



Macronutrients: Introduction to Macronutrients Transcript

Hello and welcome to our Institute of Nutritional Endocrinology module on *Macronutrients*. This video is going to give you an overview of what macronutrients are and how they are important in the assessment of your clients' health and in your protocols. I want to make sure that you understand *macronutrients* versus *micronutrients*. Our next module will talk about micronutrients.

Macronutrients are nutrients we need to take into the body on a regular basis in relatively large quantities like water, protein, carbohydrates, and fats. Whereas *micronutrients* are nutrients we need in very small amounts like vitamins and minerals. We can even go so far as to classify our vitamins and minerals in terms of trace ones or main ones, but we will cover that in the next module.

Macronutrients are those biggies. You need a lot of them. You don't need just a little bit of protein; you need gram size portions of proteins. Whereas the micronutrients, we need either milligrams sized portions or microgram-sized portions. So let's begin and talk a little bit more about those guys. Before we begin, whenever you are dealing with or talking to people about their nutrition, nutrients, macronutrients and micronutrients, if you are assessing their deficiencies or excesses, you are not diagnosing, you are not treating, you are simply educating people about the assessment that you do. It never replaces the one-on-one care with a medical practitioner.

Let's look at our primary macronutrients. One that is often overlooked and not called a macronutrient, but I believe it is the biggest one, is water. Water is actually the macronutrient that we need in the largest quantity and that we can go the shortest length of time without. Depending on the size of the person you are dealing with and how much extra fat and nutrients they have on their body, they can go quite a while without food.

They may be kicking and screaming about it, but they can go a long time without food. But water is pretty limited. I believe five days is about the longest you can go without water. Somebody might be able to push that limit a bit longer, but we need a lot of water.



Water is very important for the movement of fluids around the body and makes up a good part of the blood. It is part of what transports the nutrients. Water is used for diluting the toxins helping them to be removed from the body. Water is important for the moisture that we feel. Water is important for our voice. We need to have enough water, lubrication. We need to have enough lubrication in our lungs. It is more than just water, but water forms a big base of it. Water actually constitutes somewhere between 50% and 80% of your body, depending on who you listen to. When I have done body composition analysis, I usually find that people are 50 to 60% water. That is a large percentage of your body. It stands to reason that it is really important to pay attention to the quantity and quality of the water that your clients are drinking.

Sometimes the problems that they are coming in to see you about are really dehydration. There is a really good book called *You Are Not Sick You Are Thirsty* written by an M.D., F. Batmanghelidj, who found that many conditions were overcome by hydrating people. In case you have not realized it, we will go into much more detail about water later on in the module.

The picture I put on the page is a depiction of a balance between carbohydrates, proteins, and fats. There is a lot of discrepancy between one authority to the next about what percentage should be protein, what percentage should be fat and what percentage should be carbohydrates. It also varies from person to person. One of your jobs in working with your clients to optimize their health is to help them to figure out what is their ideal distribution between the main macronutrients, fat, protein, and carbohydrates.

Some people thrive on a higher carbohydrate diet. Some people thrive on a high-protein diet. Some people thrive on a high-fat diet and some people thrive on a balance. When you look at some of the diets, like an extreme higher carbohydrate diet of 80-10-10: 80% carbohydrate, 10% protein and 10% fat. Some people thrive on that diet. Some people crash and burn on that diet. On the other extreme is the Ketogenic Diet. The Ketogenic Diet is very high in fat, almost no carbohydrate, under 100 grams and in many cases below 50 grams of carbohydrate in the diet. If you want to think about that in terms of caloric intake, a gram of carbohydrate is four calories. So 50 grams of carbohydrate is 200 calories and 100 grams is 400 calories.

If the average person needs somewhere between let's say 1500 and 2000 calories (unless if they are pregnant, nursing, or athletic when they would need more), then that is a very small percentage: only 20% or 10% carbohydrate. That is the other extreme.

A large percentage of the Ketogenic Diet is fat and the balance is protein, somewhere between 20 and 30% protein.



If you look at something like the Zone Diet, they propose 40-30-30: 40% carbohydrate 30% protein, and 30% fat. So it varies. You will find some people who say, “I went on this zone diet and I crashed and burned.” Other people will say, “I went on it and I did great.” It is up to you to help them find what’s a great balance for them. It is really important when you are looking at some of these dietary Intakes, to assess not just of the quantity of their macronutrients, but the quality.

As we go through, we have a section on each of these: fat, protein, and carbohydrate. We will go through what the function is of each of these. What are the deficiency signs of someone who is short? What are the signs of excess? What are the sources, what are the best food sources of these macronutrients? Ideally you want whole foods. We do not want people eating processed foods. We will talk about this in the fat module. A lot of people will think that processed foods are no good and they do not eat white flour or white rice, but they will eat oil.

Oil is actually a processed food. It is just a fat extracted from a whole food. The fat extracted from an olive, the fat extracted from a coconut, the fat extracted from whatever else you use, like safflower, sunflower or sesame, but it is really just fat. There are some therapeutic uses for fat. There are times when people can absorb oil better, for example coconut oil if the person has an impaired fat digestion: the person can actually do that without having to use bile, and it is much easier on the digestion to just use the fat if the person needs the extra fats therapeutically like in the case of Alzheimer's.

Protein we rarely see processed or denatured (well, denatured we may see). Protein is usually eaten as a whole food in meats, beans, and vegetables are a huge source of protein. We will look at that, but we won't really see refined protein except in the case of single amino acids: so that would be a refined food that is used more like a supplement to help someone when they are short or if they have had a particular condition that makes them need more. We will go into more detail on that later.

Carbohydrates: refined carbohydrates are rampant in the diet and they damage the diet. We will be looking at that. All right, we'll see on the next video.