The Plantrician Project

Planting the seeds of change™

Plant-Based Nutrition
Quick Start Guide



Plant-Based Nutrition
Quick Start Guide

Authors

Kayli Dice, MS, RD

Susan Benigas, The Plantrician Project

Special thanks to

The Plantrician Project's

Scott Stoll, MD
Tom Dunnam

NutritionFacts.org

Michael Greger, MD
Jennifer Drost, PA

Design

Enrich Creative

As a 501(c)3 not-for-profit organization, The Plantrician Project is dedicated to producing educational events, tools and resource for clinicians and those they serve. Your tax deductible contributions are what enable us to do what we do! Your financial partnership is needed and greatly appreciated. Sign up for our newsletter, make a tax-deductible donation, and learn more at **www.plantricianproject.org.**

To access the PDF version of this guide, or to place an order for printed copies, please visit **www.plantricianproject.org/quickstartguide**

Copyright ©2015 The Plantrician Project. All Rights Reserved.

SECTION 1
Welcome to Your Quick Start Guide

SECTION 2
The Solution: A Whole Food, Plant-Based Diet

SECTION 3
Plant-Based Myths and Facts

SECTION 4
Transitioning to a Plant-Based Diet

SECTION 5
Incorporating Into Daily Life

SECTION 6
Looking at the Bigger Picture

SECTION 7
References & Notes



SECTION 1

Welcome to Your **Quick Start Guide**



Start your transformation today!

Copyright ©2015 The Plantrician Project. All Rights Reserved.

The Plantrician Project

Planting the seeds of change™

If you're holding this guide, you've already taken the first step toward seizing control of your health through the power of your food choices.

Did you know that heart disease, the #1 killer in the U.S., is — to a very large degree — preventable, treatable, and even reversible?

Did you know that the same is true for type 2 diabetes?

Did you know that many forms of cancer can be prevented and treated by using food as medicine?

Did you know — High blood pressure, elevated cholesterol, acne, acid reflux (heartburn), allergies, sinusitis, and the majority of autoimmune diseases — from MS (Multiple Sclerosis) to rheumatoid arthritis — are directly tied to an unhealthful dietary lifestyle.

This is good news! Why? Because it means that YOU —more than you've ever realized — have the power to protect your health and prevent disease IF you're willing to learn about and embrace a predominantly whole food, plant-based diet.

Choose Health with Every Bite You Take

Most of us don't realize that the foods we eat — three meals a day, seven days a week, 52 weeks each year — often have more of an impact on our health than anything else in our lives. While physical activity, managing stress, adequate sleep, avoiding tobacco products and social connectedness all play a role, food trumps all: Each bite we consume is either one step toward health, or one step toward disease. Learning the truth about nutrition is empowering! It enables us to make wise choices for ourselves and our families, positively impacting health right now and for the rest of our lives.

We often believe that if something is sold in a grocery store or available on a restaurant menu that it must not be bad for us. Unfortunately, this isn't true.

While many of these unhealthful foods may not immediately result in disease, after they've been consumed for a length of time, they can have lethal results.

When Michael Klaper, MD presented at one of our conferences, he asked the audience, "Have you ever had a thick pepperoni pizza, laden with cheese, topped off with a creamy milkshake and felt all greasy on the inside?" Adding, "It's because you are!"

Dr. Klaper explains that when we eat fatty foods every day of our lives, year after year, that this dietary fat and cholesterol pumps through our bloodstreams and leaves deposits inside our veins and arteries. After two, three, four or more decades of this food assault on our bodies, it's no wonder that we're too often faced with a health crisis!

It isn't just the fatty foods that are the culprit: T. Colin Campbell, PhD, author of *The China Study*, calls fat, sugar and salt "the three devils." Our food choices shape our health, and the foods that comprise the Standard American Diet (SAD) are shaping our health for the worst. The acronym of "SAD" is appropriate, because it's a sad reality to see how it has ravaged the health of Americans, as well as the citizens of many other countries around the world.

Would you put sludge in your car's gas tank? No! You put the fuel in your automobile that enables it to perform at its best. Do the same for your body: put the fuel in it — with each and every bite you take — that enables your body to be the best it can be.

You'll be amazed at how quickly your body will respond when you put only the best "gas" in your tank! These fiber-filled, nutrient-dense plant-based foods will make so many conditions with which you may have suffered — or were destined to face — a thing of the past.

One word of warning: don't be surprised if you have three or four days of gastrointestinal discomfort when you begin consuming fiber-rich, plant-based foods. Some people experience this and use it as an excuse to give up! When our bodies have grown accustomed to the packaged, processed foods and all of the dairy and animal protein we've been consuming, our gut linings have been compromised. When fiber-filled foods are introduced, it's a shock to our system. But, more good news is that our gut lining regenerates every six weeks! No matter how much damage we've done, if we consume health-promoting foods, we are giving our body — our gut — what's needed to heal. If you feel bloated, light headed and gassy when you first shift to a plant-based diet — hang in there! Your body is detoxing, so just know that vibrant health — and a happy tummy — are right around the corner.

Today is the first day of the rest of your life. No matter what choices you've made in the past, today is a new day! Let us help you choose health with each and every bite you take.

Our mission is to educate, equip and empower you with knowledge about the overwhelming scientific evidence that supports the health-protecting power of using food as medicine.

The benefits of plant-based nutrition are indisputable. This guide will provide you with the resources you need to shift to a life-changing, health-promoting, disease-fighting whole food, plant-based dietary lifestyle.

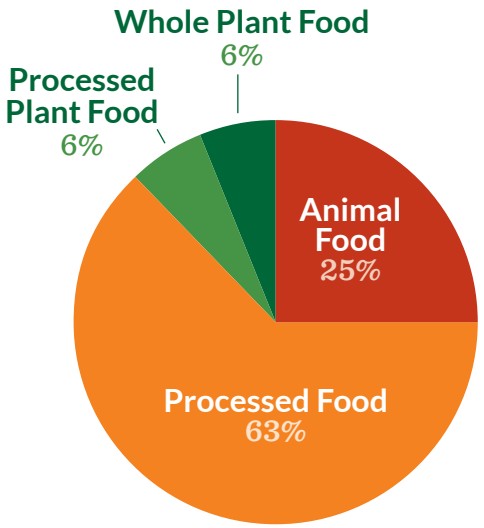
Let's start today!

Copyright ©2015 The Plantrician Project. All Rights Reserved.

The Standard American Diet

A Snapshot

- 63% refined and processed foods: empty calories that actually injure the body.
- 25% animal based products: meat, cheese, dairy and eggs; disease building blocks laden with fat and dietary cholesterol.
- 12% plant-based foods, with up to 6% of this total derived from processed plant foods, leaving a paltry 6% of daily caloric intake coming from whole, unprocessed plant-based foods.
- We're consuming an average of 185 pounds of added sugar and sweeteners each year.
- We're consuming an average of 3,400 milligrams of salt a day, more than double the recommended amount (triple the amount recommended by many experts), with the majority derived from processed food.



Source: http://www.healthylunches.org/nutrition101.htm

The "SAD" State of Our Health

Obesity

- 70% of Americans are overweight or obese.
- Nearly one-half of the American population will be obese by 2030, according to a 2012 study published in the American Journal of Preventive Medicine.
- Childhood obesity has tripled in the last 30 years: One out of three American children is overweight or obese.

Heart Disease

- 37% of our children who are not considered overweight have one or more cardiovascular risk factors.
- 70 million Americans have hypertension (high blood pressure), with elevated risk for stroke and heart attack.

Diabetes

- 100 million Americans have diabetes or pre-diabetes, with increased risk of amputation, heart disease, and blindness.
- Rates of type 2 diabetes increased by 22% among U.S. adults from 1999 to 2008.
- Current trends suggest that one in three individuals born after 2000 will be diagnosed with type 2 diabetes in their lifetimes (the trends for Hispanic and African Americans are one in two).
- Many experts project type 2 diabetes as the future global epidemic, with diagnosis projections as high as one in three individuals from industrialized nations that have adopted the Standard American Diet.

Cancer

- The War on Cancer, waged by President Nixon, began over 40 years ago, yet, trends indicate that cancer is expected to become the leading cause of death in the U.S. by 2030, according to an ASCO report. We've spent years walking for a cure, running for a cure and shopping for a cure, but we haven't focused on what really counts: eating for a cure!

SECTION 2

The Solution: A Whole Food, Plant-Based Diet



A foundation for good health

Copyright ©2015 The Plantrician Project. All Rights Reserved.

A Whole Food, Plant-Based Diet is the Ticket to Health!

To a very large extent, it has the power to prevent and reverse disease, as well as countless other benefits outlined in this guide. When it comes to healthy eating, the emphasis is often wrongly placed on dietary recommendations based on individual nutrients, with this obsession referred to as "nutrient reductionism." This nutrition reductionism has spawned a billion dollar dietary supplement industry.

T. Colin Campbell, PhD, author of *The China Study*, emphasizes that "Nutrition should be recognized as the wholistic effect of countless nutrients involving countless diseases working through countless mechanisms. Nutrition must be wholistic: looking at countless nutrients and mechanisms that control many diseases." If you eat a balanced variety of whole, plant-based foods, you will be consuming all the carbohydrates, proteins and fats you need for optimal health. Plant foods contain all nutrients (with the exception of B12) in the healthiest ratio for your body. Instead of focusing on individual nutrients, a whole food, plant-based diet emphasizes the symphonic nutrient composition that's optimal for human health.

We don't eat nutrients, we eat whole foods!

Let's briefly review the three macronutrients —carbohydrates, proteins, and fats — and where they are found in a whole food, plant-based diet.

Carbohydrates: Carbohydrates are the body's preferred energy source. Carbohydrates should be obtained from whole foods like vegetables, fruits, and whole grains, where they come packaged with fiber and other important nutrients.

Proteins: We tend to obsess about getting enough protein, yet protein deficiency is extremely rare. In fact, most Americans are OVER-eating protein! To get enough protein on a plant-based diet, simply swap animal foods for legumes, whole grains and vegetables. As long as you consume enough calories, you will get all the protein your body needs.

Fats: Fat is the most calorie-dense macronutrient, so it must be eaten in small amounts from whole plant sources like avocados, olives, nuts and seeds.

What is a Whole Food, Plant-Based Diet?

It's a dietary lifestyle that maximizes the intake of whole, plant-foods and minimizes the intake of processed and animal-derived foods. It's a diet based on foods-as-grown: vegetables, fruits, whole grains, beans, chickpeas, split peas, lentils, mushrooms, herbs, spices and small amounts of seeds and nuts. Consumption of meat (including chicken and fish), dairy products, and eggs, as well as highly refined foods like bleached flour, refined sugar, and oil are minimized.

Plant-Based Diet Benefits

- Prevents, arrests, and even reverses chronic conditions such as heart disease and type 2 diabetes
- Decreases cancer risk
- Slows progression of certain cancers
- Helps to prevent and halt the progression of a number of autoimmune diseases
- Prevents and reverses erectile dysfunction
- Lowers cholesterol
- Lowers blood pressure
- No more constipation!
- Enables healthy weight loss
- Enables healthy weight maintenance
- Improves immune function, with lower risk of colds and flu
- Can prevent and treat asthma, allergies, acne, acid reflux and a wide array of other conditions
- Age-defying
- Longevity enhancing
- Mitigates the need for many or even all medications
- Increases energy
- Improves sleep
- Decreases stress
- Improves mood and mental clarity
- Environmentally-friendly: visit www.FoodMath101.org to learn more

Food Groups and Nutrients to Increase



Vegetables

Vegetables are rich in a vast number of health-promoting nutrients, including vitamins A and C, many B vitamins, and fiber. Vegetables can also be excellent sources of calcium and iron — nutrients often associated with animal foods. Eat a variety of colors to ensure you're consuming a wide array of nutrients.



Fruits

Fruits can be rich in fiber, vitamin C, vitamin A, and antioxidants. Choose whole fruits over fruit juice, which is void of fiber. Like vegetables, eat a variety of colors to get the greatest array of nutrients.



Whole Grains

Whole grains are rich in B vitamins, protein, fiber and zinc. The best way to eat grains is in their most whole form, like brown rice, quinoa, bulgur, barley, oats, and corn. Whole grains can also be eaten in the form of whole grain breads, tortillas, and pastas, although these processed choices are less nutritious.



Beans, Peas and Lentils

Beans, peas and lentils (also known as legumes) are rich in protein, fiber, calcium, iron, and B vitamins. Eat a variety of legumes, such as lentils, chickpeas, black beans, pinto beans, and organic soybeans (called edamame).



Nuts and Seeds

Nuts and seeds are rich in protein, calcium, and healthy fats called omega-3 fatty acids. Eat nuts and seeds like walnuts, cashews, almonds, pecans, sesame seeds, flax seeds, or sunflower seeds in small amounts — only a small handful a day — as they are high in calories.



Fiber

Fiber is found exclusively in plant foods — animal foods are completely void of fiber. Fiber is associated with lower rates of cancer and other chronic diseases, and it facilitates weight loss and healthy weight maintenance.



Water

Plant foods are rich in water. Water hydrates the body, and the hydration of the body's cells is crucial to proper immune, endocrine, cardiovascular, neural, gastrointestinal, muscle and skeletal function.



Antioxidants and Phytonutrients

Antioxidants and phytonutrients are abundant in plant foods. Antioxidants slow aging, reduce inflammation in the body, and help prevent diseases — especially cancers. Phytonutrients can also protect against diseases like cancer and heart disease.

Copyright ©2015 The Plantrician Project. All Rights Reserved.

Food Groups and Nutrients to Limit



Meat, Poultry and Fish

Meat and poultry are high in unhealthy saturated fat and cholesterol. Fish is also high in cholesterol and industrial pollutants.



Refined Grains and Added Sugar

Unlike whole grains, refined grains are comparatively void of fiber. Refined grains and added sugar are often found in processed foods, which are linked to obesity and other chronic diseases.



Eggs

When you hear that "an egg is nature's perfect food," consider that one egg yolk contains more cholesterol than a Double Quarter Pounder with Cheese! Since egg whites are 100% animal protein, they are not a healthful choice. You will learn more about the ill-effects of animal protein consumption in this guide.



Dairy Products

Dairy is high in unhealthy saturated fat and cholesterol. Whether whole or skim, all contains casein, the protein found in cow's milk and other dairy products made from cow's milk. Some research has shown that this type of protein has hidden dangers.



Processed Oils

Unlike whole plant food sources of fat, processed oils are lower in nutrients and higher in calories. Despite what you've heard, even olive oil is not a health food — it's 100% fat. Eat the fiber-filled, nutrient dense olive, not the oil.



Cholesterol

Dietary cholesterol is found only in animal foods — in conjunction with saturated fat, which is linked to high blood cholesterol and heart disease.



Saturated Fat

This unhealthy fat is plentiful in animal foods. It raises cholesterol and causes heart disease.

Plant-Based Kids: A Diet That is Healthy for Everyone!

You may wonder if a whole food, plant-based diet is healthy for your whole family. The answer is YES! A plant-based diet that includes a variety of foods and food groups contains everything needed to nourish us at any life stage. Children who eat a plant-based diet experience normal growth and development, and their risk of diseases such as obesity, heart disease and diabetes is much lower than children who eat a Standard American Diet. Children raised on a plant-based diet also experience lower rates of acne, allergies and digestive issues.

Eating habits are formed at an early age. By introducing whole, plant foods to children, you are laying the foundation for them to become healthy eaters for life.

For growing children, adolescents and teens, adequate calorie intake is crucial. Because of this, they need to consume more fat than adults to meet their needs. Incorporate foods like avocados, nuts, seeds and nut and seed butters into their meals.

Children can get optimal nutrition important for growth — such as protein, iron and calcium — from whole, plant foods and fortified foods like non-dairy milks and whole grain cereals. Just like adults on plant-based diets, children on plant-based diets need adequate B12. The most reliable source is a B12 supplement.



Preventing and Reversing Disease

The research supporting the power of a whole food, plant-based diet to prevent and reverse heart disease and type 2 diabetes is especially profound. Compared to those following the standard dietary treatment protocol of the American Heart Association, people with heart disease who adopted a low-fat, plant-based diet were twice as less likely to experience another cardiac event and were able to reverse their atherosclerosis (hardening of their arteries).

According to Neal Barnard, MD, founder of the Physicians Committee for Responsible Medicine, "Since arterial blockages in one area can indicate systemic damage, medications that treat isolated symptoms may not be the most effective way to treat the underlying problem. Studies show that the most powerful prescription may not lie in the pill bottle, but rather on our plates.

Consuming a plant-based diet free of cholesterol and low in fat has been proven to reverse arterial blockages and improve blood flow."

The same is true for diabetes. Plant-based diet adherents have a 60% lower risk of developing diabetes, and those who switch to a plant-based diet can lower blood sugar levels and reduce medication use compared to people following a standard diabetic diet protocol. They also see double the reduction in "bad" cholesterol levels, HbA1c levels, and bodyweight compared to standard treatment protocol.

A whole food, plant-based diet can prevent and slow cancer growth. Specifically, it reduces gastrointestinal and women-specific cancers such as ovarian and breast cancer. Plants are rich in cancer-fighting antioxidants and phytonutrients. According to the World Cancer Research Fund, lifestyle changes, including diet, could prevent as many as one-third of all cancer cases in the U.S. In light of this, why do we wait for a cancer diagnosis to sound the alarm of disease-preventing and disease-fighting dietary recommendations?

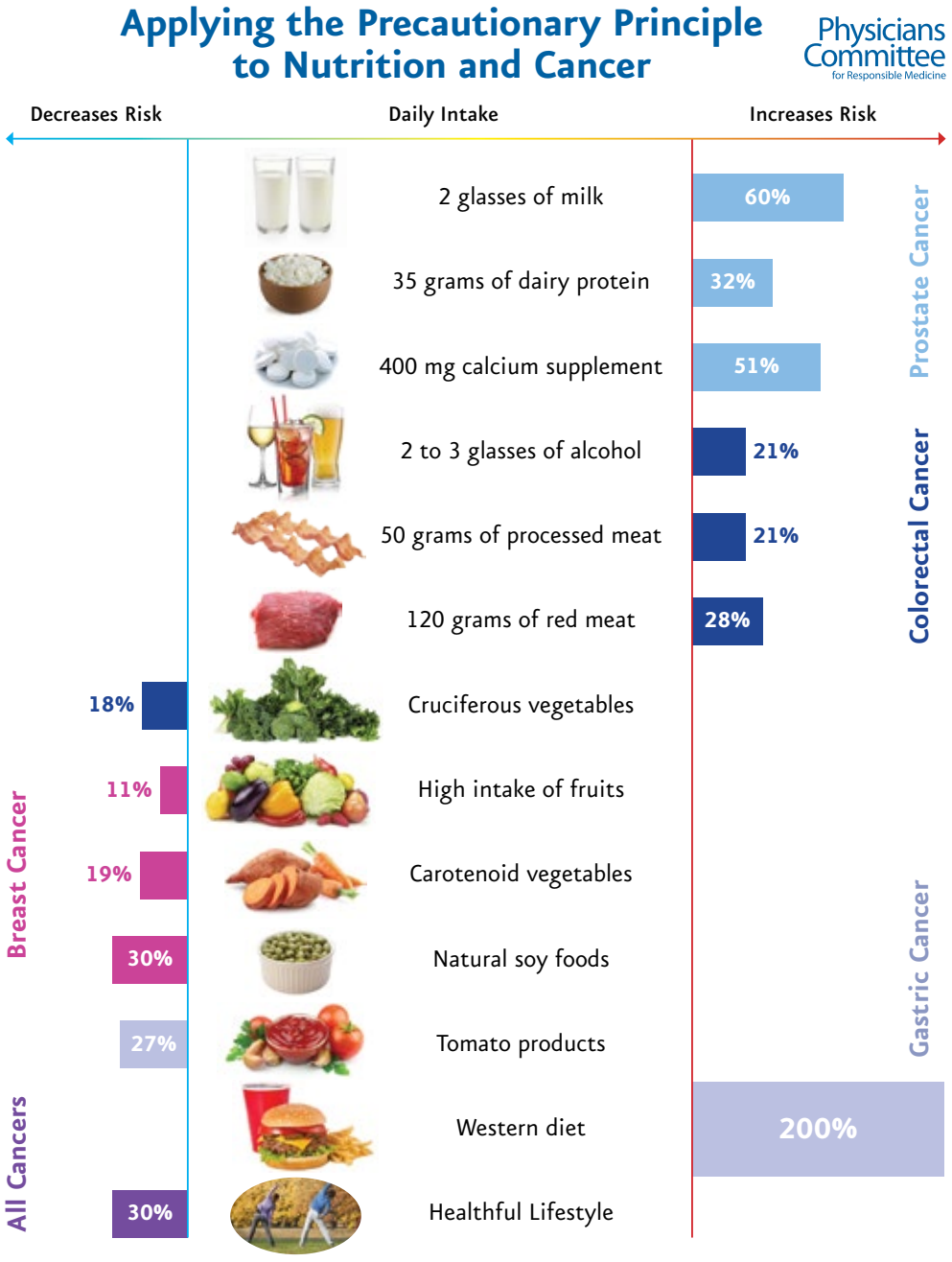
Neal Barnard, MD, says, "Unfortunately that message tends to get buried. We wait until a cancer diagnosis and then try some heroic means of combating it, through chemotherapy, through radiation. It's so much better to prevent it from ever occurring, and the answer to that is food."

Copyright ©2015 The Plantrician Project. All Rights Reserved.

Applying the Precautionary Principle to Nutrition and Cancer

Research continues to show, time and time again, that plant-based foods reduce the risk of cancer and strengthen the chance of survival after diagnosis.

Promising research has also drawn connections between many other diseases, like autoimmune diseases, and the healing powers of a whole food, plant-based diet. Learn more at resources.plantricianproject.org.



Note: Cancer risk factors are calculated from studies cited in the 2014 review. We recognize different studies will yield different results.
Source: Gonzales JF, Barnard ND, Jenkins, DJ, Lanou, AJ, Davis B, Saxe G, Levin S. Applying the Precautionary Principle to Nutrition and Cancer. *J Am Coll Nutr.* Published online May 28, 2014. doi:10.1080/07315724.2013.866527.

Source: http://www.pcrm.org/health/reports/applying-the-precautionary-principle-to-cancer



SECTION 3

Plant-Based **Myths and Facts**



Copyright ©2015 The Plantrician Project. All Rights Reserved.

The Protein Myth

Protein is an essential nutrient. Our bodies require protein to build cells, organs and muscles. However, the obsession with eating enough protein is unwarranted; in the case of protein, more is not better. Excess protein is either stored as fat or it is excreted along with vital minerals such as calcium. Excreting excess protein can be taxing on the body, especially the kidneys.

Amino acids are the building blocks that combine to form proteins. Of the 20 amino acids, nine are "essential," meaning the body cannot manufacture them — they must be consumed. It was once believed that all nine of the essential amino acids had to be consumed at once in order for the body to use them. This is a widespread myth that we now know is not true. All vegetables, grains, nuts and seeds contain protein — there is no such thing as an incomplete plant protein! The issue is that some have relatively few of one or the other when it comes to amino acids, so consuming a variety of these foods will provide all the protein your body needs.

As long as you are eating enough calories from a variety of plant foods, getting adequate protein on a plant-based diet is easy!

In fact, studies have shown that the average vegetarian or vegan meets or exceeds the recommended daily protein intake (0.8 grams per kilogram of bodyweight). Get plant-based protein from a variety of beans, nuts, seeds, soy, whole grains and vegetables.

Sample Menu

Adequate protein intake for a 160-pound adult (58 grams)

Meal	Protein
Breakfast: 1 cup oatmeal with blueberries, walnuts and 1 cup soymilk	17 grams
Lunch: Split pea soup, whole grain bread with hummus and a garden salad	21 grams
Snack: Apple and peanut butter	4 grams
Dinner: Mexican black beans and brown rice in corn tortillas with avocado and salsa	18 grams
TOTAL	**60 grams**

What About Soy Protein?

Myth: Soy causes feminization in men.

Fact: Phytoestrogen, an estrogen-like plant chemical found in soy, was shown to impair male rats' reproductive abilities in some studies; however, this same effect does not hold true in humans. Rats metabolize these plant chemicals differently than we do, so the findings from rat-soy studies cannot be applied to humans. A few anecdotal cases of soy-related sex hormone changes have been reported, but these men were consuming very large amounts of soy (equal to three quarts of soy milk per day!). A recent review of the literature concluded that there is no evidence to support higher circulating estrogen levels or "feminization" in men who consume soy. These same plant chemicals in soy are shown to protect against cancer, suppress abdominal fat storage, and help lower cholesterol. Still worried? Check out plant-based (and soy eating) body-builder Robert Cheeke, triathletes Rip Esselstyn and Brendan Brazier, Mixed Martial Arts Champion Mac Danzig, and ultramarathoner Scott Jurek — their work and physiques will reassure you that soy will not feminize men!

Myth: Soy protein increases breast cancer risk.

Fact: Research increasingly shows that soy's high isoflavone and antioxidant content are actually protective against cancers, including breast cancer and ovarian cancer, as well as other diseases.

Myth: All soy is "genetically modified" (GMO).

Fact: Many are concerned with the health implications of consuming genetically engineered foods such as soy. However, non-GMO soy foods are available. Look for soy foods labeled "certified organic" or "non-GMO".

Bottom line: soy foods are a healthful part of a whole-food plant-based diet.

Choose minimally processed soy foods like edamame beans, tempeh, miso, tofu and soymilk. Avoid highly processed soy foods like soy protein powders and soy-based meat substitutes (soy "chicken" nuggets, soy sausage, etc.). Stick to no more than 3-5 servings per day to avoid any negative health effects.

Calcium

Plant-based foods are excellent vehicles for delivering calcium to our bodies. Beans and greens are rich in calcium and, unlike dairy, come packaged with countless other vitamins, minerals and phytonutrients that benefit health and improve calcium absorption and utilization. Calcium is a mineral found in the ground, which is why plants grown in the ground are excellent sources of calcium. Cows eat calcium-containing plants, which is why their milk contains calcium! Let's remove the cow (and therefore the cholesterol) and eat the plants!

Marketing and government recommendations have influenced people to believe that consuming dairy is the only way to get enough calcium. Despite this common belief that dairy products build strong bones, no protective benefit between milk consumption and hip fracture risk has been demonstrated. This may partially explain why cultures with the highest average intakes of dairy products also have the highest fracture risk! Milk consumption in teenage years is also **not** associated with better bone health in adulthood. Milk — and too much animal protein consumption — does **not** do a body good!

Osteoporosis is NOT a calcium deficiency disease. It is better described as bone atrophy.

A strong skeleton depends more on preventing the loss of calcium from your body than on eating or drinking greater amounts of calcium.

Calcium losing habits include tobacco use, alcohol consumption, high intakes of animal protein and sodium, and lack of both exercise and sun exposure. While calcium is certainly an important nutrient, adequate intake from calcium-rich plant foods should be consumed in conjunction with a calcium-preserving lifestyle.

Healthy bones on a plant-based diet

- Eat calcium-rich plant foods like tofu, mustard and turnip greens, bok choy, kale, beans and lentils.
- Exercise regularly with walking, lunges, and weight bearing activities
- Avoid tobacco.
- Limit or avoid alcohol consumption.
- Manage sodium intake by cooking most of your meals at home — packaged foods and restaurant foods often contain high amounts of sodium.
- Avoid excessive protein intake by eating a whole-food plant-based diet.
- Aim to spend at least 20 minutes outside in the sun each day. If you have difficulty getting sun exposure, you can get vitamin D from fortified non-dairy milks or a vitamin D3 supplement.

Plant-Based Calcium Sources

Food	Amount	Calcium (mg)
Collard greens, cooked	1 cup	357
Other plant milks, calcium-fortified	8 ounces	300-500
Tofu, processed with calcium sulfate*	4 ounces	200-420
Calcium-fortified orange juice	8 ounces	350
Soy or ricemilk, commercial, calcium-fortified, plain	8 ounces	200-300
Commercial soy yogurt, plain	6 ounces	300
Turnip greens, cooked	1 cup	249
Tofu, processed with nigari*	4 ounces	130-400
Tempeh	1 cup	184
Kale, cooked	1 cup	179
Soybeans, cooked	1 cup	175
Bok choy, cooked	1 cup	158
Mustard greens, cooked	1 cup	152
Okra, cooked	1 cup	135
Tahini	2 Tbsp	128
Navy beans, cooked	1 cup	126
Almond butter	2 Tbsp	111
Almonds, whole	1/4 cup	94
Broccoli, cooked	1 cup	62

Source: The Vegetarian Resource Group, http://www.vrg.org/nutrition/calcium.php

Copyright ©2015 The Plantrician Project. All Rights Reserved.

If You Only Make One Change... The Truth About Dairy

Dispelling the calcium myth

Many people believe that dairy is a necessary part of a healthy diet for optimal bone strength, due in part to marketing and government recommendations. This is simply not true. In countries where dairy is rarely or never consumed, osteoporosis rates are the lowest in the world. Dairy can also be high in unhealthy saturated fat and cholesterol. Casein, a protein in dairy, is linked to diseases such as prostate and breast cancer.

What is milk designed to do?

A mammal's milk is designed to nourish and quickly grow its offspring. In the case of cow's milk, this means growing a calf from 90 pounds to hundreds of pounds in less than two years. Human beings are the only species who consume other mammals' milk — this is not something that occurs in natural habitats.

The truth about dairy

- Populations that consume the highest amounts of dairy actually have the highest rates of bone fractures.
- Consuming greater than two servings of dairy per day is linked to increased risk of prostate cancer in men.
- Dairy stimulates insulin-like growth factor-1 (IGF-1), which accelerates cancer cell growth. High IGF-1 levels are normal during periods of growth like childhood, but full-grown adults do not want to raise their IGF-1 levels as it can mean that cancer cells are stimulated to grow.
- Most dairy milk contains contaminants like growth hormones and antibiotics. These substances are given to cows to promote growth and fight infections that occur from constant milking.

Why is it so hard to kick the dairy habit?

Giving up dairy can feel difficult because it may be literally addictive. Dairy contains casomorphins, substances that trigger the same "feel good" sensations as opiates — also the reason for constipation associated with dairy. This is likely nature's way of ensuring that baby mammals become attached to their source of nourishment. It is not intended to attract fully grown mammals, but that may be exactly what happens when you eat dairy products!

Although the thought of giving up dairy products may sound challenging, your taste buds will adjust, so you'll no longer have this craving.

If you choose to only make one change to your diet, choose to give up dairy, or make it a rare exception to your dietary rule! The detriments of dairy are not worth the addicting fix!

Visit resources.plantricianproject.org for information on calcium in a plant-based diet.



Iron

Iron is a mineral in our blood that carries oxygen. There are two types of iron: blood-based (heme iron) found in animal foods and plant-based (non-heme iron). Heme iron is more easily and readily absorbed, but this might not be as beneficial, as is often presumed. Because our body does not have a mechanism for excreting excess iron, it actually might be safer to consume plant-based iron.

People eating a plant-based diet do not experience higher rates of iron deficiency than do meat eaters.

Plant foods can actually be considered better sources of iron than animal foods because they come packaged with countless beneficial nutrients, as well as iron enhancers like vitamin C. Calorie for calorie, many plant foods contain higher amounts of iron than animal foods.

Plant-based foods that are rich in iron include kidney beans, black beans, soybeans, spinach, raisins, cashews, oatmeal, cabbage, and tomato juice.

Plant-Based Iron Sources

Food	Iron (mg/100 calories)
Spinach, cooked	15.5
Collard greens, cooked	4.5
Lentils, cooked	2.9
Broccoli, cooked	1.9
Chickpeas, cooked	1.8
Sirloin steak, choice, broiled	0.9
Hamburger, lean, broiled	0.8
Chicken, breast roasted, no skin	0.6
Pork chop, pan fried	0.4
Flounder, baked	0.3

Source: The Vegetarian Resource Group, http://www.vrg.org/nutrition/iron.php

Omega-3 Fatty Acids

Some fats, called "essential fatty acids," are necessary in our diet. These fats are important for brain health, immune function, blood clotting, anti-inflammatory responses and many other bodily functions. Essential fatty acids include two types: omega-6 fatty acids and omega-3 fatty acids. These fats must be consumed in a certain ratio. The precise ratio is yet to be determined by research, but it suggests that a 2:1 or 3:1 ratio may be optimal. The Standard American Diet tends to be significantly higher in omega-6's which impairs omega-3 absorption with ratios approaching 20:1-40:1. By minimizing the amount of processed and animal-based foods in your diet, a healthier omega-6: omega-3 ratio is restored.

If you meet all your caloric needs with a low-fat, whole-foods diet full of fruits, vegetables, whole grains, and legumes, you will easily consume enough essential fatty acids.

Daily omega-3 intake is only 1.1 g for adult women and 1.6 g for adult men. Excellent plant-based sources of omega-3's include flaxseed meal, chia seeds, walnuts, soy foods and leafy greens.



Copyright ©2015 The Plantrician Project. All Rights Reserved.

Vitamin B12

Vitamin B12 is important for the development and protection of nerve cells and red blood cells and aids in DNA production. B12 deficiency can result in weakness, fatigue, difficulty concentrating, increased irritability, gastrointestinal distress, anemia, and nervous system dysfunction.

B12 is the only nutrient that cannot be adequately obtained from a whole food, plant-based diet. This is not because animal products are sole providers of B12. Vitamin B12 is not made by plants or animals, it is made by bacteria. Animals eat B12-containing bacteria via dirt and water, which then accumulates in their tissues and is passed on to humans who eat animal products. Because of our diligent sanitation efforts, humans rarely have the opportunity to consume B12-containing bacteria.

Therefore, the healthiest and most reliable way to ensure adequate B12 consumption is to take a B12 supplement.

The most recent evidence suggests 2500 mcg as chewable, liquid, or under-the-tongue as an optimal adult dosage, but please check with your healthcare provider for his or her recommendation.



Hydration

You are not just what you eat–you are also what you drink!

Water is the basis of life, including the human body. As a whole, your body is made up of about 60-80% water. Your muscles are 75% water, your blood is 82% water, your lungs are 90% water, and your brain is 76% water. The hydration of the body's cells is crucial to proper immune, endocrine, cardiovascular, neural, gastrointestinal, muscle and skeletal function. Losing as little as 1.5% of your body's water can set off an array of negative health consequences — contributing to many serious conditions, the list of which is below.

Signs of dehydration

- Hunger (We often mistake thirst for hunger. Reach for a glass of water first!)
- Constipation
- Very yellow urine (Hydrated urine is pale yellow like lemonade)
- Fatigue
- Headache
- Dizziness
- Muscle cramps / leg cramps
- Dull skin

Aim to drink at least eight cups of water per day, starting your day with two cups of water as soon as you rise in the morning. You may have thought that other beverages, like coffee and tea, counted toward your hydration status, but many have a dehydrating affect. Water is by far the best hydrator! Don't wait until you are thirsty — drink early and often!

Make plain water more appealing by adding frozen fruit, citrus slices and fresh herbs like mint leaves.

Carry a water bottle with you throughout the day and set mini goals for yourself (e.g. "drink two bottles before lunch" or "refill your bottle four times throughout the day"). Bonus: A plant-based diet rich in fruits and vegetables is extra-hydrating!

Learn more about the importance of hydration and your health at resources.plantricianproject.org.



SECTION 4

Transitioning to a **Plant-Based Diet**



Tips and tricks on what to eat

Copyright ©2015 The Plantrician Project. All Rights Reserved.

Incorporating Plant-Based Foods into Your Daily Routine

Now that you know the powerful "why" behind a whole-food plant-based lifestyle, it is time to learn "how" to incorporate these foods into your life. The following section is a roadmap to help guide you on your journey to eating more whole, plant-based foods. Here are the first steps you need to take towards a happier, healthier life.

Start where you are today

You are unique, and your journey to a whole food, plant-based lifestyle will also be unique to you and you alone. The first step is to assess where you are right now. Take the 4Leaf™ Survey (www.4LeafSurvey.com) to help you identify where you are on your journey and what steps you need to take next to improve your health.

Focus on progress

Think of eating as a spectrum, with a Standard American Diet at one end, and a whole food, plant-based diet at the other end. As you transition to this dietary lifestyle, you will slowly move along this spectrum toward more plant-based foods. ***These whole plant foods will become the rule and processed, packaged and animal-based foods will become the exception to the rule.***

The best results will come from fully adopting a whole food, plant-based diet!

It is important that you focus on progress to continually move toward eating more whole, plant foods. Some might call this transition "extreme" and choose to continue eating animal-based foods in moderation, but as Dr. Caldwell Esselstyn says "moderation kills." This is especially true when your goal is to reverse disease. Think of it this way: coronary bypass surgery is much more "extreme" than eating whole plant foods!

It's about what you eat, not what you avoid

Instead of focusing on what you are "giving up," focus on what you are adding into your diet. The more whole plant foods you add, the less room there is for packaged, processed and animal foods. By approaching your transition in this way, you will eventually crowd out all of the unhealthful foods in your diet in order to make room for more nourishing, whole plant foods.

Set goals

Each week, set a new goal to help you move toward a plant-based lifestyle. Write down your goal, and identify specific steps you will need to take in order to achieve it. With each week, and each goal, you will move closer to a healthier life.

Label Reading 101

Never believe what's printed on the front of a package. While a bread, for example, may say "whole grain," unless "whole" is listed as one of the first ingredients on the Nutrition Facts label, then it's probably made from refined wheat flour.

The sodium content, per serving, of a packaged product should not exceed the number of calories per serving — keep in mind that this is the ideal. You'll be shocked at just how much sodium many products contain.

Regarding fat, the ideal is to steer clear of any products that indicate fat calories equaling more than 10 to 20% (at the most!) of the total calories — with saturated fat and hydrogenated trans fats being the most problematic.

Roadmap to Building Plant-Based Meals

Most nutrition research focuses on "nutrition reductionism," or the study of isolated nutrients. However, this is not how we eat food. When we eat, we consume countless nutrients and substances that work in synergy with one another in our bodies. Food synergy is what determines the state of our health over time. Several studies show that the nutrients in food work best when they are consumed in their whole form compared to when they are consumed as isolated nutrients. For example, if five people eat a plate of broccoli, each person will absorb a different array of nutrients from that broccoli, tailored to what their body needs in that moment. As T. Colin Campbell, PhD explains in his book *Whole*, this incredible symphony of vitamins, minerals and other nutrients working together with our bodies cannot be replicated in any supplement or pill! Eating a variety of whole, plant-based foods is the best way to ensure optimal health.

Enjoy a variety of foods from the food groups below each and every day.

Aim to fill one-half of your plate with vegetables and fruits and the other half with starchy vegetables, whole grains, beans and legumes. Add nuts, seeds, herbs and spices as flavor enhancers.

Colorful Vegetables and Leafy Greens: Broccoli, cauliflower, Brussels sprouts, cabbage, peppers, mushrooms, zucchini, squash varieties, leeks, asparagus, kale, spinach, lettuce, collard greens, chard

*Dr. Caldwell Esselstyn , author of **Prevent and Reverse Heart Disease**, refers to these leafy greens as the "fire extinguishers on the burning cauldron of inflammation that burns in our bodies." Meaning: Leafy greens does a body good!*

Root Vegetables: White, yellow, and red potatoes, sweet potatoes, carrots, parsnips, beets, turnips, onions

Colorful Fruits: Apples, bananas, citrus, berries, melons, pineapple, kiwi pears, mango, stone fruits

Whole Grains: Brown rice, wild rice, quinoa, barley, bulgur, oats, millet, teff, amaranth, corn, spelt

Beans and Legumes: Garbanzo, kidney, black, navy, white, Lima, pinto, lentils, edamame, split peas

Nuts: Walnuts, almonds, macadamia, cashews, pecans, pine, Brazil

Seeds: Sunflower, sesame, flax, chia, hemp, pumpkin, poppy

Take your journey to a healthy lifestyle one step and one bite at a time.

Step 1: Enjoy

Prepare plant-based meals you already enjoy.

Examples:

- Bean burritos
- Vegetable minestrone soup
- Pasta primavera
- Tofu and vegetable stir-fry

Step 2: Adapt

Choose favorite recipes and give them a plant-based makeover.

Examples:

- Beef chili → Three-bean chili
- Hamburger → Black bean burger
- Scrambled eggs → Scrambled tofu
- Chicken salad sandwich → Chickpea salad sandwich
- Ground beef sloppy joes → Lentil sloppy joes

Step 3: Explore

When you feel confident in Step 1 and 2, begin to explore new plant-based foods and recipes.

Examples:

- Choose a few whole food, plant-based cookbooks
- Browse plant-based recipe websites
- Try tempeh: crumble and add to marinara sauce in place of ground beef
- Try nutritional yeast: sprinkle on pizza, pasta and rice dishes for a savory, cheesy flavor
- Explore recommended plant-based recipe websites and cookbooks at resources.plantricianproject.org

Copyright ©2015 The Plantrician Project. All Rights Reserved.

Stocking Your Plant-Based Pantry



Canned or Dried Beans

- Black beans
- Black-eyed peas
- Chickpeas (garbanzos)
- Great northern beans (cannellini)
- Pink beans
- Pinto beans
- Red or kidney beans
- Lentils



Pastas and Noodles

- Whole wheat pasta
- Gluten-free pasta
- Brown rice noodles
- Soba noodles



Nuts, Seeds, and Nut & Seed Butters

- Walnuts
- Almonds
- Cashews
- Pecans
- Sunflower seeds
- Pumpkin seeds
- Peanut butter (non-hydrogenated, such as Laura Scudder's)
- Almond butter
- Tahini
- Flax seeds



Other:

- Canned diced tomatoes
- Low-sodium tomato/pasta sauce
- Tamari or Bragg's liquid aminos
- Vinegars
- Salsas
- Dried herbs and spices and salt-free blends



Refrigerator Staples

- Perishable vegetables
- Frozen mixed vegetables
- Perishable fruits
- Frozen fruit
- Frozen organic edamame
- Sweet potatoes and white potatoes
- Hummus (make your own, or look for low-fat brands)
- Whole grain bread (freeze)
- Non-dairy milks
- Tofu
- Tempeh
- Citrus
- Nutritional yeast
- Whole wheat flour tortillas
- Corn tortillas



Whole Grains

- Barley
- Bulgur
- Couscous
- Millet
- Brown Rice
- Quinoa
- Wild rice
- Steel cut oats and/or old-fashioned oats

REMEMBER: *If it's ready in 30 seconds, or even two or three minutes, then it isn't a "whole" grain, meaning it isn't a health-promoting, disease-fighting choice! Steel cut oats, for example, will need to cook for 25 to 30 minutes. An unprocessed brown or wild rice may require 40 to 45 minutes of cooking time. See the hints and tips on the following pages, so you'll have these dietary staples on hand and ready to dish up in a moment's notice.*

Meal Planning and Grocery Shopping

Take inventory

Take inventory of items you already have in your kitchen. These items will be the foundation of your meals. This will reduce food waste and lighten your grocery bill.

Create your menu

Take time to map out the upcoming week and tally up how many meals will need to be prepared. Look for recipes that incorporate the items you already have on-hand.

Rely on leftovers! Instead of cooking a new meal every night, make double portions of 3-4 recipes each week so you can enjoy a few no-fuss nights of leftovers.

Simplify breakfast and lunch. Choose just a few breakfast and lunch options each week and make them in bulk to cut down on the amount of ingredients you have to purchase and the amount of time you have to spend in the kitchen.

Make your list

Now that you've taken inventory and have chosen your recipes, write your grocery list. Lists keep unhealthy temptations and impulse buys out of your cart. If it's not on the list, don't buy it!

Stick to the staples

The grocery store is full of high-priced specialty foods that claim to be the keys to good health. While some of these items may provide needed convenience (pre-chopped vegetables) and others might be fun to try (goji berries), none of these are essential to a healthy plant-based diet. To keep your grocery budget in check, stick to staples like in-season produce, frozen fruits and vegetables, beans, lentils, brown rice, oats and potatoes.

Buy in bulk and shop online

Visit your grocery store's bulk section to purchase staple foods in the exact quantities you need. If you live in an area that doesn't sell plant-based staples such as certain whole grains and beans, or if your local grocery store sells these items at a high markup, turn to the virtual bulk aisle online! Websites like Amazon.com and Thrivemarket.com sell staples at competitive prices.

Schedule prep time

After you've gathered all your ingredients from the grocery store, schedule some prep time in your kitchen. This is a crucial step to setting yourself up for a successful week. The goal of prep time is to ensure that a healthy meal is only 30 minutes away any day of the week, so identify steps that will ensure this convenience. Cook all grains and beans in large batches, make a few low-maintenance one-pot meals and freeze in individual portions. Wash and chop fruits and vegetables to make lunches and snacks easier to throw together. Make a large salad that will last several days.

Summer staples

- Buy in-season produce to maximize freshness. Wash and chop vegetables on the weekend to make them more accessible for weekday meals and snacks.
- Portion sliced vegetables into zip-top bags, and keep hummus and bean dips on hand for easy snacks.
- Make a big batch of bean burger patties and freeze in freezer-safe containers to have on hand for baking or grilling. These are great to bring along to a barbecue potluck.
- Slice fresh fruit like melons and pineapple in advance for refreshing breakfasts or snacks. Freeze in freezer bags to extend freshness. Frozen fruit is a satisfying summer treat!

Winter staples

- Cook a large batch of steel-cut oatmeal on the stovetop or in a crockpot. Mix in dried raisins or cranberries while oatmeal is still warm. Portion out and refrigerate for easy weekday breakfasts.
- Cook a large pot of lentil-vegetable soup or bean-vegetable chili and portion into individual servings to reheat for lunches.
- Batch cook other grains (brown rice, quinoa, barley, etc.) and plant protein foods (baked tofu, garbanzo beans, pinto beans, etc.) to make weeknight dinners easier to throw together.
- Keep frozen vegetables on hand to steam alongside prepared grains and beans.

Copyright ©2015 The Plantrician Project. All Rights Reserved.

When is Buying Organic Most Important?

Dirty Dozen

(buy organic whenever possible)

1. Apples
2. Peaches
3. Nectarines
4. Strawberries
5. Grapes
6. Celery
7. Spinach
8. Sweet bell peppers
9. Cucumbers
10. Cherry tomatoes
11. Snap peas
12. Potatoes

Nearly two-thirds of the 3,015 produce samples tested by the U.S. Department of Agriculture in 2013 contained pesticide residues.

Clean Fifteen

(the safest produce to buy conventional)

1. Avocados
2. Sweet corn
3. Pineapples
4. Cabbage
5. Sweet peas (frozen)
6. Onions
7. Asparagus
8. Mangos
9. Papayas
10. Kiwi
11. Eggplant
12. Grapefruit
13. Cantaloupe
14. Cauliflower
15. Sweet potatoes

Source: The Environmental Working Group, ewg.org





Plant-Based Cooking Tips and Tricks

Plant-based cooking is not difficult; it simply requires learning a few new kitchen skills. Once you've done this, you will be able to whip up plant-based meals with ease. Try these strategies to make plant-based cooking easier.

Try batch cooking

Consider this: It takes the same amount of time and the same number of pots to cook two servings of rice as it does to cook ten! Cook grains, beans and even complete meals, like soups and veggie burger patties, in large batches and freeze the extra portions. This saves time and ensures that you always have healthy meals on hand.

Use a slow-cooker or pressure cooker

Enlist the help of a slow-cooker or pressure cooker for low-maintenance one-pot meals. Throw all ingredients for a bean chili into a slow cooker in the morning and have a hearty dinner waiting for you after work. Use a pressure cooker to dramatically slash the cooking time of dried beans and whole grains.

Roast, broil, grill your veggies — or sauté in water or vegetable broth

Think beyond steamed vegetables to other cooking methods like roasting, broiling, grilling and sautéing. These methods bring out new flavors and textures in vegetables. Never write off a vegetable until you've tried it every way — roasting Brussels sprouts transforms this often-disliked veggie into a crispy, delicious treat! Eliminate the fat by using water or broth when sautéing.

Sharpen your knife skills

Eating whole plant foods might mean you'll have to chop and dice some of your foods. Having a sharp knife and sturdy cutting board can be a great help. If necessary, you can learn basic knife skills either at a live class taught at many grocery stores, or through an online cooking course such as Culinary Rx.

Use herbs and spices

Herbs and spices, both fresh and dried, naturally enhance the flavor of food without chemical additives and sodium. Herbs and spices are also packed with antioxidants and phytonutrients. If you choose jarred spice blends, be sure to check the label to verify it is salt-free. At first, use recipes to guide your use of fresh and dried herbs and spices, but eventually you will feel confident enough to experiment with flavors!

Add umami

"Umami" is the fifth flavor alongside salty, sweet, bitter and sour. Umami is the savory flavor often associated with meat. A few vegetables provide umami flavor as well, making plant-based dishes taste more savory. Add umami with mushrooms, soybeans, miso and other fermented foods, tomatoes, potatoes and sea vegetables.

Enroll in a plant-based cooking class

The Plantrician Project is proud to have partnered with Rouxbe Cooking School to bring you Culinary Rx — the definitive online course that provides healthcare professionals and their patients and clients with a 60-day, self-paced online nutrition literacy and plant-based cooking course designed to help guide the transition to a more heavily plant-based diet. Simply put, Culinary RX is for anyone who wants to change their health through delicious, health-promoting foods and cooking. The Culinary Rx team of chef instructors and healthcare professionals will be alongside to support you every step of the way.

Visit www.culinary-rx.com for more information.

Copyright ©2015 The Plantrician Project. All Rights Reserved.

Ingredient Swaps

Milk

Nondairy milks like soy, almond and rice easily replace dairy milks in most cases.

To replace buttermilk: mix nondairy milk with lemon juice, apple cider vinegar or brown rice vinegar and let stand for 5-10 minutes.



Cream

Cashew cream beautifully imitates the creamy texture of dairy cream. Combine raw cashews with water or other liquid (e.g. vegetable broth or nondairy milk) and blend in a high-speed blender until completely smooth and creamy.



Butter

Vegan butter substitutes can be used to replace regular butter in equal amounts. Pureed fruits like applesauce or smashed banana also work well in place of butter and oils in baked goods.

Eggs

For baking, use a "flax egg" to replace a regular egg: Combine 1 tablespoon of ground flax seeds with 3 tablespoons of water and mix until gelatinous. Multiply this recipe by the number of eggs called for.

For binding (such as in veggie burger patties), use 2 tablespoons of cornstarch mixed with 2 tablespoons of water and mix well. Multiply this recipe by the number of eggs called for. Alternatively, use ¼ cup tofu.

To replace scrambled eggs, try scrambled tofu.

Cheese

Cheese is often the most challenging for people to give up, but it is also the most crucial step toward better health. Sprinkle nutritional yeast on meals for a cheesy flavor and Parmesan cheese-like texture. Most nutritional yeast is also fortified with B12, a vitamin essential for good health. Also, look for recipes that use tofu or cashews as a substitute for cheese.



SECTION 5

Incorporating Into Daily Life



Copyright ©2015 The Plantrician Project. All Rights Reserved.

Making Plant-Based Family-Friendly

Whole food, plant-based diets are healthy for the entire family. As you begin your journey towards a healthier lifestyle, it may be difficult to convince the rest of your family to get on board with a new way of eating. Here are a few ideas to encourage your family to embrace a whole food, plant-based lifestyle.

Involve the entire family

Children are more likely to try and enjoy foods that they helped choose and prepare. Have your children take turns choosing a new fruit or vegetable or new plant-based recipe to try each week. Invite them to help with age-appropriate food preparation such as snapping green beans, peeling carrots and, for older children, measuring ingredients. Contributing to the family meal will lure them to the dinner table with excitement!

Give family favorites a makeover

Ease your family into plant-based eating by offering foods they already know and loved, adding to them a plant-based twist: Serve pizza piled high with vegetables; bean burgers and baked sweet potato fries; wraps loaded with hummus and vegetables. Your family will be more open to trying dishes that look like old favorites, and they will be surprised by how delicious the plant-based versions of the classics can be!

Lead by example

As a parent, all eyes are on you! With every bite you take, you are setting an example for your children. If children see their parents eating and enjoying healthy, plant-based foods, they are more likely to try and enjoy these foods as well. Simply by shifting the way you eat, you will lead your family towards a healthier life. Lead by example, lead with joy, and lead with love.



Plant-Based on a Budget

One of the most common concerns about eating a whole food, plant-based diet is that it will be too expensive. This misconception likely comes from the belief that you must buy pricey "superfoods" and specialty products in order to adopt this way of eating. That is simply not true! In fact, a plant-based diet can cost the same or even less than the Standard American Diet. A Harvard study concluded that those with a limited food budget should purchase more plant-based foods like nuts, beans, whole grains, and soy and less red meat and dairy to maximize their dietary investment. The USDA found that healthy foods like fruits and vegetables are cheaper than unhealthy foods like meat and junk food when compared based on cost per serving, cost per weight, and cost per nutritional value. Follow these strategies to keep your plant-based diet budget-friendly.

Plan meals

Meal planning is the most important thing you can do to keep your grocery budget in check. Before shopping, take some time to survey what is already in your kitchen. Find recipes that incorporate the food items you already have in stock. Build your grocery list based on the recipes you choose and staples that need to be replenished. Arming yourself with a plan will prevent impulse buys at the grocery store and ensure that you have healthy meals on hand for the entire week (no more unplanned trips through the drive-thru!). As your cooking skills improve, you will be able to whip up plant-based meals in minutes from staples that you have on hand. Meal planning is crucial to staying on track in the beginning of your journey.

Stick to the staples

It's tempting to succumb to the allure of the aisles of packaged "superfood" products at health food stores. However, you don't need to buy pricey specialty foods to eat a plant-based diet. Stick with budget-friendly staples like in-season produce, frozen fruits and vegetables, beans, lentils, brown rice, oats and potatoes.

Buy in bulk

Find a grocery store in your area that sells plant-based staples in bulk, which is often cheaper than buying items packaged off the shelf. This also supports the environment by minimizing packaging waste. If you live near a Whole Foods Market, you can find all the bulk items you need. If you don't have a bulk grocery store in your area, websites like Amazon.com and Thrivemarket.com make it easy and affordable to stock up on staples.

Shop smart for produce

The largest percentage of your grocery bill will go towards produce. Plan meals around in-season produce. Not only will it be cheaper, it will be more nutritious and flavorful. Although buying all organic is ideal, it does not fit into everyone's budget. Focus on "The Dirty Dozen" (see page 23), the 12 most important fruits and vegetables to buy organic. Incorporate more economical forms of produce into your meals like frozen fruits and vegetables. Frozen foods are frozen at the peak of freshness, locking in their nutrition.

Get cookin'

Prepared foods may seem convenient, but their convenience comes with a hefty price tag. Cooking from scratch as often as possible, instead of relying on pre-made packaged foods, will keep your grocery budget in check. The Culinary Rx mentioned previously (www.culinary-rx.com), will help you successfully learn about and embrace plant-based nutrition and cooking.

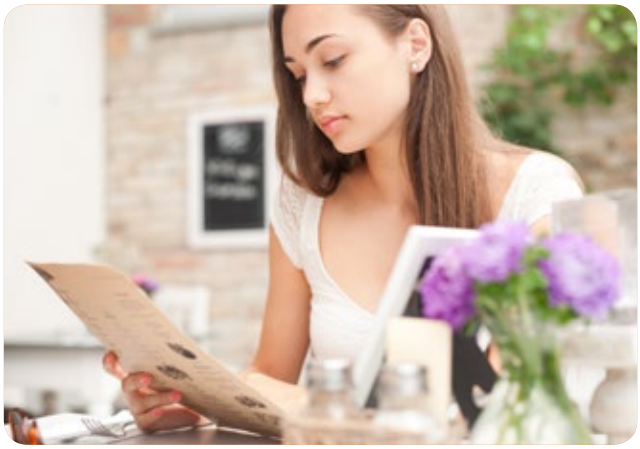


Copyright ©2015 The Plantrician Project. All Rights Reserved.

Dining Out on a Plant-Based Diet

Choosing to eat a whole food, plant-based diet does not mean you can't enjoy eating out at a restaurant. As more and more people choose to reclaim their health, many restaurants now offer healthy, delicious plant-based options. The following suggestions can help guide you to make healthy choices when dining out.

- Don't be afraid to ask! Most restaurants want you to enjoy your dining experience and will accommodate your requests. Ask for whole food, plant-based options.
- Beware of oil and salt! Most restaurant meals are prepared using a lot of oil and salt. Even vegetables are typically sautéed in a lot of oil. Ask for oil-free options, or ask for vegetables to be prepared steamed or "dry" (without oil) when possible, and see if the restaurant can limit the salt.
- Beware of refined grains! For pizzas, pastas, sandwiches and rice, ask for 100% whole grain options.
- Get creative: Make a meal out of side dishes that typically include a variety of vegetable choices, dips like hummus, and bean and grain dishes.
- Scan the menu for words like "baked," "steamed" and "grilled." Avoid words like "fried," "battered," "crispy" and "creamy."
- Salad dressings...beware! These can be loaded with oil and calories. If no fat-free options are available, then ALWAYS ask for dressing on the side and master the art of fork dipping — a little goes a long way.
- Find restaurants in your area that offer healthy, plant-based options on happycow.net or the Happy Cow app.





Plant-based options at restaurants

Steak House

- Baked potato topped with vegetables and salsa and a side salad or salad bar

Mexican Restaurant

- Black bean or sofritas burrito bowl with brown rice and extra vegetables
- Naked taco salad, with lots of leafy greens, loaded with black beans, salsa and guacamole

Asian and Noodle Shops

- Tofu and veggie stir fry with brown rice
- Steamed vegetables, quinoa and zesty beans

American

- Veggie burger and a side salad
- Hummus appetizer and steamed vegetables

Italian

- Minestrone soup and a side salad
- Whole wheat pasta with marinara sauce and vegetables
- Loaded vegetable cheese-less pizza (whole grain crust if available)

Sandwich Shop

- Vegetable wrap or veggie sandwich and large salad
- Plant-based soup (black bean, vegetable) and large salad

Navigating Travel on a Plant-Based Diet

Traveling can make you feel less than your best because of jet lag, changes in your schedule, and unfamiliar surroundings. Eating unhealthy food only makes this worse! Whether you are traveling for business or pleasure, you can stick to your healthy eating routine and still enjoy yourself.



Plan ahead

Search online or call your hotel concierge and ask for recommendations for healthy dining options at your destination.



Pack your own meals

Whether you are traveling by plane, train or car, the only way to guarantee healthy food options is to pack your own food. Pack sturdy fruits and vegetables like apples, oranges, snap peas, celery sticks and carrots. Make nut butter sandwiches on whole grain bread. Bring portable, non-perishable dried fruit and raw nuts, such as almonds or walnuts, or whole food, plant-based snack bars like Larabar, KIND bars and PROBar.



Avoid fast food

On road trips, stop at grocery stores instead of fast food restaurants. Grocery stores offer a wider variety of healthy options and many even have salad bars.

Plan to eat in for at least one meal each day

Breakfast is an easy meal to prepare yourself no matter where you are. Create a healthful concoction of shredded wheat, whole oats, nuts, and dried fruit that can easily be packed to-go in a zip-top bag. In a pinch, pack instant oatmeal, fruit and nuts, add hot water, and you have a hearty breakfast.



Drink plenty of water

Aim to drink more than usual — common components of traveling like flying, dry air in hotel rooms, hot climates, high-sodium restaurant foods, and alcohol consumption are dehydrating.

Of course, there's always the option to consume only water on a short trip. Skip the traditional airport food and wait until you're at a place where you can have better control over your choices.

Copyright ©2015 The Plantrician Project. All Rights Reserved.

Navigating Social Situations on a Plant-Based Diet

Sometimes, being different can feel isolating. As you embark on this journey to reclaim your health through food, it is likely that your new eating choices are much different than those of your friends and family. Many of these people will be your biggest fans — championing and supporting you as you get healthier. Some may even join you on your journey! However, others may question or even attack your new eating habits. The following tips will help you stand your ground with grace while navigating social situations.

- Email the host ahead of time to inform him or her of your new eating habits. Emphasize that they do not need to go out of their way to accommodate you, explaining that you are happy to bring a plant-based dish to share. Addressing this in advance will avoid any awkward situations at the gathering.
- "Show" instead of "tell." Avoid lecturing or judging others about their food choices. Eating is a very personal topic and many people do not want to discuss it in social situations. Although you may have the urge to tell everyone you know about the benefits of a plant-diet, instead, simply lead by example.
- On the other hand, share your knowledge if people ask! Be non-judgmental and honest about your journey. Share your successes and failures.
- If your dining companions try to pressure you into ordering or eating foods you do not want to eat, stand your ground. Politely reply that you and your doctor have decided that meat, cheese, etc. are not good for your health. This often piques curiosity and opens up a constructive conversation about plant-based nutrition. Your diet will go from "boring" to interesting!
- If someone challenges your food choices, avoid the temptation to get defensive. Kindly and firmly reply that this way of eating is the best choice for you. Let them know that you are happy to share what you know about whole food, plant-based nutrition and how it has helped you.

Remind yourself that it is okay to be different! You are making the best choices for your health. Do not compromise your health journey to make others feel happy or more comfortable. If you respond to social situations in kind, nonthreatening ways, your friends and family will likely respect your choices.







SECTION 6

Looking at the **Bigger Picture**



Healthcare and global sustainability

Copyright ©2015 The Plantrician Project. All Rights Reserved.

The Bigger Picture: Healthcare

Packaged, processed and convenience foods may be more inexpensive than whole foods at the point of purchase, but the high cost of these food is eventually incurred in the form of healthcare expenditures directly tied to the diseases these foods induce.

- It's estimated that as much as 80% of all healthcare dollars are spent on treatment of chronic conditions that are preventable.
- According to Medicare: Healthcare expenditures in the United States were nearly $2.6 trillion in 2010, an average of $8,402 per person.
- According to the Kaiser Family Foundation, the average family deductible has increased 30% in the last 2 years and total out of pocket expenses have risen 45% averaging $3,301 per year.
- Fidelity Investments estimates that retirees without employer sponsored plans will need $160,000 in savings to cover medical bills, and someone in their forties today will need $500,000 by the time they retire.
- We're experiencing prolonged morbidity: we're living longer but, all too often, these added years are ridden with chronic conditions.
- Seniors spend on average $2,810 dollars on prescription drugs annually, a cost projected to grow to $5,382 dollars per year.
- Office co-payments have doubled in the last 5 years.
- The share of the economy devoted to health care has increased from 7.2% in 1970 to 17.9% in 2009, now at 18% of GDP, and still climbing.
- The U.S. spends substantially more on health care than other developed countries. As of 2009, health spending in the U.S. was about 90% higher than in many other industrialized countries, yet it ranks near the bottom in health outcomes.
- 90% of the U.S. senior population consumes prescription drugs; with costs doubling in the last 30 years. Complications associated with prescription drugs is the #4 cause of death, with 45–50 million adverse events annually.
- 70% of all Americans consume prescription medications, with Americans spending more on pharmaceuticals than all of the rest of the world combined.





The Bigger Picture: Environment

The earth's surface is covered by oceans and other bodies of water and approximately 8 billion acres of arable land — the equivalent of about 6 billion football fields (approximately 1.3 acres each).

Currently, there are over 7 billion people on the face of our planet, predicted to hit the 9 billion mark by 2050.

In order to produce the Standard American Diet (SAD), heavily comprised of animal protein and dairy, it's estimated that the equivalent of 2 football fields are required per person per year — with much of this allocated to growing the crops to feed the animals. If all 7 billion of us on the face of the earth were consuming the SAD, we would need at least two planet Earths to feed us all, and we only have one.

By contrast, on just one football field of arable land, it's estimated that food can be produced to feed 7 people for an entire year when they are consuming a predominantly plant-based diet. **(Figure 1)**

If everyone in the world consumed a predominantly whole food, plant-based diet, we would have the equivalent of nearly 5 billion football fields worth of arable land that could be returned to forested land to regenerate the lungs of the planet or to expand food production to meet the needs of a growing world population. **(Figure 2)**

When considering this, in addition to the science that supports the efficacy of whole food, plant-based nutrition in its ability to prevent, suspend and even reverse the chronic, degenerative diseases that are plaguing much of the developed world, it's clear that a shift to a heavily plant-based dietary lifestyle both domestically and internationally is essential.

When it comes to grain production vs. beef production: By using our grain to produce beef, we waste an estimated 96% of the grain's calories and 100% of its fiber. Hence, for every "quarter pounder" of beef consumed, (190 calories of beef) the grain required to produce those 190 calories would produce enough grain to feed three people for an entire day.

Beef production also wastes water. The water required to produce just 10 pounds of beef is enough water to hydrate a family of four for an entire year! **(Figure 3)**

The good news: The dietary lifestyle that's the most health promoting and disease fighting is also what's sustainable and enables us to feed the world's growing population. A predominantly whole food, plant-based diet = global sustainability.

The #1 cause of virtually all chronic disease and the #1 cause of many of our most pressing environmental sustainability issues are one and the same: our toxic western diet. The foods we should be eating to protect our health and prevent disease are the exact same choices we need to make as they relate to the big picture of sustainability — preserving our precious natural resources and our ability to feed what soon will be nine billion people on the face of the earth.



Today is the first day of the rest of your life! Make today count, and count the days to come. Choose health with each and every bite you take!

Copyright ©2015 The Plantrician Project. All Rights Reserved.

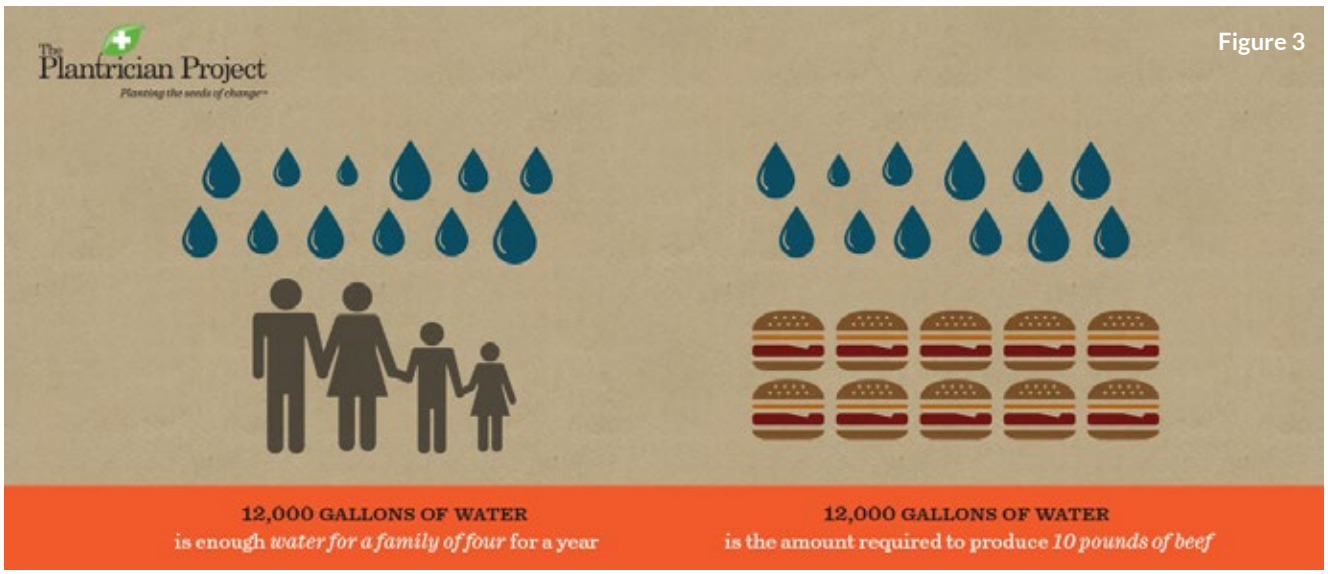
Figure 1

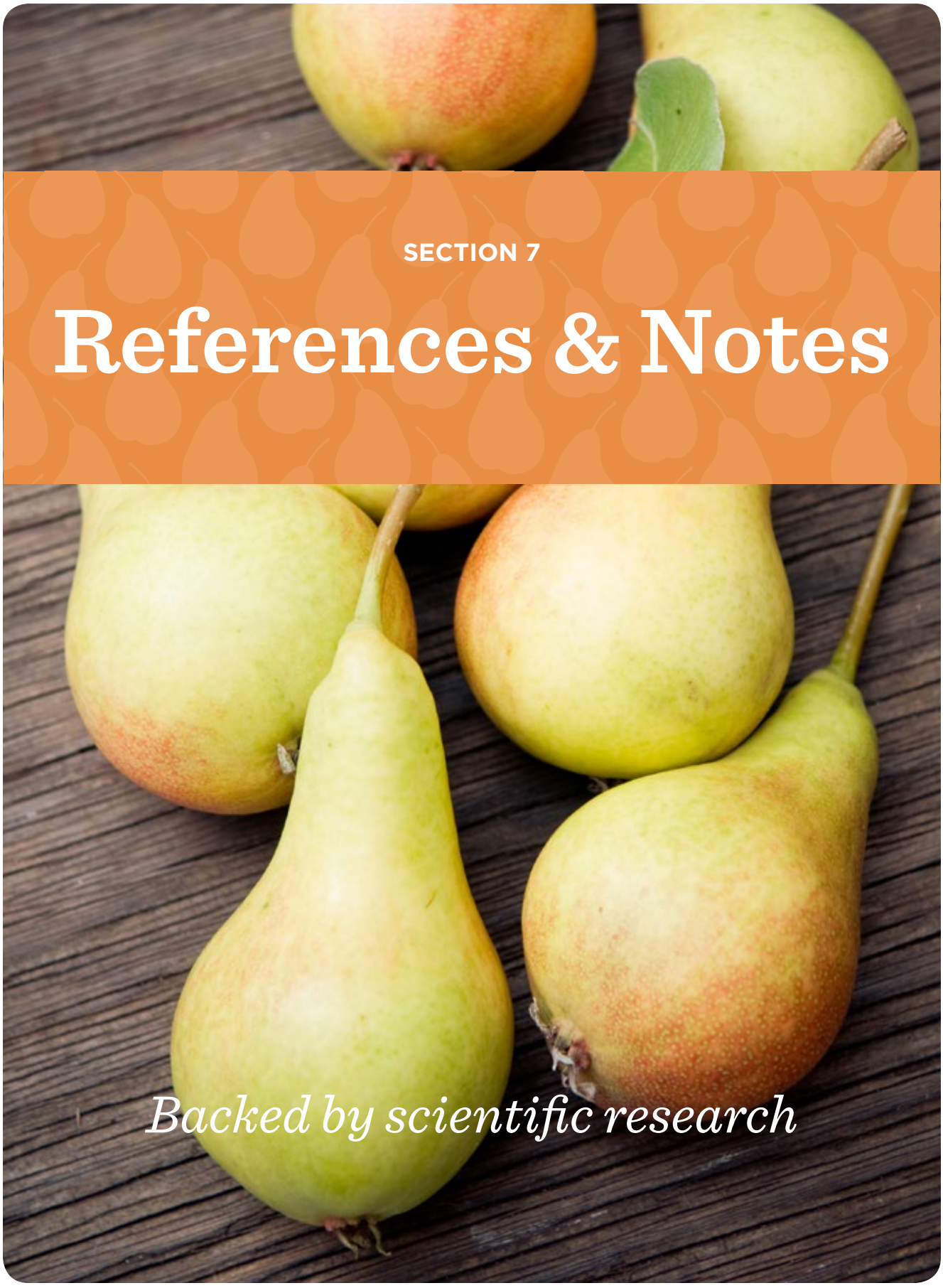


Figure 2



Figure 3





SECTION 7

References & Notes

Backed by scientific research

Copyright ©2015 The Plantrician Project. All Rights Reserved.

References

U.S. Department of Agriculture. What we eat in America. Available from www.ars.usda.gov/services/docshtm?docid=18349.

Finkelstein EA, Khavjou OA, Thompson H, Trogdon JG, Pan L, Sherry B, et al. Obesity and severe obesity forecasts through 2030. Am J Prev Med. 2012;42(6):563–70.

Centers for Disease Control and Prevention. Childhood Obesity Facts. 2015. http://www.cdc.gov/healthyyouth/obesity/facts.htm

May AL, Kuklina EV, Yoon PW. Prevalence of cardiovascular disease risk factors among US adolescents, 1999-2008. Pediatrics 2012;129:1035–1041

Centers for Disease Control and Prevention. High Blood Pressure Facts. 2015. http://www.cdc.gov/bloodpressure/facts.htm

Centers for Disease Control and Prevention. DC National Diabetes Fact Sheet. 2011.

Ko F, Vitale S, Chou CF, et al: Prevalence of nonrefractive visual impairment in US adults and associated risk factors, 1999-2002 and 2005-2008. JAMA 2012, 308:2361-2368.

American Diabetes Association 63rd Scientific Sessions, New Orleans, June 13-17, 2003; K.M. Venkat Narayan, MD, chief of the diabetes epidemiology section, CDC; Judith Fradkin, MD, director of diabetes, endocrinology and metabolic diseases, NIDDK.

Wilson, J. (2014, March 11). Report: Cancer will be No. 1 killer in U.S. - CNN.com. Retrieved June 8, 2015, from http://www.cnn.com/2014/03/11/health/cancer-care-asco-report/

Forks Over Knives, The FOK Diet. Retrieved June 3, 2015, from http://www.forksoverknives.com/the-fok-diet/

Greger, M. (2015, Aug 3). Antioxidants. NutritionFacts.org. Retrieved Aug 5, 2015, from http://nutritionfacts.org/topics/antioxidants/

Greger, M. (2015, July 26). Phytonutrients. NutritionFacts.org. Retrieved Aug 5, 2015, from http://nutritionfacts.org/topics/phytonutrients/

Barnard, N. (2010, Sept 5). Tainted or not, eggs are not safe. SunSentinel.com. Retrieved Aug 5, 2015, from http://articles.sun-sentinel.com/2010-09-05/news/fl-egg-safety-forum-0905-20100905_1_eggs-dates-and-codes-cholesterol-numbers

Greger, M. (2015, Aug 3). Processed foods. NutritionFacts.org. Retrieved Aug 5, 2015, from http://nutritionfacts.org/topics/processed-foods/

Greger, M. (2015, Aug 3). Cholesterol. NutritionFacts.org. Retrieved Aug 5, 2015, from http://nutritionfacts.org/topics/saturated-fat/

Greger, M. (2015, Aug 3). Cholesterol. NutritionFacts.org. Retrieved Aug 5, 2015, from http://nutritionfacts.org/topics/cholesterol/

Ornish D, Scherwitz LW, Billings JH, Brown SE, Gould KL, Merritt TA, Sparler S, Armstrong WT, Ports TA, Kirkeeide RL, Hogeboom C, Brand RJ. Intensive lifestyle changes for reversal of coronary heart disease. JAMA. 1998;280:2001–2007. doi: 10.1001/jama.280.23.2001.

Barnard, N. (2015, July 27). The warning signs of clogged arteries. PCRM.org. Retrieved Aug 5, 2015, from http://www.pcrm.org/nbBlog/index.php/the-warning-signs-of-clogged-arteries

Esselstyn C. B., Gendy G., Doyle J., Golubic M., Roizen M. F. A way to reverse CAD? The Journal of Family Practice. 2014;63(7):356–364.

Esposito K, Giugliano F, Di Palo C, Giugliano G, Marfella R, D'Andrea F, et al. Effect of lifestyle changes on erectile dysfunction in obese men: a randomized controlled trial. JAMA. 2004;291:2978–2984.

Tonstad S, Stewart K, Oda K, Batech M, Herring RP, Fraser GE. Vegetarian diets and incidence of diabetes in the Adventist Health Study-2. Nutr Metab Cardiovasc Dis. 2011 Oct 7.

Barnard ND, Cohen J, Jenkins DJ, Turner- McGrievy G, Gloede L, Green A, Ferdowsian H: A low-fat vegan diet and a conventional diabetes diet in the treatment of type 2 diabe- tes: a randomized, controlled, 74-wk clinical trial. Am J Clin Nutr 89:1588S–1596S, 2009

Tantamango-Bartley, Yessenia; Jaceldo-Siegl, Karen; Fan, Jing; Fraser, Gary. Vegetarian diets and the incidence of cancer in a low-risk population. Cancer epidemiology, biomarkers & prevention : a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology. 2013 Feb; 22(2):286-94

Wiseman M. The Second World Cancer Research Fund/ American Institute for Cancer Research Expert Report. Food, nutrition, physical activity, and the prevention of cancer: A global perspective. Proc Nutr Soc. 2008;67:253–6.

Cullum-Dugan, D., & Pawlak, R. Position of the Academy of Nutrition and Dietetics: Vegetarian Diets. Journal of the Academy of Nutrition and Dietetics, 801-810.

Macknin, M., Kong, T., Weier, A., Worley, S., Tang, A.S., Alkhouri, N., Golubic, M. Plant-Based, No-Added-Fat or American Heart Association Diets: Impact on Cardiovascular Risk in Obese Children with Hypercholesterolemia and Their Parents. The Journal of Pediatrics, 2015.

Protein in the Vegan Diet. Retrieved June 3, 2015, from http://www.vrg.org/nutrition/protein.php

Rizzo, N.S., Jaceldo-Siegl, K., Sabate, J., Fraser, G.E. Nutrient profiles of vegetarian and nonvegetarian dietary patterns. J Acad Nutr Diet 2013 113(12):1610 – 1619.

Messina, M. Soybean isoflavone exposure does not have feminizing effects on men: a critical examination of the clinical evidence. Fertil. Steril. 2010;93:2095–2104.

A.H. Wu, M.C. Yu, C.C. Tseng, & M.C. Pike. Epidemiology of soy exposures and breast cancer risk. Br J Cancer, 98(1):9-14, 2008.

M. Iwasaki, M. Inoue, T. Otani, S. Sasazuki, N. Kurahashi, T. Miura, S. Yamamoto, & S. Tsugane. Plasma isoflavone level and subsequent risk of breast cancer among Japanese women: a nested case-control study from the Japan Public Health Center-based prospective study group. J Clin Oncol, 26(10):1677-1683, 2008.

B.N. Fink, S.E. Steck, M.S. Wolff, J.A. Britton, G.C. Kabat, M.M. Gaudet, P.E. Abrahamson, P. Bell, J.C. Schroeder, S.L. Teitelbaum, A.I. Neugut, & M.D. Gammon. Dietary flavonoid intake and breast cancer survival among women on Long Island. Cancer Epidemiol Biomarkers Prev, 16(11):2285-2292, 2007.

Greger, M. (2012, Oct 12). How Much Soy Is Too Much? NutritionFacts.org. Retrieved June 3, 2015, from http://nutritionfacts.org/video/how-much-soy-is-too-much/

Feskanich D, Willett WC, Colditz GA. Calcium, vitamin D, milk consumption, and hip fractures: a prospective study among postmenopausal women. Am J Clin Nutr. 2003;77:504–511.

D Feskanich, H A Bischoff-Ferrari, A L Frazier, W C Willet. Milk consumption during teenage years and risk of hip fractures in older adults. JAMA Pediatr. 2014 Jan;168(1):54-60.

Calcium and Vitamin D. Retrieved June 3, 2015, from http://www.veganhealth.org/articles/bones

G. Edgren, O. Nyren, and M. Melbye. Cancer as a ferrotoxic disease: Are we getting hard stainless evidence? J. Natl. Cancer Inst., 100(14):976-977, 2008.

J. M. Stankiewicz and S. D. Brass. Role of iron in neurotoxicity: A cause for concern in the elderly? Curr Opin Clin Nutr Metab Care, 12(1):22-29, 2009.

Philip C. Calder, "N-3 Polyunsaturated Fatty Acids, Inflammation, and Inflammatory Diseases," American Journal of Clinical Nutrition 83 (June 2006): 1505S–19S.

Jennifer J. Otten, Jennifer Pitzi Hellwig, and Linda D. Meyers, eds., DRI: Dietary Reference Intakes: The Essential Guide to Nutrient Requirements(Washington, DC: National Academies Press, c. 2006), http://www.nal.usda.gov/fnic/DRI/Essential _Guide/DRIEssentialGuideNutReq.pdf.

Marijke van Dusseldorp, Jorn Schneede, Helga Refsum, et al., "Risk of Persistent Cobalamin Deficiency in Adolescents Fed a Macrobiotic Diet in Early Life," American Journal of Clinical Nutrition 69 (April 1999): 664–71.

Jacobs DR Jr, Tapsell LC, Temple NJ. Food synergy: the key to balancing the nutrition research effort. Public Health Reviews. 2011:33:507-529.

Copyright ©2015 The Plantrician Project. All Rights Reserved.

Barnard, N. (2015). The Dangers of Dairy. Retrieved from http://rouxbe.com/live-events/Dr-Barnard-02/details?utm_source=newsletter&utm_medium=email&utm_content=Plant%20Based%20List&utm_campaign=Dr%20Barnard

A. Drewnowski. The cost of US foods as related to their nutritive value. Am. J. Clin. Nutr. 2010 92(5):1181 - 1188

C. L. Connell, J. M. Zoellner, M. K. Yadrick, S. C. Chekuri, L. B. Crook, M. L. Bogle. Energy density, nutrient adequacy, and cost per serving can provide insight into food choices in the lower Mississippi Delta. J Nutr Educ Behav 2012 44(2):148 - 153

W. O. Atwater. Foods: Nutritive Value and Cost. USDA 1894 NA(NA):1 - 30

Carlson, Andrea, and Elizabeth Frazão. Are Healthy Foods Really More Expensive? It depends on How You Measure the Price, EIB-96, U.S. Department of Agriculture, Economic Research Service, May 2012.

Bernstein AM, Bloom DE, Rosner BA, Franz M, Willett WC. Relation of food cost to healthfulness of diet among US women. Am J Clin Nutr. 2010 Nov;92(5):1197-203.

Batmanghelidj, F. (1995). Your body's many cries for water: You are not sick, you are thirsty! : Don't treat thirst with medications (2nd ed.). Falls Church, VA: Global Health Solutions.

McGinnis JM, Foege WH. Actual causes of death in the United States. Journal of the American Medical Association. 1993;270(18):2207–2212.

Center for Medicare & Medicaid Services. National health expenditures and selected economic indicators, levels and average annual percent change: Selected calendar years 1990-2013. Washington, DC: Center for Medicare & Medicaid Services, Office of the Actuary; 2004.

Institute of Medicine. The future of the public's health in the 21st century. Washington, DC: National Academy Press; 2002.

American Heart Association. 2014. Executive Summary: Heart Disease and Stroke Statistics — 2014 Update. Circulation. 129:399-410. http://circ.ahajournals.org/content/129/3/399.full

DeVol R and Bedroussian A. 2007. An Unhealthy America: The Economic Burden of Chronic Disease — Charting a New Course to Save Lives and Increase Productivity and Economic Growth. http://www.milkeninstitute.org/publications/view/321

The Council of Economic Advisers. The Economic Case for Health Care Reform. The White House. http://www.whitehouse.gov/administration/eop/cea/TheEconomicCaseforHealthCareReform/

Tuso P, Ismail M, Ha B, and Brolotto C. 2013. Nutritional Update for Physicians: Plant-Based Diets. Perm J. Spring; 17(2): 61–66. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3662288/

Centers for Disease Control and Prevention. 2015. Leading causes of death. http://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm#

Food and Agricultural Organization of the United Nations. fao.org

United States Census Bureau. Census.gov

Lappe, Frances Moore. Diet for a Small Planet. 1982.

Robbins, J. (1987). Diet for a new America. Walpole, NH: Stillpoint.

Plantrician Project, plantricianproject.org

Notes

Copyright ©2015 The Plantrician Project. All Rights Reserved.

Notes



The Plantrician Project

Planting the seeds of change™

www.plantricianproject.com

Copyright ©2015 The Plantrician Project. All Rights Reserved.