Atomic Nutrition

Do you struggle with your diet? Do you have questions regarding what you should eat, how much, and when? Have you seen your body change in undesirable ways, yet have been unsuccessful as reversing those changes? Do you want to recapture some aspect of energy, aesthetics, or athleticism lost as life changes force you into a more sedentary lifestyle? Are you happy with your body, but want to dial in your athletic performance to gain every edge you can?

You are, by any and every measure, not alone. You are surrounded by loads of friends experiencing the exact same things.

The aim of this document is to provide an approach to begin making measurable beneficial changes to your nutrition, and in turn, your confidence, appearance, and quality of life.

It is not a yellow-brick road, a step-by-step guide, a recipe book (though it contains aspects of all of these!), or the final resource for all things nutrition. Rather, it is a framework which will help you to prioritize your approach to nutrition in order to help you form consistent and healthy dietary habits.

The main ideas of this framework will focus on the Four Pillars of Nutrition:

- 1. Quantity: how many calories to consume.
- 2. Quality: what kind of calories to consume.
- 3. Proportion: how much of each type of macronutrient to eat as part of a balanced diet.
- 4. Timing: when to eat.

The four pillars are presented in the order of importance.

Perspective

Before launching into our approach to nutrition, we want to be upfront about our perspective:

There is no shortcut and nothing is complicated. Nutrition is simple to understand, it just takes discipline to execute. The fundamentals of nutrition, however, remain unknown amidst the confusion of dietary fads and conflicting messages from the nutrition industry.

And we want to be upfront about our qualifications: we are not nutritionists or dietitians.

We are strength coaches who have worked closely and extensively with qualified individuals in the nutrition field. Additionally, we've worked with hundreds of athletes, informally, to help them achieve their aesthetic goals. We also track and follow the nutrition process outlined below. We have used a number of apps and outside companies' products to work on our nutrition.

We are athletes ourselves and have been for decades. We have competed in numerous sports at high levels, and our nutrition has been a powerful force propelling success in those endeavors.

This document represents distilled knowledge from all of these experiences, educations, and interactions. It is presented here as an informational text for you to consider, and hopefully, implement. However, we cannot and should not call this an educational or scientific document. You must weigh and measure the nature of our credibility to administer advice and take it accordingly.

This document's scope is intentionally narrow, and many of the concepts we discuss are geared towards athletes relatively new to training. We want to go reasonably deep into each topic, and so we will focus on framing nutrition around the Four Pillars as a means to optimize performance (more on that in the next section). These Four Pillars allow us to define clearly what parts nutrition is made of so you can better identify where your strengths and weaknesses lie. If you can accurately identify your issues, then you can accurately prescribe a solution.

We'll begin the discussion with a paradigm shift you may need to make, then move directly to the first of the Four Pillars, Quantity, the most common issue people have with their diets.

Paradigm Shift

A major purpose of this document is to propose what may be a paradigm shift for many of you: addressing nutrition as a means to optimizing performance, not simply to gain/lose weight or to reform your body composition.

Nutrition provides your body with raw materials and fuel. Protein and fat work together to provide raw materials that build a healthy physical structure while carbohydrates and fat work together to fuel you to perform, regardless of your activity. Thinking about nutrition as a means to optimize performance assigns a job (and value) to each calorie you consume.

Of course, the importance of nutrition relative to body shape can't really be overstated. There are three primary drivers of how your body looks: genetics, nutrition, and training. The chart below describes those drivers' relative impact on your body shape:



(NOTE:

Genetics are about 50% of the equation, and unfortunately, you can't control your genetics. This leaves nutrition and training under your control.

Of those two, nutrition makes up 40%, leaving training at only 10%. Now, that 10% makes a big impact over time, especially considering training causes the body to force specific adaptations.

If you're struggling to lose or gain mass, or meaningfully change your body composition, then nutrition is the limiting factor for you. After all, you cannot out train a bad diet, nor can you lose weight simply by training hard.

You must address your nutrition to transform your body.

Let's recap: the paradigm shift we're advocating is to focus on nutrition as a means to optimize performance, and yet, we're also stating the fact that nutrition is the biggest factor to address when we're looking to achieve your desired body composition. Aren't these in conflict with one another?

No. The idea of prioritizing nutrition as a means to optimize performance gives your nutrition *structure*. It allows you to plan it around your training schedule, and give each calorie you consume a purpose. All the while, no one can argue against the impact nutrition plays in your physique. This acknowledgement is so you understand that while we advocate to structure nutrition around your training, **training cannot and will not overcome bad dietary habits**.

Four Pillars of Nutrition

Quantity

Perhaps the most frustrating and confounding aspect of nutrition is how much you should eat.

Most of this frustration comes from the nutrition industry: a multi-billion dollar industry which profits from your confusion by over-complicating simple principles.

Let's get the primary principle of nutrition straight from the outset: **eating the correct amount of food is paramount to your diet**. If you're looking to gain weight, you have to eat an excess of calories. If you're looking to lose, you have to eat a deficit of calories. If you're looking to maintain, you have to eat on balance with your energy expenditure. **All the while, you can't just stuff your face if you're gaining and starve yourself if you're dropping**. You have to be smart, measured, and purposeful.

Let's start our discussion of quantity by looking at what happens when you eat too much, then we'll move to what happens when you eat too little. Lastly, we'll discuss eating the right amount.

Eating an excess of calories

Most people understand our bodies gain weight when we eat an excess of calories. Plainly stated: if you are gaining weight, then you are eating and drinking more calories than you are burning.

Let's take a pause here and discuss terms, real quick. We need to distinguish between **weight** and **mass**. **Weight** is the force generated by the earth pulling on the mass of an object. The more massive the object, the more the earth pulls on it, therefore the more it weighs, but if you're not on earth, then the weight would change since the force of gravity would be different.



Mass is the quantity of matter which makes up an object. It's not a force; it's just the stuff inside an object. There are different types of mass inside of people. We're made of water, sugar, fat, bones, and muscle. Each of these types of mass are different because of their density.

Muscle is more dense than fat. **Density is how much matter is inside of a unit of volume**. If you had a cube of muscle that was one inch on all sides and a cube of fat that was also one inch on all sides, then there would be more matter inside the cube of muscle. The muscle would have more mass, and therefore, it would weigh more. Muscle, it turns out, is roughly twice as dense as fat. We'll come back to this idea later on and discuss it in more detail.



When you eat too much, or, better said: when you eat more calories than you expend, your body gains mass.

The type of mass you gain depends on the quality and proportion of food you're consuming. For clarification, gaining muscle mass is typically referred to as lean mass, while gaining fat is simply referred to as fat mass.

Eating an excess of calories, though, is not categorically bad. Many athletes desire to gain weight, and so they must eat more calories than they expend. Most of the time, the type of weight they're looking to gain is muscle, not fat (even though some athletes in some sports need fat along with muscle).

How can they do this? What steps do they take to gain the correct type of mass?

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Athletes looking to gain lean mass don't consume any food they can get their hands on. They consume foods which align with the type of mass they are trying to gain. Furthermore, they're not simply going to eat as much as they want. They eat a certain amount of excess calories, then stop. This way, they can control the calorie surplus and slowly change their body composition. Third, they will continue training, stimulating their body to make certain adaptations based on the training. Fourth, they will eat nutrient dense food which provides their bodies with the raw materials they need to utilize the food they are eating and provide them with the energy to train hard and not just heavy foods that will make them feel sluggish. Fifth, they're going to eat at the right times throughout the day to keep their metabolism humming.

The type of overeating which leads to undesirable weight gain is categorically different. Rather than having the right macronutrient balance, overeaters are going to eat what they like. Rather than nutrient-dense foods, they'll consume calorie-rich foods, heavy with fat, preservatives, and sugar. Rather than quality food, they'll consume fast or highly processed, convenient foods. Rather than timing their meals and snacks purposefully, they'll eat when they're hungry or when they want.

Eating a deficit of calories

If eating an excess of calories means you'll gain mass, then it makes logical sense to say eating a deficit means you'll lose mass. If you thought as much, good for you.

But, if you're also thinking that's not the whole story, then you're one step ahead.

The real question when eating a deficit of calories is, "What type of mass are you going to lose?" Just as the real question in the case of eating an excess of calories was, "What type of mass are you going to gain?"

Another important question around maintaining a caloric deficit is what impact it will have on performance.

When gaining, it's typically more desirable to gain muscle since muscle does work. Most don't want to gain fat since it is inactive mass. It only stores energy. It doesn't help you move or control your body. It hinders.

When trying to lose weight, most people are looking to shed mass from fat while retaining their existing muscle mass. The conventional wisdom is to eat less, and you'll burn fat. Some people interpret this to mean they should starve themselves to lose fat, but is this true?

The human body's design is to survive. In order to survive, we must have energy available to us. The best source of energy our bodies store is fat. Fat contains nine calories for every gram. Protein and sugars contain four calories per gram. In order for the body to survive longer, it will shed mass which consumes energy – muscles – and hold onto mass which stores the most energy – fat. So, if you just start undereating in the hopes you'll end up skinny, then you're misunderstanding how the body works.

Eating a deficit of calories in the absence of a nutritional plan will most likely lead you down the road to being "skinny fat". You will be skinny, but you'll also have a bunch of fat on your bones instead of the muscle you want.

As for the impact on performance, you run the risk of eating too few carbohydrates, which will decrease your physical output. If you're not getting enough protein, you could be spending excessive and preventable time in a catabolic (net protein breakdown) state than necessary.

Good nutritional approaches exist which allow you to lose the desired weight and stay healthy, you just can't do it willy-nilly. You must eat the proper proportion and quality of food so your body will still be fueled and can shed undesirable bulk rather than muscle.

Next, let's discuss how to determine how many calories to consume for whatever goal you may have for your body.

How much should you eat?

You want to eat the right amount for your goals, whether they be to lose, maintain, or gain weight.

And getting the right quantity of food for your goals is your number one priority in addressing nutrition. After all, you'll never gain weight if you never eat enough food, and vice versa!

How can you go about it in a manner both smart and practical?

Well, first you should know how much to consume is heavily individual, and at least four factors will affect it:

- 1. **Current size:** larger athletes need more energy; smaller athletes need less.
- 2. **Sport:** the demands of your sport/activity level will greatly influence what your diet should look like a cyclist will have a different diet than a powerlifter based on the demands of their respective sports.
- 3. Goals: are you looking to gain, lose, or maintain weight?
- 4. **Genetic disposition:** if you are a hard gainer, you'll have to eat more. If you're an easy gainer, you won't have to eat as much.

Let's unpack the steps to determine how much you need to eat. We'll discuss how much to eat in total, as well as how much of each macronutrient you'll need to consume.

Step 1: Calculate total daily calories you should eat.

Use the table below to find how many calories you need per day.

Activity Level Per Week	Lose Weight	Maintain Weight	Gain Weight
Sedentary – active 1 to 2 times per week	Weight x 10-12	Weight x 12-14	Weight x 14-16
Moderate – 3-4 times	Weight x 12-14	Weight x 14-16	Weight x 18-20
High – 5-7 times	Weight x 14-16	Weight x 16-18	Weight x 20-22

First, pick your level of activity (first column). Second, select your one goal (columns 2, 3, and 4).

Then, follow the instructions in the appropriate cell.

Example:

Thor is very active, weighs 265 lbs., and wants to gain weight so he can be stronger than The Hulk. To find out how much he needs to eat, he'll go to the bottom right cell of the table, where **high activity level** meets **gain weight.** There, he can see he needs to multiply his weight by 20 to 22.

 $265 \times 20 = 5300$ calories (low end of range) $265 \times 22 = 5830$ calories (high end of range)

Every day, Thor needs to eat between 5300 and 5830 calories in order to gain weight so The Hulk doesn't make him look like a little punk.

But, what should those calories look like? What proportion of macronutrients should he eat to gain the right type of mass?

Step 2: Determining macronutrient proportions

In order to find out what proportion of macronutrients you should eat, you need to identify your body type.

There are three body types: ectomorph, mesomorph, and endomorph. The illustration below shows the difference between the body types.



Image courtesy of Govt. of Western Aust. Dept. of Health

As you can see, ectomorphs trend towards narrow and long, mesomorphs trend athletic and balanced, and endomorphs trend wide and thick.

Other than the morphological differences, there are also differences in how the different body types process and breakdown carbohydrates. Ectomorphs break them down fastest, and endomorphs slowest.

Accordingly, you'll adjust the percentage of calories you're getting from macronutrients based on your body type.

Let's look at how the different body types correspond to macronutrient proportion:

Body Type	Protein %	Carbohydrate %	Fat %
Ectomorph	25%	55%	20%
1			
Mesomorph	30%	40%	30%
Endomorph	35%	25%	40%



Macronutrient Proportions by Body Type

Since ectomorphs break carbohydrates down the fastest, they're allowed to have the most, with the others following in order.

Step 3: Punch the numbers

The final step is figuring out how many calories we're going to get from each macronutrient.

Here's what we know:

Thor, a mesomorph, needs an average of 5600 calories per day to gain weight.

Mesomorphs needs 30% of calories from protein, 40% from carbohydrates, and 30% from fat.

 $5600 \times .3 = 1680$ cals from protein $5600 \times .4 = 2240$ cals from carbohydrates $5600 \times .3 = 1680$ cals from fat

Now, we can find out how many grams of each macronutrient we need because we also know the number of calories in one gram of all the macronutrients.

1 gram of protein = 4 calories 1 gram of carbohydrates = 4 calories 1 gram of fat = 9 calories

So, we can divide the number of calories we need of each macronutrient by the number of calories per gram to find out the number of grams we need to eat.

1680 cals from protein/4 calories/gram = 420g of protein 2240 cals from carbohydrates/4 cals/gram = 560g of carbohydrates 1680 cals from protein/9 calories/gram = 187g of fat

Finally, Thor knows how many grams of each of the macronutrients he should eat per day, which is much easier than tracking calories.

These formulas will come into play when we discuss our third priority, proportion.

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Quality

The second pillar of nutrition is to eat real food.

Eat food. Real foods. Real foods come from the earth. They grew, walked, flew, or swam. Foods *are* ingredients. Foods don't *have* ingredients.

Of course, the nutrition industry confuses what is healthy and what is not with labeling and marketing. Juice, granola, cereals, and "natural" foods are sold as healthy when in reality, most are filled with sugars and preservatives and stripped of their nutritional content during processing.

Real food rarely comes in a box. Boxes are typically for manufactured things, including ones you can eat.

Why is eating real foods so important? What's problematic about processed foods?

Eating real foods optimizes health and performance because it is easier for our bodies to breakdown and use for fuel and recovery. Processed foods contain excessive amounts of added sugar, bad fats, and preservatives the body contends with during digestion, placing a heavy burden on the digestive tract. The consequence of the added burden is inflammation.

What are processed foods anyway?

The U.S. Dept. of Agriculture defines a processed food as one that has undergone **many** changes to its natural state, "that is, any raw agricultural commodity subjected to washing, cleaning, milling, cutting, chopping, heating, pasteurizing, blanching, cooking, canning, freezing, drying, dehydrating, mixing, packaging, or *other procedures that alter the food from its natural state.*"

The food may include the addition of other ingredients such as preservatives, flavors, nutrients and other food additives or substances approved for use in food products, such as salt, sugars, and fats.

Wow! That's pretty much any food you buy at the supermarket! So, what does this mean for real food? Well, there is a difference between highly-processed and processed foods. After all, even butchering an animal is a process the food must go through before it can be *easily* consumed. But there's a big difference between butchering as a process and the processes food has to go through to become a microwave dinner. When we refer to "processed foods," we mean highly-processed foods.

Broccoli and brisket are both processed technically, but nothing like store-bought brownies and baklava!

And you know how you can tell? The box! Boxes are a tell-all for highly-processed foods. Avoid them!

Below is a list of good food sources of macronutrients (the term macronutrients refers to protein, fat, and carbohydrates):

	Carbohydrates	Fruits	Vegetables		
Proteins	(Complex)	(Simple)	(Simple)	Beverages	Fats
Poultry	Potato	Berries	Spinach	Coffee	Olive Oil
(hormone-free)	Rice	Grapes	Swiss Chard	Herbal Tea	Avocado Oil
Eggs (cage-free/	Oats	Cherries	Watercress	Coconut Water	Macadamia Oil
pastured)	Quinoa	Apples	Romaine Lettuce	Sparkling Water	Coconut Oil
Pork	Beans	Bananas	Kale	Coconut Milk	Almonds
Beef	Lentils	Plums	Collard Greens	(unsweetened)	Walnuts
Game	Buckwheat	Lemons	Turnip Greens	Almond Milk	Pecans
Fish/Shellfish	Yucca	Oranges	Mustard Greens	(unsweetened)	Nut Butters
	Jicama	Grapefruit	Brussel Sprouts		Sun Butter
	Plantain	Peaches	Cabbage		Bacon (sugar
			Asparagus		and nitrate-free)
			Broccoli		Avocado
			Cauliflower		Coconut Flakes
			Beets		Grass-fed Butter
			Onions		Ghee
			Scallions		Pumpkin Seeds
			Shallots		Chia Seeds
			Tomatoes		Sunflower Seeds
			Bell Peppers		
			Carrots		
			Celery		
			Cucumbers		
			Eggplant		
			Mushrooms		
			Squash family		

In the table above, fruits and vegetables fall under the umbrella of carbohydrates, yet are differentiated because there is a difference between complex and simple carbohydrates. This is an important distinction to make considering the anatomy of a healthy meal. Vegetables belong in every meal.

Vegetables are nutrient dense, yet light on calories. They deliver crucial vitamins and minerals we simply cannot get from other foods. Plus, vegetables help the body balance its pH, hormone levels, and maintain satiation.

Hydration

Proper hydration is crucial to overall wellness.

But hydration isn't a destination, it's a journey you're always on.

Keep it simple: the main thing you should be drinking is water.

You should drink **at least half of your body weight in ounces of water daily**. Add 20 oz. for every hour of training you do. So, if you weigh 150 lbs., you'll drink 75 oz. of water every day. On days that you train for one hour, you'll drink at least 95 oz. of water. Keep in mind, that's *the least amount of water you should drink*.

Coffee, tea, and sparkling water also count towards your total hydration, but you shouldn't drink more of them than regular water.

Water comprises over 75% of our body, which is why hydration is so important. If that fact wasn't enough, water also lubricates joints and muscles, helps flush toxins, control hunger, and regulate energy and body temperature.

Despite playing such a crucial role in our bodies, chronic dehydration is one of the most common problems people have with nutrition. As we said in the military: hydrate or die!

What You Should Be Drinking:		
Water		
Coffee		
Herbal Tea		
Coconut Water		
Sparkling Water		
Coconut Milk (unsweetened	I)	
Almond Milk (unsweetened)	

Proportion

Proportion is the third priority in your approach to nutrition.

Proportion refers to getting the proper relative amount of the three macronutrients. We discuss the way to find what proportion should be based on your goals and body type in the *Quantity* section above. But, beyond knowing the numbers, why is proportion so important?

Proportion allows the body to have the raw materials it needs to make the adaptations you require. Your body is constantly changing, and if you fail to supply it with the materials it needs, then it will lead to poor health in the long run.

Let's look at each of the macronutrients and discuss why you need a certain amount of it, even if the prevailing popular diets of the time say otherwise.

Protein



Protein enjoys the best reputation of all the macronutrients.

It is the vast majority of solid matter of our muscles, and nearly every active adult understands the importance and benefits of protein.

But why is protein important for athletes?

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Proteins are made of amino acids. The protein that comprises human muscles contain 21 different amino acids. Without these amino acids, our bodies wouldn't be able to form muscles. Nine of the 21 amino acids are essential, meaning it's essential we get them from our diet because we can't synthesize them in our bodies – we must get them from an external source.

These nine amino acids come from both animal and plant sources, so if you want to be vegan or vegetarian, go for it (just watch the sense of self-righteousness).

Okay, so muscles are made of protein. Meats and plants provide protein. Why do we need to keep eating it? Protein turnover.

Like every other aspect of the body, protein breaks down and has to be replaced. Protein turnover is the process of protein breakdown and synthesis. This is where eating protein comes in and plays its crucial role: protein we eat is broken down into amino acids, then synthesized in the body to become protein for our muscles.

Exercise increases the breakdown of protein (muscles). When your body is in a state of more protein breakdown than synthesis, you are in a **catabolic state**, during which you burn lean tissue. In order to switch from a catabolic state to an **anabolic state**, you must have more protein synthesis than breakdown, meaning you need a source of protein to provide the building blocks for synthesis.

Active people require more protein in order to maintain an anabolic state since exercise increases the breakdown of existing protein. Exercise is also the only way to build more muscle, so if you're exercising and not getting the required protein, then you're certainly looking at a bad combination.

On the flip side, if you're exercising and eating the right amount, you're setting your body up for success by allowing it to synthesize more protein into muscle than you previously held.

But, are there any drawbacks to eating protein? Can you just eat as much as you want without any repercussions? No.

Drawbacks exist. First, your digestive system can only process so much protein. If you eat more protein than your body can process, then you're filling yourself with food your body will simply turn into waste. This creates the opportunity cost of not getting carbohydrates, fats, or nutrients from other food sources, and these could be far more beneficial to you.

Second, your body can't really make energy (sugar) efficiently from protein. In order to turn protein into sugar, your body must use a process called (get ready) gluconeogenesis. If you have insufficient glucose in the body, it will switch to gluconeogenesis to meet critical glucose demands by breaking down protein (muscle) into sugar.

Third, excess protein without enough carbs can put you in a crabby mood, which benefits no one.

Fats



Popular culture maintains a love/hate relationship with fats.

In decades past, limiting fat intake was the dietary trend. Then, in the early 2000s, the Atkins diet created a craze where you could eat all the fat you wanted so long as you didn't eat carbohydrates. Carbohydrates became the enemy.

Bacon and butter were in, oatmeal and potatoes were out.

Since, Atkins has been reformed and re-marketed, but not much of substance changed. The Paleo Diet replaced it, carried on the shoulders of CrossFit's boom across the country. Its claims were largely the same as Atkins, but marketed much better as an athlete's diet and connected to high-level performers with amazing physiques.

(One confounding thing about the Paleo diet is how there is only *one* way to do it, yet there was no one paleo diet during that era of time. Humans had diets based on where they were on earth, and available foods varied greatly. Not all humans on earth during the Paleolithic era had access to the limited constraints of the Paleo diet).

From Paleo, rose Keto, pushed heavily to men by the male Oprah: Joe Rogan.

All of these diets maintain the idea that heavy fat and protein intake with little to zero carbohydrates is the best way to go. But what role does fat play in our bodies, apart from dietary trends in the market?

There are different types of fats and they each have a role to play, so keep that in mind. In general, you don't need a lot of saturated fat from your diet (your body can synthesize it from other sources anyway). Then there are unsaturated fats, which help with lowering cholesterol (though that's under scrutiny a bit), and provide most of the benefits outlined below. Another type of fat, trans fat, is categorically unhealthy and should be completely avoided.

Saturated fats are solid at room temperature (due to their molecular structure) and derived from animal sources mostly. Unsaturated fats are liquid at room temperature and derived from plant sources mostly. Trans fats are mostly created by processing fats to make foods last longer (trans fats do exist in small amounts in animal sources, especially red meat). Companies heat liquid vegetable oils in the presence of hydrogen gas. The hydrogen binds to unsaturated fat molecules and turns them into something between a saturated and unsaturated fat.

First and foremost, fat stores energy. As we discussed earlier, fat contains nine calories per gram, making it over twice as dense with energy as carbohydrates. We rely on fat as the main energy source for most low intensity activity. When you sleep, you burn fat. Go on a walk: fat. Easy bike ride to work or around the neighborhood: fat.

Second, fat helps your body with everyday functions. It helps you absorb some nutrients, produce hormones, and protect your organs. Not to mention, fat helps keep you warm! Your body needs fat. Just not *too much* fat.

It can be easy to write off the purpose and function of fats, but these are essential to your overall health.

Third, fat basically has a bunch of great benefits that get lost in the milieu over whether or not it's "healthy" (yes, fat is healthy because without it, you'd die). Fat helps your skin stay firm and hair shiny. Fat satiates your appetite so you stay full longer. Fat also reduces the amount of salt and sugar needed for some foods.

This list isn't exhaustive, but you get the idea: fat has a ton of benefits.

The one major drawback is that fat tastes so good, and enhances the flavor of other foods so much, it's real easy to eat too much of it. And, when you eat too much of it, your body tends to store it. After all, your body *wants* to store energy, and fat has that in spades.

Fat can also negatively impact your cardiovascular system by forming plaque in your arteries.

So, with many things – and especially with nutrition – you have to be balanced and disciplined when it comes to dietary fat. You want enough, but not too much. If you've done the calculations above, you should have an idea of what range of fats to intake.

So, why are these high protein, high fat, low carb diets so popular? Marketing is the first and foremost reason. Second, they play into powerful heuristics to drive our decision making. Third, people typically get on them only after having a unstructured diet for a long time, and so any diet would be effective (something, it turns out, works better than nothing). Fourth, they utilize systems in the body which can legitimately lead to weight loss.

These diets claim carbs are the major contributor to making you fat (or, simply, that they make you fat) and if you don't eat carbs, then you will burn fat as fuel - and this claim is more or less true. The problem lies in how difficult and tenuous it is to maintain the conditions of fat burning: it takes time for your body to switch into that mode and it is very easily upset.

The only fuel for your muscles and brain, besides glucose, is ketone bodies. Ketone bodies are made from fat through a process called ketogenesis, which only occurs when there is, 1), a lack of glucose and, 2), enough fat intake for the body to begin breaking it down. If there isn't enough fat intake, then the body will default to gluconeogenesis.

That's a number of conditions which have to met! Because ketogenesis is so conditional, it is hard to maintain a ketogenic diet. Yet, the appeal of directly burning fat as fuel is such a strong attractor for many people, they are willing to give it a shot. But there is no inherent advantage of a ketogenic diet (or any other variation of the high protein and fat/low carb diet) over a regular carb-based diet, it just *sounds* like there is.

Carbohydrates



Okay, now for the biggie.

Carbohydrates are everyone's worst enemy these days. "Carbohydrates make you fat," is a falsehood said far too often, as discussed above.

Carbohydrates do not make you fat. Carbohydrates fuel you to live. Your brain functions on carbohydrates almost exclusively. Your muscles and liver store carbohydrates to provide fast, reliable, relatively long-lasting energy.

It's important to be crystal clear here: carbohydrates are fuel for your muscles and brain.

So, what gives? Why does the nutrition industry hate for you to eat them? Why are you told carbohydrates make you fat?

No one who knows a lick about nutrition and performance is going to tell you carbohydrates make you fat.

But, just like there are different types of fats, there are different types of carbohydrates. And, again like fats, they are not all created equal.

There is a world of difference between consuming carbohydrates you get from spinach and those you get from a Snickers bar. We can't view them through the same lens, even though they both are carbohydrates. Why?

Carbohydrates gained from fruits and vegetables are **metabolized differently than refined sugars found in candy bars and other processed foods**.

The first step after you swallow a bite of your Snickers bar is for the food to travel to your stomach, where it is broken down.

Refined sugars are broken down rapidly in the stomach, skyrocketing sugar in your blood and, therefore, your insulin levels. Insulin is the key that unlocks cells' ability to absorb sugar in the bloodstream. As a result of sugar rushing into your blood, insulin rushes in to keep blood sugar levels from getting too high.

Adding another layer to this dilemma: eating refined sugars doesn't make you feel full, no matter how much you eat. It's digested too quickly to have an impact on your appetite. So, you can just keep on consuming it.

On the other hand, when you swallow a bite of spinach, your stomach can't just push it through so quickly.

Carbohydrates from vegetables, fruit, and dairy products are accompanied by fiber, vitamins and minerals, and/or protein, all of which slow the digestive process and make you feel full. So, not only does your body

slowly increase its blood sugar level since your digestive system must work harder to digest the carbohydrates, it also feels full from the fiber and protein, not to mention the major benefits provided by vitamins and minerals.

The next step of digestion sends the broken down components of food – the minerals, vitamins, amino acids, fats, water, fiber, and carbohydrates – to the small intestine where they can be further digested and absorbed into the bloodstream. This step is where the major difference of how the body uses carbohydrates occurs.

When you eat a Snickers, that sugar is absorbed quickly, sent to the bloodstream, causing your blood sugar to skyrocket. When you continue to eat sugar, regardless of where it's from – it could be fruit or fruit loops at this point – your brain cues your body to store the sugar as fat or glycogen (glycogen is just the form your body stores sugar as in the muscles).

So, refined sugars (carbohydrates) are digested and absorbed quickly. Blood sugar skyrockets. Skyrocketing blood sugar levels cues the rest of your digestive system to store that sugar as fat.

Now, when the second step of food going to the small intestine happens with carbohydrates from vegetables and other sources, blood sugar never skyrockets, therefore, neither does insulin. So, your body more slowly absorbs the sugar in your bloodstream, avoiding the emergency cue to store the remaining carbohydrates as fat.

That's it. The problem isn't carbohydrates en masse. The problem is refined sugars in every item of processed food we consume: fast food, junk food, heavily processed "natural" foods, all of that. Red Bull isn't giving you wings. It's giving you a growing waistline.

Our chosen sources of carbohydrates are the problem.

And this is where the idea of proportion – not just in carbohydrates, but also fats and proteins – connects back to Quality.

Balance

Your mom was right: eat a balanced diet of real foods and you'll be healthy. Health is wealth.

As we've discussed, protein isn't bad, too much (or too little) protein is bad. Fat isn't bad, too much fat is bad. (All) Carbohydrates aren't bad, too many (or too few) carbohydrates are bad.

The easiest way to understand how to apportion your meals properly is to see how one looks on a plate (in this case, a square plate). Use your hand as a way to measure each helping according to the yellow text below.



Depending on your body type and nutrition goals, the exact proportions of your plate will change here and there. This is merely an illustration to get you started. As for the food recommendations, they're just that: recommendations, not an end-all-be-all list.

Macronutrient	Size	Notes	
Protein	1-2 Palms	Bigger person = bigger palm	
Vegetables	2 Fists	Same for everyone - you need lots!	
Dense Carbs 1 Fist		Altered for body type and goals/training	
Fats	1-2 Thumbs (roughly 1-2 tbsp)	Usually used in cooking with certain oils	



Timing

The final pillar to discuss is timing.

Timing your nutrition comes down to two principles:

- 1. Minimizing hunger.
- 2. Preparation for performance.

Minimizing hunger

The idea behind minimizing hunger is spreading out meals to reduce the time you're hungry after you awake and to go to bed satiated.

Your experience with hunger will vary based on your individual goals.

If you're looking to lose weight, you will experience more hunger than if you're trying to maintain it. If you're trying to gain weight, you shouldn't be hungry at all throughout the day.

Three square meals is a vestige of the past. People looking to change their nutrition habits must understand how eating five to six times a day is a healthier approach to diet.

Smaller meals, supported by snacks in between, keep your metabolism up by reducing significant drops in blood sugar levels.

When your metabolism drops, you burn fewer calories as your body switches to conserving energy rather than burning it.

Hunger and appetite are two different things. Hunger is the necessity to eat. Appetite is the desire to eat (or keep eating). Minimizing hunger must be separated from satiating your appetite. So, you can't just eat whenever you have an appetite. As with all other aspects of nutrition, minimizing hunger takes discipline.

What does eating more times per day look like? How does a snack look as compared to a meal?

- Breakfast
 - Eggs, avocado, spinach, and oats
- Morning Snack
 - Greek yogurt with cinnamon
- Lunch
 - Chicken, broccoli, and sweet potato
 - Afternoon Snack
 - Apple and handful of almonds
- Dinner
 - Salmon, vegetables, and rice

In this example, you'd eat five times. If you trained, you'd want to supplement with some protein after your session, which would bring you to eating six times a day.

Preparation for performance

The other major component to timing is doing it so you maximize performance.

While all nutrition influences and affects performance, let's first focus on the foods you eat around the time of training, or **perinutrition**.

Perinutrition is the food you eat before and/or after a training session.

Why Perinutrition as a term?

Using pre/post-workout as terms is easy, and we're not totally against it. However, they have been largely co opted by the nutrition industry and may lead some to think we mean to eat things labeled and marketed as "pre/post-workout."

Perinutrition isn't a product, it is a time frame before and after training (the root peri- means "around"). The term perinutrition describes the fundamental nutritional concept as it applies to performance, therefore it aligns with the main purpose of this document.

Eating simple sugars before a session can give you a boost to your blood sugar levels, topping you off for performance without making you full.

Eating after a session begins the recovery process for your next training session.

This bears repeating: the food you consume *after* a training session is not primarily meant to recover you *from previous training*, but rather to recover you *for future training*.

After you train, your fuel (sugar) stores are depleted, and you are most likely in a catabolic state. Eating foods with both simple carbohydrates and protein begins the process of reversing these states.

Now, of course, the post-training meal does help you recover from what you just trained. But that isn't the main reason for it. After all, the process of recovery takes time. If you start preparing for a session only in the approaching hours, you'll always be behind, which translates to your training always suffering for the lack of preparation.

But if you begin preparing for the next session as soon as you finish the current one, you will see a major difference in the quality of your effort. Why is that important? Well, all things starting equal between you and your competition, if you are able to get 1% more quality out of a significant number of your training sessions, then your curve of improvement will be exponential as that 1% begins to scale over time.

This is, perhaps, the biggest advantage of proper nutrition: the ability to out-recover the competition, and therefore, out-train and out-perform. Like training, nutrition has a cumulative effect which outweighs short bursts and inconsistency.



Supplementation

The main three supplements you should implement are:

- 1. Protein powder: Look for the NSF stamp on the jug to ensure its quality.
- 2. Fish oil: Helps reduce inflammation and helps improve recovery.
- 3. Multivitamin: Aids in filling in the gaps left by daily food intake.

Others you should consider based on your individual health:

- 1. Probiotics: Helps with digestion.
- 2. Creatine: Increases water retention and energy supply for strength training.

Main Ideas and Notable Concepts

Finally, let's touch on some ideas not yet discussed, and distill the ones we have into key takeaways.

Main Ideas

Above everything, remember the following:

- 1. **Quantity is your top priority.** Regardless of your goals, getting the right amount of calories is paramount to achieving it.
- 2. **Quality is a close second.** The better the food you eat, the better you'll feel and perform. Eat foods that have walked or grown from the earth. Avoid boxes and packaging.
- 3. **Proportion is where nutrition starts to become granular, and also where its effects really start to add up.** Eating the right amount of macronutrients relative to the total quantity you're consuming (and drinking the right amount of water!) is where you'll really start to see dramatic increases in your performance and quality of life.
- 4. **Timing is how you dial in the final touches and make the hard-to-find marginal gains.** Timing your nutrition around your training and performance is how you will really begin the process of fine tuning the interplay between nutrition and performance.

Don't be afraid to fail. It's easy to start motivated and then lose discipline. Instead of letting that weigh you down, get out from underneath it, and use it to step up to another level of discipline. The more you fail and begin again,

the higher your discipline will be. Eventually, your motivation will be replaced with discipline, which is much harder to sway.

Notable Concepts

Some valuable ideas have been alluded to, but not made explicit. These are notable concepts which should anchor your understanding, broadly, for how to approach nutrition **based on what is true for most people**.

- Eat more plants. Chances are you're not eating enough fruits, beans, legumes, and vegetables (especially vegetables). Eat more. They're great sources of fiber, carbohydrates, vitamins, minerals, and a pretty good source of protein (if you're eating enough). Plus, they are full of water.
- Drink more water. A vast majority of Americans operate chronically dehydrated. When you're dehydrated, all sorts of things are thrown off. You feel lethargic and crabby. You're hungry more often. Your skin looks saggy and sunken. You struggle pooping (and let's be real: a healthy constitution is way more important than polite society likes to acknowledge). Proper hydration is crucial to overall wellness.
- Eat carbohydrates. There's a difference between the complex carbs in potatoes and the carbs in broccoli. You need to understand this and eat the proper proportion of each. Carbs are not the devil. They will not, just by consuming them, make you fat. They are fuel for your muscles and brain, both of which are pretty important for humans.
- Sleep and relax. So far, we haven't addressed structuring the crucial factor of recovery. You need to get 7-8 hours of sleep. You need breaks daily from screens. You need time to reflect on yourself, to pay attention to your own inward experience, and to have fun for fun's sake.

"But coach, I only need 4 hours of sleep. I'm one of those people," you say. No, you're not. Study after study has shown that, while there are ranges for basal sleep needs, they only extend from seven to nine hours, not four to eight. The myth of some people needing very little sleep is insidious in the way it makes people think they can function on less sleep and how easily they convince themselves they are in that non-existent, select population who need so little sleep.

Adaptations and body composition

Lastly, consider the early adaptations your body makes when you begin to train in earnest.

When you return from a long break, or when you start training for the first time, your body begins a long process of adapting to the demand you put upon it.

First among these adaptations is storing more salts and sugar. When you begin to train, your body isn't very efficient at storing two things it needs for muscular function: salts (which provide electrolytes) and sugar (which can quickly be turned into energy).

This happens because when your body recognizes it needs more energy to meet the demand of training. The consequence of this adaptation is that you retain more water. Water is pretty heavy, so you gain weight.

One of the first adaptations to training is to gain weight – and that's a good thing!

Remember: the type of mass you gain is what's important. Water, salt, and sugar are great things to have in your body because they help you move. As you continue to train, this will normalize, and you will drop unwanted weight, but you've got to stick with it.

Additionally, your body will need time to learn (better said: relearn) how to burn fat as fuel, so you'll mainly be burning through the carbohydrates you consumed a day or so prior. But, over the course of time, your body will make these changes and you'll start to see and feel them.

Another confusing aspect of adaptation for athletes new to training is that their body composition doesn't change. First, remember what we said about out training a bad diet? It won't happen. Second, we need to understand what people mean when they refer to "body composition." For men, that typically means they want bigger and more defined muscles. For women, it means they want more defined, but not really too much bigger, muscles and less fat. Typically, this comes out as the word "toned."

Let's address each sex in turn.

Men: changing your body's tissues takes time. For the first three months of training, you won't significantly change the size of your muscles. Any perceived gain is water retention as discussed in the previous section. All of the changes to your strength will be the result of neurological changes to your existing tissue. Essentially, you body will learn how to use muscles that have been sitting on the sideline. Growing the size of muscles takes some time. And, you won't burn much fat based on training early on either. That's okay. Don't get discouraged. If you dial your nutrition, you will.

Women: really, there is no such thing as toning a muscle. Muscles look the way they look. "Toned" people simply have less fat mass between their muscle fibers and skin, so you can see the striations and lines better. Muscles only increase in size or generate more force due to better recruitment of the fibers. So really, the only adaptations to muscle tissues due to training is to get stronger. When you boil it down, all training is strength training, there is no such thing as tone training. So, how do you get the toned physique? First, you have to increase muscle mass. Second, you have to reduce fat mass. Reducing fat mass is more on nutrition than training.

But what about over time? If you've been training for, say, six months, what can you expect? Well, caveat here: this varies greatly depending on your genetics, training, and nutrition. We'll address really just one single common complaint at this point, especially for women: they gain or haven't lost weight.

After a period of consistent training, your muscle tissue will begin to grow. At that point, if your diet is inconsistent, then your could still be holding onto undesirable fat mass, and even if you have lost some, there's a chance you've gained enough muscle mass to offset the losses of fat.

Remember way back to the first part of the Quantity section where I mentioned we'd return to the idea of muscle's density? Well, here it is. Losing three pounds of fat and gaining three pounds of muscle means you've trimmed down but still weigh the same. And, three pounds might not be enough to really *see* in the mirror. You might be discouraged if you train for six months and see the same number on the scale. Aren't you wasting your time? No! You're really just beginning, and you're already leaner – even if you can't see it.

This is where people often fall off. Stick to the fundamentals outlined in this program, keep training, and the results will come. Remember: process first.

Where to Start

There's more information in this document than you may glean on the first read. And, after reading something like this, it can be difficult to know where to start the process of addressing nutrition.

Our recommendation is to begin with **perinutrition**.

Why? Doesn't perinutrition belong to the timing aspect of nutrition? Yes, it does, but there are still a couple reasons why it's a good first goal to set.

First, it's an attainable goal to achieve. If you train already, it's just a matter of achieving the steps of preparing a protein shake and consuming it within 30 minutes of completing your session. If you're really motivated, you can also consume some food with simple carbohydrates around 30 minutes before your training session. Do this for two weeks, and you'll be on your way to starting to view your training as a target you can build your nutrition around.

Second, you'll be on your way to seeing the benefits of recovering for the next training session.

Third, you'll be consuming more calories, and probably on your way to eating the proper quantity of food, especially if you're looking to gain.

After you've established a good behavior pattern with your perinutrition, go through the quantity process above in the Quantity section of this document. If you're currently eating big meals three times a day, reduce the size of the meals and start to eat snacks between meals if you're already getting enough calories. If you're not getting enough calories, then use snacks as much as is reasonable to round out the proper quantity. If you're getting too many calories, then you have double duty: you need to reduce your meal size and incorporate snacks.

From there, don't make any drastic changes to what you're eating, just adjust how much you're eating. Stick to it for two consecutive weeks. You'll be four to six weeks in at this point.

Once you establish the proper quantity of food you're eating, take a look at the quality of food you are eating. Minimize the number of boxes you purchase. Don't feel pressure to buy organic meats or foods. Just purchase the best food quality you can. This includes snacks. If you're going to *Food 'n' Stuff* like Ron Swanson and picking up five pounds of ground beef, a garden hose, and some pliers, you're not eating the best quality of meat.

Buy vegetables and start to increase your intake to make your plate look more like the one pictured above.

Drink more water. Try to make a point to pee clear all day.

After two or three weeks here, move to addressing proportions. Don't start with every meal. Just pick one. We recommend dinner. When preparing your meal, start with the protein you'd like, then add a complex carb, then pick your vegetables and fill up half the plate with them.

Nail down your habits with dinner for two or three weeks, then move on to lunch. If you feel like you can be disciplined, include breakfast. If not, no problem, just do lunch – one step at a time.

Finally, work on the timing of your meals with the goal on minimizing hunger and ensuring you're ready for training when it comes. Incorporate your snacks into this timing process to ensure you're fueled evenly throughout the day.

Let's review these steps and the total time to a full nutrition overhaul:

- 1. **Perinutrition:** fuel before and after training. 2-3 weeks.
- 2. **Quantity**: adjust only the amount of calories you're eating daily and add snacks between meals (if that's not your status quo). Drink more water. *2-3 weeks*.

- 3. **Quality**: upgrade the type of food you consume to real food. Don't go overboard: you can still have a Cheez-It every once in a while. Work to make real foods the vast majority of food you eat. Buy vegetables and incorporate them more into your meals and snacks. Continue drinking more water. *2-3 weeks*.
- 4. **Proportion**: Adhere to the proportion percentages from the Quantity section above. Continue drinking more water. 2-9 *weeks (if you do 2-3 weeks per meal, it will take a total of 9 weeks to get through this).*
- 5. **Timing**: some of this is done already with your perinutrition habits, so you may only need to move the timing your dinner and snacks to better allow you to stay satiated and resist extra snacking. Hydrate. 2-3 *weeks*.
- 6. **Total time:** *10-21 weeks*.

Think about it: in about three to five months you can be on your way to a healthier diet and better physique. That's nothing in the long run. However, it's far longer than what nutrition trends would have you believe. Also, you're addressing the root of every major issue of your diet, not slamming your body with a one-size-fits-all, unsustainable fad diet.

If we're realistic, then we'll consider the facts. Some substantial percentage of the people reading this document will:

- Excuse themselves from one of the steps above, rationalizing they already adhere to it perfectly. Don't fall for it. We all have some detail we can improve in each step of the process. And, if you are completely and perfectly adhering to everything, then it should be easy for you to follow that step, so go ahead and do it!
- Fall off the path along the way. You go out to eat, have a big night drinking, or do any other number of things that can throw you off of your game. Don't let that single event become a trend. Get right back to your good habits. And, if you do fall off to old habits, then remember: it's about the process. Focus on the process and the results will come. Admit you're not adhering to the process, and get back to it. There is no fear of failure here. Simply begin again where you left off.

Resources

Food Portions for Different Body Types



Men's Sample of Daily Meals for Different Body Types

Endomorph	Mesomorph	Ectomorph
Topper – 4 to 6 slivers)	Breakfast: 4 eggs 1 tbs of Olive oil (used for cooking) 4 slivers of Avocado (Egg Topper) 2 handfuls of Spinach (sautéed in pan) 1/2 cup of oats 1/2 cup of berries	Breakfast: 4 eggs 1 tbs of Olive oil (used for cooking) 2 handfuls of Spinach (sautéed in pan) 1 cup of oats 1⁄2 cup of berries
Snack: Greek Yogurt – Single Serving Cinnamon	Snack Greek Yogurt – Single Serving Cinnamon	Snack Greek Yogurt – Single Serving Cinnamon
Lunch: 2 palms of Chicken Breast (2 small to medium breasts or 6 – 8 ounces cooked) 1 tbsp. of Olive oil (used for cooking) 2 medium bushels of broccoli, handful of carrots (steamed and seasoned) 1/2 medium Sweet Potato (Baked and seasoned) 1 tbsp. of unsalted butter (Used for potato)	2 medium bushels of broccoli, handful of carrots (steamed and	2 palms of Chicken Breast (2 small to medium breasts or 6 – 8 ounces cooked) 1 tbs of Olive oil (used for cooking) 2 medium bushels of broccoli, handful of carrots (steamed and seasoned) 1 Large Sweet Potato (Baked and seasoned)
Snack: Medium Apple Handful of Almonds	Snack Medium Apple Handful of Almonds	Snack Medium Apple Handful of Almonds

Dinner:	Dinner	
2 palms of Salmon (2 small to	2 palms of Salmon (2 small to	Dinner
medium filets or 6 – 8 ounces	medium filets or 6 – 8 ounces	2 palms of Salmon (2 small to
cooked)	cooked)	medium filets or 6 – 8 ounces
1 tbsp. of unsalted butter	1 tbsp. of unsalted butter	cooked)
Salad:	Salad:	1 tbs of unsalted butter
2 handfuls of Romaine Lettuce	2 handfuls of Romaine Lettuce	Salad:
Sliced onions	Sliced onions	3 handfuls of Romaine Lettuce
Sliced bell peppers	Sliced bell peppers	Sliced onions
Carrots	Carrots	Sliced bell peppers
Sliced or diced tomatoes	Sliced or diced tomatoes	Carrots
Sprinkled with parmesan	Sprinkled with parmesan	Sliced or diced tomatoes Sprinkled with parmesan Dressing – Balsamic
Dressing – Balsamic Vinegar + 1	Dressing – Balsamic Vinegar + 1	Vinegar
tbsp. of Olive Oil	tbsp. of Olive Oil	1 1⁄2 cups of Brown Rice (cooked)
1⁄2 cup of Brown Rice (cooked)	1⁄2 cup of Brown Rice (cooked)	

Women's Sample of Daily Meals for Different Body Types

Endomorph	Mesomorph	Ectomorph
Breakfast:		Breakfast:
2 eggs	Breakfast:	2 eggs
1 tbsp. of Olive oil (used for	2 eggs	1⁄2 tbs of Olive oil (used for
cooking) 4 slivers of Avocado (Egg	1 tbs of Olive oil (used for cooking)	cooking)
Topper)	1 handful of Spinach (sautéed in	1 handful of Spinach (sautéed in
1	pan) 1/2 cup of oats	pan) 1⁄2 cup of oats
pan) 1⁄4 cup of oats		1/2 cup of berries
Snack:	Snack	Snack
0 0 0	0 0 0	Greek Yogurt – Single Serving
Cinnamon	Cinnamon	Cinnamon

T		
Lunch:	Lunch	Lunch
1 palm of Chicken Breast (1 medium breasts or 4 - 6 ounces cooked) 1 tbsp. of Olive oil (used for cooking) 1 medium bushel of broccoli, handful of carrots (steamed and seasoned)	1 palm of Chicken Breast (1 medium breasts or 4 - 6 ounces cooked) 1 ths of Olive oil (used for cooking)	1 palm of Chicken Breast (1 medium breasts or 4 - 6 ounces cooked) 1/2 tbs of Olive oil (used for cooking)
1/2 small Sweet Potato (Baked and seasoned)	seasoned)	1 medium bushel of broccoli, handful of carrots (steamed and seasoned)
1⁄2 tbsp. of unsalted butter (used on potato)	1⁄2 medium Sweet Potato (Baked and seasoned)	1 medium Sweet Potato (Baked and seasoned)
Snack:	Snack	Snack
Small apple Handful of Almonds	Small apple Handful of Almonds	Small apple Handful of Almonds
Dinner:		
1 palm of Salmon (1 medium filets or 4 - 6 ounces cooked)		Dinner
1 tbsp. of unsalted butter	1 palm of Salmon (1 medium filets or 4 - 6 ounces cooked)	1 palm of Salmon (1 medium filets or 4 - 6 ounces cooked)
Salad:	1 tbs of unsalted butter	1 tbs of unsalted butter
1 large handful of Romaine Lettuce Sliced onions	Salad:	Salad:
Sliced bell peppers	0	1 large handful of Romaine Lettuce Sliced onions
Carrots	Sliced bell peppers	Sliced bell peppers
Sliced or diced tomatoes	Carrots	Carrots
Sprinkled with parmesan	1	Sliced or diced tomatoes Sprinkled with parmesan Dressing – Balsamic
Dressing – Balsamic Vinegar + 1 tbsp. of Olive Oil	Vinegar 1⁄2 cup of Brown Rice (cooked)	Vinegar 1 cup of Brown Rice (cooked)
1⁄4 cup of Brown Rice (cooked)		