

THE MACRONUTRIENTS

October, Issue 1

A (VERY) BRIEF HISTORY OF NUTRITION

The human digestive system has evolved over thousands of years utilizing and adapting to a vast array of foods. Our forebears' bodies were capable of digesting a variety of whole foods found in their environments, like meats, fishes, nuts, whole grains, vegetables, fruits and more. While some changes have happened very slowly throughout our history, the recent changes to American diets has been fairly abrupt. What has happened to us? Why are we suddenly becoming so fat and so ill? There have definitely been changes to our digestive systems over the past 10,000 years, none of those changes can compare to the changes in the foods we eat. The last 100 years or so have seen Americans reinvent their diet in at least a hundred ways to accommodate our rapidly changing lives. From convenience to fad dieting, we have completely moved away from what our bodies had recognized as slow-digesting nutrient-dense whole foods. Our search for the "magic bullet" has led us to fastdigesting, overly-processed foods because they seem to make sense and they offer quick results.

The Industrial Revolution was a period from the 18th to the 19th century where major changes in agriculture, manufacturing, technology, mining, transport and (you guessed it) daily nutrition rapidly occurred. Our digestive systems weren't quite as ready for the rapid pace. The foods that we had been eating had never been processed and packaged. The flours we had used to make breads and crackers had never been super-pulverized and stripped of essential nutrition. Sugars and fats had never widely been added to make our foods taste better. Our diets were comprised of simple foods, simply prepared. With more widely available ingredients, large populations had access to different ways to make their foods taste good. In fact, we made these foods taste so good, we couldn't stop eating them!

After all of the fad diets and



processed foods, there is a strong movement to get back to basics. Nutritionists, scientists and doctors the world over are proving that diets comprised of natural, whole-foods can help you stay lean, fit and are more likely to keep you disease free. Over the next four weeks we are going to focus on the macronutrients; proteins, carbs and fat. These are the primary components of everything that we eat. Understanding these building blocks is the start to discovering a daily diet that makes sense for our bodies and our modern lifestyles. We'll learn when to eat them (especially relative to exercise) and you'll learn why timing is important...timing is everything.

EAT WELL! Check Back Next Week for Issue 2!

PROJECT PFC: MISSION STATEMENT

The caring partner displaying this information is a proud member of Project: PFC. Our mission is to provide the simplest, most delicious foods to everybody everywhere. We select natural, whole and minimally-processed foods, drinks and supplements free from all artificial junk, yet rich with nature's goodness. Using current research and educational materials, we're making the world of nutrition "Simple Again". Eat Well. Live Well (and Long).



October, Issue 2

CARBOHYDRATES (CARBS) ARE YOUR FRIEND

There has been much controversy over this valuable macronutrient. It seems that we are always looking for someone or something to blame for those unwanted pounds that relentlessly stick to our hips. Why not blame it on carbs? It's an easy fix; just remove them from our diets and the pounds melt off; right? Wrong! Enter the Atkins Diet or perhaps as it's more commonly known; the Low-Carb Diet. It's not always as simple as a low-carb diet. Remember, there are always reactions to our actions. Our philosophy is to add to your daily diet, not subtract. This may sound strange, but keep reading and we'll explain.

THE BASICS ABOUT CARBS

Carbohydrates are the primary source of energy in your body. Carbs are found in food sources that include vegetables, fruits, grains, legumes, rice and sugars. Sugar is a carb, but not all carbs are sugar. Carbs provide (4) calories per gram. They are broken down through digestion into sugars and absorbed through the small intestine. From there they are shuttled off into the blood system and used immediately or stored in the muscles and liver until needed for energy.

Our bodies can only store a limited amount of stored carbs (depending on how much your lean muscle you have)- between 800 to 2100 calories at any one time. This is barely enough to sustain an individual through an hour and a half of intense exercise. which is why we need to eat Carbs throughout the day.

Stored Carbohydrates are called glycogen. The average person will use up every gram of stored glycogen just by standing upright, breathing, digesting, thinking and trying to maintain a constant body temp. This is called your Resting Metabolism. Once you include everyday movement and especially exercise, your body demands additional carbs, preferably in the form of glycogen. Without it, your body robs your hard-earned muscle tissue (catabolism) to be converted into energy. This drops your metabolic rate, which makes it harder for your body to burn calories. Remember...muscle burns calories not fat.

RECOMMENDED DAILY INTAKE (RDI)

Current dietary recommendations call for anywhere from 50-70% of total daily calories come from carbs (slow-digesting), while only 10% of those calories should come from simple carbs (fast-digesting). But here's where the timing comes in...if you drink a fast-digesting Recovery Shake immediately following your workout, you'll refuel with the necessary carbs that your body is craving and keep your metabolism humming.

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PROTEIN IN THE BODY

Squeeze all the water out of your body and what is left? Mostly protein. Over 55% of the dry weight of your body is protein. Proteins are large, complex molecules that play many critical roles in the body. They do most of the work in cells and are required for the structure, function, and regulation of the body's tissues and organs. All bodily functions from the blink of an eye to the creation of new muscle are controlled by thousands of different enzymes- and (almost) all enzymes are proteins. Protein is also involved in many cellular processes. Proteins make up the major part of many hormones, so they are essential for communication throughout the body.

When we're talking about protein in your diet, you must get it right all the time. You can make big mistakes with carbs and fats and correct them easily, but your mistakes with protein build right into your structure and can hamper your health and wellness for months. Body proteins are not forever as your cells die continually. 98% of the cells of the human body are completely replaced each year. In six months your abs, the hemoglobin in your blood, your enzymes, even the structure of your genes are all completely replaced. The body you have today is built almost entirely of what you have eaten over the last six months. This is why your choice of proteins is so important.

WHEY PROTEIN

What is whey protein? Whey is the name of the pure, natural, high-quality protein from cow's milk. Whey is a by-product of making cheese. It takes approximately 10 pounds of milk to make 1 pound of cheese; the remaining 9 pounds is whey. Whey has considerably less fat, sodium, lactose and calories than milk. It is a rich source of the essential

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amino acids needed on a daily basis by the body. In its purest form, as whey protein isolate, it contains almost no fat, lactose or cholesterol.

Whey is made up of molecules that are chains of Amino Acids called



Peptides. The human body can only absorb very small chains of these di(2) and tri(3) peptides. Larger peptides must be enzymatically broken down (hydrolyzed) before any absorption can occur. Breakdown and absorption of protein occurs primarily in a one foot area of the small intestine called the duodenum. Once it is past this area of the small intestine there is essentially no further absorption. Undigested protein passes into the colon where it is a known health hazard. Beef, poultry, fish, eggs, soy and grains have no di and tripeptides, which slows their digestion and limits absorption. Absorption is key in being assimilated into the body, so we can't stress enough how important it is that you choose your protein wisely.

Whey protein is an excellent protein choice for individuals of all ages. It provides a number of benefits in areas including sports nutrition, weight management, immune support, bone health, and general wellness. Studies have shown that protein can make you leaner, so you see, it isn't just for body builders, it's for everyone. Add a scoop to your favorite Recovery Shake today and rebuild a better body tomorrow.

EAT WELL! Check Back Next Week for Issue 4!

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NUTR - FACTS

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SURPRISINGLY IMPORTANT TO YOUR HEALTH

Believe it or not, fat is a necessary macronutrient and is essential for optimal health, but only the right types and in the right quantities. Fats or lipids are the most concentrated source of energy in your diet. When oxidized, fats furnish more than twice the number of calories per gram furnished by carbs and proteins. One gram of fat yields approx. 9 calories as compared to 4 calories for carbs or proteins. In addition to providing energy, fats act as carriers for the fat-soluble vitamins, A, D, E, and K. By aiding in the absorption of vitamin D, fats help make calcium available to the body tissues, particularly the bones and teeth. Fats are also important for the conversion of carotenes such as beta carotene into vitamin A. Fat deposits surround, protect, and hold in place organs, such as kidneys, heart and the liver. A layer of fat insulates the body from external temperature changes and preserves body heat. Fat prolongs the process of digestion by slowing down the stomach's secretion of hydrochloric acid.

Athletes and everyone else benefits from the consumption of healthy fats such as from plant oils or fish. These (and all) fats are broken down into fatty acids that are essential for the effective function of the brain, inner ear, eyes, adrenal glands, immune system and sex organs. In these very active tissues, special fats are essential for the high level of oxygen use and energy transformation required for optimum health and performance. One type of fat that we'd like to focus on is the Omega 3 fatty acids.

FAT AND OMEGA-3 FATTY ACIDS

Omega-3 fatty acids are unique long-chain polyunsaturated fatty acids. There are three types of Omega-3 fatty acids, and each type differs in its

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chemical structure and physiological role. The major types of Omega-3 fatty acids are:

- ALA Alpha Linolenic Acid
- EPA EicsaPentanoic Acid
- DHA DocosoHexaenoic Acid



Omega-3 fatty acids are considered heart-healthy fats. They are highly unsaturated, and scientific studies show that unsaturated fats do not promote hardening of the arteries, high blood pressure, weakened heart or arterial tissue and strokes. Most importantly, Omega-3 fatty acids are nutritionally essential. Humans lack the enzyme required to produce Omega-3 fatty acids from other types of ingested fats, so Omega-3 fatty acids must be acquired by the diet.

DHA and EPA, and to a much lesser extent, ALA are accumulated in the membranes of the heart, blood cells, and other tissues. These fatty acids help keep the membranes fluid, aiding in the normal functioning of cells and tissues. DHA and EPA levels are high in these tissues, but DHA is the most abundant Omega-3 found in the brain and retina, accounting for more than 50% of the total unsaturated fatty acids present.

HOW MUCH FAT DO I NEED IN MY DIET?

Every ounce of extra body fat that you carry increases the energy required to move your body. Additionally, every ounce of extra body fat increases body temperature during exercise, not only because of extra weight and insulation, but because you have less water for cooling. Body fat is only 50% water whereas muscle is 75% water. Keep fat intake below 15%.

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Check Back Next Month for a New Series!

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