





HOW TO OPTIMIZE YOUR NUTRITION AND FOCUSING ON THE BEST FOODS FOR YOUR BODY AND MIND.

PLUS BONUS - A COMPLETE SHOPPING LIST OF THE MOST NUTRIENT DENSE FOODS.

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Introduction

What is the perfect diet?

This may be one of the most loaded questions we have to deal with in our lives.

In the last few decades, with the increase in diet-related diseases like obesity, heart disease, and diabetes, it seems like the debate has intensified to new levels, and today, it more closely resembles a war between religions and ideologies.

Paleo and keto, vegetarianism and veganism, low-carb, high-fat, the carnivore diet - and the list goes on and on. If there is one concept that can unify all the diet camps, it's the idea of nutrient density.

Understanding diet through the lens of nutrient density can shed more light on the uncertainty about the optimal diet for humans.

In this e-book, we will explore nutrient density in-depth and dive into its different interpretations, including the misinterpretations we should be aware of.

This e-book is not about a new kind of diet. A nutrient-

dense diet, AKA nutrivore diet, is not a hyped-up name for another fad diet.

It is about a principle which can and should be, applied to everyone's lives regardless of the kind of lifestyle they lead.

What Is Nutrient Density?

In order to understand nutrient density, we need to understand more about nutrients.

There are two categories of nutrients in our diet:

• **Macronutrients**: the three components required in large amounts to form a complete diet. These are proteins, carbohydrates, and fat.

Macronutrients are the sources of energy in our diet, and that energy comes in the form of calories.

• **Micronutrients**: vitamins, minerals, and other compounds required by the body in small amounts for normal functioning.

Nutrient density is the concentration of nutrients in a given food, with a special focus on the essential nutrients.

Essential nutrients are compounds that cannot be manufactured by the body and must be consumed from food. For example, certain amino acids, which are the building blocks of protein, certain fats, and many minerals, vitamins, and other micronutrients can only be eaten they're not naturally produced.

There are groups of nutrients that are considered to be non-essential. That doesn't mean that they are not important but we will touch this soon.

The Importance Of Nutrient Density And The Problem With Western Diet

The body requires many different nutrients to perform countless physiological processes.

Providing the body with a sufficient amount of nutrients and preventing deficiencies will minimize chances for disease, especially chronic modern diseases like diabetes, obesity, heart disease, and cancer.

Unfortunately, the standard American diet (known as SAD), which is heavily based on processed foods, is very high in calories but nutrient-poor.

This kind of diet provides many empty calories with little nutritional benefit.

More than this, the calories provided by this diet come from bad sources of macronutrients. For example, highly processed, industrialized vegetable oils, which damage our health on a deep, cellular level.

The SAD diet also prioritizes cheap calories from processed flour, corn, and sugar.

Next, we'll try to understand the other reasons for the depletion of nutrients from our food.



Eating fruits and vegetables considered by many the holy grail of healthy eating but our modern diet challenges us even on that front. The nutrient content in our fruits and

vegetables has been dramatically decreasing in the last few decades.

There are a few reasons for that:

Soil Depletion

It starts with the soil, which is the living biological matrix that sustains the plants we eat.

In the last few decades, industrial farming has dramatically depleted the soil, stripping away the compounds that make our foods nutritious and mineral- and vitamin-rich. The fruits and vegetables we eat today contain far fewer nutrients than they did only 50 years ago.

Bigger and Beautiful Is Not Healthier

The produce we see at the average supermarket may be pleasing to the eye but it's poor in nutrient content and that is not a coincidence.

Producers and retailers put an emphasis on appearance, storability and transportability - not nutrient content.

Take the tomato, for example. Tomatoes are a summer fruit, but we still see tomatoes in the supermarket yearround.

The availability of tomatoes at all times has a price. Winter tomatoes in the U.S grow in the sandy soil of South Florida.

In his book *Tomatoland*, Barry Estabrook writes that the Florida soil is "as devoid of plant nutrients as a pile of

moon rocks." To compensate, the soil is pumped with chemical fertilizers.

But that's not all. In order for the tomatoes to survive the hundreds of miles they need to travel all over the country, they have to be picked long before ripening, when they are still hard and durable.

What does all that mean?

The end result is a hard, tasteless, and pale tomato that is depleted of nutrients and hardly resembles its natural red cousin.

Shrinking Variety

In her book Eating on The Wild Side, Jo Robinson shows how modern fruits and vegetables are completely alienated from their ancestral relatives.

The process of decreasing nutrients in the plants we eat began thousands of years ago with the start of modern farming practices.

If we look at wild species of corn or bananas, for example,

we'll find that their wild ancestors were much smaller and fibrous and contained much less sugar. However, their nutritional value, of vitamins, minerals, and antioxidants, was far higher than their modern versions.

Wild breeds of apples, for instance, were much smaller than the familiar apples we see in the supermarket. Their nutrient content, on the other hand, was 50 times more than modern apples!

As our food has become more industrialized and technologies have improved, this process has accelerated even more.

Robinson tells us that in 1910, more than 15,000 named varieties of apples were grown in U.S orchards. In the average grocery store today, we see four or five.

Bioavailability

The bioavailability of nutrients is something that can not be separated from the subject of nutrient density.

The famous saying is that you are what you eat. That is true, however, a more accurate statement could read you are what you absorb.

Bioavailability is the portion of the nutrients in the foods we eat that can be absorbed in the digestive tract and used by the body.

Unfortunately, in most cases, not all the nutrient content in food can be absorbed and used, and in many cases, it is only a small portion.

For example, the bioavailability of calcium in spinach is only 5 percent.

That means that out of the 100 mg of calcium in one serving

of spinach, only 5 grams can be absorbed and used by the body!

So, what determines the bioavailability of food?

Form

The biochemical form of the nutrient determines its availability. The classic example is iron, which comes in two forms.

Heme-iron that is found in animal sources like meat, fish, and poultry is much more available than nonheme iron that is found in plants.

Nutrient Synergy

The absorption of nutrients in the body depends on the existence of other nutrients or co-factors in the process. Nutrients work together.

For example, fat is needed for optimal absorption of vitamins A, D, E, and K.

Collagen is best utilized with the presence of vitamin C.

Vitamin C also enhances the absorption of iron.

Anti-nutrinets

These are compounds that reduce the bioavailability of nutrients in foods. Anti-nutrients are mostly found in plant foods and from an evolutionary standpoint, plants use antinutrients as a defense mechanism against being eaten by animals, humans included.

Phytate, for example, is an anti-nutrient found in grains and legumes. It binds to calcium, zinc, and iron, making them unavailable for absorption.

Next, we will finally tell you about the most nutrient-dense foods that everybody should start incorporating into his or her diet!

THE MOST NUTRIENT DENSE FOODS

Science today has excellent tools to measure which are the foods with the highest nutrient density.

The Maillot study (1) was one of the most comprehensive studies that attempted to measure which foods are the most nutrient-dense.

The researchers examined different food categories and subcategories, and each food was given a score based on the presence of 23 nutrients.

The research included only essential nutrients - nutrients that our bodies can't manufacture and that must be consumed from a food source.

According to the research, animal products are the most nutrient-dense foods we have available with organ meats getting the highest score.

Vegetables, fruits, nuts, seeds, and dairy are the next most nutritious foods. Starches and grains are the least nutrientdense foods.

If the bioavailability of nutrients was calculated in the research, legumes, and grains would have scored even lower compared to organ meats, meats, fish, dairy, and vegetables.

Meats



Dairy Products



Plant Foods



Non-Essential Nutrients Are Necessary!

Although vegetables and fruits are inferior to animalsourced foods based on this class of essential nutrients, certain vegetables are actually superior when it comes to nonessential nutrients. These nonessential nutrients, also called phytonutrients, are found only in plant-sourced foods.

The concept of nonessential nutrients can be misleading. Although we can live without these nutrients, they are still very important for optimizing our health. Among the most significant benefits are the antioxidative and anti-inflammatory effects phytonutrients have. There are more than 25,000 phytonutrients known but some of the most commonly recognized groups are:

- Polyphenols
- Carotenoids
- Flavonoids
- Lignans
- Phytoestrogens
- Vitamin C



What Are The Most Nutrient-Dense Plants?

For scoring the most nutrient-dense plants, we will turn to a different method of scoring called the ANDI index. ANDI stands for Aggregate Nutrient Density Index (2). This scoring method was created by Dr. Joel Fuhrman, and it scores food based on nutrient-per-calorie density. Here are the top plant superfoods based on this index:



There are many ways you can actively increase the nutrient density in your diet.

In the next chapter, we will provide some tips and practical ways to do that.



Eat Real Food

This may be obvious and yet too important not to mention probably the most important rule for eating a nutrientdense diet.

Real food may have different meanings and interpretations but in simple terms, real food is food that is as close as possible to its natural and original form in nature, whether it is animal- or plant-sourced.

Eat like an Omnivore

We, humans, are omnivores. That means that we have evolved to eat a large variety of foods both from animal and plant sources. The two camps passionately claim that we are herbivores on one side and carnivores on the other - both are right. We can get nutritional benefits from animals and plants with the understanding that neither side is better or worse, and each source is valuable for us.

Eat a Veriety of Foods

Be sure to eat good quality macronutrients - protein, fat and carbohydrates, and nutrient-dense vegetables and fruits for micronutrients.

Try to diversify the foods you eat as much as you can. For example, eating plants that are different colors is a good practice. The variety of colors of the vegetables and fruits we eat represents the different content of micronutrients in them.



Buy Local and Fresh

Farmers markets are your best choice to source your food. Fruits and vegetables start to lose their nutritional value as soon as they are picked. Storing and refrigerating them increases the loss of nutrients even more. Shopping in a farmer's markets shortens the time and distance between the source of your food and your plate, and it maximizes the nutrient quality of your food.

In the Kitchen

Buying the best foods and sourcing them from the best places are essential in optimizing nutrient quality, but there are a number of cooking techniques you can practice to maximize nutrient density.

Soak Legumes and Grains Overnight

The soaking process neutralizes some of the anti-nutrients in them.

Sprouting legumes and grains after soaking makes them even more digestible and increase their nutrient content.

Some Vegetables Are Better Cooked

One of the misconceptions about nutrient content mostly spread by the raw food diet trend is that plants are more nutritious eaten raw. Not necessarily.

Here are some examples:



Carrots are more nutritious cooked than raw and were found to have 25 percent more cancer-fighting compounds.



Cooking tomatoes releases a powerful antioxidant called lycopene. Even more incredible - the most

lycopene-rich tomatoes are not the ones from the farmers market or the produce aisle. They are actually the ones you buy canned as tomato paste!



Mushrooms are considered by some to be inedible when served raw.

Cooking mushrooms releases protein, B vitamins, and other unique compounds found only in mushrooms. When prepared and cooked properly, certain mushrooms like Maitake and Shiitake have true medicinal properties for boosting the immune system.



Spinach is considered by many to be a rich source of calcium. The problem is that only a fraction of that calcium can be absorbed by the body due to a compound called oxalate. Oxalate interferes with the absorption of calcium, but cooking can break it down and greatly increase calcium's bioavailability.



Cook Bone Broth

Bone broth is one of the most ancient foods. The simple method of cooking bones in water for 24-48 hours provides us with one of the most nutritious foods. The extracted collagen supports our joints, skin, and hair. Other amino acids and minerals are highly supportive of our gut. And this is just a partial list of the benefits bone broth can provide. Read more about bone broth here.

The More Bitter, the Better!

Since humans first learned to domesticate plants, they have been modifying them to reduce bitterness and make them taste as sweet as possible.

But the bitter taste that we obsessively try to mask (by adding sugar in many cases) is an indication of medicinal properties. The bitter dandelion, for example, has eight times more antioxidants than spinach, which we consider a superfood. It also has more of the vitamins A, E and K, and more calcium.

Train your taste buds to eat more bitter foods!

Activate the Medicine in Garlic

Garlic is one the vegetables that was not modified over and over to turn it sweeter or bigger like other vegetables. Thus, it retained its wild nutrients. But there's a way to activate its healing properties to a greater degree. Chop and smash garlic and let it sit on the cutting board for

about ten minutes. This will trigger an enzyme reaction that will activate Allicin - one of its most powerful compounds.

Storing Greens

Store your greens in the fridge wrapped in a plastic bag with tiny pinpricks to let some air inside. That will keep them fresh for a longer time and even increase the level of antioxidants in them.



Organ meats are, by far, the most nutrient-packed foods available to us.

In fact, they are so nutrient-packed that we dedicated an entire section to these foods.

No other foods have the variety and density of nutrients vitamins, minerals, healthy fats, and protein.

In our blog post Eat The Whole Beast, we wrote extensively about why you should include these nutritional treasures in your diet.

Traditional societies all over the world have prized organ meats for millennia and have known them as superfoods (way before "superfood" was even a thing). Unfortunately, organ meats are mostly absent from our modern diet, especially here in the U.S. Convenience and a general need to detach ourselves from the sources of our foods are some of the reasons we stopped eating organ meats. Here are some of the reasons we should come back to eating offal:

1. Organ meats are packed with the whole group of B vitamins, especially liver.

2. Organ meats are an excellent source of the fat-soluble vitamins A, D, E, and K. Liver is one of the more common organ meats and has the highest amount of vitamin A of all foods. It also contains CoQ10, which is a vitamin-like substance and is critical for cardiovascular function.

3. Organ meats are a source of important minerals like phosphorus, iron, copper, magnesium, iodine, calcium, potassium, sodium, selenium, zinc, and manganese.

4. A good amount of omega-3 and omega-6 fatty acids are contained in these meats. Brain, for example, is packed with good oils, especially omega-3 DHA.

5. Organ meats and cuts of meat with more fat and cartilage have a different amino acid profile than muscle cuts and work synergistically with amino acids in leaner muscle cuts. For example, the amino acid methionine, which is abundant in muscle cuts, needs sufficient amounts of B vitamins and choline (in organ meats) and glycine (from connective tissues) to perform its function. Putting it All Together - Eat Like a Nutrivore

A nutrivore diet is based on the principle that we should optimize our health by increasing the quality and quantity of the nutrients in our diet.

However, it's important not to oversimplify the concept of nutrient density.

"Nutritionism" is a term coined by Michael Pollan, and it refers to the idea that isolating one nutritional component, or even a few and focusing on them, will be the path to an easy solution to all of our health issues.

Some will promise you perfect health if you only take a vitamin D supplement.

Others will tell you that adding some omega-3 fatty acids will solve all your problems.

The reality, of course, is much more complicated. We are highly complex organisms and the foods we eat are a complex of compounds that work only in the context of the whole.

Nutrients work in synergy. That means that they work together with other nutrients to create an effect of a whole that is greater than the simple sum of its parts. What does that mean in practical terms? It means that we need to get all the necessary nutrients at all times, and we need to obtain them from their natural sources.

Eating a nutrient-dense diet is essential and will benefit everybody. It doesn't matter what kind of diet you follow whether you are a vegetarian or vegan, or you're following a Paleo or ketogenic diet - the principle of quality and quantity of nutrient content in your food is fundamental at all times to all types of diets.

As one of the pillars of optimal health, a nutrient-dense diet has the power to heal us.

We couldn't end this eBook in a better way than quoting Hippocrates, the father of medicine who said more than 2,000 years ago,

"LET FOOD BE THY MEDICINE AND MEDICINE BE THY FOOD."