Scientific Support for Chapter 11, Athlete Advantage

"I first heard Prof. Brian Peskin on my favorite radio talk show program over 8-years ago and it has been truly life changing ever since. When they were describing their guest and making fun of his teachings and being able to eat butter and bacon and you didn't need to be in the gym for hours and you could still lose weight, I knew he was the real deal and I had to listen. You see I have been in the nutritional industry for over 20-years at that time and there were a few things I knew to be true.

One, it seemed like every year there was a new product that was life changing … NOT. So ***I was very careful before becoming excited but I was really interested in the science***. I also knew that oxygen was the key, and for 15 years I had been marketing a supplement that increased oxygen levels in the blood stream; **however, it wasn't until Prof. Peskin that I fully understood that it was oxygen *at the cellular level* that was the key to life and that all chronic disease and illness was caused by a lack of it.**

Another belief that Prof. Peskin shared that I had subscribed to was *the correct way to get results in the gym*. Being an athlete all my life I had learned the secret to getting bigger and stronger was NOT spending hours in the gym—I had a life. I also never believed that cardio was the answer for losing weight or reducing the risk of heart disease or heart attack.

I knew the secret to getting bigger and stronger was tied to when we ate and rested after the gym. That was the key. I had learned that "less is more" and he further validated that with science for me. I also realized that most people were so tired from doing reps and sets that they never achieved their desired results.

Some would think I have been working out my entire life but from my mid 20's until my mid early 50's it was hit or miss and never over any extended period of time. I have been fairly consistent over the past 4 or 5 years but all that means is **I get to the gym 2 *maybe 3 times* at most per week and no more than 30 or 40 minutes with *no cardio***. Some days I will go a week or more in between body parts because I just don't feel like it. The most important thing is don't force it and never use full range of motion as the weakest part of the movements is the connective joints which I want to save and not wear down. **I am there to work and build muscle as quickly as possible—"get in and get out**."

After starting the PEOs I **discovered very quickly that I no longer got the lactic acid burn.** My muscles just got tired. This was a huge eye opener for me and it validated how the PEOs were oxygenating the muscles so *I could lift heavier weights over time*. You see I don't waste time doing set-after-set-after set. I do a quick warm up and then go as heavy as I can (which is the only way to get stronger). Most people work out incorrectly and are so tired by the time they get to the point of increasing the muscle's strength levels that they never get stronger or bigger— and that's very likely your sole goal! Even if it's not, just know that you can be in and out of the gym in 30 minutes —IF you exercise correctly.

To further validate the PEOs and this methodology, on my 54th birthday last year I was able to do a set of 10 reps on the flat bench with 135 pound dumbbells. My single rep max with a barbell is 355. Until last year when I quit doing squats because it wasn't worth the potential risk of damage to my knees and back, I was able to do a single rep of 445 pounds. Now I just use the leg press machine —I can do almost 1000 pounds but not regularly…lol.

I don't say any of this to brag but to point out that *I am stronger now and I know healthier than when I was in my teens and early 20's*. On the DPA device that Prof. Peskin discusses I have the vascular system of a 32 – 35 year old. I owe all of this to the PEOs and the science Brian teaches based on human physiology.

Every January I go on a fat loss diet because I enjoy the last two months of the year. I lost 17 pounds January this year and didn't deprive myself of the occasional cocktail, sweets, butter, steak, bread, or anything else I like. **You see when you follow the Professor's teachings— understanding human physiology and biochemistry—it is easy to lose the fat.**

I know Brian purposely doesn't work out or stick to a strict diet so that no one can say that's why he gets the results he gets. Me, on the other hand—I follow the teachings, get the same results on the inside and am able to show what can be accomplished on the outside. I think they call this the yin and the yang.

Prof. Peskin, thanks for bringing this life-changing science to the world. Not only have I been consuming them for 7+ years, but my parents who are in their late 70's playing golf 4 days a week and my 14-yr old son who is a BMX racer and needs those 30-second "blasts of energy." I never worry about all the diseases and ailments that are affecting those not following his PEO recommendations / Essiac-concept tonic, and truly chelated mineral recommendations!"

—Mike Maunu (e-mail: 2014)

Effect of Hyperoxia on Maximal Oxygen Uptake, Blood Acid-base Balance, and Limitations to Exercise Tolerance

Astorino, TA and Robergs, RA, "Effect of Hyperoxia on Maximal Oxygen Uptake, Blood Acid-base Balance, and Limitations to Exercise Tolerance," *The Journal of Exercise Physiology*, Vol. 6, No. 2, May **2003**, pages 9-18.

The importance of increased *cellular* oxygen for increased performance is detailed next, "Effect of ***hyperoxia*** [**extra oxygen**] on VO2 max [maximal oxygen uptake], blood acid-base balance, and limitations to exercise tolerance:"

> "***Hyperoxia***, or an **increase** in inspired **oxygen concentration**, has been used by scientists to examine exercise metabolism and physical work capacity. It is apparent that ***hyperoxia increases VO2 max*** *and exercise* ***tolerance due to an increase in*** O_2 ***supply*** **to contracting muscle**. Furthermore, **hyperoxia increases PaO2** [Pulmonary Arterial Oxygen Tension], which may promote an enhanced diffusion of O2 in skeletal muscle. Compared to normoxia [normal O_2 levels], hyperoxia may reduce PCr [substance in muscles that facilitates energy for muscle contraction] degradation during the metabolic transient, **attenuating the magnitude of cellular disturbance** characteristic of near-maximal to **maximal exercise**.
>
> "…During the next 30 years, research with improved experimental design and methodology supported early

findings showing that **hyperoxia [super-oxygenation] improved work tolerance** ***independent of exercise mode***.

"An initial explanation for this **enhanced performance in hyperoxia is a greater VO2max mediated by enhanced oxygen delivery**. Consequently, it is evident that hyperoxia enhances **VO2max due to an increase in *oxygen delivery to active muscle.*** *This reduced perturbation of cellular homeostasis* would promote lesser acidosis in hyperoxia, leading to a better maintenance of contractile function and thus improved exercise tolerance.

"… Overall, these data suggest that in hyperoxia, a greater gradient for diffusion of **O2 from the capillary to the muscle mitochondria enhances VO2max**."

2011 *Journal of Strength and Conditioning Research* performed at the Exercise Physiology and Metabolism Laboratory, Department of Kinesiology and Health Education, The University of Texas at Austin, Austin, Texas `makes clear:

- "A **Low Carbohydrate-Protein Supplement Improves Endurance** Performance in Female Athletes."
- "It is likely that the greater performance seen with CHO [CHO is an abbreviation for carbohydrate, which is composed of carbon+hydrogen+oxygen] + PRO [protein] was a result of the CHO–PRO combination and the **use of a *mixture* of CHO sources [like fruit]**.

- "In this study, **plasma glucose levels were significantly lower during exercise** [more fuel was being used by the muscles] as compared to CHO [levels]. However, plasma insulin levels were similar between trials; therefore, the lower plasma glucose levels cannot be attributed to an increase in insulin availability. **The combination of CHO and PRO could have increased glucose clearance from the blood at a greater rate than CHO alone**, resulting in lower blood glucose levels and increased exogenous CHO availability to the working muscle.

- "As in the study by Currell and Jeukendrup, **the glucose + fructose [like fruit] mixture improved performance by 8% in comparison to glucose only**. Previous investigations in **our laboratory have additionally found improved efficacy when using a mixture of CHOs, in combination with a moderate PRO concentration**. Therefore, it appears this is a likely mechanism contributing to the improved TTE [transthoracic echocardiogram, which is a cardiac ultrasound examination that tests cardiac performance] we observed.

- "In summary, the addition of a moderate PRO concentration to a low concentration CHO mixture **improved endurance performance in comparison to a traditional 6% CHO sports drink** in trained female athletes. ***This improvement occurred despite CHO + PRO containing 50% less CHO and approximately 30% fewer calories than the traditional 6% CHO supplement.*** It is

likely the greater performance seen with CHO + PRO was a result of the combination of PRO and the use of a **mixture of CHO sources**."

Athletes need to know that published, "Fish-oil supplementation reduces stimulation of plasma glucose fluxes during exercise in untrained males":

- "It is concluded that **fish oil reduced Rd [rate of glucose disappearance] glucose by 26% by reducing glucose metabolic clearance rate** …"
- "[I]t was observed in healthy human subjects that a 3-week supplementation of the diet with **fish oil (6g/ day) decreased by 40% the insulin response** to an oral glucose challenge without altering either endogenous glucose production or plasma glucose utilization.
- "[N]-3 long-chain fatty acids are incorporated into **membranes whose composition remains altered at least 18 weeks after interruption of fish-oil supplementation**…
- "The main observation of the present study is that a supplementation of the usual diet with **6 grams fish oil / day during a period of 3 weeks reduced stimulation of both HGP [hepatic glucose production] (-21%) and Rd glucose (-26%)** during exercise."

See "The Essential Role of Physiologic EFAs (PEOs) at http://www.brianpeskin.com/BP.com/reports/Sports-Medicine.pdf.

Mice Run Faster On High-grade Oil

ScienceDaily (July 1, 2009) — Between the 1932 and 2008 Olympic Games, world record times of the men's 100m sprint improved by 0.6 seconds due to improved training techniques and technological advances. Imagine if this improvement could be achieved by a simple change in diet. Scientists at the Research Institute of Wildlife Ecology in Austria have managed to achieve an equivalent feat in mice fed on a diet high in polyunsaturated fatty acids.

Mice fed on a diet high in polyunsaturated fatty acids can sprint faster. (Credit: iStockphoto/Sarah Salmela)

Polyunsaturated fatty acids are important dietary components which mammals cannot synthesize de novo. The research, to be presented on the 29th of June 2009 at the Society for Experimental Biology Annual Meeting, has shown that mice fed for two weeks on a diet high in sunflower oil, which contains n-6 polyunsaturated fatty acids, ran on average 0.19m/s faster than mice fed a diet rich in linseed oil, which is high in n-3 fatty acids.

This means that, over a 2 second sprint, a mouse fed on a high n-6 fatty acid diet would have a 0.4m advantage. This represents a 6.3% improvement which equals that achieved in the 100m world records over more than 75 years. For a mouse, or other small mammal, this would be significant in evolutionary terms when escaping from a predator or catching prey. "The results of the current study on mice suggest that moderate differences in dietary n-6/n-3 polyunsaturated fatty acid intake can have a biologically meaningful effect on maximum running speed", says Dr Christopher Turbill who will be presenting the research.

A previous study by the group, which looked at a range of mammal species, found that those with a relatively high n-6 fatty acid content in their skeletal muscles had a greater maximum running speed. Combined, these two studies suggest that diets enriched in these fatty acids "could also affect the maximum (or burst) running speed of other vertebrates including humans" says Dr Turbill. "The application of this research to the performance of elite athletes (specifically those in sports that involve short distance sprints, including cycling) is uncertain, but in my opinion certainly deserves some further attention" he says.

Adapted from materials provided by Society for Experimental Biology, via EurekAlert!, a service of AAAS.

3

Increased Oxygen Without the Hyperbaric Chamber

The medical profession treats a very long list of conditions and diseases through the use of a hyperbaric oxygen chamber.[1] This is an enclosure, in which the patient lies or sits, that delivers pure oxygen under pressure to the body. The cells become saturated with ten to fifteen times more oxygen than they would at normal atmospheric pressure. In addition to speeding healing of many types of wounds and infections, this treatment has produced remarkable improvements in patients paralyzed with stroke, various neurological and orthopedic conditions including comas, patients with cerebral palsy, multiple sclerosis, macular degeneration in the eyes, and many other conditions.[2]

The **PEO Solution** program provides the next best oxygenator to the hyperbaric chamber in a practical way—nutritional supplementation with the correct PEOs. PEO supplementation allows increased *cellular* oxygenation on a daily basis. Oxygen has to penetrate into the tissue—not just bathe the surface—and both the hyperbaric chamber and PEOs—as specified in **PEO Solution**—accomplish this goal.

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1 I wish to thank Robert E. Levine, M.D., of Los Angeles, California for his insight leading me to think about the existing medical uses of hyperbaric oxygen, and how EFAs represent the evolution of its benefits without its bulk.

2 Thanks to Alan Spiegel, M.D., National Hyperbaric Oxygen Therapy Center, Palm Harbor, Florida, for information about the use and applications of hyperbaric oxygen therapy and provided on his Center's website.

Hardworking Muscles Use Glycolysis for "Emergency" Short-Term Energy

ADVISORY: This section is somewhat technical but important to understand.

...

Normally, at least 95% of the time, muscles use oxygen for cellular respiration. However, under extreme physical endurance stress such as weight lifting, not enough oxygen can get to the muscle fast enough to keep up with increased energy requirements. Therefore, as a *temporary,* but *normal* phenomenon, the muscles switch over to "lactic acid fermentation" to get the energy they require. First, glucose is converted to pyruvate. Then, the pyruvate molecules are used for energy, producing lactic acid as a byproduct. (It is really just excess hydrogen ions but the pain still occurs—thanks to *The Townsend Letter for Physicians* and ND's Jade and Keoni Teta.) This acidic environment builds up in the muscles, causing what is commonly called a *lactic acid "burn."*

...

Excerpts from Nobel Prize-winner Otto Warburg's monumental *The Metabolism of Tumors in the Body*:[3]

> **"[That] normal tissues** under normal living conditions [resting] put no lactic acid **in the blood was confirmed.**
>
> "On the contrary, they [normal tissues] remove it from the blood.
>
> **"Normal cells form** lactic acid in general only **when their** oxygen is cut off or their respiration checked**.**

3 Otto Warburg, et al., "The Metabolism of Tumors in the Body," *The Journal of General Physiology*, Vol. 8, 1928, pages 524-525.

> **"…[D]uring forced bodily work [like weightlifting], the lactic acid of the blood increased.** In this case the diffusion of oxygen into the muscle cells is not sufficient to cover the oxygen requirement of the muscle**."**

The accumulated lactic acid has to be transported via the bloodstream to the liver and kidneys, where it converts to glucose to be used again.[4]

Muscles don't obtain significant energy (ATP) from fermentation. Respiration with oxygen is about 20 times more energy producing than the energy that can be produced from glycolysis utilizing the same amount of glucose. So why do our bodies use this inefficient system at all? Simple—it is quick! The energy is available much faster through fermentation. The muscle requires energy quickly, and Nature designed the ideal process to handle the situation.[5] The excellent science-based book, *Nutrition for Fitness and Sport*,[6] by Professor Melvin H. Williams, states, "… [T]he lactic acid system is used in sport events in which energy production is near maximal for 1 to 2 minutes, such as a 400- or 800-meter run."

Principles of Medical Biochemistry states:[7]

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4 *Harper's Illustrated Biochemistry, 26th edition*, **2003**, page 159.

5 http://biology.clc.uc.edu/courses/bio104/cellresp.htm and http://web. indstate.edu/thcme/mwking/glycolysis.html.

6 *Nutrition For Fitness and Sport*, Melvin H. Williams, Brown and Benchmark Publishers, Chicago, 1995, page 61.

7 *Principles of Medical Biochemistry,* Gerhard Meisenberg and William H. Simmons, Mosby, Inc., New York, 1998, page 303.

> "Skeletal muscle has to increase its ATP (energy) production more than twentyfold during bouts of vigorous contraction, for example, a 100-m sprint.
>
> "In this situation the supply of oxygen from the blood becomes a limiting factor, and the tissue depends to a large extent on the anaerobic glycolysis of glucose, and more importantly, of stored glycogen.
>
> "The lactate concentration in the blood rises 5- to tenfold in this situation."

We now know how to remedy a cellular oxygen deficiency so that the lactic acid produced in the muscles during strenuous workouts is more quickly used as fuel with oxygen. ***This reduction in acid "burn" proves the tissue's increased oxygenating capability***. We can now demonstrate that although the muscles still use fermentation short-term, their oxygenating capability has been raised to such an extent that the acid burn is minimized or eliminated.

Let's proceed with an in-depth discussion about the oxygenation/decreased lactic acid buildup discovery. *The Hidden Story of Cancer* details this regarding increased anti-cancer protection.

Proof of Oxygenation with PEOs—Lactic Acid Burn is Stopped Cold: A "Do-It-Yourself" Test

If you have ever worked out with weights, then you have likely already experienced the so-called "lactic acid burn." It is a burning sensation that comes from acid buildup in your muscles, produced when they **ferment glucose for energy**—much in the

same way that a cancer cell does. "Lactic acid burn" becomes a *problem of the past* when PEO supplements are properly used.

Here is a definitive test: First, take about 1,500 mg of a PEO-based oil supplement as recommended. Wait 20 minutes. Then you can simply take a heavy dumbbell and perform "biceps curls" until your arm is completely fatigued. If the muscle fails—you can't hold the dumbbell any longer *and* **there is NO BURN—***then* **you know that your tissues are fully oxygenated. If you get the "burn," keep following the PEO Solution and try again later.**

From the previous discussion, we can deduce what must be happening to prevent acid "burn," and therefore give practical proof that cellular oxygenation has increased. Because of the fact there is little to no lactic acid burn, there can be no *excessive* acid buildup. This can only have been accomplished in one of three possible ways:

1. **Oxygen** from the blood is **increased** so that fermentation by the muscle is no longer required.
2. **Oxygen** transfer in the muscle is **increased** so that fermentation by the muscle is no longer required.
3. **Oxygen** is **increased intracellularly in the muscle**, allowing the lactic acid to immediately be used in respiration—there is no excessive lactic acid buildup.

Biochemistry of Exercise & Training supplies the answer to the question of which one of the above three possibilities is occurring

The following is quite technical. First, we need to understand the different types of muscle fiber:[8]

1. "**Type 1 fibres** have numerous **mitochondria** [factories for energy production using oxygen], mostly located close to the periphery of the fibre, near to the blood capillaries which provide a **rich supply of oxygen and nutrients**. These fibres possess a high capacity for **oxidative metabolism**, they resist fatigue and are specialized for the performance of repeated strong actions over prolonged periods. Note: These fibers are very red in color due to the presence of *myoglobin*, an intercellular respiratory pigment capable of binding oxygen.
2. "In comparison, **Type IIb fibres** …have about a threefold greater maximum power output than the Type I fibres, …**but greater glycogen [glucose]** and phosphocreatine **stores**…. A high activity of glycogenolytic and glycolytic enzymes endows Type IIb fibres with a high capacity for rapid (but relatively short-lived) ATP production when energy has to be released at rates in excess of that available from oxidative phosphorylation. In other words, they **possess a high anaerobic capacity**. It is perhaps worth noting here that **anaerobic respiration** (glycogenolysis and glycolysis) occurs **without the use of oxygen, but not necessarily in the absence of oxygen (anoxia), nor for that matter low oxygen availability (hypoxia)**… **Type IIa fibres** are red cells [although much paler than Type I] whose

8 *Biochemistry of Exercise & Training,* Ron Maughan, Michael Gleeson, and Paul L. Greenhaff, Oxford University Press, New York, 1997, pages 12, 18-19, 43, 75-76, 141, and 197-207.

metabolic and physiological characteristics lie between the extreme properties of the two other fibre types."

PEO Solution analysis: Type I fibers require cellular oxygen-based respiration and require this oxygen-based mechanism for long-term endurance. However, the Type II fibers are more anaerobic (not utilizing oxygen directly) and will utilize lactic acid. What is of immense interest is the fact that **paradoxically, even though the anaerobic energy mechanism doesn't directly use oxygen, it still requires some oxygen for the glycolysis of both available glucose and utilization of stored glycogen to be maximized.**

You will soon discover, as you read the information in items #4 and #7 below, the completely unexpected fact that ***PEOs*** **maximize the** ***anaerobic*** **system so that endurance increases, too.**

3. "The **rate of lactate formation** is dependent primarily on the intensity of the exercise, but depends more on the relative exercise intensity (%VO2 max) [**maximum oxygen consumption**] than the absolute intensity… [M]uscle glycogen store can be used for anaerobic energy … lasting from 20 s [seconds] to 5 minutes… To **achieve high oxygen consumption, an effective system for the transfer of oxygen from the atmosphere to the site of utilization in the mitochondria of the exercising muscles is essential**…
4. "Although the conversion of glucose to lactate is an **anaerobic process, it occurs EVEN WHEN OXYGEN IS FREELY AVAILABLE** to the muscle, and **lactate release does not necessarily imply that oxygen supply is inadequate**."

PEO Solution analysis: Based on these surprising and unexpected facts in items #3 and #4, **we would now expect a higher lactate output—not less lactate—as a result of the increased oxygenation efficiency that PEOs provide in an exercise such as biceps curls**. Anaerobic glycolysis is primarily used for muscular events lasting from 20 seconds to 5 minutes **AND more lactate (meaning more energy) is produced with more oxygen uptake and greater tissue oxygen transfer** (%VO2 max)—which we have seen that PEOs assist with. PEOs also allow maximal oxygen transfer into the muscles' mitochondria.

5. "After the initial one or two minutes of exercise, however, a steady state of oxygen delivery is achieved. The high oxidative capacity of the active muscle fibres ensures that **some of the lactate produced in the initial stages of exercise is taken up by these fibres and reconverted to pyruvate** which is then decarboxylated to acetyl-CoA and enters the TCA [tricarboxylic acid] cycle.[9]
6. "…Lactate production will thus occur, even when there is no restriction on the oxygen availability to the muscle cells: the **accumulation of lactate in the blood is, therefore, largely a reflection of the activation of muscle fibres** in which the **glycolytic capacity** ***exceeds the capacity*** **for the oxidative metabolism** of pyruvate."

PEO Solution analysis: Type I muscle fibers have mitochondria (oxygen-based energy factories)] that can use the lactate waste product from the Type IIb fibers. This precisely explains the lack of acid burn even though there could still be a buildup of lactic acid—it simply gets used quickly.

9 This is also known as the *citric acid cycle* or *Krebs' Cycle*.

Again, there will be lactic acid REGARDLESS of oxygenation level; it is a normal, yet unexpected result, as so often occurs in scientific study; it is simply the way your body works. Any good scientist **has to have the theory fit the *real-life* facts—not vice versa.**

Nutrition for Fitness and Sport (page 69) has this to say regarding training and lactic acid buildup and increased oxygen utilization:

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7. "…Training **increased** both your **VO2 max** [maximum oxygen consumption] and your steady state threshold, which is the **ability to work at a greater percentage of your VO2 max without producing *excessive* lactic acid**—a causative factor in fatigue."

With PEOs, we get this *increased oxygen utilization without the additional expected training*—endurance increases and recuperation time decreases, as you discovered from Dr. Cavallino's exceptional experimental results. Does it matter which single oxygenator or combination of the three possible factors causes the increased oxygenation? No, because each one of the three individual factors increases oxygenation!

With proper PEO supplementation, tissue's oxygenation level will increase significantly over time so that oxygen to the muscle is maximized; **hence, no "burn.** "Professional athletes understand this.

"The Lactic Acid Test," by Sam Walker, published in *The Wall Street Journal*; July 22, **2005**, page W1, gives us more *real-life* information:[10]

10 You may be wondering why Lance Armstrong got testicular cancer with a high level of oxygenation. This is what you need to know: He was treated for his cancer in 1996, meaning that the cancer had been developing for many years prior to that. Here's the reason: cycling causes abnormal irritation and stress in the testicular area. If Lance was deficient in EFAs back then, he'd have more bouts of exhaustion from oxygen transfer deficiency and be at

"…[H]e [Lance Armstrong] produces **one-third less lactic acid than do other top cyclists** and **delivers oxygen** to his legs **at a rate higher** than all but maybe 100 of his fellow earthlings.

"**…**Researchers at the U.S. Olympic Training Center have developed a series of four tests for things like **'maximum oxygen uptake'** and **'power output at lactate threshold'** that can determine whether someone has the natural ability to be a top endurance athlete."

Professional athletes supplementing with PEOs 20 minutes before a game have never before seen or felt anything like this effect.

Likewise, bodybuilders of any age are amazed, too. This is striking *real-life* **confirmation that EFAs, in the ratios this plan recommends, [d] oxygenate the tissues the way Nature intended. The exact means to prevent cancer—full oxygenation, as described so precisely by Dr. Warburg—is effectively accomplished, too.**

greater risk of developing cancer. From an article in Paris, July 2000 (http://sportsmedicine.about.com/od/ cyclingworkouts/a/080100.htm) comes the following telling quote. "He [Lance] won the world championships in 1993, but he also **was forced to drop out of three of his first four Tours de France**, the most prestigious but correspondingly [most] difficult cycling race on earth, **because of exhaustion** or injury**." There is clearly a difference in Lance then and now regarding oxygen utilization!**

WARNING: DANGER of CVD for Marathon Runners…..**You CANNOT Exercise Away a Nutritional Deficiency**. PEOs are called the Athlete Advantage(™) for a reason.

- Excerpted From the excellent *Wall Street Journal* article:

SPORTS

Why Runners Can't Eat Whatever They Want

Studies Show There Are Heart Risks to Devil-May-Care Diets—No Matter How Much You Run

By KEVIN HELLIKER

March 25, 2014 7:23 p.m. ET

"As a 10-mile-a-day runner, Dave McGillivray thought he could eat whatever he wanted without worrying about his heart. "**I figured if the furnace was hot enough, it would burn everything**," said McGillivray, who is 59.

But a diagnosis six months ago of coronary artery disease shocked McGillivray, a finisher of 130 marathons and several Ironman-distance triathlons. Suddenly he regretted including a chocolate-chip-cookie recipe in his memoir about endurance athletics.

A growing body of research shows the error of that thinking. A study published in the current edition of Missouri Medicine found that **50 men who had run at least one marathon a year for 25 years had higher levels of coronary-artery plaque than a control group of sedentary men. A British Medical Journal study published this year compared the carotid arteries of 42 Boston Marathon qualifiers with their much-less active spouses. "We hypothesized that the runners would have a more favourable atherosclerotic risk profile," says the article. As it turned out, that hypothesis was wrong**.

...**Studies support a potential increased risk of coronary artery disease, myocardial fibrosis, and sudden cardiac death in marathoners**...

Ambrose Burfoot, winner of the 1968 Boston Marathon and editor-at-large of *Runner's World* magazine, is 67 years old, 6 feet tall and only 147 pounds. A l**ifelong vegetarian**, he subsists mostly on fruits, vegetables and nuts, though he also eats "cookies and all dairy products—cheeses, ice creams etc.," he wrote in an email.

Last March I learned that I have a very high coronary calcium..."