccharide (LPS) produced by unhealthy microbiota. Endotoxin toxicity from an unhealthy microbiota downregulates OEA expression in macrophages as part of its pro-inflammatory damage. Maintaining adequate OEA and saturated Fatty acid ethanolamide signaling molecule production in macrophages prevents inappropriate inflammatory response to harmful stimuli such as endotoxin.

In SUMMARY: This Letter's emphasis on OEA --- following your April Letter's major overview of Glucogenic/Ketogenic Imbalances --- gives you just a hint of the power built into your Energetics G & Energetics K supplements.

That April Letter weighed a ton --- loading you with far more physiology than your brain will ever need to carry. All you really need to know is that Nutri-Spec knows it --- and that knowledge underlies the power of your Nutri-Spec supplements.

Energetics G & Energetics K provide all the nutrients necessary to boost energetics --- reestablishing balance between the Glucose and FA pathways to ATP.

Supra-physiological quantities of certain Adaptogens and vitamins are required to break down the barriers in the Liver-Adipose Axis, the Liver-Muscle Axis, and the Liver-Brain Axis --- achieving healthy glycemic control, fat deposition and mobilization, and supply of enough energy to drive cellular functions in all organs --- all the while preventing INFLAM-AGING.

Special for April ---- 1 FREE for every 5 you buy
Energetics G or Energetics K

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