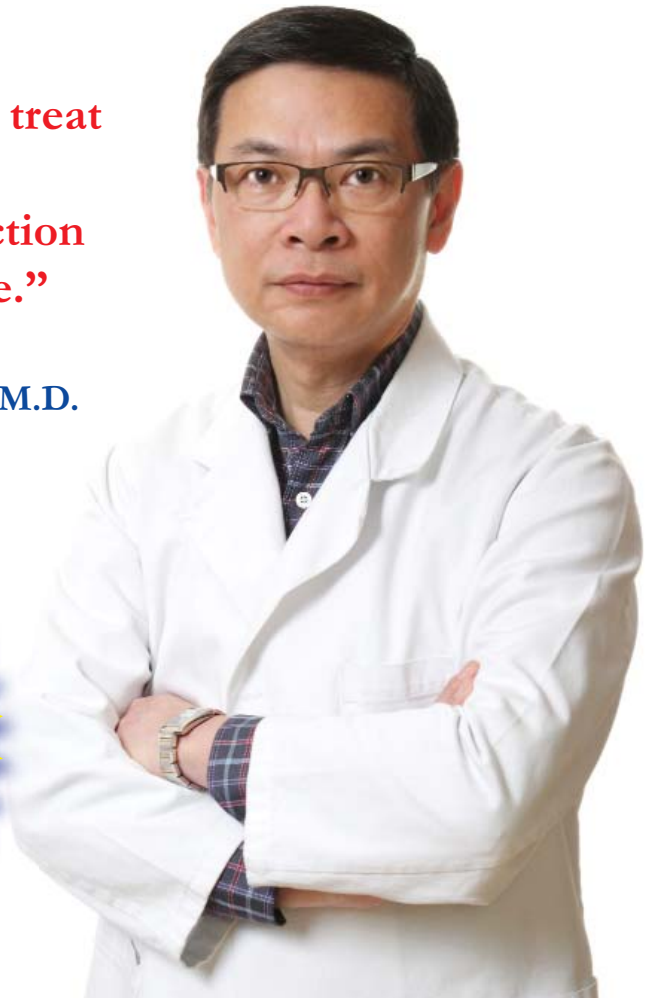


# Dr. Poon's Metabolic Diet

**“Medication may treat  
the number,  
but weight reduction  
treats the cause.”**

**Dr. Pat Poon, Ph.D., M.D.**



**NEW  
Edition**

# DR. POON'S METABOLIC DIET

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*“I can only help those who help themselves.”*

The information in this book is true and complete to the best of the author's knowledge at the time of publishing. All recommendations are made without guarantee on the part of the author. The author disclaims any liability in connection with the use of this information. The author did not receive any funding from the drug industry in writing this book, and declared no conflict of interest.

People with medical conditions and/or taking medications should consult their physicians before starting any diet or exercise program. Do not alter your diet, or change the type or dosage of your medications without the approval of your medical professionals.

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Special thanks to Ms. Maria Wong and Ms. Lis Henry for proof reading the manuscript.

Interior Page Composition & Cover Design: Anie Kim Than

Printed and Bound in Canada

Last digit indicates print number: 12 11 10 9 8

ISBN 978-0-9738905-4-9

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## PREFACE

In the animal kingdom, one of the survival skills is the ability to store excess food in the form of fat. The animal can use the stored fat as an energy source when food becomes scarce, for example in the wintertime or in a drought. The human body has maintained this feature even after years of evolution as a means of adaptation for survival. In this day and age though, food is readily available and there is no need for us to store fat.

One way to determine if you are overweight or obese is to compare your weight with your height. This is called Body Mass Index (BMI). The United States National Institutes of Health defines “overweight” as a BMI that is over 25 and “obesity” as a BMI that is over 30. By these criteria, it is estimated that more than 50% of North America's population is overweight. This definition only applies to the North American. It does not apply to the East Asian and Asian. The World Health Organization (WHO) found that, in order to be healthy, the East Asian and Asian populations need to maintain their BMI at less than 23. A BMI of 23 to 27.5 is considered as overweight for the Asian population. A BMI of greater than 27.5 indicates a high risk for obesity related diseases<sup>1</sup>. Recently the Chinese medical community defined “overweight” in the Chinese population as a BMI that is greater than 24.

Is obesity a disease? Due to constraints on health care funding, both the government and industry sources do not regard obesity as a disease so that they do not have to pay for the services. However, you constantly

# 1 : OBJECTIVES

- \* To combat obesity related diseases
- \* To lose fat and excess water weight
- \* To preserve muscle and bone
- \* To lose weight quickly and safely
- \* To keep weight off for life

We started this diet program a few years ago to help our patients with medical problems secondary to their obesity. After a ten-percent reduction in their weight, most of their medical problems became less severe, if not totally eliminated. This is particularly true for patients with metabolic syndrome, Type 2 diabetes, hypertension, indigestion, gastroesophageal reflux, high serum triglycerides, high serum cholesterol, polycystic ovarian syndrome, fluid retention, sleep apnea, arthritis, and fibromyalgia. Surgical patients were frequently referred to us by their surgeons to help them lose weight pre-operatively to lower their peri-operative and post-operative morbidity and to decrease the chances of disease recurrence.

Metabolism is the set of chemical reactions that occur in living organisms in order to maintain life. These processes allow organisms to grow and reproduce, maintain their structures, and respond to their environments. Metabolism is usually divided into two categories: Catabolism and anabolism (Fig. 1). Catabolism breaks down organic matter for purposes such as harvesting energy in cellular respiration. Anabolism, on the other hand, uses energy to construct components of cells such as proteins and nucleic acids.



## 2: WHAT IS OBESITY

Recognized since 1985 as a chronic disease, obesity is the second leading cause of preventable death, exceeded only by cigarette smoking. Approximately one-third of adults are estimated to be obese. Approximately one in five children in the United States between the ages of 6 and 17 are overweight. This number is on the rise.

There is a difference between the terms “*overweight*” and “*obesity*”. “*Overweight*” means that there is an excess of total body weight, which includes muscle, fat, bone, water, and blood in relation to height. “*Obesity*”, on the other hand, means that there is an excess of body fat only. Hence, a body builder may be overweight but not obese, because he has a high level of lean body mass. This is why measuring the patient’s weight alone does not tell the whole story about the patient’s body composition. Measurement of the body fat percentage is also important.

According to the National Institutes of Health, an increase in body weight of 20 percent or more above the desirable weight is the point at which excess weight becomes a health hazard.

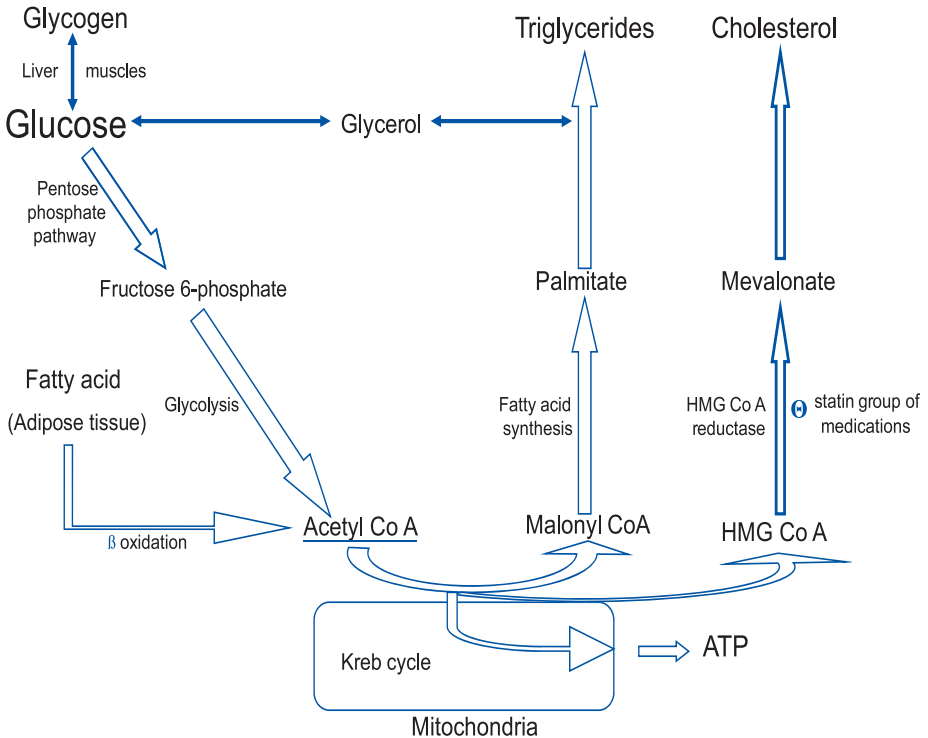
A good way to estimate if someone is overweight or obese is by measuring the Body Mass Index (BMI). The Body Mass Index can be calculated using the following formula.

# 3: COMPLICATIONS ASSOCIATED WITH OBESITY

In this chapter, we will discuss some of the co-morbidities that caused by obesity. There are potential signs and symptoms associated with obesity (Table 1).

<b>Table 1. Signs and Symptoms Commonly Found in Obese Patients.</b>	
<b>Appearances</b>	<b>Symptoms</b>
Increase in size of waistline, neck size, etc	Shortness of breath
Thinning of hair	Tiredness, loss of energy
Increase in facial and body hairs in women	Somnolence
Water retention such as swollen feet, hands, and ankles	Poor concentration and memory
Thickened skin fold at the back of the neck and armpits	Painful joints and back, gout
Skin tags around the neck and armpits	Heart burn, indigestion, gallstone attack
Acne	Snoring
Gynecomastia - enlargement of the male breast	Sweating
Walking with a wide gait	Deep vein thrombosis
Protrusion of the abdomen	Rapid heart beats
Stretch marks on skin	Light-headedness
Buffalo hump below the back of the neck	Depression, loss of interest
Bow legged or knock knees secondary to arthritis of the knees	Low self-esteem
Shortness of breath	Impotence
Fatty deposits on upper eyelids	Infertility
Varicose veins	Irregular period
Discoloration at the lower limbs	Recurrent skin infection, vaginal infection, cellulitis

**Figure 6. Production of Triglycerides and Cholesterol form Glucose.**



In 2003, the “normal values” of cholesterol, LDL, and HDL have been replaced by “target levels”, depending on your risk category of coronary artery disease (Table 13). For example, if you belong to the high-risk category (Type 2 diabetic, and a patient who has pre-existing cardiovascular disease), your risk of having coronary artery disease in the next 10 years is more than 20%. Then, in order to avoid a heart attack, your target LDL cholesterol level should be less than 2.5 mmol/L, and your Total to HDL cholesterol ratio should be below 4.0.

# 4: CHILDHOOD OBESITY

Whatever the cause, there is a steady rise in childhood obesity in North America. Ten to fifteen percent of the children in U.S. are overweight. Since the gene pool did not change much in the last century, the change in food consumption behavior (increase in consumption of fast foods, soda and juice) by our children is likely the cause of the increased prevalence of obesity. Due to computer games, television and television games children expend much less energy.

One of the most commonly used methods to assess if a child is obese is to measure the child's BMI. Using the gender specific growth charts invented by the United States Centers for Disease Control and Prevention, compare the child's BMI is compared with that of his/her peers. If the BMI falls between the 85th to 95th percentiles, the child is overweight. If the BMI is over the 95th percentile, the child is obese.

There are risks associated with childhood obesity:

1. Social and psychological effects. Overweight children may develop low self-esteem, depression, anxiety, difficulty with relationships, and face discrimination in social situations
2. Hypertension
3. High cholesterol and triglycerides. Rapid weight gain in the early teen years can damage the heart by early adulthood

## 5: METABOLIC SYNDROME

As a teenager, Mr. P was an average height and weight. He participated in many extra-curricular activities such as soccer, basketball, and martial arts. Even though he ate quite a bit, he did not get fat.

While at university, Mr. P worked in the cafeteria and the food was free. He started to overeat. As the workload of his studies got busier, there was less time for exercise. He began to gain weight.

During graduate school, Mr. P stopped overeating and he began to exercise. He was engaged to be married and the wedding was to happen right after he finished graduate school. He wanted to look his best for the wedding. That was over thirty years ago. Once he got married, his weight went up steadily. He did not particularly over eat but he would eat everything served to him. He did play badminton, but not consistently enough.

His weight was almost 176 pounds (80kg), his waist circumference was 103 cm, body mass index was 30 (class 1 obesity), and percentage of body fat was 29%. He had headaches and lower back pain. His wife told him that he snored loudly. He had hypertension and although he took three different antihypertensive medications, his blood pressure was still high (130/95).

## 6: WHY DID THE LOW FAT, LOW PROTEIN, AND HIGH CARBOHYDRATE DIET FAIL?

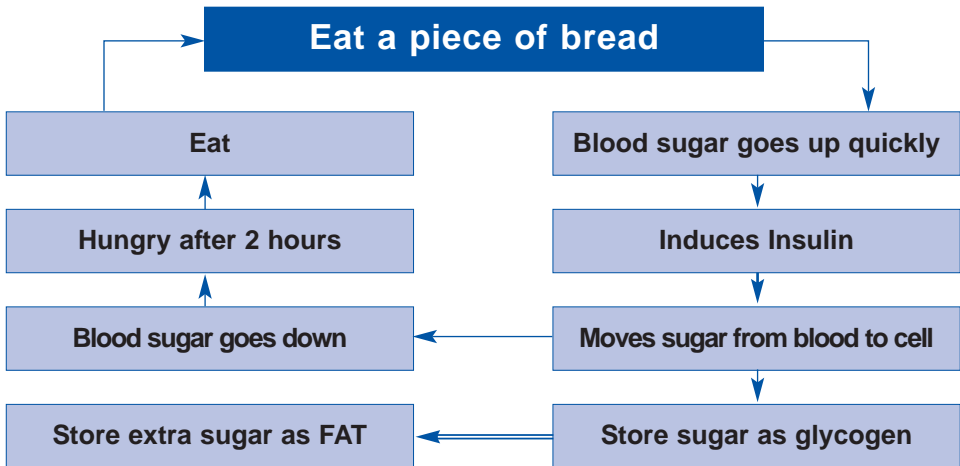
You have probably heard this from your friends many times:

- I work out daily and cannot lose weight
- I eat only healthy food but I gain weight
- She can eat so much and stay slim, I starve but still gain weight
- I am not eating any fat and I eat very little meat. I still cannot lose weight

We want to show you that sometimes it is *not how much* you eat, but *what* you eat that causes weight gain.

In a low-fat low-protein diet, most of your daily caloric intake will have to come from carbohydrates.

**Figure 8. Fat Gain from Eating Carbohydrates.**  
**Carbohydrate Intake = Fat Build Up**



In 1996, researchers showed that subjects who followed a low-fat diet did not get rid of their obesity, did not lower their cholesterol levels, did lower their HDL levels, and increased their blood level of triglycerides level. All the above are risk factors of heart disease.

Gram for gram, fat contains more than twice the number of calories than carbohydrates (9 calories vs. 4 calories per gram). Food products that contain high amounts of fat are called “energy dense” foods. Cutting back on the amount of total fat in the diet and replacing it with carbohydrates would seem to be a great way to lose weight. It is easy to understand why experts might have first begun recommended a low-fat high-carbohydrate diet.

Cutting back on fat has not worked as well as was first hoped when it comes to weight loss. While products like low-fat crackers and non-fat cakes have crowded grocery store shelves, we have continued to get fatter and fatter. The reason is, although we are eating less fat, we are

## 7: INSULIN IS YOUR ENEMY AND GLUCAGON IS YOUR FRIEND

You are going to learn how insulin causes obesity and stops you from utilizing fat as your energy source. It is the objective of this diet to eliminate hyperinsulinemia in order to burn fat. Insulin also increases salt and water retention (caused by excess secretion of cortisol and aldosterone), that leads to hypertension. Another way insulin causes hypertension is by its involvement in promoting the loss of magnesium. A high insulin level prevents the metabolism of triglycerides and increases your serum triglycerides level. This eventually causes arteriosclerosis. It has also been implicated in increasing the risk of Type 2 diabetes (by inducing insulin resistance), breast cancer, clotting problems, colon cancer, gout, sleep apnea, peptic ulcer disease and polycystic ovarian syndrome.

If the doctor injects insulin into your blood stream, you will experience the following effects:

1. Decreased blood glucose
2. Increased intracellular glucose level
3. Increased conversion of glucose to fat
4. Inhibited ketogenesis (burning of fat)



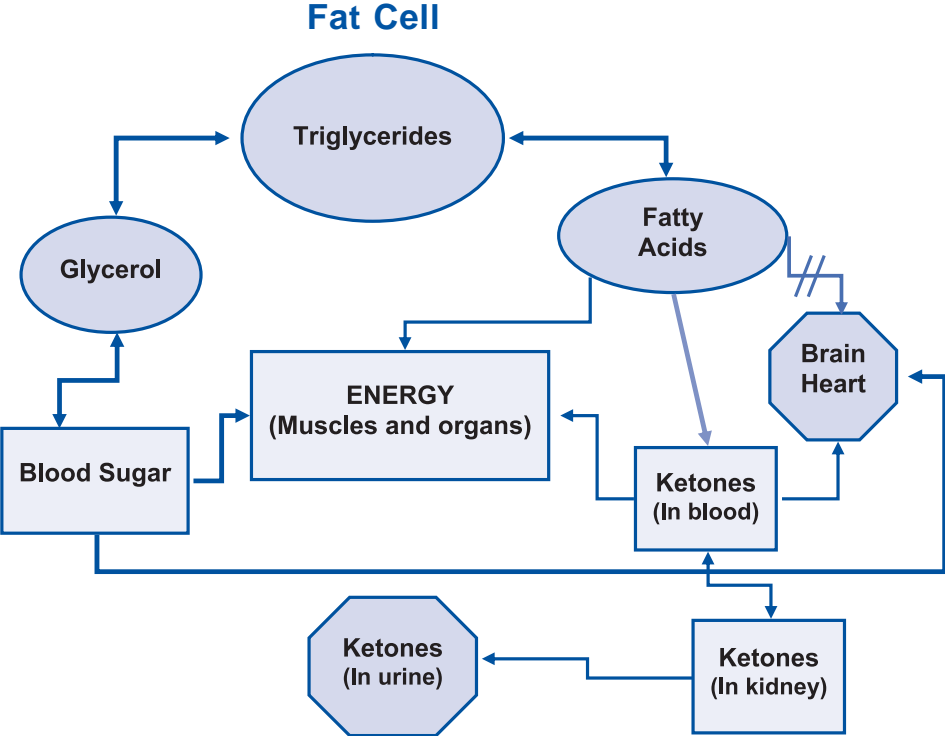
## 8: KETOSIS

Your body stores fat when you ingest more nutrients than the body can use. When food is not readily available, your body calls on the reserves and changes the fat into usable energy. This is a normal physiological reaction for all mammals. This is particularly true in hibernating animals. During the long winter months, the bear has to utilize his fat storage to maintain his bodily functions. Hence, the bear is in ketosis while hibernating. Yet this type of ketosis never causes any ill effect to the bear.

This part of the book is written for those who are more scientifically inclined and want to know a little bit more about the biochemistry of fat metabolism. What you call fat, scientists call triglycerides. It consists of one glycerol and three long-chain fatty acid molecules.

When you break down fat, you release glycerol and fatty acids (Figure 8). Glycerol is then converted into glucose in the liver and is used up as energy. Fatty acids break down into Acetyl-Co A by a process call *beta oxidation*. Acetyl-Co A can enter into the mitochondria of the cell and go through the Krebs's Cycle and produce energy. During this process, a group of by-products called *ketone bodies* are formed. Aside from the heart, the kidney and the brain, most of the organs in our body cannot utilize ketone bodies as a source of energy. As a matter of fact, heart, kidney and brain cells can utilize ketone bodies for energy more efficiently (20%) than glucose. It is one of the wonders of nature. It is the survival of the fittest. During a famine, when food is scarce, our bodies can utilize fat as energy. Since only the heart, kidney and

Figure 8. Production of Ketones from Lipolysis.



## 9: EAT LOW FAT AND NOT NO FAT

Fat is present in your salad dressings, seafood and cooking oil. You may use them in this diet. As a matter of fact, you need them to provide your daily requirement of essential fatty acids. Without the *essential fatty acids*, you will not be able to produce hormones and you will not be able to repair your damaged cells.

These are called *essential* because you cannot synthesize them from any other food sources other than from your daily intake. If one eats a fat-free diet, one will get sick in no time. However, we only want to eat quality fat to avoid building up unhealthy cholesterol.

The best type of fat comes from fish (high in Omega-3 oil). Use mainly olive oil or canola oil in your cooking. PAM® Cooking Spray and the Virtuous™ Cooking Spray are made from canola oil or olive oil and are suitable to use in this diet. Look for a salad dressing that is calorie-free. Do not use any creamy style dressings, e.g. Thousand Island, Ranch, or Caesar, unless they are carbohydrate-free and fat-free. Oil and vinegar is acceptable. However, rice vinegar and balsamic vinegar have higher carbohydrate content per serving (2 to 4 g) than other types of vinegar and should not be used in Phase 1 of this diet.

Avoid deep fried food and saturated fat. The oil used in repeated deep-frying might be carcinogenic (cancer causing). The chemical acrylamide is found in high levels in fried snack foods such as potato chips. The FDA also found moderate levels of acrylamide in arrowroot cookies,

# 10: MEDICATIONS THAT CAN CAUSE WEIGHT GAIN

- *Anti-diabetic medications.* Either the injectable (insulin) or the oral form (Diabeta<sup>®</sup>, Diamicron<sup>®</sup>, GlucoNorm<sup>®</sup>, Starlix<sup>®</sup>, Amaryl<sup>®</sup>, Actos<sup>®</sup>, and Avandia<sup>®</sup>) can lead to weight gain (Table 7). These medications either directly or indirectly raise the blood insulin level. In turn insulin helps the blood glucose leave the blood stream to enter the cells (liver cell, muscle cell, etc.). Eventually the excess glucose will be stored in the adipocytes and lead to the formation of adipose tissue. The most common reason for adults to develop Type 2 diabetes is obesity. By giving obese patients this type of anti-diabetic medications, doctors are actually increasing the patient's weight. As weight increases, the body becomes more insulin resistant and requires a higher dose of medication to overcome the insulin resistance, and the vicious cycle continues. The best thing a doctor can do for this type of patient is to put him on a low-carbohydrate low-fat diet. Once the patient loses weight, the blood glucose will be under better control. The patient will require less weight gaining medication. Another commonly used anti-diabetic medication is called metformin (Glucophage<sup>®</sup>). It does not increase the production of insulin. It works by increasing the sensitivity of the insulin receptors and decreasing the production of glucose by the liver. It does not cause weight gain. Sometimes it is used to fight insulin resistance, even when the patient is not diabetic. It is also safe to use for patient who is pre-diabetic patients. Weight gain in insulin-treated patients with Type 2 diabetes was similar with different insulin regimens (except

# 11: GLYCEMIC INDEX AND GLYCEMIC LOAD

Glycemic index is a term used to describe how fast the food you ingested can raise the blood glucose as compared to that of pure sugar. We assign a value of 100 as the glycemic index (GI) of pure sugar. The kind of food that has a higher GI (e.g. potato=62) will raise the blood glucose quicker than that of food with a lower GI (e.g. grapefruit=25). Food with a high GI will cause an increase in the secretion of insulin leading to weight gain. Hence, you should pick foods with a lower GI (<50). If you have two different kinds of vegetables with the same amount of absorbable carbohydrates, the one with a lower GI will be digested slower and have less impact on blood glucose. Subsequently, it will not cause hyperinsulemia; therefore, you should include this type of food in your meal plan.

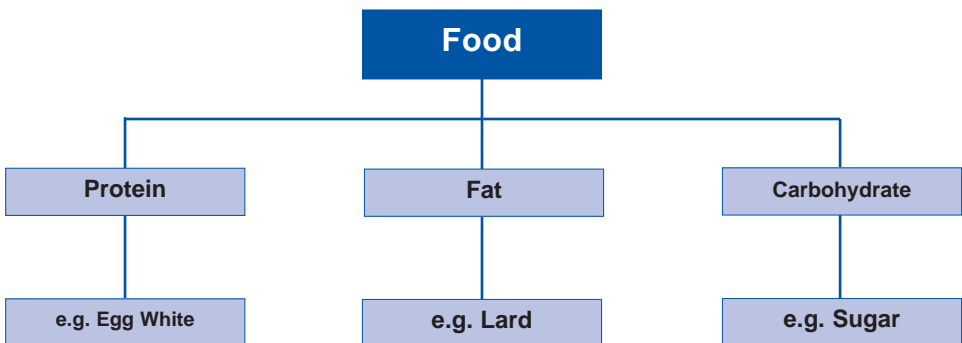
For those who are interested, here is how a scientist determines the glycemic index of different food items.

- Measure the fasting blood glucose of a healthy subject.
- Give the subject 50 g of glucose solution orally.
- Measure the subject's blood glucose every 15 minutes over the next two hours.
- Plot the curve like the one on the next page.

# 12: READING FOOD LABELS

Food is comprised of three types of macronutrients: protein (e.g. egg white), fat (e.g. lard), and carbohydrates (sugar) (Figure 12).

**Figure 12. Three Types of Macronutrients.**



The above examples are very clear cut and people can separate them out easily. However, when you shop in the supermarkets, the food products are not as clear-cut. They are usually a combination of all three macronutrients. For example, is peanut butter a protein, a fat, a carbohydrate, or all of the above? Patient will often tell us that peanut butter is considered as a protein. Let us look at the nutritional information of a store-brought peanut butter. Out of one tablespoon of this product, 3.1 g are protein, 7.5 g are fat, and 2.9 g are carbohydrates. If we convert it to calories, 12 calories come from

# 13: EXERCISES

Multiple clinical trials were done to find out the effectiveness of diet only, exercise only, and a combination of diet and exercise in the treatment of obesity. The most weight loss came from the diet and exercise group. Exercise is also found to be extremely important in the success of the maintenance program. The current recommendation is a total of 150 minutes of exercise per week (e.g. 30 minutes of walking five times per week).

Even if the patient exercises daily, they still may not be able to lose any weight, because most patients eat the wrong types of food after they exercise and replenish the calories and glycogen burned during the exercise. During exercise, the obese patient uses the glycogen stored in the muscle and liver as the main source of fuel. One of my patients is a chef in a health club. He told me that, very often, club members work out for an hour and then come out to the café and order beer and pizza. If the patient eats a meal high in carbohydrates, the glycogen that was burned during exercise will reform. Even if the patient works out the next day, only the newly formed glycogen will be used instead of the stored fat. The stored fat was never touched. It is the body fat that you need to lose and not just body weight. Exercise without the right diet will not burn fat, unless you exercise many hours a day. Most obese patients have very poor exercise tolerance. It would be unreasonable to expect them to do hours of exercise per day. Hence, this diet does not require patients to do exercise in the Induction Phase. This does not mean that you should stop exercise. Just continue with your routine. When the patient is burning fat by demonstrating a positive urine

# 14: VITAMINS AND NUTRITIONAL SUPPLEMENTS

If you were grossly overweight before you started on this diet, you should have plenty of nutrients stored inside your body. Hence, you do not have to worry about supplementation during the Induction Phase. This diet has all the necessary vitamins and minerals when done correctly. Routine supplementation is not necessary. However, if you have certain medical conditions, it may be advisable to take supplementation as necessary. We are going to deal with supplements that relate to this weight loss program only.

- *Multivitamin.* Taking a daily over the counter multivitamin should not hurt you. There are four kinds of fat-soluble vitamins and you should be careful since overdosing them can be risky. They are vitamin A, D, E and K. Taking too much of these four vitamins can cause liver damage. People who are on Coumadin® (blood thinner) should not take extra vitamin K. Vitamin K will increase your Coumadin® requirement, and you should repeat your blood test to check your international normalized ratio (INR). Vitamin E, (400 IU per day) is a powerful antioxidant and may prevent cell damage caused by oxidation. Some claim that it is an anti-cancer and anti-aging vitamin. Doses of Vitamin E should not exceed the 400 IU per day limit. In higher doses, it may augment the effect of Coumadin® and cause bleeding. Long-term use of high doses of Vitamin E may also increase the risk of death by all causes. Studies suggest that circulating concentrations of vitamin D may be inversely related to the prevalence of diabetes, blood glucose



# 15: PROS AND CONS OF DIFFERENT DIETS

There is no single diet that can fit everyone's needs, even with medications. You have to find out for yourself which diet fulfills your needs the most. It also depends on why you became obese in the first place. People gain weight because of overeating, lack of exercise, genetic disorders, stress, or a combination of the above. No single diet can address all the causes at the same time. If a particular diet plan promises you that it can cure all your problems and it sounds too good to be true, it is probably too good to be true. Remember that most of these commercial programs are usually the one program-fits-all type. If you have medical conditions or are on medications, you should consult your doctor first before you attempt these diets on your own. For example, if you are on diuretics and suffering from high blood pressure you should not be eating salt. The sample diets listed in those books will not take that into consideration.

Keep in mind that a diet that helps you to lose weight may not be the right diet to help you to treat your medical conditions.

This chapter lists some of the more commonly followed diets for your reference. It is not the intention to attack those diets but simply to inform the patients of the pros and cons of different diet programs so that they can make better decisions.

# 16: VITAL STATISTICS

## Date of first visit:

Weight: \_\_\_\_\_ kg (\_\_\_\_\_ pounds)

Height: \_\_\_\_\_ cm (\_\_\_\_\_ inches)

Neck Size: \_\_\_\_\_ cm (\_\_\_\_\_ inches)

Blood Pressure: \_\_\_\_\_

Body Mass Index: \_\_\_\_\_

Percentage of Body Fat: \_\_\_\_\_%

Total Amount of Body Fat: \_\_\_\_\_ pounds

Blood Sugar: \_\_\_\_\_

Hemoglobin A1c: \_\_\_\_\_

Triglycerides: \_\_\_\_\_

Total Cholesterol: \_\_\_\_\_ HDL: \_\_\_\_\_ LDL: \_\_\_\_\_ Ratio: \_\_\_\_\_

ALT (SGOT): \_\_\_\_\_

## After two months of dieting:

Weight: \_\_\_\_\_ kg (\_\_\_\_\_ pounds)

Height: \_\_\_\_\_ cm (\_\_\_\_\_ inches)

Neck Size: \_\_\_\_\_ cm (\_\_\_\_\_ inches)

Blood Pressure: \_\_\_\_\_

Body Mass Index: \_\_\_\_\_

Percentage of Body Fat: \_\_\_\_\_%

Total Amount of Body Fat: \_\_\_\_\_ pounds

Blood Sugar: \_\_\_\_\_

Hemoglobin A1c: \_\_\_\_\_

Triglycerides: \_\_\_\_\_

Total Cholesterol: \_\_\_\_\_ HDL: \_\_\_\_\_ LDL: \_\_\_\_\_ Ratio: \_\_\_\_\_

ALT (SGOT): \_\_\_\_\_

# 17: PHASE ONE INDUCTION PHASE

This diet can be classified as a low-sodium low-carbohydrate low-fat high-protein high-fiber diet. There are three phases to this diet:

PHASE 1. INDUCTION PHASE

PHASE 2. CONTINUED WEIGHT LOSS PHASE

PHASE 3. MAINTENANCE PHASE

The amount of time you need to stay on with each phase of the diet varies. It varies with your commitment, your body's response, and your goal. The amount of fat and sodium allowed in all three phases remains relatively constant. The objective of the first phase of the diet is to use up the glycogen stored in the muscle and liver. Your metabolism will be changed from fat forming into fat burning. Once we are sure that you are using fat as the main source of energy, you can move into Phase 2. During Phase 2, you will try to find out how much carbohydrates you can tolerate while still burn fat. You will be given additional amounts of carbohydrate to eat and your rate of fat loss will be monitored. More and more carbohydrate will then be added to your diet as long as you show a good amount of fat loss. The objective is to lose 1 to 2 pounds of fat weekly or have a 10% of weight loss in 8 weeks. Exercise is encouraged. Different people can tolerate different amounts of carbohydrate in their diet. Gender, age, muscle mass, activity, mood, stress, exercise, and medications are some of the factors that can affect

# 18: PHASE TWO CONTINUED WEIGHT LOSING PHASE

If you fail to lose a minimum of 7 to 10 pounds during the first two weeks and if you do not have a urine ketone level of greater than 1.5 mmol/L (15 mg/dL), then you have not been following the diet plan correctly (either knowingly or unknowingly). You are not ready to advance to Phase 2 yet. Most of the time it is because you have “hidden” carbohydrates and salt in your diet without being aware of it. We will ask you to log all foods and drinks you have had for one week and we will go over them with you carefully. There are times when you are unable to go into ketosis because of the types of medication you are taking. You will be staying in the induction phase for more than the usual two weeks. It is not harmful to stay on the induction phase as long as you do not find the limited food selection too boring; or if there is an excess of ketones in the urine. If you have a lot of weight to lose, we suggest that you stay with the induction phase for a longer period of time regardless. Make sure you are not eating too much of the non-green, non-leafy vegetables. The limit is a maximum of four cups per day. Remember that most vegetables contain absorbable carbohydrates. Over-eating them may hinder your ability to burn fat. We suggest that you increase the protein intake and cut down on the vegetables. Are you overeating?

If our body composition analyzer shows that you are losing a lot of fat weight and yet there are no ketones in the fasting urine sample, we will check for ketones in the afternoon sample also. Very often you can find ketones in the afternoon urine sample proving that you can burn fat

# 19: PHASE THREE MAINTENANCE PHASE

If you go back to your old way of eating, you will gain back the weight. We are going to teach you to select the right food groups so that you can maintain your weight and yet enable you to have a wide variety of foods.

The Canada's Food Guide was first introduced in 1942 during the Second World War. It was meant to suggest food rations during a time of war, while endeavoring to prevent nutritional deficiencies and to improve the health of Canadians. There was a shortage of food, especially protein and milk. The guide helped people to achieve the total caloric requirement while eating a diet that was low in protein. The diet plan was not formulated by choice but by necessity. The original food guide evolved from a document called the Dietary Standard in 1939. The plan was to provide the amounts of essential nutrients considered adequate to meet the needs of practically all healthy persons. Because of the shortage of protein, the question that was posted to the experts was - what is the minimal amount of protein each person needs per day to stay healthy? This led to a food guide that is low in protein and high in carbohydrates. It had nothing to do with “healthy eating”.

The Food Guide has gone through many names and many changes since. In 1992, the official name given to the food guide was Canada's Food Guide to Healthy Eating. It had a rainbow design and separated food into four food groups (six food groups in the original food guide).

## 20: FACTS AND MYTHS

There will always be skeptics of any diet. However, if the concerns cannot be addressed with sound scientific principles, then the concerns should be dismissed as invalid. Conversely, the people who raise the question usually have no scientific evidence to back up their accusations. Rather, they often say, “ I heard someone said...”

Opponents of our diet may raise the questions listed below. We are going to show you that there is no health risk or major side effects associated with this diet when it is followed correctly.

*Does a high protein diet cause kidney or liver disease?* There is plenty of research that shows this kind of diet is extremely safe for your kidneys and liver. The problem is when the patients already have *significant pre-existing* renal or hepatic disease; they cannot handle the protein load. Patients with pre-existing renal and/or hepatic disease should *not* be on this diet. A pre-diet and post-diet renal and liver function test will be ordered to show that this diet does not cause kidney or liver damage. People who worry that the high protein intake can cause renal damage should note that obesity is one of the main causes of end stage renal disease through the development of diabetes and hypertension.

*There is not a single medical study to date that can link protein consumption to renal or liver damage in a patient with healthy kidney and liver function.*

## 21: “I AM A STRESS EATER”

Patients often tell me that they are stress eaters or emotional eaters. That is the reason they became obese. What does “stress eater” or “emotional eater” mean?

The emotional eater eats when he or she becomes emotional. “I am sad, therefore I eat.” Somehow the patient does not go for the healthy food; the patient usually went for the “comfort food” to feel better. There is no definition of “comfort food”. It usually means high calorie, high sugar, high fat and/or salty foods. However, junk food usually does not provide comfort to the patient in the long run. When the patient starts to gain weight after eating the wrong type of food, further deterioration of health will follow. Instead of providing “comfort” to the patient, it provides the patient with “sadness”.

The other side of sadness is happiness. Happiness is a kind of emotion also. “I ate a piece of cake because it was my son's birthday.” Is there any law to say that I have to eat a piece of cake on my birthday? People tell me that it will just be once in awhile that they eat cake, such as at birthday parties. If they have big families, there will be many birthday parties. How about wedding parties, graduation parties, retirement parties, going away parties or the Stanley Cup party? If you wish to eat cake, you can always find an excuse. Eating cake on birthdays is a tradition and not because it is governed by religious rules or medical reasons.



## 22: INVASIVE AND NON-INVASIVE BARIATRIC PROCEDURES

In 2006-7, there were a total of 100000 cases of bariatric surgery performed in the USA. Roux-En-Y gastric bypass was the most commonly done bariatric surgery. Fifty nine percent were laparoscopic gastroenterostomies (RYGB), Banding 12%, and gastrojejunostomy 29%<sup>1</sup>.

Bariatric surgery is indicated for a patient who has a BMI of over 40. This is considered as the last option when conventional methods of weight control have failed<sup>1</sup>. The most beneficial effect of bariatric surgery is better glycemic control in the diabetic patient, after a substantial amount of weight loss.

There are pros and cons for different types of bariatric surgery. Prospective patients should receive full counseling about the facts of bariatric surgery, including side effects during and after surgery. The patient has to accept that there will have to be a big lifestyle change after the surgery. Patient selection is important to ensure that the surgical procedure will be successful. Bariatric surgery is contraindicated in patients with eating disorders and psychiatric conditions. Patients are encouraged to lose weight prior to surgery.

## 23: PHILOSOPHY OF DR. POON'S DIET

- If in doubt, don't eat it
- Learn to say “No, thank you”
- Money cannot buy you health
- Less Salt, Less Fat, Less Carb
- Never give up, do Phase 1 again
- A little bit of cheating is NOT OK
- Disease and diet do not take holidays
- Don't expect me to (S)Poon feed you
- Yo-yo dieting is worse than no dieting
- You will not die if you skip the dessert
- Diet does not fail you; you fail the diet
- No one can make you eat it but yourself
- Other people have done it, why can't you

## 24: SUMMARY

I hope that you enjoyed reading this book. It is my intention to show you why I say eating too many carbohydrates, saturated fat and sodium can be bad for your health. Once you understand the principle behind Dr. Poon's Low-Carbohydrate-Low-Sodium-Low-Fat Diet, you will not be afraid to eat protein and good fat. I am looking not just weight loss, but also, for you to lose your body fat, quickly and safely. If you follow the plan, it is completely safe and you can do this for the rest of your life.

You are now slimmer, trimmer, and full of energy. You will be taking fewer medications than when you started the diet. Don't be afraid to tell your friends that you are on the diet. Spread the good news. I am sure more and more research is going to come out to substantiate my claim.

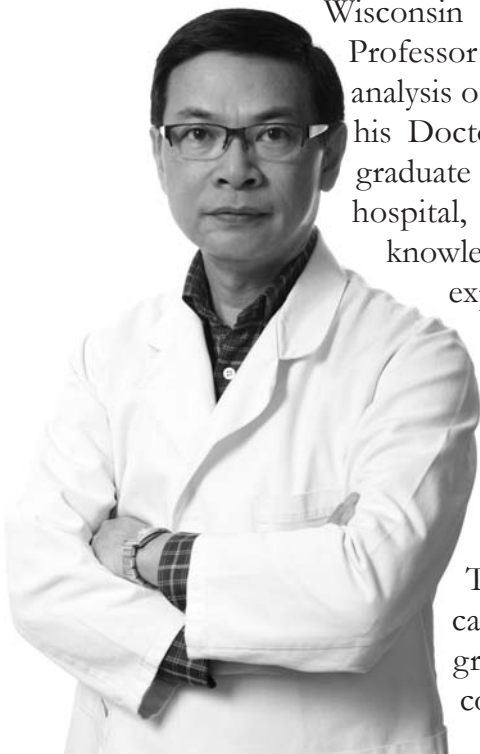
As a physician, I was able to see first hand how this diet improves the quality of life in obese patients. Many patients worry that once they are on anti-diabetic, anti-lipid, or antihypertensive medications, they will have to take them for life. I told them “not so”. If they can change their eating habits and lifestyles, and are able to lose some fat and weight, then their disease will improve and I can safely eliminate or decrease some of their medications. For patients with metabolic syndrome, medication only treats the symptom and weight loss treats the cause. The fat that you accumulated in your belly all these years is the root of all evil. You should use medications to prevent disease and not rely on them to treat your obesity related diseases.

## 25: ABOUT THE AUTHOR

Dr. Poon moved from Hong Kong to the U.S. in 1975. He attended the University of Southern Mississippi and earned his Bachelor of Science Degree with Highest Honors in the Department of Medical Technology in 1978. Clinical Biochemistry was his area of interest. After working briefly at a local clinical laboratory, he decided to pursue further studies in Clinical Biochemistry. In 1979, he started his graduate studies in the Department of Pathology at the Medical College of

Wisconsin in Milwaukee. Under the guidance of Professor Doumas, who is an authority in the analysis of serum protein and bilirubin, he received his Doctoral of Philosophy in 1983. During his graduate studies, he continued to work in the hospital, as well as research laboratories. The knowledge he accumulated from his laboratory experience and graduate studies provided him with the biochemistry background that was needed in designing this diet program later on.

After he immigrated to Canada, he studied medicine at the University of Toronto. He started his family practice career in Richmond Hill, Ontario since graduation in 1987. His interest in weight control began twenty years ago. However, his “low-fat and eat-less” Canada's Food



Guide approach did not have much success. One of his patients asked him for his opinion about a “high-protein diet”, he began to study the mechanism of the “low-carbohydrate high-protein diet” and found that this type of diet did merit a clinical trial. In addition to low-carbohydrate, he designed a diet plan that is also low in saturated fat and low sodium. He found success in helping his patients to lose weight and improve on their health. Since that time there has been more formal research done on low-carbohydrate-high-fat diets. However, there is not much work done on low-carbohydrate low-fat diets yet. Dr. Poon has seen first hand the positive effect of his diet on his obese patients, especially those patients suffering from metabolic syndrome and Type 2 diabetes. The most gratifying moment is when he sees the happy faces of his diabetic patients when they go off insulin injections once they lose weight and get their blood glucose under good control. He has been an advocate of the low-carbohydrate low-fat low-sodium high-fiber diet ever since.

Dr. Poon's idea of a good diet program is not just to provide a diet plan for the patients, but also to educate them about the facts of nutrition and exercise. There are too many misconceptions out there. He believes that when the patients understand what to look for in a food product, they will be able to make better choices. Dr. Poon practice what he preaches and keeps his weight down. His cookbook contains recipes that his wife prepares for him that are low in fat, carbohydrates and salt. Exercise is encouraged. He calls his diet the “Healthy Diet for the Obese”.

## Appendix

Food	Glycemic Index	Net-Carb (g per serving)	Glycemic Load
<b>Fruits</b>			
Apple, 1 medium	38	18	6.8
Apple, dried, 1 oz	29	24	7.0
Apricots, fresh, 3	57	12	6.8
Apricots, dried, 1 oz	29	24	7.0
Banana, 1	55	32	17.6
<i>Blackberries, ½ cup</i>	<i>46</i>	<i>5</i>	<i>2.3</i>
<i>Blueberries, ½ cup</i>	<i>50</i>	<i>8</i>	<i>4.0</i>
<i>Cantaloupe, ½ cup</i>	<i>65</i>	<i>4</i>	<i>2.6</i>
<i>Cherries, 10</i>	<i>22</i>	<i>10</i>	<i>2.2</i>
Dates, dried, 5	103	27	27.8
Durian, ½ cup		28	
Figs, dried, 2	75	20	15.0
<i>Grapefruit, ½</i>	<i>25</i>	<i>5</i>	<i>1.3</i>
Grapes, 1 cup	46	15	6.9
<i>Guava, 1</i>		<i>6</i>	
<i>Honey dew, ½ cup</i>	<i>68</i>	<i>5</i>	<i>3.4</i>
<i>Jackfruit, 1 oz</i>		<i>6</i>	
Juice, apple, ½ cup	59	14	8.3
Juice, cranberry, ½ cup	48	18	8.6
Juice, cherry, ½ cup	55	16	8.8
Juice, grape, ½ cup	69	19	13.1
Juice, grapefruit, ½ cup	48	11	5.3
Juice, guava, ½ cup		13	
<i>Juice, lemon, 1 tbs</i>		<i>1</i>	
<i>Juice, lime, 1 tbs</i>		<i>1</i>	
Juice, orange, ½ cup	46	13	6.0
<i>Juice, tomato, ½ cup</i>	<i>38</i>	<i>5</i>	<i>1.9</i>
<i>Kiwi, 1</i>	<i>52</i>	<i>8</i>	<i>4.2</i>
Lychee, fresh, 10		15	
Mango, 1	55	19	10.5
Nectarine, 1		14	
<i>Orange, ½</i>	<i>44</i>	<i>5</i>	<i>2.2</i>
Papaya, ½ medium	58	14	8.1
<i>Passion fruit, 1</i>		<i>3</i>	
<i>Peach, fresh, 1 medium</i>	<i>42</i>	<i>7</i>	<i>2.9</i>
Pear, 1	38	21	8.0

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Dr. Poon has seen first hand the positive effect of his diet on his obese patients, especially those patient suffering from Metabolic Syndrome and Type 2 Diabetes.

The most gratifying moment is when he sees the happy faces of his diabetic patients when they go off insulin injections once they lose weight and get their blood sugar under good control. He has been an advocate of the Metabolic Diet ever since!

Dr. Poon's Metabolic Diet program is designed to treat obese patients suffering from:

- Central Obesity
- Type 2 Diabetes
- High Blood Pressure
- High Cholesterol
- High Triglycerides
- Fatty Liver
- Sleep Apnea
- And other weight related diseases

Questions to ask yourself:

- Do you over eat, or do you eat the wrong food?
- Do you exercise but cannot lose weight?
- Do you watch your diet but your blood sugar remains high?
- Do you crave sugar and feel tired?
- Do you have to take more medication because you are having difficulty in controlling your cholesterol, triglycerides, and blood pressure?



ISBN 978-0-9738905-4-9

