Scientific Support for Chapter 12

"Brian, It's going on **7 years with no migraines thanks to PEOs.** I hope this finds you and yours doing well..."

—Glen M. (email: 2013)

***2103 Newsflash* for OB/Gyns—Autism**: While autism has reached epidemic proportions, the **Power of the Parents** will give expectant mothers piece of mind by protecting their unborn child:[1] "Eating Healthy Fats [**Parent omega-6**] During Pregnancy Linked To Decreased Autism Rates; Omega-3 Fatty Acid [**Small amounts** of marine oil] Beneficial Until Threshold [Overdose],"

- "The study found that **women who consumed linoleic acid [Parent omega-6]—** a type of omega-6 acid found in vegetable oils, nuts, and seeds **—** were 34 percent ***less likely* to birth a child with autism**…"

- "In analyses of extreme deciles of fat intake compared with the middle 80% of the distributions**, *ω -6 fatty acid and linoleic acid continued to show significant associations with ASD*.**

- In addition, ***risk was significantly elevated for those with the lowest 10% of intake of a -linolenic acid*** [**Parent omega-3**] (odds ratio = 2.23, 95% CI: 1.30, 3.84) and the lowest 5% of intake of linoleic acid (odds ratio = 2.20, 95% CI: 1.09, 4.46).

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1 http://www.medicaldaily.com. Ref.: Lyall K, et al., "Maternal Dietary Fat Intake In Association With Autism Spectrum Disorders.," *American Journal of Epidemiology*. June 28, 2013.

- "Significant associations with total ω-3 fatty acids, **which we had hypothesized to be of primary relevance** given their role in brain development, anti-inflammatory processes, and immune function, **were seen only when very low intakes were assessed**.
- "**We did not see any association with eicosapentaenoic acid [omega-3 derivative] or docosahexaenoic acid [omega-3 derivative]**, which are 2 ω-3 fatty acids essential to fetal brain development, or arachidonic acid, which is also important in brain development.
- "Our results provide preliminary evidence that increased maternal intake of ω-6 [Parent omega-6] fatty acids could reduce risk [34% reduction] of off-spring ASD and that [only] very low intakes of ω-3 fatty acids and linoleic acid could increase risk."

► "For specific fatty acids, the only significant associations were seen with linoleic [Parent omega-6] and α-linolenic [Parent omega-3] acids, essential fatty acids that are required from dietary sources. Intakes of these fats, however, are highly correlated, and in analyses in which each of these fats was adjusted for the other, ***only linoleic acid [Parent omega-6] remained significant***.

Noda, Satoru, "Hypoxia upregulates adhesion ability to peritoneum through a transforming growth factor-β-dependent mechanism in diffuse-type gastric cancer cells," *European Journal of Cancer*, Volume 46, Issue 5, Pages 995-1005, March **2010**.

> "**Hypoxic** environment exists in **most cancers** ... [Note: Hypoxia is present in *all cancers* to a greater or lesser extent].
>
> "In the present study, we investigated the effect **of hypoxia on adhesion ability of cancer cells** and found that hypoxia upregulates the adhesion….
>
> "The upregulation of α2-, α3- and α5-*integrin* by TGF-β under **hypoxic conditions** may be one of the mechanisms responsible for **the high metastatic potential of hypoxic DGC cells."**

The following article detailing the **importance of the cellular environment** was based on information **sponsored by the National Cancer Institute**, and other university cancer centers.

Medical News Today, October 25, **2012 —** Breast Cancer, "Genetic Changes Plus "Tumorous ***Environment***" Enable Breast Cancer Cells To Spread" has this to say:

- "A new study from Johns Hopkins researchers suggests that the lethal spread of breast cancer is as ***dependent on a*** *tumor's* ***protein-rich environment*** as on genetic changes inside tumor cells.
- "'The most dangerous aspect of breast cancer is its ability to **spread to distant sites, and most tumors are initially unable to do that**'…
- "***If*** cancer cells are driven to disperse ***solely because of the genetic changes*** they carry, the researchers expected to see the tumor fragments behave similarly in both

the healthy and tumorous environments. ***What they saw instead***, says Ewald, was a ***distinct difference***. As expected, 88 percent of tumor fragments sent cells crawling into the tumorous meshwork environment, the first step in metastasis known as dissemination. But only 15 percent of tumor fragments sent cells crawling into the normal environment.

- "According to Ewald, ***these results indicate that the environment around a tumor plays a more direct role in cancer spread than previously thought***.

- "**This tells us that tumors continue to listen to their environments**…"

Radiation

Radiation is often prescribed for patients. It has now been experimentally verified that radiation causes a significant increase in what is termed "cancer stem cells."[2] These findings confirm Dr. Warburg's warnings that radiation, after killing less virulent cancer cells, would make remaining cancer cells much more virulent (*The Hidden Story of Cancer* / Pinnacle-Press). Here's the article's warning along with quotes from the original article (Lagadec, C, et al., "Radiation-Induced Reprogramming of Breast Cancer Cells, *Stem Cells* **2012**;30:833-844):

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2 CancerScope: Oncology Issues in Focus by Carrie Printz, *Cancer* July 1, **2012**, page 3225.

- "...[R]adiation **treatment transforms cancer** cells **into treatment-resistant** breast **cancer stem cells**, even as it kills half of all tumor cells.

- "...They also found that these **iBCSCs** (induced breast cancer stem cells) had ***more than a 30-fold increased ability to form tumors*** than the non-irradiated breast cancer cells.

Importantly, CSCs in breast cancer and glioma have been found to be re∂latively ***resistant to radiation and chemotherapy*** compared with their non-tumorigenic progeny.

2013 *newsflash*: Women treated with radiation for breast cancer have increased risk of CVD.[3]

As published in the journal article, "**Risk of Ischemic Heart Disease in Women after Radiotherapy for Breast Cancer:"**

> **"Exposure of the heart to ionizing radiation during radiotherapy for breast cancer** increases the subsequent rate of ischemic heart disease. ***The increase is proportional to the mean dose to the heart, begins within a few years after exposure, and continues for at least 20 years***. Women with preexisting cardiac risk factors have greater absolute increases in risk from radiotherapy than other women.

3 Darby, S., et al., *The New England Journal of Medicine* 2013; 368:987–998; Lagadec, C, et al., "Radiation-Induced Reprogramming of Breast Cancer Cells, *Stem Cells* **2012**;30:833–844.

> "In conclusion, we found that incidental exposure of the heart to radiotherapy for breast ***cancer increased the rate of major coronary events by 7.4% per gray, with no apparent threshold***. The percentage increase per unit increase in the mean dose of radiation to the heart was similar for women with and women without preexisting cardiac risk factors, which indicates that the absolute increases in risk for a given dose to the heart were larger for women with preexisting cardiac risk factors. Therefore, clinicians may wish to consider cardiac dose and cardiac risk factors as well as tumor control when making decisions about the use of radiotherapy for breast cancer."

Cancer

Oncology / Cardiology Newsflash: **Cancer patients at much greater risk for heart disease.** The Medscape article, "**Cancer Survivors at "Substantial" Risk of Cardiovascular Disease**" in **2009** makes clear:[4]

> "**The largest cohort of childhood and adolescent cancer survivors ever** studied has indicated there is a **substantial risk of subsequent cardiac problems**, including congestive heart failure, myocardial infarction (MI), pericardial disease, or valvular abnormalities.
>
> "***Cardiologists and oncologists will need to work together more and more*** due to the ***growing cardiotoxic risk associated with combination therapy for various malignancies***, say Dr Adriana Albini (Istituto di

4 http://www.medscape.com/viewarticle/713673?src=rss_

> Ricerca e Cura a Carattere Scientifico MultiMedica, Milan, Italy) and colleagues in the paper. "Today's oncologists must be fully aware of cardiovascular risks to avoid or prevent adverse cardiovascular effects, and ***cardiologists must now be ready to assist oncologists by performing evaluations relevant to the choice of therapy***," they write." The article summarizes the potential cardiovascular toxicities of a range of chemotherapeutics and chemopreventive agents and emphasize the importance of evaluating cardiovascular risk when patients enter into trials."

The cancer journal article's title is quite clear. "***Cardiotoxicity of anticancer drugs: the need for cardio-oncology and Cardio-oncological prevention***," (Albini A, et al., *J Natl Cancer Inst*. **2010** January 6; 102(1): 14–25). Its summary states:

> "Abstract: Due to the aging of the populations of developed countries and a common occurrence of risk factors, it is **increasingly probable that a patient may have both cancer and cardiovascular disease**. In **addition, cytotoxic agents and targeted therapies used to treat cancer**, including classic chemotherapeutic agents, monoclonal antibodies that target tyrosine kinase receptors, small molecule tyrosine kinase inhibitors, and even antiangiogenic drugs and chemoprevention agents such as cyclooxygenase-2 inhibitors, **all affect the cardiovascular system**. One of the reasons is that many agents reach targets in the microenvironment and do not affect only the tumor. **Combination therapy often amplifies cardiotoxicity, and radiotherapy [as**

detailed at the beginning of this chapter] can also cause heart problems, particularly when combined with chemotherapy.

"*In the past, cardiotoxic risk was less evident, but it is increasingly an issue, particularly with combination therapy and adjuvant therapy*.

"**Today's** ***oncologists must be fully aware of cardiovascular risks*** **to avoid or prevent adverse cardiovascular effects, and cardiologists must now be ready to assist oncologists by performing evaluations relevant to the choice of therapy. There is a need for cooperation between these two areas and for the development of a novel discipline, which could be termed cardio-oncology or onco-cardiology**…."

PEO Solution analysis: PEOs protect the cardiovascular system in patients undergoing any type of cancer therapy, positively assisting cancer patient mortality and increasing positive outcomes from therapy. PEOs are the ideal adjunct to any oncology protocol.

Cardiovascular disease

Newsflash: Cardiologists / Cardiovascular Disease Prevention: Parent omega-3 and Parent omega-6—not omega-3 series derivatives—**takes center stage** in the following 21st century analysis of elevated fibrinogen—the main component in coagulation processes. Although a critical substance to help cause clotting if you cut yourself to seal the wound, excess levels

can cause buildup inside the vascular system. Furthermore, **fish oil** is **not preferred—*LOW LEVELS* of EPA/DHA are *found most beneficial***. The **2010** journal article, "Elevated plasma fibrinogen caused by inadequate µ–linolenic acid [**Parent omega-3**] intake can be reduced by replacing fat with canola rapeseed [containing Parents] oil:"[5]

- "**Fibrinogen** is the main protein in coagulation processes and elevated levels, found in **prothrobotic and proinflammatory states**, and are associated with a **higher risk of CHD**, **strokes**, **diabetes**, and **Alzheimer disease and dementia**.

- "…[M]ost of the **highest fibrinogen** values ***appeared at the lowest* range** of µ–linolenic acid [**Parent omega-3**] and often combined with **low** LA (**Parent omega-6**] levels.

- "…[D]emonstrates a new property for µ–linolenic acid [**Parent omega-3**] which is **physiologically of greater importance than** its own metabolism [**derivatives**.]

- "…[S]imilarly, a ***very low*, rather than a high EPA and DHA intake** combined with µ–linolenic acid [**Parent omega-3**] in most beneficial as regards the risk of CHD events.

- "µ–linolenic acid [**Parent omega-3**] should therefore be **the first 'omega-3' to be used in correcting the n-6/n-3PUFA imbalances in the body**."

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5 Seppänen-Laasco, et al., *Prostaglandins, Leukotrienes and Essential Fatty Acids* 83 (**2010)**, 45-54.

Increased intake of alpha-linolenic acid (Parent omega-3) was associatedThe "Power of the Parents" was known in 2008…

Once again, marine oil was found worthless as this 21st century ***Circulation*** article attests:[6]

> "**Greater** alpha-linolenic acid [**Parent omega-3**] assessed either in adipose or by questionnaire was associated with **lower risk of myocardial infarction** [heart attack].
>
> "Similarly, **low intakes of alpha-linolenic acid** can be found in developing countries where **cardiovascular disease is on the rise**.
>
> "**Fish intake was similar in cases and controls**, and the variation within each group was large…. **Fish** or eicosapentaenoic acid [**EPA**] and docosahexaenoic acid [**DHA**] intake at the levels found in this population **did not modify the observed association**. [I want to make this very clear: **The amount of fish consumed didn't matter**. Given all of fish oils supposed miraculous claims, didn't these researchers wonder why? However, the researchers understand that the Parent omega-3 did something the derivatives didn't do.]
>
> "***Conclusions*—** In summary, **consumption of** vegetable oils rich in alpha-linolenic acid [**Parent omega-3**]could confer **important cardiovascular protection**."

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6 Hannia Campos, PhD; Ana Baylin, MD, Dsc; Walter C. Willett, MD, DrPh, *Circulation*, **2008**;118:339-345.

This medical journal title says it all: "The beneficial effect of α**-linolenic acid** [**Parent oemga-3**] in coronary artery disease **is not questionable**."[7]

> "The **first prospective study** showing a beneficial effect of **ALA** (**Parent omega-3**) **on CAD** was conducted in **6250** middle-aged men of the usual care group of the Multiple Risk Factor Intervention Trial (1992).

"More recently, 2 large prospective studies in 76 283 nurses (1999) and 43 757 health professionals (1996) showed that **ALA** [Parent omega-3] was the only fatty acid that **protected against cardiac death and against nonfatal myocardial infarction, independently of other dietary or nondietary factors**." [Marine oils did nothing remarkable.]

2011 *Newsflash*: A Lower (glycemic) carbohydrate, higher protein diet is best to both prevent and slow tumor growth:[8]

"Abstract: Since **cancer cells depend on glucose more than normal cells**, we compared the effects of low carbohydrate (CHO) diets to a Western diet on the growth rate of tumors in mice. Taken together, our **findings offer a compelling preclinical illustration** of the ability of a **low CHO [carbohydrate] diet** in not only **restricting weight gain** but also **cancer development and progression**.

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7 Renaud, Serge, *Am J Clin Nutr* **2002**;76:903–6.

8 Ho, Victor, W., et al., "A Low Carbohydrate, High Protein Diet Slows Tumor Growth and Prevents Cancer Initiation," *Cancer Research*; 71(13), July 1, **2011**, pages 4484-4493.

"Importantly, because glycolysis is far less efficient at generating ATP, most **cancer cells** require **higher levels of glucose** than normal cells to proliferate and survive, and this is why the glucose analog, fluorodeoxyglucose, is capable of detecting the majority of human tumors via positron emission tomography. [Note: Full details are in the book, *The Hidden Story of Cancer*, www.pinnacle-press.com.]

"Consistent with this and our hypothesis that glucose supply is related to tumor growth, we found a ***positive correlation between plasma insulin levels and tumor size***. [Note: This supposed "hypothesis" is obvious. It is well known that tumors possess significantly more—on the order of 10-fold—insulin receptors than normal tissue. Respiration in the mitochondria is significantly impaired.]

"Furthermore, **70%** (7 of 10) of mice on 5058 [**high carbohydrate diet**] developed **tumors** during their lifespan, with only 1 reaching normal life expectancy, whereas **less than 30%** (3 of 11) of the mice on the **15% CHO** diet developed **tumors**, with more than half reaching or exceeding normal life expectancy. Of note, in the 5 mice on the 15% CHO diet that exceeded normal life spans, only 1 had kidneys that showed above-normal levels of protein in the urine. **These long-term mouse studies suggest that this 15% high *amylose* [easily digestible in humans] CHO, 58% protein, 26% fat diet is both safe and efficacious**."

PEO Solution analysis: This result is predictable. Because of the insulin response, *glycemic* carbohydrates—especially grains—make you fat unless immediately "burned" for energy. Cancer cells utilize glucose from carbohydrates as its prime fuel source. As expected, lactate levels were lower, too, confirming reduced tumor metabolism and growth. These facts are nothing new. The researchers mention that "high fat" is tumor promoting, but in research *adulterated cancer-causing* fats are nearly always used. **This experiment used 23% dietary fat.** Even with that amount, much of it adulterated, the results were still significant compared to the high carbohydrate diet.

Imagine this experiment's potential improvement with *fully functional*, *unadulterated* **PEOs. In fact, a seminal experiment was already performed with PEO pretreatment and the mice grafted with 2,000,000 cancer cells. See the extraordinary results at http://www.brianpeskin.com/BP.com/experiments.html and in the Scientific Support section.**

The above experimenter's results were consistent with the Korean study of cancer/blood glucose correlations. A superb **2005,** 10-year study of **over 1,000,000 people** confirms:[9]

- "…[T]he stratum [section] with the **highest fasting serum glucose** (>= 140 mg/dL (>=7.8mmol/L) **had higher death rates from all cancers combined ...** "

9 "Fasting Serum Glucose Level and Cancer Risk in Korean Men and Women," Sun Ha Jee, et al., *Journal of the American Medical Association* **2005**; 293:194-202.

- "By cancer site, the association was strongest for pancreatic cancer… ***Significant associations*** were also found for cancers of the esophagus, liver, and colon/ rectum, pancreas, and bile duct in men and of the liver and cervix in women, and there were ***significant trends*** **with glucose level for all cancers [referenced above]…"**

- "Of the 26,473 total cancer deaths in men and women 848 **[3.2%]** were estimated as attributable to having a **fasting glucose level of less than 90 mg/dL**."

The high blood glucose/increased cancer correlation was again confirmed and published in *PLoS Medicine* in December **2009**, which stated:[10]

- "**Glucose was significantly positively associated** with risk of overall incident and fatal **cancer**.

- "In this large prospective cohort study, **elevated blood glucose was significantly** associated with an **increased risk of incident and fatal cancer at all sites combined**, and of several specific cancers…."

- "**Results** from our study and those from the ***largest study reported to date***, on men and women in Korea, were **largely congruent** and together these studies provide **strong evidence that high blood glucose is a risk factor for cancer**…."

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10 Stocks, T., et al., "Blood Glucose and Risk of Incident and Fatal Cancer in the Metabolic Syndrome and Cancer Project (Me-Can): Analysis of Six Prospective Cohorts," PLoS Medicine | www.plosmedicine.org, December **2009** | Volume 6 | Issue 12 | e1000201.

Here's another cancer journal confirmation you need to know: "Impact of Diabetes Mellitus on Outcomes in Patients With Colon Cancer," Jeffrey A. Meyerhardt, et al., *Journal of Clinical Oncology*, Vol 21, Issue 3 (February), 2003:433-440 states "Patients with diabetes mellitus and high-risk stage II and stage III colon cancer experienced a significantly higher rate of overall mortality and cancer recurrence…" and *National Cancer Institute (NCI Cancer Bulletin: Eliminating the suffering and death due to cancer)*, August 9, 2005, Volume 2/ Number 32 states in an article titled "New-Onset Diabetes is Possible Marker for Early Pancreatic Cancer," "This translates to a 3-year risk of pancreatic cancer of nearly 8 times higher than that of a person of similar age and sex in the general population, reported the scientists, lead by Dr. Suresh T. Chari."[11] Of course, Nobel Prize-winner Dr. Warburg, MD, PhD, in his brilliant paper, published in 1927, "The metabolism of tumors in the body," (*J Gen Physiol.* 1927 March 7; 8(6): 519–530) detailed how tumors voraciously want glucose.

***Newsflash*... It is not open to discussion. If your patient has cancer, its severity will worsen with increased blood glucose levels.**

Newsflash 2010 Oncologist and Cardiologists need to know in patients treated with VEGF inhibitors…[12]

- "The VEGF [vascular endothelial growth factor] inhibitors are **potentially life-saving in the treatment**

11 Ref: *Gastroenterology* **2005,** Aug;129(2):504-11.

12 Medscape published on May 14, **2010** an article by Zosia Chustecka, "New Recommendations for Monitoring BP in Cancer Patients on

of cancer, the authors note, but their mechanism of action **can lead to cardiovascular adverse effects** which in some cases have led to treatment cessation and **even life-threatening consequences**.

- "**Hypertension has been reported as an adverse event of all of these drugs**, and in some cases the BP elevation has been "dramatic," the authors write."

PEO Solution analysis: As the IOWA screening experiment clearly showed, PEOs are "the answer" to improved cardiovascular integrity. Increased arterial compliance mitigates potential adverse side effects.

Cardiovascular Disease

Next, we see the precise reason so many cardiovascular disease researchers get it completely WRONG:[13]

> "…[T]**he inconsistent results obtained in some studies with EPA and DHA could be attributed to *inadequate provision or utilization of n-6 fatty*** acids….

VEGF inhibitors" (http://www.medscape.com/viewarticle/721803_print). Ref.: *J Nat Cancer Inst*. **2010**;102;596-604.

13 Das, U.N., "A defect in the activity of D6 and D5 desaturases may be a factor in the initiation and progression of atherosclerosis," *Prostaglandins, Leukotrienes and Essential Fatty Acids*, 76 (**2007**) 251- 268.

"Under normal physiological conditions, **a balance is maintained between pro- and anti-inflammatory molecules**.

"The **patchy manner in which atherosclerosis** occurs suggests that arterial walls undergo **regional disturbances** of metabolism that include the ***uncoupling of respiration and oxidative phosphorylation*** which may be characteristic of blood vessels being predisposed to the development of atherosclerosis.

"…[A]therscleros is is a low-grade ***systemic inflammatory*** condition. One of the earliest signs of atherosclerosis is the development of ***abnormal mitochondria*** dysfunction triggers the disease. [Note: You'll recall mitochondrial *cardiolipin* requires fully functional Parent omega-6.]

► **"Thus, on the whole, . . . EPA and DHA do not seem to have a very significant effect regarding blood lipids.**

"***Uncoupled respiration precedes atherosclerosis*** at lesion-prone sites **but not** at the sites **that are resistant to atherosclerosis**.

► **"Disease-free aortae have abundant concentration of the essential fatty acid-linoleate [Parent omega-6], whereas fatty streaks (an early stage of atherosclerosis) are deficient in EFAs [PEOs]."**

PEO Solution analysis: These researchers understand chronic inflammation. PGE_1. Is the body's most powerful anti-inflammatory—a metabolite of Parent omega-6. Sub-optimal amounts of *functional* Parent Omega-6 mislead researchers into (wrongly) thinking supra-pharmacologic amounts of omega-3 derivatives (marine oils) overcome this defect. WRONG, WRONG, WRONG… As was clearly stated, EPA/DHA aren't very significant regarding blood lipids. Later in this chapter you will discover the trials clearly detailing the importance of Parent omega-3, also. **Dr. Das suggests Warburg's *prime* cancer-cause, too—the uncoupling of cellular respiration**. Patients don't bleed to death from a wound because of this required life-saving *inflammatory response*. **Parent omega-6 and its derivative metabolites are the correct and natural anti-inflammatory answer.** Furthermore, fully functional Parent omega-6 stops atherosclerosis in its tracks. **PEO Solution** solves BOTH the *prime causes* of cancer and CVD.

Reversing Thrombosis (Blood Clots):

Cause of Thrombosis (Blood Clots): The (Esterified) LDL-C Connection

"Cholesterol esters are the predominant lipid fraction in all plaque types…

> Intimal [innermost arterial lining] macrophages contain substantial amounts of cholesterol esters, which are rich in PUFAs [PEOs]."[14]

14 Felton CV, Crook D, et al., "**Relation of plaque lipid composition and morphology to the stability of human aortic plaque**," *Arteriosclerosis, Thrombosis, and Vascular Biology*, 1997;17:1337-1345.

PEO Solution analysis**:** The intima is all Parent omega-6—with virtually no Parent omega-3 or its derivatives. Cholesterol *esters* rich in PEOs are key.

More Confirmation It's the Unadulterated Parent Omega-6…

German physician Clause Weiss, MD, et al. states:[15]

> "In summary, infusion therapy with **PGE1** in patients with peripheral arterial occlusive disease (PAOD) ***reduces thrombin formation*** and results in a **decrease of fibrin degradation**. PGE1 may thus reduce fibrin (thrombosis) deposition **involved in the pathogenesis of atherosclerosis**."

PEO Solution analysis: Because prostaglandin PGE1 is derived from Parent omega-6, ***unadulterated*** PEOs with a predominant LA (Parent Omega-6) component are the answer to Dr. Weiss' finding.

Newsflash: The April **2010** on-line journal for cardiologists, theheart.org -heartwire, had this amazing statement from Baylor College of Medicine's (Houston, Texas) Dr. Vijay Nambi:[16]

15 "Hemostasis and fibrinolysis in patients with intermittent claudication: effects of prostaglandin E1," *Prostaglandins, Leukotrienes and Essential Fatty Acids*, Nov. **2000**; 63(5):271-277.

16 www.theheart.org, Lipid/Metabolic: "Carotid IMT and plaque presence improve prediction of coronary disease risk," April 9, 2010. Ref.: *Journal of the American College of Cardiology*, April 13, **2010**.

- "The **majority of heart attacks** that happen in the United States happen in people who are [supposedly] ***low or intermediate risk."***

PEO Solution analysis: The common measure for CVD risk must not be effective if most patients with heart attacks present with "low" or intermediate" risk. If the majority of CVD patients have so-called "low" or "intermediate" risk. Therefore, **the "standard risk factors" for CVD are WRONG**. This reminds me when my colleague in Italy, Stephen Cavallino, MD—Emergency Physician, told me that the **majority of heart attack patients had normal or low (LDL-C) cholesterol levels**—in the hospital every patient was measure on admittance. You have already discovered in Chapter 6 the true cause of CVD—*adulterated* Parent omega-6 from food ubiquitous processing. It is clear, that the greater the atherosclerosis, the less functional the patient's Parent omega-6 is. Recall, intima, the innermost arterial lining contains no Parent omega-3 or omega-3 derivatives. GLA, an omega-6 derivative provides the basis for prostaglandin PGE_1—the body's most powerful anti-inflammatory.

PEO experiment in mice with cancer: http://www.brianpeskin.com/BP.com/experiments.html

Cancer and Mitochondria Defects: New 21st Centure Research, *Townsend Letter for Physicians* (August/Sept. 2009). http://brianpeskin.com/BP.com/publications/CancerMito-Town8.09.pdf

Adjunct Therapy Report from *Hidden Story of Cancer*: http://www.pinnacle-press.com/HiddenStoryofCancer/oncology.pdf

Appendix IX
CASE STUDY
David Macphail (02/14/07)

Results of High Omega-3/Fish Oil Supplements vs. Scientifically Correct Parent Omega-6/-3 Ratio

When I contacted you prior to converting to your recommended ratio of Omega-6 to Omega-3, you said I would be amazed by the results of the scientifically correct parent omega-6/3 ratio. I am more than amazed.

I have been taking the suggested oil mixture (1 teaspoon per day or four 725 mg. capsules) for about two weeks. The results to date have far exceeded my expectations. A few areas of marked improvement are:

Weight Loss

Since starting on your program I have lost 6.5 lbs and 1.5 inches at my waist.

Cravings

For most of my life I was a "carboholic," craving sweets and other carbohydrates. I could, and often did, eat large amounts of pasta and bread. This is one of the big factors that brought on type II diabetes (it is also abundantly clear now that I suffered from long-term chronic EFA deficiency, which is common to most, if not all, diabetics). Since starting on the EFA mix, my carbohydrate cravings have mostly disappeared. And my appetite has greatly decreased.

Bruising and Cuts

I noticed that my gums started to bleed profusely a few months after I began taking fish oils. Also, minor cuts did not easily clot.

Surprising to me, after taking the correct EFA mixture for only two weeks, my gums do not bleed at all—not one drop of blood. In

fact, I have noticed that I am much more resistant to bruising and minor cuts. I am amazed, just as you said I would be. Note that *The Hidden Story of Cancer* explained precisely why this result would be expected to happen and does happen.

Skin

I have had skin problems most of my life. These became chronic after I was exposed to photo finishing chemicals between 1965 and 1973. During that period I developed weeping eczema on my face and neck. Later I developed chronic psoriasis on my scalp, with the characteristic itching and scaling of the skin. Also, since a teenager I have suffered from chronic dry skin and often heavy flaking in the area of my eyebrows.

Starting in approximately 1975 I have suffered from chronic red blotchy inflammation and irritation of the skin on my face. This was frequently accompanied by small open sores as well as oozing sores on my scalp. Interestingly, high omega-3 oils like flax and fish oils seemed to exacerbate my skin conditions. When taking these oils, I would develop on an intermittent basis a severe inflammation accompanied by a psoriasis-like scaling of the skin around the base of my nose

Specifically, when I started taking fish oils, the inflammation and blotchiness of my face was exacerbated and the skin burned and stung almost constantly.

Amazingly, after taking the correct EFA mixture for only two weeks, my face has almost completely cleared up. The skin now feels like velvet. The constant burning sensation has been replaced by a soothing, cool feeling. When I have a bath, the skin on the back of my hands takes on a pink translucent appearance, like the skin of a new born baby. At times you can now see all the blood vessels through the skin—pink and vibrant.

Also of interest is the change in the tension of the skin in my eyelids. For some years now, the flesh of my eyelids has been somewhat inflexible so that the lids did not open and close properly. Because of this, I was constantly pushing the flesh of my brow back to stretch the eyelids. This problem has disappeared in the past few days.

Hearing

I awakened about 5:00 AM today to an unfamiliar silence. I have had tinnitus (ringing of the ear), sometimes severe, for more than 15 years. When I got up it was gone and has not returned. I am overjoyed.

Pulse

Also of significance is the softening of my pulse over the past few days. For the past four or five years my pulse has felt so strong that I would often feel the flow of blood pulsing in my neck. When lying in bed at night, I could often hear my heart beating. This greatly concerned me. My pulse is now so soft it is hard to detect in the carotid artery.

Exercise

When I was taking fish oil supplements I was getting lactic acid accumulation, causing the familiar "burning" from what I would categorize as minor physical activity. Something as simple as bending over for a prolonged period left my back and thighs aching for hours, sometimes days. Now that I have greatly reduced my carbohydrate consumption and added your suggested EFA supplementation with the scientifically correct parent n-6 to n-3 ratio, I am cycling 40-50 miles most days with good energy, minimal hunger and no lactic acid build-up. My legs may get fatigued, but they do not ache.

Energy

I was "continually dragging" when I was on fish oils. I was constantly tired and fatigued no matter how long I slept.

Wonderfully, after taking the EFA mix for only two weeks, my energy is "off the scale."

Instead of going to bed at 9:30 or 10:00 PM, I am often wide awake at 12:00 AM or later. Of late I am waking completely alert and rested at 5:00 AM or 5:30 AM.

I am energized all day with no flat spots.

The problem I am having now is getting to sleep at night. Yep… I now have MANY extra productive hours.

Mental Clarity

On fish oils I often felt sluggish and it was an effort to concentrate.

After taking the EFA mixture for only two weeks, my ability to focus for extended periods is fantastic.

Blood Speed

I recently cut myself. I was surprised to see how quickly the blood gushed from the wound and ran down my arm. It was as thin as water and ran just as fast. However, after only a few seconds of pressure applied to the wound the flow of blood quickly stopped.

In Conclusion

With fish oils gaining momentum as the "salvation of mankind," I imagine you will run into one heck of a fight on all flanks (if you are not already in one). At the end of the day most people are entrenched in a position within their field for one reason—money. So it will be really interesting to see who is really in the health field for humanitarian reasons.

Dr. Warburg could not have made the primary cause of cancer more obvious if he kicked in people's front teeth. Yet the only response he got was a collective" DUHHH.....we don't get it" from the medical community. I hope you have better luck.

Your book is a disturbing indictment of the inability, or perhaps more to the point, a conscious and premeditated unwillingness on the part of the scientific and professional community to pursue scientific fact. To paraphrase another philosopher, Thoreau:

"For every scientist and medical professional hacking at the roots of cancer, there are tens of thousands hacking at the branches or even studying the leaves of the tree."

You have the cancer issue "by the throat" while others are clueless. Thank you for this superb development. I can see why Dr. Vonk said of your work:

"Impeccable research and novel insights of sheer genius. Brian's accomplishment is singular—no groups, no public money, only elegant science showing how proper use of EFAs is the missing link for practical application of Otto Warburg's discovery. This knowledge is priceless for your future health."

Brian N. Vonk, MD
Board certified:
Internist, Cardiologist, Radiologist

Never forget that omega-3 alone is worthless in the war against cancer!

Newsflash: 2006: "Omega-3 Fatty Acids Unlikely to Prevent Cancer," reported by the National Cancer Institute (*NCI Cancer Bulletin*, vol. 3/no. 5, Jan. 31, 2006)

"An analysis of numerous, large population cohort studies **did not detect evidence of a significant link** between dietary intake of omega-3 fatty acids **(found in fish) and the incidence of several major cancer types,** according to a review study published in the January 25, 2006, issue of the Journal of the American Medical Association.

"The reviewers analyzed 38 articles covering 20 population cohorts that included more than 700,000 individuals. The participants were studied for the effects of consuming omega-3—either in fish, dietary supplements, or both—on the incidence of 11 different types of cancer, although more than half of the reports were for either breast, colorectal, or prostate cancers.

"Across the cohorts, **no trend was found linking omega-3 fatty acids with a reduced overall cancer risk.** 'Likewise, there is **little to suggest that omega-3 fatty acids reduce the risk of any single type of cancer**,' the authors wrote."

"Dietary supplementation with **omega-3 fatty acids [alone] is unlikely to prevent cancer**."

"CONCLUSIONS: **A large body of literature** spanning numerous cohorts from many countries and with different demographic characteristics **does not provide evidence to suggest a significant association between omega-3 fatty acids and cancer incidence. Dietary supplementation with omega-3 fatty acids is unlikely to prevent cancer.**"[1] (emphasis added)

◗ *Life-Systems* Engineering Science Commentary

Did you see this finding proclaiming the worthlessness of omega-3 alone in the fight against cancer? Probably not.

1 "Effects of omega-3 fatty acids on cancer risk: a systematic review," MacLean, C.H., et al., *NCI Cancer Bulletin*, vol. 3/no. 5, Jan. 31, 2006

Peskin Protocol: Adjunct Therapy for Use with Chemotherapy and Radiation

May 2008 it was brought to my attention by the superb radiologist, Robert Kagan, M.D., Medical Director of MRI Scan & Imaging Centers in Ft. Lauderdale, Florida, that **increased cellular oxygen increases the effectiveness of both chemotherapy and radiation treatments in destroying cancer cells**.

It was extremely gratifying to learn of this, since the Peskin Protocol is designed to increase cellular oxygen throughout the body, including at cancerous sites.

James B. Mitchell, Ph.D., head of the tumor biology (NCI-radiation biology branch) section at the National Cancer Institute, reported in an article published by Radiological Society of North America (4/23/2008):

> · "…'[T]hey were able to successfully measure oxygen levels in tumors,' which could be important because '**tumors with higher concentrations of oxygen [are] more susceptible to radiation**.'
>
> · "**Lower oxygen level 'in the tumor allows tumor cells to survive more easily** by making the DNA destruction more difficult.'
>
> · "'**Chemotherapy** drugs also **don't work as well when tumors have less oxygen**.'" (emphasis added)

I immediately began searching medical journal articles to see if this critical concept was well-understood. The following comments comprise a (small) representative sample of what I found:

RADIATION ADJUNCT THERAPY:

> · "A **large body of published evidence** points to **tumor hypoxia** as a **major obstacle to effective treatment** of tumors using ionizing radiation[a,b] **because cells exposed to radiation under hypoxic conditions are approximately thrice [3 times] more resistant** than when treated under aerobic conditions.[c] (emphasis added)

· "Despite **significant evidence of a role of hypoxia [low cellular oxygen] in cellular resistance to ionizing radiation–induced toxicity,** the underlying molecular mechanisms remain unclear. This study focused on the influence of hypoxia on radiation-induced signals in TK6 human lymphoblastoid cells.[d] (emphasis added)

• OVER •

CHEMOTHERAPY ADJUNCT THERAPY:

· "Solid tumors frequently contain **large regions with low oxygen concentrations** (hypoxia). The hypoxic microenvironment induces adaptive changes to tumor cell metabolism, and this alteration can further distort the local microenvironment. The net result of these tumor specific changes is a microenvironment that **inhibits many standard cytotoxic anticancer therapies ["chemotherapy"] and predicts for a poor clinical outcome**.[e] (emphasis added)

· "**Hypoxia** and anemia (which contributes to tumor hypoxia) can lead to ionizing radiation and **chemotherapy resistance** by depriving tumor cells of the oxygen essential for the cytotoxic activities of these agents. Hypoxia may also **reduce tumor sensitivity** to radiation therapy and **chemotherapy** through one or more indirect mechanisms that include proteomic and genomic changes.[f] (emphasis added)

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[a] Eric, E., "The oxygen effect and reoxygenation." In: *Radiobiology for the radiologist*. Philadelphia: JB Lippincott Co.; 1994. p. 133–52.

[b] Samuni, A., et al., "Effects of Hypoxia on Radiation-Responsive Stress-Activated Protein Kinase, p53, and Caspase 3 Signals in TK6 Human Lymphoblastoid Cells," *Cancer Res* 2005; 65(2): 579-86.

[c] Brown, J., "Tumor microenvironment and the response to anticancer therapy," *Cancer Biol Ther*; 2002;1:453–8.

[d] Samuni, A., et al., "Effects of Hypoxia on Radiation-Responsive Stress-Activated Protein Kinase, p53, and Caspase 3 Signals in TK6 Human Lymphoblastoid Cells," *Cancer Res* 2005; 65(2): 579-86.

[e] Cairns, R., et al., "Metabolic targeting of hypoxia and HIF1 in solid tumors can enhance cytotoxic chemotherapy," *Proceedings of the National Academy of Science*, May 29, 2007; vol. 104, no. 22: 9445–9450.

[f] Harrison, L., Blackwell, K., "Hypoxia and Anemia: Factors in Decreased Sensitivity to Radiation Therapy and Chemotherapy?," *The Oncologist* 2004;9(suppl5):31-40.