

## Scientific Support for Chapter 5

**Voet, Donald; Voit, Judith G., *Biochemistry*, 2<sup>nd</sup> Edition (John Wiley & Sons, 1995), 790, from the chapter “Adipose Tissue”:**

“Adipose tissue obtains most of its fatty acids from the liver or from the diet... as described in Section 23-1. Fatty acids are activated by the formation of the corresponding fatty acyl-CoA and then esterified [for storage] with *glycerol-3-phosphate* to form the *stored triacylglycerols* [body fat] (Section 23-4F). The *glycerol-3-phosphate* arises from the reduction of dihydroxyacetone phosphate, which *must be* glycolytically *generated from glucose* because *adipocytes* [body fat] *lack a kinase* that phosphorylates endogenous glycerol.”

**Veronique Douard and Ronaldo P. Ferraris, “Regulation of the fructose transporter GLUT5 in health and disease,” *Am J Physiol Endocrinol Metab* 295: E227–E237, 2008**

- “In this review, we describe the regulation of GLUT5 not only in the *intestine and testis*, where it was first discovered, but also in the *kidney, skeletal muscle, fat tissue*, and *brain* where increasing numbers of cell types have been found to have GLUT5.
- “Most of the increase in *consumption* is derived from *refined or processed* fructose. “

- “*Fructose is the sweetest* of all natural sugars...
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- “The myriad effects of fructose are possible *only if fructose reaches physiologically significant concentrations* in the plasma and extracellular fluids and if subsequently transported into cells of various organ systems, thereby potentially altering normal metabolism in those organs....
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- “In healthy humans consuming high-fructose or -sucrose diets, *serum fructose can reach 0.2–0.5 mM, but this concentration is still very low compared with normal blood glucose levels (5.5mM)* [Note: 5.5mM is the 70–90 mg/dl) measurement all diabetics and their physicians know well.]
  - “However, it is clear that the rate of *glycolysis can be stimulated by fructose* because its entrance into glycolysis skips the two main regulatory enzymes (glucokinase and PFK-1).
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**PEO Solution** analysis: Naturally occurring fructose from unprocessed whole fruits is no issue whatsoever. However, physicians treating cancer patients need to be aware of the following 2 key matters:

If you continue to think that there is merit in using the glycemic index, there are other significant problems with using this measure. Professor of Nutrition Julie Miller Jones, Ph.D., at the College of St. Catherine in St. Paul, Minnesota (past holder of the 3M Endowed Chair in Science), has reviewed the current research and tells us of some important Glycemic Index drawbacks. The following excerpts

are from her publication “Contraindications and Challenges: A Look at the Glycemic Index”:

“...**Surprisingly**, the **day-to-day variation** in the same subject [person] is often greater than [the] **variation between subjects [people]**.

“The **food eaten at the previous meal can also affect the glycemic response** at the current meal....”

As early as 1944, Dr. Blake Donaldson at New York City hospital used radioisotope tagging to prove that carbohydrates were rapidly converted to body fat—**significantly more body fat was added to your frame from carbohydrates than from eating fat or protein**. Now, many years later, university professors of nutrition often aren’t even aware of this. Therefore, their embarrassing “expert” recommendations are often harmful and should embarrass them.

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### **Humans can’t digest fiber.**

Here is what the *Textbook of Medical Physiology*, 9th edition, page 834 states:

“However, **no enzymes** capable of hydrolyzing [breaking down] cellulose [fiber] are secreted **in the human digestive tract**. Consequently, **fiber cannot be considered a food for the human being.**”

### **Fiber/Colon Cancer—those people eating the most fiber get the *most* colon cancer!**

The *New England Journal of Medicine* (Jan. 21, 1999, Vol. 340, No

3) reported that:

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- Fiber did nothing to improve “colon efficiency.”
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The following year *Lancet* (October 14, 2000; 356:1286-1287, 1300-1306), the world’s premier medical journal, published the same finding again:

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- Those people eating the **most fiber get the most colon cancer!** The fiber found worthless to protect against colon cancer was **the highly promoted soluble fiber.**
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Nutritionists and too many physicians didn’t see this information. Don’t let them or cereal manufacturers mislead you into thinking fiber is healthy.

### **Albion Research Laboratories Agrees *Fiber Leaches Minerals***

*Albion Research Notes – A Compilation of Vital Research Updates On Human Nutrition*, Albion Laboratories, Clearfield, UT (Vol. 6, No. 2, June 1997) stated:

**“Natural sources of fiber, such as cereals and fruits, generally have a *depressing effect on absorption of minerals* such as calcium, iron, zinc, and copper. Imagine taking **mineral supplements** and *still going into a negative balance for the very minerals that are being supplemented!*”**

## **Women Eating the MOST Fiber Get LEAST Calcium Retention**

Once again, the fiber fallacy is presented in the *Journal of Clinical Nutrition*, 2000, 71:466-471:

Women eating the most fiber and the lowest amount of fat had 20% lower calcium retention.

## **Body AUTOMATICALLY Converts Glycogen and Stored Fat to Sugar AS NEEDED**

*Basic Medical Biochemistry* tells us on pages 28-29, 394, and 428:

The **body can convert** glycogen (stored **carbohydrate** in the liver and muscles) into glucose **whenever needed** AND can **also convert** our **fat** reserves to **glucose** (blood sugar) **as needed** in a special process called *glucogenesis*.

## **Blood Sugar AUTOMATICALLY Balanced**

*Textbook of Medical Physiology* on page 863 states:

“The normal blood glucose concentration in a person who has **not eaten a meal within the past 3 to 4 hours** is about **90 mg/dl.**” Note: This amounts to less than 1 teaspoon of sugar – the **NORMAL** amount of sugar we desire.

Don't be fooled by anyone telling you that “blood sugar balancing” for non-diabetic has to be maintained by eating carbohydrate-based foods, multiple times each day.

## **Insulin, a Response to Carbohydrates, Makes You Fat!**

It's all in the *Textbook of Medical Physiology* on pages 974-975:

“...[I]nsulin promotes deposition of fat in these cells.

“Insulin promotes glucose transport through the cell membrane into fat cells [making fat cells larger]....

“Therefore, when insulin is not available [caused by the response to carbohydrates], even storage of large amounts of fatty acids transported from the liver in the lipoproteins is almost blocked.

“All aspects of fat breakdown and use for providing energy are greatly enhanced in the absence of insulin [generated from carbohydrates].”

Minimize the insulin production and you AUTOMATICALLY minimize the fat production, too.

### **Carbohydrate Diet Clogs Your Arteries, Too.**

As *Journal of American Medical Association*; 2000; 283:221-228 makes clear:

Elevated insulin [generated from eating carbohydrates] causes blood clotting, which blocks arteries.

### **Carbohydrate Diet AWFUL for Diabetics**

A carbohydrate diet is awful for a diabetic. The *American Journal of Clinical Nutrition*, October 1997; 66:4(S) states:

“In type II diabetics, the carbohydrate diet led to impaired glycemic [blood sugar] and insulin responses. As well as to hypertriglyceridemia [high triglycerides

## No Carbohydrate Required in Human Diet

*Nutrition for Fitness and Sport* by Melvin H. Williams, Brown and Benchmark Publishers, Chicago, 1995, answers this on page 87. From what the nutritional experts, the government, and physicians have told us for decades, we would expect the answer to be “lots of carbohydrates,” but it isn’t. In fact, the answer is shocking:

“However, the National Research Council has **not established an RDA for carbohydrates**, probably because the **body can adapt to a carbohydrate-free diet** and **manufacture the glucose** it needs from parts of protein and fat.”

## Carbohydrates Eaten vs. Tissue Weight

*Student Companion for Stryer’s Biochemistry* makes it clear on page 321:

“**In the human diet, carbohydrates** constitute approximately **half** the total caloric intake [closer to 60% now], **yet only 1%** of **tissue weight** is carbohydrate.”

What has eating a 50-60% carbohydrate diet done to us, given that only one percent of our bodies is composed of carbohydrate? World-wide rampant obesity and **diabetes** epidemics!

## Carbohydrates INSIGNIFICANT for All Biochemical Functions

The carbohydrate present in nucleic acids, glycoproteins, glycolipids, and cofactors, although functionally essential, contributes relatively little to the weight of the body. An

insignificant amount of carbohydrate is required for these components. Only some carbohydrate is stored as glycogen, but the amount is relatively small compared to the storage of adipose tissue (fat) and protein as muscle mass. Don't be misled.

### **Glycemic Index Definition**

The glycemic index (GI), developed in 1981, uses glucose as a standard of comparison with other carbohydrates as a measure of how quickly they enter the bloodstream. Glucose is given a value of 100. There are many problems with this method; in particular different food combinations raise havoc with the system. The GI system is misleading, too. The results are inconsistent. A much better system is the absolute glycemic LOAD—the amount of carbohydrate eaten.

### **Glycemic Index (GI)—A Worthless Measure**

Flint, et al., *British Journal of Nutrition* **2004** Jun; 91(6):979-89, confirmed this upsetting finding and published in **2003**:

“...**No association** was found between predicted and measured GI.

“...There was **no association** between GI and II [Insulin Index – the amount of insulin generated].

“...In conclusion, the present results show that the **GI of mixed meals** calculated by table values **does not predict the measured GI...**” (

## **Carbohydrate NOT NEEDED for Fat Burning**

*Stryer's Biochemistry* (4th edition) pages 612 and 638 makes it quite clear with their quote:

“Fat *does not* burn in the flame of carbohydrates.”

## **Metabolism DECREASED, not increased, with Carbohydrates**

*Textbook of Medical Physiology* page 908 makes clear:

**Carbohydrates slow the metabolism compared to consuming natural fats and proteins.**

Never forget this important scientific fact. *The Textbook of Medical Physiology* makes it quite clear on page 866 that **no carbohydrates (or proteins) are required for energy production, just your own body fat:**

“When the **fat that has been stored** in the adipose tissue is to be used elsewhere in the body, usually **to provide energy**, it must first be transported to other tissue. It is **transported mainly in the form of free fatty acid**.... Despite the minute amount of free fatty acid in the blood, its rate of “turnover” is extremely rapid....

“One can calculate that at this rate, almost **all the normal energy requirements of the body can be provided** by oxidation of the transported free fatty acid **without using any carbohydrates or proteins for energy.**”

There you have it. NO carbohydrates are required for energy AND protein won't be “stolen from your muscles” for energy, either.

## **Never Forget the Number “One”—your entire bloodstream contains only 1 little teaspoon of sugar**

*Basic Medical Biochemistry – A Clinical Approach* on pages 472-473 makes clear:

Blood glucose levels are kept at approximately 80 milligrams per deciliter— about 1 teaspoon (actually 0.8 teaspoons) in the bloodstream (actually just 8/10<sup>th</sup>s of a teaspoon) **throughout the day when not eating, AUTOMATICALLY.**

If your body allowed more than this in your system the toxic by-products would kill you, as they do uncontrolled diabetics. High blood sugar levels also encourage rampant yeast infection in women.

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**IMPORTANT NOTE: Blood sugar levels are controlled to 1 part in 1,000—a VERY TIGHT tolerance in everyone, or you are diabetic!**

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## **Carbohydrate Energy Not Used Immediately Makes You FAT**

*Textbook of Medical Physiology* makes this clear on page 869:

“Whenever a greater quantity of **carbohydrates enters the body than can be used immediately** for energy or stored in the form of glycogen (just an insignificant bit), the **excess is rapidly converted** into triglycerides and stored in this form in the **adipose tissue [body fat].”**



**No Insulin (response to carbohydrates)  
= No Fat Storage**

As the *Textbook of Medical Physiology* on page 870 states:

**“When no insulin is available [response to carbohydrates]...fats are poorly, if at all synthesized [you don’t get fat]...”**

### **Carbohydrates STOP Fat-burning COLD**

*Textbook of Medical Physiology* references this fact numerous times on pages 974, 975, and 977. Anyone who is overweight is always consuming too many of those fattening, diabetes-causing carbohydrates! Here’s another on page 871:

**“Thus, an excess of carbohydrates in the diet not only acts as a fat-sparer [you won’t burn you own body fat] but also increases the fat in the fat stores [making you fatter]. In fact, all the excess carbohydrate not used [immediately] for energy or stored in the small glycogen deposits of the body is converted to fat and stored as such.”**

### **Specific Sugars NOT Required—Your Body Makes Them**

Excess carbohydrates (more than a mere 4 ounces a day) prevent the body from burning fat, and increase stored body fat because

as *Basic Medical Biochemistry – A Clinical Approach* on pages 24 and 394 and *Textbook of Medical Physiology*, pages 869, 871, 936, state:

“Specific sugars [**carbohydrates**] **ARE NOT REQUIRED** in the diet.” Note: This is because **your body makes them**.

### **Fat is stored ONLY When You Eat Carbohydrates**

As *Basic Medical Biochemistry – A Clinical Approach*, pages 476, 510-12, makes clear, Adipose tissue (fat) is stored ONLY when carbohydrates are eaten. From *Principles of Medical Biochemistry*, page 372:

“...[F]atty acids [from eating fat] cannot be converted into carbohydrates. **Carbohydrates, on the other hand, can be converted** into triglycerides [**excess body fat**].” and

“...[E]xcess **energy from dietary carbohydrate** is stored **away** as triglyceride in adipose tissue [**body fat**].”

(Voet’s) *Biochemistry*, second edition, published by John Wiley & Sons, 1995, gives more insight into carbohydrates and excess body fat (adipose tissue) on page 790, in the chapter titled “Adipose Tissue”:

“Adipose tissue obtains most of its fatty acids from the liver or from the diet as described in Section 23-1. Fatty acids are activated by the formation of the corresponding fatty acyl-CoA and then esterified [for storage] with **glycerol-3-phosphate** to form the stored triacylglycerols (Section 23-4F). The **glycerol-3-phosphate** arises from

the reduction of dihydroxyacetone phosphate, which **must be** glycolytically **generated from glucose** because adipocytes [body fat] lack a kinase that phosphorylates endogenous glycerol.”



This is complicated biochemistry explaining why excess fat can **only be stored when a person eats carbohydrates** and is one of the reasons why nutritionists don't have a clue about it and why most physicians get misled.

The quote continues:

“Adipocytes hydrolyze triacylglycerols to fatty acids and glycerol in response to the levels of glucagon, epinephrine, and insulin through a reaction catalyzed by hormone-sensitive lipase (Section 23-5). If **glycerol-3-phosphate is abundant [from carbohydrates]**, many of the fatty acids so formed are **reesterfied** to triacylglycerols [**body fat**]. Indeed, the average turnover time for triacylglycerols in adipocytes is only a few days. If, however, **glycerol-3-phosphate is in short supply**, the **fatty acids** are released into the bloodstream [**used for energy**]. The rate of glucose uptake by adipocytes, which is regulated by **insulin** [response to carbohydrates] as well as **glucose availability** [from food], is therefore, also a **controlling factor** in triacylglycerol [**body fat**] formation and mobilization.”

Do other medical textbooks confirm this fact? Yes. *Harpers Illustrated Biochemistry* (26th edition), page 214, states in the section titled “The Provision of Glycerol-3 Phosphate Regulates Esterification: Lipolysis is Controlled by Hormone-Sensitive Lipase (Figure 25-7)”:

“Triacylglycerol is synthesized from acyl-CoA and **glycerol 3-phosphate** (Figure 24-2). Because the enzyme glycerol kinase is not expressed in adipose tissue, *glycerol cannot be utilized for the provision of glycerol 3-phosphate*, which **MUST be supplied from [dietary] glucose [from carbohydrates] via glycolysis [breakdown of sugar].**”

### **High Carbohydrate Diet CAUSES Saturated Fat**

*Journal of Biological Chemistry* and *Lancet* tell us that cholesterol is normally combined with a special type of fat called an EFA (Essential Fatty Acid). On a high carbohydrate/low fat diet these EFAs are in short supply so saturated fats MADE FROM carbohydrates are tied to the cholesterol INSTEAD of what is suppose to be there – the healthy essential fats.

“Cholesterol is **normally esterified with unsaturated fatty acid** [you will learn about these in the next chapter]<sup>1</sup> and **when** – as in our experiments – these are extremely **deficient** in the body it is **esterified [combined] with**

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1 Kelsey, F.E., Longenecker, H.E., *Journal of Biological Chemistry*, 1941, Vol. 139, page 727.

much more **saturated fatty acids synthesized in the body from carbohydrate.**<sup>2</sup>

Eat too many carbs and lots of saturated fat is made from them. Few of us understand that carbohydrates make saturated fat.

Here's what *Basic Medical Biochemistry* on page 503-504 has to say:

“When an excess of **dietary carbohydrate is consumed**, glucose is converted to acetyl CoA, which provides the 2-carbon units that condense in a series of reactions on the fatty acid synthase complex, producing palmitate [**THE BODY'S #1 saturated fat**]....”

Therefore, it is quite clear that carbohydrates produce the saturated fat that everyone complains about.

### **Carbohydrates are NOT Body's Preferred Energy Source**

As *Basic Medical Biochemistry – A Clinical Approach*, pages 29, 272, 357 and 359, make clear, glucose [from **carbohydrates**] is **NOT the body's preferred energy** source; fatty acids are.

### **Carbohydrates Raise Both Insulin and Cholesterol Levels**

*Basic Medical Biochemistry*, pages 475 and 566, make clear that:

**Insulin** production, a response to consumption of carbohydrate, **raises cholesterol** levels.

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2 H.M. Sinclair, “Deficiency of Essential Fatty Acids and Atherosclerosis, Etcetera,” *Lancet*, April 7, 1956.

## **Glucose (Sugar from Carbohydrates) Causes Diabetes!**

*Diabetes* 2001; 50:1683-1690 makes this quite clear:

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- “Our results underscore the **importance of tight glucose (sugar) control in limiting beta-cell [insulin producing] destruction...**”
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The authors are stating here that carbohydrates are a cause of the destruction of your pancreas.

## **Carbohydrates are *Not* the “Feel Good Fix”; Moods are *Not Improved by Eating Carbohydrates*:**

*International Journal of Obesity and Metabolic Disorders*, Oct. 21, 1997; (10):860-864, makes this clear in the article, “Psychological and metabolic responses of carbohydrate-craving obese patients to carbohydrate: fat, and protein rich meals.” Their findings:

Moods are NOT improved by eating carbohydrates.

## **How Much Carbohydrate is Stored?**

*The Student Companion for Stryer’s Biochemistry*, page 624, gives us the answer:

The normal 150-pound person stores about 250 grams – just  $\frac{1}{2}$  **pound** of glycogen [hydrated storage form] and 25 grams – just  $\frac{1}{20}$ <sup>th</sup> **pound** of glucose. Compare this small amount to the significant amounts of stored body fat we have! These figures make it evident that humans can rely on stores of carbohydrates for only a short time.

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**Carbohydrates are NOT Your Body's Preferred Energy Source! Never forget this crucial fact.**

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If you think that you have already heard about all the evils of carbohydrates, think again. Here's another dreadful consequence of carbohydrates that, in addition to making you fat, will significantly impair your health.

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**Carbohydrates Contribute to Cellular EFA Deficiency and Insulin Resistance, Making Your Diabetes Even Worse!**

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For years I knew that somehow, in addition to overdosing on carbs, diabetics were deficient in essential Parent omega-6 (EFAs) in the cell membranes. This would impair insulin effectiveness and cause insulin resistance (insulin doesn't work effectively). We have a worldwide diabetes epidemic and must do everything possible to stop its proliferation. I thank Patricia Kane, Ph.D. for directing my attention to this vital information.

You know that carbohydrates generate an insulin response, provoking fat storage, since insulin is a fat storage hormone. The more fat you have, the more of a certain chemical, called Lp-PLA(2), is generated. Studies show that Lp-PLA(2) REMOVES precious Parent omega-6 from cell membranes! If the cell membrane is deficient in EFAs, insulin transport into the cell is compromised and **your risk of insulin resistance significantly increases**. Who needs this additional diabetes risk factor? Minimize those fattening, diabetes-causing carbohydrates and you'll be on the path to radiant health!

Here is how the journals report it:

“Phospholipase A2 (PLA(2)) hydrolyzes [removes] fatty acids from membrane phospholipids [the cell membranes comprised mainly of Parent omega-6].<sup>3</sup>

The *Journal of Diabetes Complications* confirms that PLA(2) is **higher in overweight people** and diabetics:<sup>4</sup>

“Lipoprotein-associated phospholipase A(2) production is **significantly increased in diabetics**.

“Lp-PLA(2) was **significantly correlated** with **waist-hip ratio**.

“Lp-PLA(2) was **significantly higher** in subjects with the metabolic syndrome [diabetic] than in those without it.”

Furthermore, as the recent article titled, “Elevated Lp-PLA2 levels predict incident CHD independent of traditional risk factors,” in *Journal of American College of Cardiology* (2008; 51: 913-919), makes clear, the Lp-PLA(2) enzyme is higher in diabetics than in non-diabetics. As would be expected from the decreased Parent omega-6 in cells, heart disease would soon follow and it does:

“Elevated levels of lipoprotein-associated phospholipase A2 (Lp-PLA2), an enzyme involved in the proath-

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3 “Essential fatty acids in the brain,” Haag, M., *Can J Psychiatry*, 2003 Apr; 48(3): 195-203.

4 “The role of lipoprotein-associated phospholipase A(2) in the metabolic syndrome and diabetes,” Noto, H., Chitkara, P., Raskin, P., *J Diabetes Complications*, 2006 Nov-Dec;20(6): 343-8.

erogenic [heart disease] process, are associated with coronary heart disease (CHD) events independent of traditional risk factors...

**“Lp-PLA2 was a strong and independent predictor of fatal and nonfatal CHD events over and above other traditional risk factors.**

**“After adjustment for age and gender only, elevated Lp-PLA2 levels were significantly associated with risk of incident CHD...**

**“In 2003, the Food and Drug Administration granted market clearance to an Lp-PLA2 test for coronary heart disease [yet few cardiologists use this marker]”**

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**\*\*\* IMPORTANT NOTE \*\*\***

**If you’ve been eating lots of carbs prior to starting your lower carb regimen, be sure to gradually reduce your carbohydrate intake. Don’t suddenly change your diet. A sudden dietary change can shock your body, negatively affecting your digestion and could cause a sugar low that can last a week or so. To avoid this, start reducing your carb portions to about half for about a month. Then each subsequent week reduce them a little more. For increased fat burning reduce carb intake to 20-30 grams—for maintenance or with vigorous exercise, keep carbs at 60 grams (12 tsp) or less.**

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## Breaking the Carbohydrate Craving With PEOs—Dr. Cavallino’s results

### Experiment in Italy for Overweight People with Carbohydrate Addiction Shows PEOs Eliminate Carbohydrate Cravings, Reduce Appetite, and Increase Energy and Alertness<sup>5</sup>

Dr. Steven Cavallino conducted an eight-week experiment with a group of his patients who were already following a higher protein/lower carbohydrate diet, as Chapter 4 details. The experiment compared certain physical manifestations among these patients, both prior to and during PEO supplementation, based on the guidelines I have recommended. Dr. Cavallino states:

Four weeks prior to starting their PEO supplementation, all patients were told the value of a higher protein/lower carbohydrate diet based on information in this book. All patients were on this higher protein/lower carbohydrate diet for a minimum of four weeks *before*

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5 Since 2002, Steven Cavallino, M.D., has been the official physician and nutritionist for the famous Italian beauty pageant, **La Piu del Mondo**—“The Most Beautiful Women in the World.” His experiment confirms PEOs reduce patient cravings for sweets and naturally reduce hunger. Dr. Cavallino has been the official physician for the **Italian National Flag Football League** for the past eight years. Currently, Dr. Cavallino is also using Prof. Peskin’s recommendations in another one of his passions, **sports medicine**, stating, “**These proven real-life results now enable athletes to defeat the common lactic acid (muscle burning) and pain syndrome post-workout.** The exercise component of any weight-loss program becomes much more enjoyable with this new discovery.”

PEO supplementation. There were 10 patients: 8 women and 2 men.

- All patients were on a higher protein/lower carbohydrate diet **before** and **after** PEO **supplementation.**
- Patients were given a PEO formulation based on Professor Peskin's recommendations consisting of an organic/unprocessed blend with **more parent omega-6 than parent omega-3.**
- **All patients were initially self-described "carbohydrate addicts."**

All patients agreed to collaborate, knowing that many foods were not permitted for the entire eight weeks (four weeks prior to initiating the PEO supplementation and four weeks with PEO supplementation). **Patients agreed not to consume** fruit, pasta, pizza, rice, sweets, soda or soft drinks. All patients orally took 1,450 mg PEO formulation twice a day (2.9 gram total). **Patients were asked** to rate their responses to the regimen using four criteria, using from 1 to 4 asterisks.

All patients (100%) initially suffered from **intense carbohydrate cravings** and had little energy. Eighty percent (80%) of patients suffered from **constant hunger.** After PEO supplementation began, the following results were observed:

- The average patient **felt well and more at ease** with the higher protein/lower carbohydrate diet.

- **Overall appetite reduced in all 10 patients;** all noted a **GOOD to EXCELLENT** response, with **50% rating an EXCELLENT response.**
- **Carbohydrate cravings were reduced in all 10 patients—a huge 100% success;** 9 people rated this reduction **EXCELLENT.**
- **Energy and alertness increased** in all 10 patients: this was an **EXCELLENT** response—a huge 100% success.
- **Weight loss goal was reached** in all 10 patients.

*Real-life* results were achieved. I am positive about and thankful for Professor Peskin's assistance in showing scientifically that most carbohydrates are bad in relation to promoting obesity and diabetes, and that PEOs are essential for good health, with the objective to help us all to **lose weight without suffering.** I was able to obtain **excellent patient results adding the PEO supplementation program.**

*Stephen Cavallino, M.D*

*October 22, 2005*