



## Optimum Nutrition

**Optimum nutrition** is a simple concept difficult to achieve. Avoiding unhealthy ingredients or low quality sources of food is complicated because the food industry does not necessarily know (or care) about these details (but they do care what we *think*). Most animal products, vegetable oils including extra virgin olive oil, soy products, the list goes on are low quality and can potentially reduce health instead of increasing it, meaning they might be food but they are not so much “nutrition.” Putting this complex topic to the side, optimum nutrition would focus on what to eat, as opposed to what to avoid. The concept of what to eat is complicated by our limited knowledge of what the body actually needs, and how that would change under different circumstances, meaning between different people and under different conditions from day to day for any one individual. The body is amazingly adaptable to almost any food you put into it when using natural food under natural living conditions. In modern society, at least half the food most people eat is not natural and neither is our lifestyle pattern, spending most of our time physically inactive and then periodically compensating for this with high-intensity exercise. That pattern complicates nutrition because it changes the body’s needs from hour to hour, even minute to minute, as opposed to just changing from day to day. This is why the most basic principle of optimum nutrition is not the quality of the foods you eat (so complex it is difficult to even put a plate together), or how balanced your meals are (whatever that might mean), or any one particular dietary pattern (as if any one pattern could always be correct even for one individual from one meal to the next). Instead, the most basic starting point for the most effective optimum nutrition brings those concepts in later, and focuses on the one single most important thing that drives metabolism, ultimately meaning the health of your cells, or the health of your body and therefore your health. That single thing is nutrient supply versus demand.

**Go with the flow:** Your bloodstream is a nutrient delivery system. Nutrients come in from your intestine, and they are delivered to your cells. If nutrients enter the blood faster than they can be absorbed and therefore used by your lean tissue, they usually go to fat cells or are excreted as waste, neither of which contribute to providing needed nutrients. Dehydration would be an example of this. Since hydration contributes to the flow of the bloodstream and hydrating the food particles breaking down during digestion, dehydration would lead to more nutrients being lost to your poop instead of going to your cells. Dehydration therefore undercuts the value of the food you are eating. Processed foods digest faster, contributing more to body fat and waste than unprocessed foods. Fortunately for us, the carbs we love to eat, which are generally highly processed, can be slowed down dramatically when they are in our stomach at the same time as crunchy vegetables. This opens the door to eating tasty convenient foods without them hurting us nearly as much. They might not be health foods, but at least they won’t flood our bloodstream.

- **Meal and snack timing:** If you skip a meal, or bunch your snacks together late afternoon or evening, the conveyor belt bloodstream is low in nutrients for some period of time and flooded later on. This leaves your cells deprived for hours and then overloaded, reducing your metabolic rate and then later fattening you, even if overall you are under-eating. This is the horrible irony of under-eating with the modern lifestyle of busy busy busy. Your cells are hurt the worst when blood sugar or blood protein are low, so upon waking at least have a protein and carbohydrate snack, such as soy milk or some yogurt with a piece of fruit. Breakfast can come later. Every minute that you delay loses lean tissue, hurting your metabolic rate. Drink water and then eat something. Worry about how healthy the meals are later in the day. Just protect the lean tissue you have as soon as you wake. Right after exercise, the level of sugar in your blood and in your muscles can be even lower than after sleeping (not having eaten for many hours), so eating a glucose source (starch) has an urgency, whereas protein can be at the next meal. For details on this see my “Exercise Glucose 10 min” handout in this series.
- **How to look at meals:** A bit of protein and a bit of carbohydrate are the minimum basis of a meal, assuming that a meal is meant to at a minimum protect what body tissues you have, even if that meal does not actually make you healthy. From there, add unsaturated fats and vegetables to obtain health as the next step. Generally, the darker the vegetables the higher the nutrient density, and the greater the vegetable variety the greater the complex benefits to the body. Cooking vegetables increases nutrient availability even though nutrients are destroyed with cooking, so cooking just enough to optimize your eating experience, not more, is a good target. Uncooked or lightly cooked vegetables, that are still crunchy in your mouth when you chew them, will slow digestion the most. Salad, which is obviously not cooked, is particularly powerful at slowing digestion. Since carbs are usually the fastest digesting foods we routinely eat, still crunchy vegetables should be included in meals with carbs in them. This single directive has had the most powerful impact on raising metabolic rate (improving type 2 diabetes).
- **Water and fats:** Water is processed quickly and therefore needs to be consumed slowly throughout the day, whereas fats are processed slow and are stored, so the timing of fats in your day matters the least.