

VERSION 8

Core *Food Plan*



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Why the Core Food Plan?

The Core Food Plan (CFP) is designed for those who are interested in:

- Core principles of healthy eating
- · Understanding the connection between food choices and health
- Preventing disease
- Awareness of one's relationship with food.

The CFP is a first step towards healthier eating and is designed to nourish and energize your body. It is based on current research on what and how people should eat in order to live long, healthy lives. This food plan takes elements from the Mediterranean diet and the hunter-gatherer approach (sometimes referred to as the "Paleo" diet), to encourage eating nutrient-dense, whole foods. A major focus of the CFP is replacing processed foods with vegetables, fruits, nuts, seeds, legumes, whole grains, anti-inflammatory fats, and high quality proteins to promote health.

This food plan can be easily tailored to your personal preferences and health needs. It is available as vegetarian and vegan options, and can include foods from virtually any culture. This comprehensive guide provides tools, information, and answers common questions that will make it easy to follow this food plan.

We call this a "core" food plan because it lays the foundations for eating well that will carry you throughout life. The CFP uses the basic principles of "food as medicine" to support your overall health.





This food plan was created with the input of a team of physicians, nutrition professionals, and evidence from scientific studies. This comprehensive guide explains how to eat a balance of healthy, whole foods to create a foundation for long-term health.

Foundational eating plan: This food plan meets daily needs for protein, fats, and carbohydrates. It also aims to supply all necessary minerals, vitamins, and phytonutrients, along with plenty of fiber and water.

CFP is appropriate for children and adults of all ages. It can be modified to achieve weight loss or gain, lower blood pressure, exclude dairy, gluten, or any foods to which you may be allergic, intolerant, or sensitive. This food plan can also be targeted towards athletes with a focus on foods to fuel performance.

Focus on whole foods: Whole, plant-based foods are the best source of fiber and phytonutrients. Eating fiber is critical for good health and digestion. Fiber aids the body in the removal of toxins, cholesterol, and other "waste" products through the digestive tract. Fiber is also the preferred food of the healthy bacteria in your digestive tract.

Phytonutrients are plant compounds with a wide range of health benefits. These compounds give fruits and vegetables their color. Aim for at least 1 serving of each color of the rainbow every day or add color throughout the week. Think about food as your "multi-vitamin" and consume a variety of foods and colors.

Encourages organic: Eating organic food helps to reduce toxin exposure. Conventionally grown food often contains pesticides, insecticides, and herbicides. Processed foods also contain artificial colorings, flavorings, additives, and preservatives. This is why eating organically grown foods whenever possible is encouraged. Eating organic whenever possible and limiting processed foods is an important part of a long-term approach to eating healthy.

Adequate quality protein: Every cell in the human body contains proteins: they are the building blocks of life. Protein is needed to repair cells and make new ones, support muscle growth, maintain muscle mass, support the immune system, and balance blood sugar levels (which also helps to control hunger). Choices for protein on the CFP are moderately lean and include both animal and plant foods. Choosing protein from organic, grass-fed, free-range, or wild sources is encouraged whenever possible. These proteins are not just lower in toxins but also higher in anti-inflammatory, omega-3 fats. Protein should be included with every meal and snack.





Balanced quality fats: Anti-inflammatory fats from foods like fish, leafy greens, nuts, certain oils, and seeds are featured in the CFP. Dietary fat plays a key role in the risk of many chronic diseases. Balancing dietary fat intake is a first-line approach to minimizing inflammation in the body. A balanced approach to dietary fat includes: (1) eliminating trans, hydrogenated, and partially hydrogenated fats (typically found in processed foods); (2) decreasing saturated fats from animal sources; and (3) increasing omega-3 fats from fish and plant sources.

It is better to replace saturated fat with unsaturated (liquid) fats, such as olive oil, rather than with refined carbohydrates, like crackers and chips. In the CFP, small amounts of saturated fat have been included, such as coconut oil and butter from grass-fed cows.

High in fiber: In the United States, the recommended amount of daily fiber is around 25 grams for women and 38 grams for men. Unfortunately, only about 5% of the population gets the recommended amount of fiber daily. Eating whole, unprocessed foods in the CFP will naturally provide the body with more dietary fiber. Fiber is found in plant-based foods like whole grains, nuts, legumes, vegetables, and fruits.

There are two types of dietary fiber, each with different benefits. **Insoluble fiber** can be found in the bran (outer coat) of vegetables and whole grains. This type of fiber acts like an "inner broom," sweeping out debris from the digestive tract and helping the intestines move waste along. The other type of fiber, called **soluble fiber**, attracts water and swells, creating a gel-like mass that slows down digestion. The gel traps toxins and cholesterol so that the body can excrete them. It also provides "food" for healthy bacteria that live in the digestive tract. Soluble fiber is found in foods like oat bran, barley, nuts, seeds, beans, lentils, peas, some fruits and vegetables, and psyllium. You should aim to eat 25 to 35 grams of dietary fiber per day.

Low in simple sugars: Sugary beverages, processed foods, refined grains, and desserts should be avoided while following the CFP. The CFP also limits total sugar and added sweeteners. Removing sweeteners helps to minimize inflammation and prevent dramatic increases in blood sugar and insulin.

Sweeteners have different effects on the body. Some have a very gentle effect (low glycemic), while others increase blood sugar rapidly (higher glycemic). With this in mind, no more than 1 to 3 teaspoons of the following sweeteners should be used daily: barley malt, brown rice syrup, blackstrap molasses, maple syrup, raw honey, coconut sugar, and agave. Stevia, lo han, and erythritol can be used as alternatives to these, but very tiny amounts are needed.

Label reading will help you detect both total and added sugars. Natural and artificial sweeteners to be avoided appear on food labels as different names, including the following: aspartame, brown sugar, cane sugar, caramel, confectioner's sugar, corn syrup, corn syrup solids, date sugar, Demerara sugar, dextrose, evaporated cane juice, fructose, glucose, high fructose corn syrup, invert sugar, NutraSweet[™], maltitol, maltodextrin, maltose, mannitol, sorbitol, Splenda[™], sucrose, and turbinado sugar.

Phytonutrient diversity: Plant ("phyto") foods contain thousands of compounds that communicate with the cells in the body and change how they function. Thousands of these compounds have been identified, and research suggests that many thousands of others have yet to be fully understood. We may eat only a small amount of some every day, yet they can have dramatic effects in the body. Several of them—like the bitter compounds in arugula and other green leafy vegetables, resveratrol in grapes and red wine, and the astringent compounds in green tea—appear to be good for health. Some phytonutrients may help regulate blood sugar, lower cholesterol, and make arteries less stiff. Colorful plant foods should be included in each meal and snack. The CFP encourages eating a variety of phytonutrient-rich fruits and vegetables every day by encouraging you to eat six different color groups of plant foods daily (red, orange, yellow, green, blue/purple/black, and tan/white/brown).





The CFP food list provides a "snapshot" of healthy foods to choose from every day.

Depending on your health goals, a daily calorie target may be recommended. The calorie target is usually only needed initially to help you understand portions and learn how to balance protein, fat, and carbohydrate-rich foods. As you become more practiced in following the CFP, the quality of foods—rather than calories—will become more of a priority. Once balancing quality protein, fat, and carbohydrates in meals becomes intuitive, there will be less emphasis on calories.

Proteins: Plant and Animal Sources

Grass-fed and pasture-raised meats like beef and lamb, wild-caught fish, and meat and eggs from free-range poultry are all excellent sources of protein and healthy fats. For plant proteins, the best choice is a complete protein from organic sources. A complete protein is one that has all of the amino acids that are essential to human health, like soy. High-quality organic soy foods like soybeans (edamame) and soy sauce can be included in stir-fries, spreads, sauces and dips. Additionally, fermented soy provides protein as well as beneficial bacteria. Examples of fermented soy foods are miso soup, tempeh, and natto. For those who avoid soy, alternative proteins include protein powders, legumes, nuts, seeds, dairy products, and dairy alternatives.

Quick Tip: Avoid GMO ingredients by choosing 100% organic for both plant and animal proteins whenever possible. When choosing foods that may not be organic, look for "Non-GMO" on the label.

Rule of thumb for portions of protein: There are approximately 7 grams of protein per serving listed in the CFP (e.g., 1 ounce of lean meats, fish, and cheese; 1 egg; 1/2 cup of tofu). A typical serving size of animal protein for a meal (3 to 4 ounces) is about the same size as the palm of your hand. The size of a fist (approximately 3/4-1 cup) is the serving size for plant-based proteins like tofu, tempeh, or edamame, as well as dairy proteins like cottage cheese.

Vegetarian options: The protein section of the Vegetarian CFP is divided into plant proteins, as well as lacto, ovo, and pescatarian food options to accommodate individual preferences.

Tips for including high-quality protein with meals and snacks:

- Eat lean animal protein or plant protein sources at each meal and snack to promote satiety and keep blood sugar stable.
- Purchase lean cuts of red meat (lean loin, tenderloin, and flank cuts) from freerange sources and remove visible fat.
- $\cdot\,$ Use omega-3-rich eggs from free-range hens as a quick protein source for meals or snacks.
- $\cdot\,$ Use organic tofu or tempeh in a colorful vegetable stir-fry.





Legumes

Legumes, such as beans and lentils, are a **combination food** on the CFP. They contain hearty amounts of both **protein** and **carbohydrates**. These plant proteins have been a staple food in many cultures for thousands of years and are often a key ingredient in delicious dishes from around the world. Legumes contain quality protein and fiber, yet have very little fat. Additionally, they are rich in nutrients like B vitamins, potassium, and magnesium. They are a perfect way to get both quality protein and complex carbohydrates that will promote satiety and keep blood sugar stable.

Protein from legumes, seeds, nuts, and grains usually lacks one or more of the essential amino acids. By combining different foods (for example, legumes or seeds/nuts with rice or grains), a complete set of amino acids can be obtained. It is preferred, but not necessary, to eat these complementary foods at the same meal.

Quick Tip: Hummus is easy to make using organic dried or canned garbanzo beans. If using dried beans, soak the beans overnight to shorten the cooking process and make them easier to digest. If using canned beans, rinse first. You can also add garbanzo or other canned beans to any salad or soup.

Tips for eating more legumes include:

- · Spread hummus on a tortilla, or in place of mayonnaise on a sandwich
- \cdot Use hummus as a dip for vegetables or organic corn chips for a healthy snack
- \cdot Add black beans or red kidney beans to salads and soups
- · Enjoy edamame as a snack
- Combine beans with quinoa or rice and a rainbow of vegetables for a tasty salad

Dairy and Dairy Alternatives

Dairy and dairy alternatives are a **combination food** on the CFP, as they contain all three macronutrients: **protein, carbohydrate,** and **fat.** Although milk and other dairy products have long been a staple of Western diets, many people do not tolerate dairy. There is also concern about the potential for commercial dairy products to contain antibiotics, hormones, and residual pesticides and herbicides.

For those avoiding dairy, the CFP provides a separate list of dairy alternatives.

The CFP encourages choosing organic dairy products and organic dairy alternatives such as organic kefir, yogurt, soy, rice, almond, hemp and coconut milks. Plain yogurt or plain Greek yogurt are excellent forms of dairy which provide protein. Milk alternatives labeled "unsweetened" should be used. The coconut milk in this category is the boxed variety. The coconut milk in the fats category of the CFP list is the canned variety, which is much higher in fat. When buying boxed or canned products, look for "BPA-free" to avoid exposure to toxins.



Quick Tip: Organic, plan yogurt and kefir from dairy and dairy alternatives are a rich source of beneficial bacteria that support digestive health, and these foods should be eaten often.

Tips for incorporating healthy dairy/dairy alternatives into meals include:

- $\cdot\,$ Use organic almond, hemp, oat, or coconut milk in smoothies and soups.
- $\cdot\,$ Try plain yogurt and kefir as a snack, a base for dips and sauces, or a topping for fruit.
- $\cdot\,$ Substitute mayonnaise or sour cream with plain yogurt.

Nuts & Seeds

Like legumes and dairy, nuts and seeds are also a **combination food**. Plain nuts are an excellent source of **healthy fat** and **protein**. Small amounts of raw or roasted nuts and seeds added to meals and snacks are a part of a healthy diet. They are also packed with fiber, key minerals (like magnesium, selenium, and zinc), and vitamin E. Hemp, chia, sunflower, and sesame seeds all provide a rich source of healthy fats and protein.

Quick Tip: Nuts and seeds are good plant-based sources of protein. Peanuts (technically a legume but usually thought of as a nut) tend to have the most pesticides, so it's important to choose organic peanuts and peanut butters whenever possible. Nut butters should have no added sugars or fat.

Tips for incorporating nuts and seeds into meals and snacks include:

- $\cdot\,$ Enjoy nuts and seeds as a snack or sprinkled on top of salads, soups, and smoothies.
- $\cdot\,$ Spread 1 to 2 tablespoons of nut or seed butters on celery or an apple.
- $\cdot\,$ Add 1 tablespoon of ground flaxseed or chia seeds to your favorite smoothie.
- $\cdot\,$ Spread 1 to 2 tablespoons of nut or seed butter on a rice cake and topping with fresh fruit.
- Drizzle tahini (sesame seed butter) over vegetables or hummus as part of a savory meal or snack.

Fats & Oils

Eating high-quality, minimally-processed, organic fat and oils is important. Fats are not only used for energy, but are needed for the health of every cell in the body. A minimum of four servings per day of fats/oils is suggested on the CFP. As with any of the categories in this plan, your practitioner may recommend a specific number of servings. **Please note the serving sizes in this section; they are very small.** Consider using water or broth to braise vegetables and other foods, or lightly steam instead of sautéing or roasting in oil.



The CFP includes a variety of anti-inflammatory, minimally-processed, omega-3rich, polyunsaturated, and monounsaturated oils. These oils should be used in small amounts in meals and snacks, and should be organic whenever possible. Look for "cold-pressed," "expeller-pressed," "unrefined," and "extra virgin" on labels when purchasing olive oil. Use olive oil when cooking over low heat. Use unrefined sesame, grapeseed, sunflower, or coconut oil for baking and cooking over medium to high heat. Flax and walnut oils should not be heated, but are great choices for homemade salad dressings. Small amounts of butter from grass-fed cows can provide a natural source of vitamin K, which helps the body absorb Vitamin D for strong bones and optimal immune function.

Quick Tip: Avoid trans (hydrogenated) fats and oils found in margarine, storebought salad dressings, and other processed foods. If the label lists "partially hydrogenated" or "hydrogenated" on the ingredient list, the product contains trans fats.

Tips for incorporating healthy fats into meals each day include:

- · Drizzle olive oil on a fresh salad or sautéed vegetables.
- Make fresh guacamole, or add avocado slices on eggs, salads, soups, or a turkey sandwich.
- Add black, green, and purple olives to salads, or eat them as a snack (rinsed before eating to reduce sodium content).
- · Limit saturated fats to one or two servings per day.
- · Choose organic extra-virgin coconut oil and BPA-free canned coconut milk.
- Enjoy a small amount of dark chocolate (at least 70% cacao).

Non-Starchy Vegetables

Healthy eating is not all about cutting back. Most people need to **add more fruits and vegetables** to their diet. A goal of 9 servings of fruits and vegetables should be consumed per day, with an emphasis on non-starchy vegetables. Another goal is to aim for variety and color by eating a rainbow of colorful foods each day. Emphasize cruciferous vegetables, such as kale, Brussels sprouts, broccoli, and cabbage, which contain an abundance of phytonutrients. As a bonus, select vegetables with multiple colors like rainbow chard, purple kale, or purple Brussels sprouts. These healthful compounds in plants can lower the risk of cancer, heart disease, diabetes, and other chronic diseases. Both the quality of vegetables (fresh and organic when possible) and the method of preparation are important. Raw and lightly steamed is preferred, but vegetables can also be sautéed at low or moderate temperatures, oils with higher smoke points should be used. These oils include avocado oil, and sesame oil. When cooking at low or moderate temperatures, those with low to medium smoke points (olive oil, butter, ghee) are more suitable.



The CFP will help you eat 9 servings of phytonutrient-rich foods, including vegetables, per day. One serving of non-starchy vegetables is equal to ½ cup cooked or raw vegetables. The exception is raw greens, for which one serving is equal to 1 cup. The goal is to see how many different colors and varieties of vegetables you can incorporate into meals each day.

Quick Tip: Green leafy vegetables include kale, collards and other greens, as well as cabbage, bok choy, Swiss chard, arugula, spinach, and many varieties of lettuce. Collards, lettuce, and cabbage can be used as a wrap in place of tortillas and bread.

Tips for incorporating non-starchy vegetables into meals include:

- $\cdot\,$ Add greens to smoothies, egg dishes, and soups for flavor and color.
- \cdot Use leafy greens as alternatives to tortilla wraps or buns.
- $\cdot\,$ Create a salad with a variety of greens and colorful vegetables, and top it with lean protein and healthy fats.
- Take time to clean and prep vegetables; store them in glass containers so they are ready to eat whenever you are hungry.

Starchy Vegetables

Starchy vegetables such as sweet potato, yam, winter squash, parsnips, pumpkin, and beets are rich in colorful phytonutrients and essential carbohydrates. These vegetables may cause blood sugar to rise more rapidly than non-starchy vegetables in some people. Those with diabetes or metabolic syndrome should be particularly mindful when eating these, as only 1-2 servings per day from this category is recommended. Athletes and very active people may have a higher daily requirement for starchy carbohydrates in order to maintain performance and optimize recovery.

Quick Tip: Starchy vegetables add nutrients and fiber and are helpful in thickening soups and stews. Purée all or some of the cooked starchy vegetables and stir back into soup for this purpose. Starchy vegetables are tasty when drizzled with olive oil, tossed with garlic and various spices, and roasted. Sweet potatoes or yams are delicious baked with no additional oils; beets can be roasted, peeled, sliced, and drizzled with balsamic vinegar.



Fruits

Fresh fruit, ripe and in season, is an easy and delicious way to consume a variety of important phytonutrients, antioxidants, vitamins, minerals and fiber. As with starchy vegetables, many fruits can raise blood sugar rapidly and should be eaten in moderation by those with blood sugar concerns. It is helpful to eat fruit with some form of protein and fat, such as nuts, to help decrease any rise in blood sugar. When estimating serving sizes, it is important to remember that one serving of fresh fruit is about the size of a small fist. The CFP suggests 2 to 3 servings of fruit per day.

Quick Tip: Fresh, raw or frozen fruit can be included with breakfast, eaten as a snack, added to smoothies, or made into healthy desserts.

Tips for eating a variety of fruits each day include:

- $\cdot\,$ Add $\frac{1}{2}\,cup$ of fresh blueberries to a bowl of warm steel-cut oats.
- Top a Greek yogurt cup with fresh fruit to add color and flavor.
- Pair a serving of fruit with a small handful of nuts or seeds for a perfect on-the-go snack.

Grains

Whole grains provide protein, fiber, and essential vitamins and minerals. Much of the fiber and protein is removed when a grain is refined, leaving only the starch. The starchy part of a grain is what raises blood sugar (i.e., has a higher glycemic index). Some people have fewer symptoms when they go off grains or when they switch to gluten-free grains (like rice, millet, and quinoa). The CFP lists all whole grains as acceptable, but your practitioner may have more specific guidance. It is always a good idea to observe how any food, including grains, makes you feel. Like starchy carbohydrates, those who are very active may have a higher overall need for carbohydrates in order to maintain performance and optimize recovery.

The CFP suggests no more than 1 to 2 servings of grains per day for most people. The food plan also recommends eating only organically-grown, non-GMO whole grains. For individuals who want to limit or avoid exposure to gluten, grains are separated into two categories: gluten-free grains and gluten-containing grains.

Quick Tip: A serving size of most cooked grains like pasta, oats, rice, or quinoa varies from 1/3 to 1/2 cup. Explore the variety of ancient grains (millet, teff, amaranth, spelt, faro, or quinoa) that have been around for centuries.

Tips for incorporating whole grains into meals include:

- Substitute whole-wheat pasta with quinoa, brown rice, or corn pasta when avoiding gluten.
- $\cdot\,$ Top a brown rice cake with almond butter and fresh fruit for a snack.
- · Make hot cereals with quinoa and amaranth on cold mornings.

Beverages, Spices and Condiments

Staying hydrated helps rid the body of toxins, builds resilience to stress, enhances metabolism, and promotes satiety. Everyone should drink clean, filtered water throughout the day, but recommendations depend on your weight and activity level. Those who are very active or those living in warmer climates may have increased needs for hydration. A functional medicine practitioner can provide personalized water recommendations suited to your lifestyle and health goals.

In addition to water, broths, herbal teas, and other decaffeinated beverages are good choices. Alcohol, caffeinated beverages, and sugary beverages should be limited, as they tend to dehydrate the body and raise cortisol and blood sugar levels.

Quick Tip: For generally healthy people, darker-yellow urine usually indicates a need for drinking more water while clear urine (and frequent trips to the bathroom) may indicate over-hydration.

Tips for improving your hydration include:

- Add a slice of lemon or lime or a splash (about an ounce) of 100% natural pomegranate, cherry, or cranberry juice to a water bottle for a hint of natural flavor.
- Enjoy a variety of herbal and green teas to provide variety in taste and nutrients.
- Explore kombucha teas, which are made by fermenting green or black tea. Be aware of the sugar content, which can vary by recipe.

Herbs are the fresh leaves of edible plants. Common herbs include cilantro, parsley, rosemary, oregano, and thyme. When herbs are dried, they are referred to as spices. Spices are edible and aromatic, and can come from a plant's root, stem, bark, bud, leaves, flower, fruit, or seed. Spices provide high levels of phytonutrients that help fight disease. When buying spices, fillers (like sugar, maltodextrin, gluten, artificial colors, preservatives, or synthetic anti-caking agents) should be avoided. Ideally, spices should be stored in glass containers, rather than plastic, to avoid exposure to toxins. Organically-grown herbs and spices are preferred whenever possible.

Many herbs and spices have therapeutic properties. For example, ginger has been used for centuries to treat nausea and digestive concerns. Some common herbs and spices include basil, cardamom, cayenne, cinnamon, cloves, cumin, garlic, ginger, oregano, rosemary, thyme and turmeric. Curry powder is a blend of spices that varies from geographic region to region. Many of the components of curries are anti-inflammatory, with most blends containing coriander, cumin, fenugreek, red pepper, and turmeric.



When buying and storing herbs and spices, follow these tips:

- $\cdot\,$ Avoid buying large quantities; purchase only what you will use within a few months.
- Store herbs and spices in airtight containers, and throw out old herbs and spices.
- Store herbs and spices in a cool, dark place. Exposure to heat, light, and moisture will accelerate loss of flavor.
- To increase shelf life, close containers tightly after using, and store spices away from the stove. With proper storage, ground spices will keep for a year and whole spices for up to 2 or 3 years.
- $\cdot\,$ Rub between fingers and smell to test for freshness.

Tips for including more herbs and spices in your meals include:

- · Add brewed tea to smoothies.
- Make a simple salad dressing by combining extra-virgin olive oil, lemon juice, finely chopped garlic, and basil.
- \cdot Add dry or Dijon mustards to the salad dressing recipe above.
- Top salads or sandwiches with fresh herbs such as cilantro, chives, basil, or mint.
- · Sprinkle cumin or fennel seeds in soups or salads.
- · Marinate lean meats in curry powder or curry pastes.
- Sprinkle cinnamon and nutmeg over oatmeal, whole grain toast, a cup of steamed soymilk, or vegetables (e.g., green beans).
- · Add fresh parsley or chives to scrambled eggs.
- · Stew fruits with a cinnamon stick and a vanilla pod.
- · Add freshly grated garlic to mayonnaise.
- · Add spices to ghee (clarified butter), honey, oils, or salt.

Most condiments, like teriyaki sauce, ketchup, barbecue sauce, and glazes, have added sugar, salt, and additives. Reading and understanding food labels can help you avoid unwanted additives. Additionally, additives can be avoided altogether when making healthier versions of condiments at home using common ingredients like herbs and spices.

Preferred condiments:

- · Apple cider, rice, and balsamic vinegars
- Bragg Liquid Aminos[™]
- · Coconut aminos
- Herbamare[™]
- Homemade or store-bought low-sodium and organic broths (vegetable, chicken, beef)
- \cdot Kosher or unrefined sea salts
- · Lemon/lime juice
- · Miso (if soy is tolerated)
- Mustards
- Peppercorns
- · Red chili paste
- · Salsa without added sugars
- Tahini
- Wasabi
- \cdot Wheat-free tamari



What are the core principles of healthy eating?

Functional medicine starts with food. Food is medicine, connection, information, and energy. Eating a wide variety of high-quality, whole, and mostly plant-based foods is truly powerful medicine that improves health and hinders the development of disease.

Healthy, whole food is medicine the body needs to reverse many chronic

diseases. The Western diet has large nutritional gaps because of the abundance of high-calorie foods with poor nutritional quality. Nutrigenomics, a science that studies the impact of food choices on gene expression, is proving that we truly are what we eat. The key is making an effort to choose nutrient-rich foods that send the healthy signals to the body for positive gene expression and optimal health.

Food is central to our social interactions. We typically share meals with our communities, and our ethnic backgrounds influence what and how we eat. Food is used for celebration and ceremony, and to honor and enjoy traditional cultures. Through the process of sharing food with others, we also practice intention and mindfulness.

Food is not just calories you eat; it is also a source of information for the body. With every bite, food has the ability to influence genes that control disease risk, lifespan, and metabolism. Certain foods can impact blood sugar, or even trigger allergic reactions, inflammation, or autoimmune responses. Food has the potential to provide the body with what it needs to function at its best.

Food gives us fuel, in the form of calories, to support every cell of the body. Every cell, tissue, and organ needs fuel to function. What does the body use for energy? Macronutrients—protein, fats, and carbohydrates (known collectively as PFC)—and micronutrients—minerals, vitamins, and phytonutrients (known collectively as MVP)—all are derived from food and help your body perform its best.

Are organic foods really that important to buy? They seem expensive.

There are thousands of man-made chemicals present in the environment; while researchers learn more about their association with disease, it only makes sense to minimize exposure to pesticides, insecticides, hormones, antibiotics, herbicides, and GMOs. This can be done, in part, by consuming organically-grown food whenever possible.

There are several ways to save money on organic food. Buying foods in season from the local farmer's market or signing up for a CSA (community supported agriculture) may keep costs down. Another helpful resource are the "Dirty Dozen" and "Clean 15" lists published annually by the EWG (www.ewg.org). These lists will help you prioritize which fruits and vegetables are most important to purchase organic.

The certified organic label on a food guarantees that there has been no usage of genetically modified crops or sewage sludge as fertilizer. The latter helps to reduce toxic runoff into rivers and lakes, along with the contamination of watersheds and drinking water.

To further reduce your exposure to pesticides and bacteria:

- Wash produce before peeling, so dirt and bacteria aren't transferred from the knife onto the fruit or vegetable.
- Peel the skin or remove outer layer of leaves of non-organic produce like lettuce or onions.
- Remove surface pesticide residues, waxes, fungicides, and fertilizers by soaking the food in a mild solution of white vinegar or additive-free soap (pure Castile soap or biodegradable cleanser).
- Wash your hands for 20 seconds with warm water and soap before and after preparing fresh produce.
- Dry produce with a clean cloth or paper towel to further reduce bacteria that may be present.

How much protein should I eat?

Most people need to eat about 3 to 4 ounces (about the size of your palm) of protein at each meal, but people with higher energy needs (e.g., athletes and those who are pregnant or nursing) will need more protein in each meal. Recommendations for protein vary according to body weight and activity level. The quality of protein is very important: lean, grass-fed, free-range, organically grown, non-GMO meat, poultry, and wild fish are all recommended for omnivores. Vegetarians should choose organic sources of soy and other legumes when possible, along with nuts and seeds.

How often is it okay to eat eggs?

There is an ongoing debate about eggs, particularly when it comes to heart disease. Originally it appeared that the cholesterol in eggs made blood cholesterol rise, but later studies have been conflicted. For some, one egg per day may be appropriate and for others, egg whites may be best. Some research does suggest that it is better for those with diabetes to have fewer eggs, typically less than one per day.

How do vegetarians get enough protein?

It is very important to include legumes, whole grains, green leafy vegetables, seeds, and nuts into meals. For vegetarians who eat eggs and dairy products, getting adequate protein is even easier, because these foods provide complete proteins. For vegans, it is important to include some grains for the essential amino acid methionine, which is missing from beans and peas (legumes).

High-quality protein choices for a vegetarian might include 1 egg (7 grams of protein), a typical serving of green vegetables (2 to 3 grams), ½ cup organic tofu or soy product (10 grams), legumes—such as lentils (9 grams), edamame or green soybeans (6 grams)—and 1 cup of soy milk (7 grams).

When do I eat plants raw and when do I cook them?

For the most part, a combination of raw and cooked foods in the diet is recommended. People with digestive issues (e.g., bloating, constipation, diarrhea, gas, and pain) will better tolerate cooked plant foods. Below is some general guidance for preparing vegetables:

- Steaming or waterless cooking methods help preserve vitamins and other nutrients. Use as little water as possible and cook until the color of the vegetable becomes bright and vivid.
- Lightly cook cruciferous vegetables (broccoli, cabbage, kale, arugula, etc.), as boiling may deactivate their anti-cancer compounds.
- In general, cook vegetables only to the point of making them tender, not mushy.
- The nutrient content of foods like seeds, nuts, and legumes can be increased using certain preparation methods, including heat, soaking, fermentation, germination, and malting.
- Cooking increases the antioxidant content in carrots, spinach, mushrooms, asparagus, broccoli, cabbage, red cabbage, green and red peppers, potatoes, and tomatoes.
- Peeling the skins of apples and cucumbers reduces their antioxidant content significantly.
- Don't pre-soak vegetables before cooking, as nutrients will be lost in the water.

Are frozen fruits and vegetables okay to eat?

Frozen fruits and vegetables are a great option when the cost, time, or availability of fresh produce is an issue. If the food was initially considered to be of high quality (i.e., organically grown and fairly fresh at the time of freezing), then the final nutrient content will be mostly retained. Studies have shown that some foods, like blueberries, retain their phytonutrient content after freezing.

There are some concerns with freezing, because the blanching process during preparation may result in the loss of some nutrients like vitamin C and B vitamins. Still, frozen foods are always preferable to canned foods.

Nine servings of fruits and vegetables seem difficult to eat in one day. How can I do it?

Here is an example of how to include 9 servings in an 1800-calorie diet:

- 2 servings (1 cup or 2 pieces) of fruits (serving size varies depending on your fruit choice)
- · 2 servings of leafy greens (2 cups)
- · 4 servings (2 cups) of other non-starchy vegetables
- 1 serving of starchy vegetables (½-1 cup)

Why are coconut oil and coconut milk on the Core Food Plan? I thought coconut was bad for my cholesterol.

The goal of the CFP is eating a healthy variety, and this includes the fat and oil choices. Avocado and extra-virgin olive oil are two staples that can be used for the majority of cooking and food preparation. Coconut oil may occasionally be used, especially when cooking at a higher heat. Coconut oil provides short- and medium-chain fats that can be quickly used by the liver and intestines for energy. It is best to use no more than 3 teaspoons (or 1 tablespoon) of organic, virgin coconut oil on occasions when a high heat oil or coconut flavor is needed. Coconut milk is also a good way to add flavor to stir-fried foods, curries, and soups.

I don't see any sweeteners on the food list. What can I use on the CFP as a sweetener?

For optimal health, it is best to refrain from added sweeteners as much as possible. The inflammation that sugar promotes can have a long-lasting impact on the blood vessels and brain. In addition, high-intensity sweeteners can lead to blood sugar imbalances, increased food intake, and cravings for sweets. When craving something sweet, fresh fruits are the best choices. For example, eating an apple or having a handful of fresh blueberries would be a great choice.

The CFP doesn't recommend processed foods, so you will be avoiding the added sugars in those products. There are no added sugars in fresh vegetables or fruits (though dried fruits often contain added sugars). Stevia, an herbal sweetener, may be used occasionally in tiny amounts, as it is intensely sweet. It is best to avoid artificial (synthetic) sweeteners because they may have negative effects on metabolism and could lead sweet cravings. Artificial sweeteners to avoid include (but are not limited to) the following: aspartame (NutraSweet®), sucralose (Splenda®), acesulfame-K (Ace K, Sweet One, Sunett®), and saccharin (Sweet N' Low®). More information on sweeteners can be found in IFM's Sweeteners at a Glance handout.

What about drinking alcohol?

Drinking modest amounts of red wine may reduce heart disease risk. The phytonutrients in red wine, such as resveratrol, help to relax the blood vessels, increase good cholesterol, and bring blood sugar into balance. However, red wine is also a form of sugar and added calories and may not be good for everyone. Your functional medicine practitioner can help determine whether moderate or occasional use of alcohol would be appropriate and consistent with your health goals. For a generally healthy man, 1 to 2 glasses (5 ounces, or $\frac{2}{3}$ cup) of red wine (depending upon body weight) may be acceptable within a mealtime setting. Women who drink alcohol should aim for one glass of wine no more than four times a week, due to the association between breast cancer and increased alcohol consumption. Another option is to eat foods high in resveratrol, such as red grapes, dark chocolate, peanuts, and blueberries.

Do coffee and tea have any benefits?

Needs, preferences, and sensitivities will vary from person to person, and your functional medicine provider can help you determine whether coffee and tea is right for you. For those sensitive to it, caffeine can cause a fast heart rate and abnormal heart rhythms. On the other hand, coffee contains important phytonutrients which may help the liver process blood sugar. Also, moderate consumption of up to 3 eight-ounce cups of coffee daily has been shown to be associated with lower rates of type 2 diabetes. For those who enjoy the taste of coffee, a solution might be switching from caffeinated to decaffeinated coffee with no added sugar. A small amount of caffeine (5-50 milligrams) is found in decaffeinated coffee, so there would still be some effect. Another option would be to combine 4 ounces of caffeinated coffee with 4 ounces of decaffeinated coffee for a short time before switching entirely to decaffeinated coffee.

Green tea may be a better choice for most people. It contains caffeine, but not as much as a typical cup of coffee. Green tea also contains anti-inflammatory and antioxidant phytonutrients. Drinking both green and black teas has been associated with a reduction in the risk of heart disease and stroke. Three cups per day appears to be the best amount for the most overall benefit.

Resources and Tools for Success

The CFP represents a phytonutrient-dense and balanced approach to healthy eating. It is beneficial for both health maintenance and disease prevention. To make the transition to this way of eating easier, we offer a number of other tools.

The following handouts are available from functional medicine practitioners to assist you in implementing the IFM Core Food Plan:

- · Core Food Plan Food List
- · Core Food Plan Vegetarian Food List
- · Core Food Plan Vegan Food List
- · Core Food Plan Weekly Planner and Recipes
- · Phytonutrient Spectrum Comprehensive Guide
- Phytonutrient Spectrum Foods
- · Sweeteners at a Glance

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