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# VEGETARIAN FOODS

# Powerful Tools for Health

vegetarian menu is a powerful and pleasurable way to achieve good health. The vegetarian eating pattern is based on a wide variety of foods that are satisfying, delicious, and healthful.

Vegetarians avoid meat, fish, and poultry. Those who include dairy products and eggs in their diets are called lacto-ovo vegetarians. Vegans (pure vegetarians) eat no meat, fish, poultry, eggs, or dairy products. While there is a considerable advantage to a lacto-ovo vegetarian pattern, vegan diets are the healthiest of all, reducing risk of a broad range of health concerns.

### A HEALTHY HEART

Vegetarians have much lower cholesterol levels than meat-eaters, and heart disease is less common in vegetarians. The reasons are not hard to find. Vegetarian meals are typically low in saturated fat and usually contain little or no cholesterol. Since cholesterol is found only in animal products such as meat, dairy, and eggs, vegans consume a cholesterol-free diet.

The type of protein in a vegetarian diet may be another important advantage. Many studies show that replacing animal protein with plant protein lowers blood cholesterol levels—even if the amount and type of fat in the diet stays the same. Those studies show that a low-fat, vegetarian diet has a clear advantage over other diets.

#### LOWER BLOOD PRESSURE

An impressive number of studies, dating back to the early 1920s, show that vegetarians have lower blood pressure than non-vegetarians. In fact, some studies have shown that adding meat to a vegetarian diet raises blood pressure levels rapidly and significantly. The effects of a vegetarian diet occur in addition to the benefits of reducing the sodium content of the diet. When patients with high blood pressure begin a vegetarian diet, many are able to eliminate the need for medication.

# **CONTROLLING DIABETES**

The latest studies on diabetes show that a vegetarian diet high in complex carbohydrates and fiber (which are found only in plant foods) and low in fat is the best dietary prescription for controlling diabetes. A diet based on vegetables, legumes, fruits, and whole grains, which is also low in fat and sugar, can lower blood sugar levels and often reduce or even eliminate the need for medication. Since individuals with diabetes are at high risk for heart disease, avoiding fat and cholesterol is important, and a vegetarian diet is the best way to do that.

## **CANCER PREVENTION**

A vegetarian diet helps prevent cancer. Studies of vegetarians show that death rates from cancer are only about one-half to three-quarters of those of the general population.

Breast cancer rates are dramatically lower in countries where diets are typically

plant-based. When people from those countries adopt a Western, meat-based diet, their rates of breast cancer soar. Vegetarians also have significantly lower rates of colon cancer than meat-eaters. Colon cancer is more closely associated with meat consumption than any other dietary factor.

Why do vegetarian diets help protect against cancer? First, they are lower in fat and higher in fiber than meat-based diets. But other factors are important, too. Plants contain other cancer-fighting substances called phytochemicals. For example, vegetarians usually consume more of the plant pigments beta-carotene and lycopene. This might help to explain why they have less lung and prostate cancer. Also, some studies have suggested that diets that avoid dairy products may reduce the risk of prostate and ovarian cancer.

Some of the anti-cancer aspects of a vegetarian diet cannot yet be explained. For example, researchers are not quite sure why vegetarians have more of certain

white blood cells, called "natural killer cells," which are able to seek out and destroy cancer cells.

#### THE CALCIUM CONNECTION

Vegetarians are less likely to form either kidney stones or gallstones. In addition, vegetarians may also be at lower risk for osteoporosis because they eat little or no animal protein. A high intake of animal protein encourages the loss of calcium from the bones. Replacing animal products with plant foods reduces the amount of calcium lost. This may help to explain why people who live in countries where the diet is typically plant-based have little osteoporosis, even when calcium intake is lower than that in dairy-consuming countries.

### PLANNING VEGETARIAN DIETS

It's easy to plan vegetarian diets that meet all your nutrient needs. Grains, beans, and vegetables are rich in protein and iron. Green leafy vegetables, beans, lentils, tofu, and nuts are excellent sources of calcium, as are enriched soymilk and fortified juices.

Vitamin D is normally made in the body when sun shines on the skin. People who are dark-skinned or live at northern latitudes have some difficulty producing vitamin D year-round. Vitamin D can easily be obtained from fortified foods. Some sources are commercial breakfast cereals, soymilk, other supplemental products, and multivitamins.

Regular intake of vitamin B<sub>12</sub> is important. Good sources include all common multiple vitamins (including vegetarian vitamins), fortified cereals, some brands of nutritional yeast, and fortified soymilk. It is especially important for pregnant women and breast-feeding mothers to get enough vitamin B<sub>12</sub>. When reading food labels, look for the word cyanocobalamin in the ingredient list. This is the form of vitamin B<sub>12</sub> that is best absorbed.

# The Three-Step Way to Go Vegetarian >>>

If you are making the switch to a vegetarian diet for its health benefits, you'll be pleased to find that there is a wonderful additional benefit to vegetarian eating: it's a delicious and fun way to explore new foods. A vegetarian meal can be as familiar as spaghetti with marinara sauce, as comforting as a bowl of rich, potato soup, or as exotic as Grilled Polenta with Portabella Mushrooms (see recipe on page 15).

The switch to a vegetarian diet is easier than you might think. Most people, whether vegetarians or meat-eaters, typically use a limited variety of recipes; the average family eats only eight or nine different dinners repeatedly. You can use a simple, three-step method to come up with nine vegetarian dinner menus that you enjoy and can prepare easily.

First, think of three vegetarian meals that you already enjoy. Common ones are tofu and vegetable stir-fry, vegetable stew, or pasta primavera.



Second, think of three recipes that you prepare regularly that can easily be adapted to a vegetarian menu. For example, a favorite chili recipe can be made with all of the same ingredients; just replace the meat with beans or texturized vegetable protein. Enjoy bean burritos (using canned vegetarian refried beans) instead of beef burritos, veggie burgers instead of hamburgers, and grilled eggplant and roasted red peppers instead of grilled chicken in sandwiches. Many soups, stews, and casseroles also can be made into vegetarian dishes with a few simple changes.

Third, check out some vegetarian cookbooks from the library and experiment with the recipes for a week or so until you find three new recipes that are delicious and easy to make. Just like that, with minimal changes to your menus, you will have nine vegetarian dinners.

After that, coming up with vegetarian options for breakfast and lunch is easy. Try muffins with fruit spread, cholesterolfree French toast, or cereal for breakfasts. Sandwiches with spreads like hummus or white bean pâté with lemon and garlic, pasta salads, or dinner leftovers make great lunches.

The Protein M

n the past, some people believed one could never get too much protein. In the early 1900s, Americans were told to eat well over 100 grams of protein a day. And as recently as the 1950s, health-conscious people were encouraged to boost their protein intake. Today, some diet books encourage high protein intake for weight loss, although Americans tend to take in twice the amount of protein they need already. And while individuals following such a diet have sometimes had short-term success in losing weight, they are often unaware of the health risks associated with a high-protein diet. Excess protein has been linked with osteoporosis, kidney disease, calcium stones in the urinary tract, and some cancers.

### THE BUILDING BLOCKS OF LIFE

People build muscle and other body proteins from amino acids, which come from the proteins they eat. A varied diet of beans, lentils, grains, and vegetables contains all of the essential amino acids. It was once thought that various plant foods had to be eaten together to get their full protein value, but current research suggests this is not the case. Many nutrition authorities, including the American Dietetic Association, believe protein needs can easily be met by consuming a variety of plant protein sources over an entire day. To get the best benefit from



the protein you consume, it is important to eat enough calories to meet your energy needs.

#### THE TROUBLE WITH TOO MUCH PROTEIN

The average American diet contains meat and dairy products. As a result, it is often too high in protein. This can lead to a



# Tips for making the switch to a vegetarian diet

- Convenience foods cut cooking time. Supermarkets and natural foods stores stock a huge array of instant soups and main-dish vegetarian convenience items. Many canned soups, such as minestrone, black bean, or vegetable, are vegetarian. Flavored rice or other grain mixes, like curried rice or tabouli salad, can be stretched into an entrée with a can of beans. Visit the frozen food section for internationally inspired vegetarian frozen entrées such as corn and bean enchiladas, lentil curry, or vegetarian pad thai. Or try vegetarian baked beans, refried beans, sloppy joe sauce, and meatless spaghetti sauce from the canned goods isle.
- Ask for it! Even restaurants that don't offer vegetarian entrées can usually whip up a meatless pasta or vegetable plate if you ask. If attending a catered affair, catch the waiter before you are served and ask him or her to remove the chicken breast from your plate and slip on an extra baked potato. Most airlines offer vegetarian meals if you ask in advance; or you can always bring a meal on board with you.
- Order your next pizza without cheese but with a mountain of vegetable toppings.
- Find vegetarian cookbooks at your local library or bookstore and have fun experimenting with new foods and recipes.

- International restaurants are the best bets for finding vegetarian food when dining out. Italian, Chinese, Mexican, Thai, Japanese, and Indian restaurants all offer a wide variety of vegetarian dishes.
- Texturized vegetable protein (TVP) is fat-free, has a texture like ground beef, and is wonderful in tacos, chili, and sloppy joes. Look for it in the bulk food section of the grocery store.
- Summer barbecues are healthy and fun with meatless hot dogs and burgers. Or, for a real change of pace, grill thick slices of marinated vegetables like eggplant, zucchini, or tomatoes.
- Check out ethnic groceries for special vegetarian foods. Middle-Eastern delis offer stuffed grape leaves, falafel, and eggplant spreads. Italian markets are a wonderful place to find hearty homemade breads, sun-dried tomatoes, and fresh pasta. Indian and Asian markets offer many vegetarian delicacies, also.
- The simplest dishes are often the most satisfying. Brown rice, gently seasoned with herbs and lemon and sprinkled with chopped nuts or sunflower seeds, is a perfect dish.
- When traveling, pack plenty of vegetarian snacks like instant soups, fresh fruit, raw vegetables, trail mix, granola bars, and homemade oatmeal cookies. Fill a cooler with sandwiches and individual containers of juice and soymilk.

number of serious health problems:

- Kidney Disease: When people eat too much protein, they take in more nitrogen than they need. This places a strain on the kidneys, which must expel the extra nitrogen through urine. People with kidney disease are encouraged to eat low-protein diets. Such a diet reduces the excess levels of nitrogen and can also help prevent kidney disease.
- Cancer: Although fat is the dietary substance most often singled out for increasing cancer risk, protein also plays a role. Populations who eat meat regularly are at increased risk for colon cancer, and researchers believe that the fat, protein, natural carcinogens, and absence of fiber in meat all play roles. The 1997 report of the World Cancer Research Fund and American Institute for Cancer Research, Food, Nutrition, and the Prevention of Cancer, noted that meaty, high-protein diets were linked with some types of cancer.
- Osteoporosis and Kidney Stones: Diets that are rich in animal protein cause people to excrete more calcium than nor-

mal through their kidneys and increase the risk of osteoporosis. Countries with lower-protein diets have lower rates of osteoporosis and hip fractures.

Increased calcium excretion increases risk for kidney stones. Researchers in England found that when people added about 5 ounces of fish (about 34 grams of protein) to a normal diet, the risk of forming urinary tract stones increased by as much as 250 percent.

For a long time it was thought that athletes needed much more protein than other people. The truth is that athletes, even those who strength-train, need only slightly more protein, which is easily obtained in the larger servings athletes require for their higher caloric intake. Vegetarian diets are great for athletes.

To consume a diet that contains enough, but not too much, protein, simply replace animal products with grains, vegetables, legumes (peas, beans, and lentils), and fruits. As long as one is eating a variety of plant foods in sufficient quantity to maintain one's weight, the body gets plenty of protein.

# SAMPLE MENUS (V)

#### **Breakfast**

3 oatmeal pancakes with applesauce topping, calciumfortified orange juice, fresh fruit

# Lunch

Bean burritos: black beans in corn tortillas, topped with chopped lettuce, tomatoes, and salsa, spinach salad with tahini-lemon dressing

#### Dinner

Chinese stir-fry over brown rice: tofu chunks, broccoli, pea pods, water chestnuts, and Chinese cabbage (bok choy), cantaloupe chunks drizzled with fresh lime juice

### Snack

Dried figs

#### **Breakfast**

cup oatmeal with cinnamon and raisins, ½ cup fortified soymilk,
 slice toast with 1 tablespoon almond butter, ½ grapefruit

# Lunch

Whole wheat pita stuffed with hummus (see recipe on page 14), sliced tomatoes, and lettuce, carrot sticks

# **Dinner**

1 cup baked beans, baked sweet potato, 1 cup steamed collard greens drizzled with lemon juice, baked apple

#### Snack

Banana soymilk shake



Many people choose not to use eggs in their diet. About 70 percent of the calories in eggs are from fat, and a big portion of that fat is saturated. They are also loaded with cholesterol—about 213 milligrams for an average-sized egg. Because egg shells are fragile and porous and conditions on egg farms are crowded, eggs are the perfect host for salmonella—the bacteria that is the leading cause of food poisoning in this country.

Eggs are often used in baked products because of their binding and leavening properties. But smart cooks have found good substitutes for eggs. Try one of the following the next time you prepare a recipe that calls for eggs:

- If a recipe calls for just one or two eggs, you can often skip them. Add a couple of extra tablespoons of water for each egg eliminated to balance out the moisture content of the product.
- Eggless egg replacers are available in many natural food stores. These are different from reduced-cholesterol egg products, which do contain eggs. Egg replacers are egg-free and are usually in a powdered form. Replace eggs in baking with a mixture of the powdered egg replacer and water according to package directions.
- Use 1 heaping tablespoon of soy flour or cornstarch plus 2 tablespoons of water to replace each egg in a baked product.
- Use 1 ounce of mashed tofu in place of an egg.
- In muffins and cookies, half of a mashed banana can be used instead of an egg, although it will change the flavor of the recipe somewhat.
- For vegetarian loaves and burgers, use any of the following to bind ingredients together: tomato paste, mashed potato, moistened bread crumbs, or rolled oats.



# Calcium in Plant-Based Diets

Calcium in Foods
FOOD CALCIUM (MG)

# Vegetables

Broccoli, 1 cup, boiled 62
Brussels sprouts, 1 cup, boiled 56
Butternut squash, 1 cup, baked 84
Carrots, 2 medium, raw 40
Cauliflower, 1 cup, boiled 20
Collards, 1 cup, boiled 266
Kale, 1 cup, boiled 94
Sweet potato, 1 cup, baked 76

# Legumes

0
Black turtle beans, 1 cup, boiled 102
Chickpeas, 1 cup, boiled 80
Great Northern beans, 1 cup, boiled $$ . 120
Kidney beans, 1 cup, boiled 62
Lentils, 1 cup, boiled 38
Navy beans, 1 cup, boiled 126
Pinto beans, 1 cup, boiled 79
Soybeans, 1 cup, boiled 175
Soymilk, 1 cup, calcium-fortified 368
Tofu, raw, firm, 1/2 cup 253
Vegetarian baked beans, 1 cup 86
White beans, 1 cup, boiled $\dots 161$

# Grains

Corn tortilla
Rice milk, 1 cup, enriched 300
Wheat bread, 1 slice
Whole wheat flour, 1 cup 41

# **Fruits**

Dried figs, 10 figs 140
Navel orange, 1 medium 60
Orange juice, 1 cup calcium-fortified . $300^*$
Raisins, 2/3 cup 48

<sup>\*</sup> package information

Source: U.S. Department of Agriculture,
Agricultural Research Service. 2004. USDA
National Nutrient Database for Standard
Reference, Release 17. Nutrient Data Laboratory
Web Site, http://www.nal.usda.gov/fnic/foodcomp

any people avoid milk because it contains saturated fat, cholesterol, allergenic proteins, lactose sugar, and frequent traces of contamination, or simply because they don't feel well after consuming dairy products. Milk is also linked to type 1 (juvenile-onset) diabetes and other serious conditions. Happily, there are many other good sources of calcium.

Keeping your bones strong depends more on preventing the loss of calcium from your body than on boosting your calcium intake.

Some cultures consume few or no dairy products and typically ingest fewer than 500 milligrams of calcium per day. However, these people generally have low rates of osteoporosis. Many scientists believe that exercise and other factors have more to do with osteoporosis than calcium intake does.

#### CALCIUM IN THE BODY

Almost all of the calcium in the body is in the bones. There is a tiny amount in the bloodstream, which is responsible for important functions such as muscle contraction, maintenance of the heartbeat, and transmission of nerve impulses.

We regularly lose calcium from our bloodstream through urine, sweat, and feces. It is renewed with calcium from bone or from the diet.

Bones are constantly broken down and made anew. Up until the age of 30 or so, we build more bone than we lose. Later, the bones tend to break down more than build up. The loss of too much bone calcium can lead to fragile bones or osteoporosis.

How rapidly calcium is lost depends, in part, on the kind and amount of protein you eat, as well as other diet and lifestyle choices.

## **REDUCING CALCIUM LOSS**

A number of factors affect calcium loss from the body:

- Diets that are high in protein cause more calcium to be lost through the urine. Protein from animal products is much more likely to cause calcium loss than protein from plant foods. This may be one reason that vegetarians tend to have stronger bones than meat-eaters.
- Diets high in sodium increase calcium losses in the urine.
- Caffeine increases the rate at which calcium is lost through urine.
- Smoking increases the loss of calcium from the body.

A number of factors increase bone building in the body:

- Exercise is one of the most important factors in maintaining bone health.
- Exposure to sunlight allows the body to make the bone-building hormone vitamin D.
- Eating a plentiful amount of fruits and vegetables helps to keep calcium in bone.
- Consuming calcium from plant-based sources, especially green vegetables and beans, provides one of the building blocks for bone building.

### SOURCES OF CALCIUM

Exercise and a diet moderate in protein will help to protect your bones. People who eat plant-based diets and are active probably have lower calcium needs. However, it is still important to eat calciumrich foods every day.

The "Calcium in Foods" chart on the left side of this page gives the amount of calcium found in some excellent plant sources. A quick glance shows how easy it is to meet calcium needs. The sample menus on page 5 each provide approximately 1,000 milligrams of calcium.

What about Milk?

- Calcium: Green leafy vegetables, such as kale, are better than milk as calcium sources.
- Fat Content\*: Dairy products—other than skim varieties—are high in fat, as a percentage of total calories.
- Iron-Deficiency: Milk is very low in iron. To get the U.S. Recommended Dietary Allowance of 11 milligrams of iron, an infant would have to drink more than 22 quarts of milk each day. Milk also causes blood loss from the intestinal tract, depleting the body's iron.
- **Diabetes:** In a study of 142 children with diabetes, 100 percent had high levels of an antibody to a cow's milk protein. It is believed that these antibodies may destroy the insulin-producing cells of the pancreas.
- Contaminants: Milk is frequently contaminated with antibiotics and excess vitamin D. In one study of 42 milk samples tested, only 12 percent were within the expected range of vitamin D content. Of ten samples of infant formula, seven had more than twice the vitamin D content reported on the label, and one had more than four times the label amount.
- Lactose: Three out of four people from around the world, including an estimated 25 percent of individuals in the United States, are unable to digest the milk sugar lactose, which then causes diarrhea and gas. The lactose sugar, when it is digested, releases galactose, a simple sugar that is linked to ovarian cancer and cataracts.
- Allergies: Milk is one of the most common causes of food allergy. Often the symptoms are subtle and may not be attributed to milk for some time.
- Colic: Milk proteins can cause colic, a digestive upset that bothers one in five infants. Milk-drinking mothers can also pass cow's milk proteins to their breast-feeding infants.

# \*Fat content of dairy products

BASED ON PERCENTAGE OF CALORIES FROM FAT

Butter: 100% fat ······

Cheddar cheese: 74% fat .....

Whole milk: 49% fat .....



Ideas for Delicious

Dairy-Free Dining

If you are curious whether dairy foods are contributing to your allergies, skin problems, asthma, stomach upset, gas, diarrhea, or constipation, or you'd like to see how your body feels when it is dairy-free, just give it a try for three weeks. It takes about three weeks to break or create a habit. And in that short time, many people experience major benefits, such as a drop in blood cholesterol levels, weight loss, relief from allergies, asthma, indigestion, or chronic stomach problems. Here are some simple ideas to get you started:

Top your oats or cold cereal with fortified rice or almond milk.

Make smoothies with enriched vanilla soymilk or drink an ice cold glass of your favorite soymilk with your meal or snack.

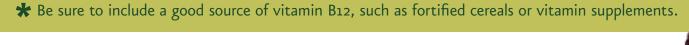
"Leave off the cheese, please." Order your entrée or salad with no cheese. Many dishes can be easily made cheese-free. Ask for guacamole, rice, or extra salsa in your burrito or on your tostada instead of the cheese. Put more vegetables on a dinner salad or add some beans, nuts, or baked tofu chunks instead of cheese.

Most recipes calling for milk can be made with soymilk instead. If it's a soup or other savory dish, be sure to purchase plain soymilk for cooking.

Make creamy dips and desserts using silken tofu in place of sour cream or cream cheese.

Sprinkle nutritional yeast on popcorn or pasta for a cheesy flavor instead of parmesan.

# The New Four Food Groups





# **3** or more servings a day

Fruits are rich in fiber, vitamin C, and betacarotene. Be sure to include at least one serving each day of fruits that are high in vitamin C—citrus fruits, melons, and strawberries are all good choices. Choose whole fruit over fruit juices, which do not contain very much fiber.

**Serving size:** 1 medium piece of fruit • ½ cup cooked fruit • 4 ounces juice





2 or more servings a day

Legumes, which is another name for beans, peas, and lentils, are all good sources of fiber, protein, iron, calcium, zinc, and B vitamins. This group also includes chickpeas, baked and refried beans, soymilk, tempeh, and texturized vegetable protein.

Serving size: 1/2 cup cooked beans • 4 ounces tofu or tempeh • 8 ounces soymilk



any of us grew up with the USDA's old Basic Four food groups, first introduced in 1956. The passage of time has seen an increase in our knowledge about the importance of fiber, the health risks of cholesterol and fats, and the disease-preventive power of many nutrients found exclusively in plant-based foods. We also have discovered that the plant kingdom provides

excellent sources of the nutrients once only associated with meat and dairy products—namely, protein and calcium.

The USDA revised its recommendations with the Food Guide Pyramid, a plan that reduced the prominence of animal products and vegetable fats. But because regular consumption of such foods—even in lower quantities—poses serious health risks,











# Whole Grains

# **Vegetables**

# **5** or more servings a day

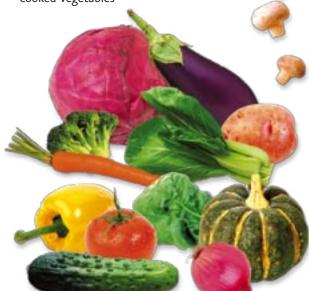
This group includes bread, rice, pasta, hot or cold cereal, corn, millet, barley, bulgur, buckwheat groats, and tortillas. Build each of your meals around a hearty grain dishgrains are rich in fiber and other complex carbohydrates, as well as protein, B vitamins, and zinc.

Serving size: 1/2 cup hot cereal • 1 ounce dry cereal • 1 slice bread

# 4 or more servings a day

Vegetables are packed with nutrients; they provide vitamin C, beta-carotene, riboflavin, iron, calcium, fiber, and other nutrients. Dark green leafy vegetables such as broccoli, collards, kale, mustard and turnip greens, chicory, or bok choy are especially good sources of these important nutrients. Dark yellow and orange vegetables such as carrots, winter squash, sweet potatoes, and pumpkin provide extra beta-carotene. Include generous portions of a variety of vegetables in your diet.

Serving size: 1 cup raw vegetables • 1/2 cup cooked vegetables



PCRM developed the New Four Food Groups in 1991. This no-cholesterol, low-fat plan supplies all of an average adult's daily nutritional requirements, including substantial amounts of fiber.

SUOTANISY

The major killers of Americans—heart disease, cancer, and stroke—have a dramatically lower incidence among people consuming primarily plant-based diets. Weight problems—a contributor to a host of health problems—can also be brought under control by following the New Four Food Group recommendations.

Try the New Four Food Groups and discover a healthier way to live!

# Achieving and Maintaining a Healthy Weight

f the many ways to lose weight, one stands out as by far the most healthful. When you build your meals from a generous array of vegetables, fruits, whole grains, and beans—that is, healthy vegetarian choices—weight loss is remarkably easy. And along with it come major improvements in cholesterol, blood pressure, blood sugar, and many other aspects of health. The message is simple: Cut out the foods that are high in fat and devoid of fiber, and increase the foods that are low in fat and full of fiber. This low-fat, vegan diet approach is safe and easy—once you get the hang of it.

Changing eating habits is the cornerstone of achieving and maintaining a healthy weight permanently. There is no way to "lose 20 pounds in two short weeks" and make it last. Very-low-calorie diets or low-carbohydrate, high-protein diets may cause major health problems and are very difficult to maintain for the long term.

The old myth was that pasta, bread, potatoes, and rice are fattening. Not true. In fact, carbohydrate-rich foods are perfect for permanent weight control. Carbohydrates contain fewer than half the calories of fat, which means that replacing fatty foods with complex carbohydrates automatically cuts calories. But calories are only part of the story.

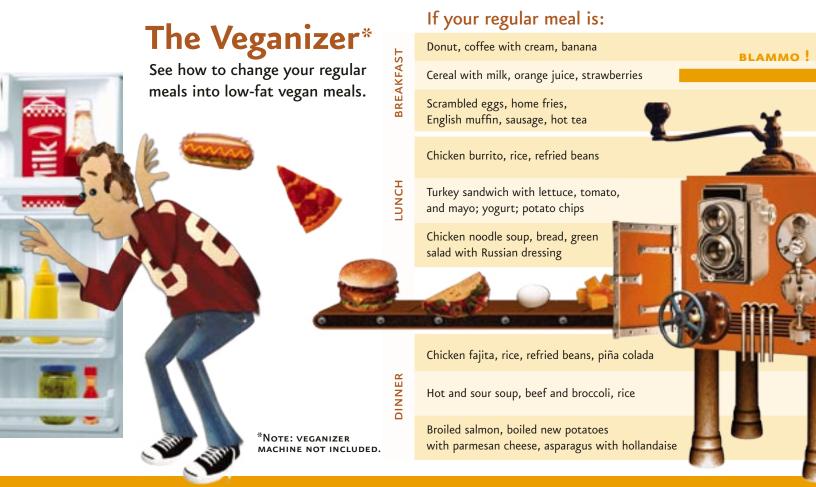
The body treats carbohydrates differently than fat calories. The difference comes from how the body stores the energy of different food types. It is very inefficient for the body to store the energy of carbohydrates as body fat. When your body tries to turn carbohydrate into fat, it wastes 23 percent of the calories of the carbohydrate. But fat is easily converted into body fat. Only 3 percent of the calories in fat are burned in the process of conversion and storage. It is the type of food that affects body fat the most.

Although protein and carbohydrates

have almost the same number of calories per gram, foods that are high in protein—particularly animal products—are also usually high in fat. Even "lean" cuts of meat have much more fat than a healthy body needs. And animal products always lack fiber. Fiber helps make foods more satisfying without adding many calories, and it is only found in foods from plants.

Exercise helps, too. Aerobic exercise speeds up the breakdown of fat and makes sure that muscle is not lost. Toning exercises and weight-lifting help firm muscles and increase muscle mass. The trick is to find activities that you enjoy and that fit your lifestyle. Walking is a good way to start. You can do it anywhere at just about any time.

The best weight control program is a high-complex carbohydrate, low-fat, vegetarian diet complemented by regular exercise. This is the best choice for a healthier, longer, happier life.



# Vegetarian Diets for Pregnancy

uring pregnancy your need for nutrients increases. For example, you will require more calcium, more protein, and more folic acid, although your calorie needs increase only modestly. It is important to eat foods that are rich in nutrients, but not high in fat or sugar or excessive in calories.

Vegetarian diets, based on nutritious whole foods, are healthful choices for pregnant women.

# GUIDELINES FOR GOOD HEALTH DURING PREGNANCY

- Begin a healthful diet before you become pregnant. Your body's store of nutrients supports the early growth and development of your baby.
- Maintain a steady rate of weight gain. Aim for about three to four pounds total during the first trimester and then about three to four pounds each month during

Try this meal instead:

the second and third trimesters.

- See your healthcare provider regularly.
- Limit empty calories found in highly processed foods and sweets. Make your calories count!

#### **NUTRIENTS**

To make certain that you are getting adequate nutrition, pay particular attention to these nutrients:

Calcium: All of the new four food groups include foods that are rich in calcium. Be certain to include plenty of calcium-rich foods in your diet. These include tofu, dark green leafy vegetables, bok choy, broccoli, beans, figs, sunflower seeds, tahini, almond butter, calcium-fortified soymilk (try Silk or Vitasoy brands or others that use whole organic soybeans), and calcium-fortified cereals and juices.

**Vitamin D:** The normal source of vitamin D is sunlight. You'll want to get at least 20

to 30 minutes of direct sunlight on your hands and face two to three times weekly.

If you do not get regular sunlight, vitamin D is also available in multiple vitamins and in fortified foods. Many brands of ready-to-eat cereals and soy and rice milks are fortified with vitamin D.

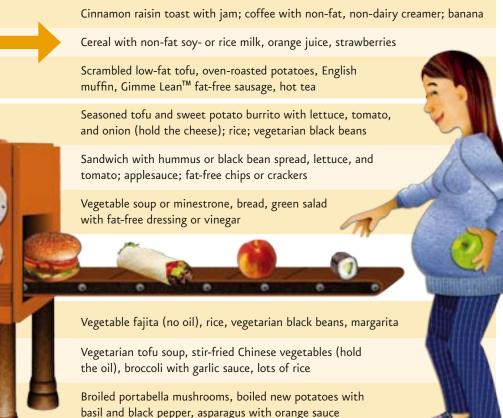
Vitamin B12: Vitamin B12 is not found in most plant foods. To get enough of this important nutrient, be certain to include vitamin B12-fortified foods in your daily routine. These foods include many breakfast cereals, some meat substitute products, some brands of soymilk, and Vegetarian Support Formula nutritional yeast. Be certain to check the ingredient label for cyanocobalamin, the most absorbable form of vitamin B12. Seaweed and products like tempeh are generally not reliable sources of vitamin B12. Vitamin B12 is also in all standard multivitamins and in vegetarian supplements.

Iron: Iron is abundant in plant-based diets. Beans, dark green vegetables, dried fruits, blackstrap molasses, nuts and seeds, and whole grain or fortified breads and cereals all contain plenty of iron. However, women in the second half of pregnancy sometimes need to take a supplement regardless of the type of diet they follow. Your healthcare provider will discuss iron supplements with you.

A word about protein... Protein needs increase by about 30 percent during pregnancy. While there may be concern over whether protein intake is adequate at such an important time, most vegetarian women eat more than enough protein to meet their needs during pregnancy. With ample consumption of protein-rich foods such as legumes, nuts, seeds, vegetables, and whole grains, protein needs can easily be met during pregnancy.

#### **BREASTFEEDING**

The guidelines for breastfeeding mothers are similar to those for pregnant women. Milk production requires more calories, so you will need to boost your food intake a little bit.



# Ages 1 to 4 years

Breakfast: Oatmeal with applesauce, calcium-fortified orange juice

Lunch: Hummus (see recipe) on crackers, banana, soymilk, carrot sticks

Dinner: Corn, mashed sweet potatoes,

steamed kale, soymilk

Snacks: Peach, Cheerios, soymilk

# Ages 5 to 6 years

Breakfast: Whole grain cereal with banana and soymilk, orange wedges

Lunch: Missing Egg Sandwich (see recipe), apple juice, carrot sticks, oatmeal cookie

Dinner: Baked beans with soy "hot dog" pieces, baked potato, spinach, soymilk, fruit salad

Snacks: Trail mix, graham crackers, soymilk

# Ages 7 to 12 years

Breakfast: Strawberry-banana smoothie, toast with almond butter, calciumfortified orange juice

Lunch: Hearty Chili Mac (see recipe), green salad, bread

Dinner: Steamed broccoli with nutritional yeast, steamed carrots, oven fries, Berry Cobbler (see recipe), soymilk

Snacks: Popcorn, figs, soy "ice cream"

# Ages 13 to 19 years

Breakfast: Bagel with apple butter, banana, calcium-fortified orange juice

Lunch: Bean burrito with lettuce, tomato, and guacamole, rice, baked tortilla chips, and salsa

Dinner: Braised broccoli, carrots, yellow squash, and mushrooms, spaghetti with marinara sauce, cucumber salad, soymilk

Snacks: Hummus (see recipe) and baby carrots, fruit smoothie, Luna or Clif Bar

# Vegetarian Diets for Children Right from the Start

ating habits are set in early childhood. Vegetarian diets give your child the chance to learn to enjoy a variety of wonderful, nutritious foods. They provide excellent nutrition for all stages of childhood, from birth through adolescence.

### **INFANTS**

The best food for newborns is breast-milk, and the longer your baby is breast-fed, the better. If your baby is not being breast-fed, soy formulas are a good alternative and are widely available. Do not use commercial soymilk for infants. Babies have special needs and require a soy formula that is developed especially for those needs.

Infants do not need any nourishment other than breast milk or soy formula for the first half year of life, and they should continue to receive breast milk or formula at least throughout their first 12 months. Breast-fed infants also need about two hours a week of sun exposure to make vitamin D—a great motivator for Mom to get back into a walking routine. Some infants, especially those who are dark-skinned or who live in cloudy climates, may not make adequate amounts of vitamin D. In these cases, vitamin D supplements may be necessary.

Vegetarian women who are breast-feeding should also be certain to include good sources of vitamin B<sub>12</sub> in their diets, as intake can affect levels in breast milk. Foods fortified with cyanocobalamin, the active form of vitamin B<sub>12</sub>, can provide adequate amounts of this nutrient. A multivitamin may also be taken as directed by your doctor. Breast milk or infant formula should be used for at least the first year of your baby's life.

At about 5 to 6 months of age, or when baby's weight has doubled, other foods can be added to the diet. Pediatricians often recommend starting with an iron-fortified cereal because, at about 4 to 6 months, infants' iron stores, which are naturally high at birth, begin to decrease. Add one simple new food at a time, at one- to two-week intervals.

The following guidelines provide a flexible plan for



adding foods to your baby's diet.

# 5 to 6 Months

• Introduce iron-fortified infant cereal. Try rice cereal first, mixed with a little breast milk or soy formula, since it is the least likely to cause allergies. Then, offer oat or barley cereals. Most pediatricians recommend holding off on introducing wheat until the child is at least 8 months old, as it tends to be more allergenic.

## 6 to 8 Months

- Introduce vegetables. They should be thoroughly cooked and mashed. Potatoes, green beans, carrots, and peas are all good choices.
- Introduce fruits. Try mashed bananas, avocados, strained peaches, or applesauce.
- Introduce breads. By 8 months of age, most babies can eat crackers, bread, and dry cereal.
- Introduce protein-rich foods. Also, by about 8 months, infants can begin to eat higher protein foods like tofu or beans that have been cooked well and mashed.

# CHILDREN AND TEENS

Children have a high calorie and nutrient need but their stomachs are small. Offer your child frequent snacks.

Teenagers often have high-energy needs and busy schedules. Keeping delicious, healthy snack choices on hand and guiding teens to make lower-fat selections when eating out will help to steer them away from dining pitfalls that often cause weight gain and health problems for adolescents.

Caloric needs vary from child to child. The following guidelines are general ones.



# **FOOD GROUPS**

# Whole Grains

- Whole grains include breads, hot and cold cereals, pasta, cooked grains such as rice and barley, and crackers.
- One serving equals 1/2 cup of pasta, grains, or cooked cereal, 3/4 to 1 cup of ready-to-eat cereal, 1/2 bun or bagel, or 1 slice of bread.

# Vegetables

- "Dark green vegetables" include broccoli, kale, spinach, collards, turnip, mustard and beet greens, bok choy, and Swiss chard.
- "Other vegetables" refers to all other vegetables, fresh or frozen, raw or cooked.
- One serving of vegetables equals 1/2 cup cooked or 1 cup raw (unless an amount is specified).

# Legumes, Nuts, Seeds, and Non-Dairy Milks

- Legumes include any cooked bean such as pinto, kidney, lentils, split peas, navy beans, and chickpeas, as well as soy products such as tofu, veggie burgers, soy "hot dogs" or sandwich slices, and tempeh.
- One serving of legumes equals 1/2 cup of beans, tofu, or other item (unless an amount is specified).
- Non-dairy milks include breast milk and soy formula for infants and toddlers, and rice-, soy-, and other vegetable-based milks for children at least 1 year of age. Choose fortified soymilk, such as Westsoy Plus, Enriched VitaSoy, or Edensoy, whenever possible, or use other fortified vegetable-based milks.
- One serving of non-dairy milk equals 1 cup.
- Nuts include whole or chopped nuts, nut butters, whole seeds, and seed butters.
- One to two servings of nuts may be included in a healthy diet, but they are optional. One serving of nuts or nut butters equals 1 tablespoon.

# **Fruits**

- Fruits include all fruits, fresh or frozen, raw or cooked, and fruit juices.
- One serving equals 1/2 cup cooked fruit, 1/2 cup fruit juice, 1/4 cup dried fruit, or 1 piece of fruit (unless an amount is specified).

# Daily Meal Planning for Children and Teens

Soft Red (	1- to 4-Year-Olds	5- to 6-Year-Olds	7- to 12-Year-Olds	13- to 19-Year-Olds
Whole Grains, Breads, Cereals	4 servings	6 servings	7 servings	10 servings
Dark Green and Other Vegetables	2 to 4 tbsp dark green vegetables 1/4 to 1/2 cup other vegetables	1/4 cup dark green vegetables 1/4 to 1/2 cup other vegetables	1 serving dark green vegetables 3 servings other vegetables	1-2 servings dark green vegetables 3 servings other vegetables
Legumes, Nuts, Seeds, and Non-Dairy Milks	1/4 to 1/2 cup legumes 3 servings breastmilk, formula, or non-dairy milk	1/2 to 1 cup legumes 3 servings soymilk or other non-dairy milk	2 servings legumes 3 servings soymilk or other non-dairy milk	3 servings legumes 2 to 3 servings soymilk or other non-dairy milk
Fruits	3/4 to 1 and 1/2 cups	1 to 2 cups	3 servings	4 servings

BE SURE TO INCLUDE A SOURCE OF VITAMIN B12, SUCH AS ANY TYPICAL CHILDREN'S MULTIVITAMIN OR VITAMIN-FORTIFIED CEREALS OR SOYMILK.

# Recipes for Health



# Buckwheat Corncakes

Makes 16 3-inch pancakes

The mellow flavor of buckwheat combines with the cornmeal to make a light, delicious pancake. Serve these satisfying pancakes with fruit preserves, applesauce, or maple syrup.

½ cup buckwheat flour

- ½ cup cornmeal
- 1/2 teaspoon baking powder
- 1/4 teaspoon baking soda
- ½ ripe banana
- 1 ½ tablespoons maple syrup
- 1 tablespoon vinegar
- 1-1 1/4 cups soy- or rice milk Fresh fruit, fruit preserves,
- syrup for serving

Stir the buckwheat flour, cornmeal, baking powder, and baking soda together in a mixing bowl. In a separate bowl mash the banana and mix it with the maple syrup, vinegar, and 1 cup of milk. Combine the liquid and dry ingredients and stir just enough to remove any lumps. The batter should be pourable; if it seems too thick, add the remaining milk. Preheat a non-stick skillet or griddle and mist it lightly with a vegetable oil spray. Pour small amounts of the batter onto the heated surface and cook until the tops bubble. Turn with a spatula and cook the second side until golden brown. (Stir the batter each time before pouring.) Serve immediately.

NUTRITION INFORMATION PER PANCAKE: 43
CALORIES, 1 G PROTEIN, 9 G CARBOHYDRATE, 0.2
G FAT. 32 MG SODIUM. 0 MG CHOLESTEROL

# Missing Egg Sandwich

Makes about 4 sandwiches

Delicious, lower fat, and cholesterol-free alternative to traditional egg salad.

1/2 pound firm tofu, mashed

- 2 green onions, finely chopped
- 1 tablespoon reduced-fat soy mayonnaise
- 2 tablespoons pickle relish
- 1 teaspoon stone ground mustard
- 1/4 teaspoon cumin
- 1/4 teaspoon turmeric
- 1/4 teaspoon garlic powder or granules
- 8 slices whole wheat bread
- 4 lettuce leaves
- 4 tomato slices

Combine the mashed tofu with green onions, mayonnaise, pickle relish, mustard, cumin, turmeric, and garlic powder or granules. Mix thoroughly. Spread on whole wheat bread and garnish with lettuce and tomato slices.

NUTRITION INFORMATION PER SANDWICH: 197 CALORIES, 10 G PROTEIN, 29 G CARBOHYDRATE, 4 G FAT, 271 MG SODIUM, 0 MG CHOLESTEROL

# **Lentil Barley Soup**

Serves 6 to 8

This hearty soup is easy to prepare and cooks in a single pot.

1 cup lentils, rinsed

1/2 cup hulled or pearled barley

- 6 cups water or vegetable stock
- 1 onion, chopped
- 2 garlic cloves, minced or crushed
- 2 carrots, sliced
- 2 stalks celery, sliced
- 1/2 teaspoon oregano
- ½ teaspoon ground cumin
- 1/4 teaspoon black pepper
- 1/4 teaspoon red pepper flakes
- 1/2-1 teaspoon salt

Place all ingredients except salt into a large pot and bring to a simmer. Cover and cook, stirring occasionally, until the lentils are tender, about 1 hour. Add salt to taste.

Note: For an added nutrient boost add 3



cups of cleaned spinach leaves to the pot right before serving.

NUTRITION INFORMATION PER SERVING: 78 CALORIES, 4 G PROTEIN, 16 G CARBOHYDRATE, 0 G FAT, 150 MG SODIUM, 0 MG CHOLESTEROL

# Spinach Salad with Fruit Flavors

Sprups 6

A favorite from PCRM's cooking classes, this recipe is chock full of cancer-fighting phytochemicals.

10 ounces chopped spinach, washed

- 1 cup berries, grapes, or 10 strawberries, chopped
- 1 10-ounce can mandarin or clementine oranges, or grapefruit sections, drained and rinsed
- 1/4 cup sunflower seeds
- 1/4 cup chopped Brazil nuts
- 1/4 cup fat-free raspberry vinaigrette

Toss ingredients together and serve.

NUTRITION INFORMATION (1/6 OF RECIPE): 111 CALORIES, 3.9 GM PROTEIN, 10.5 GM CARBOHYDRATE, 7 GM FAT, 60 MG SODIUM, 0 MG CHOLESTEROL

# **Hummus**

Makes about 2 cups

A very versatile food: use hummus as a sandwich filling, a dip, or spread on a tortilla and top with lettuce and salsa and roll up.

- 1 can garbanzo beans, drain and reserve liquid, rinse beans
- 2 tablespoons tahini (sesame butter)
- 1/4 cup lemon juice
- 3 scallions, chopped
- 1 tablespoon garlic, chopped
   (about 3 cloves)
- 1 teaspoon cumin
- ½ teaspoon black pepper

Optional: 1/2 cup roasted red peppers

Put all ingredients in food processor and process until smooth. Add reserved bean liquid for a smoother consistency. Spread on whole-wheat pita bread, or serve as a dip for vegetables.

NUTRITION INFORMATION PER 2 TABLESPOON SERVING: 44 CALORIES, 2 GM PROTEIN, 6 GM CARBOHYDRATE, 1.5 GM FAT, 29 MG SODIUM, 0 MG CHOLESTEROL

# **Easy Bean Salad**

Serves 10

So simple and delicious, you won't believe it.

- 1 15-ounce can kidney beans
- 1 15-ounce can pinto beans
- 1 15-ounce can black-eyed peas
- 1 10-ounce frozen package Fordhook lima beans
- 1 cup frozen corn
- 1 large red bell pepper, diced
- 1/2 medium onion, diced
- 1 teaspoon salt
- 1 teaspoon pepper
- 1/2 cup low-fat Italian salad dressing

Toss all ingredients together. Serve cold or at room temperature. May be covered and stored in the refrigerator for several days.

NUTRITION INFORMATION PER SERVING: 176 CALORIES, 9.7 GM PROTEIN, 31 GM CARBOHYDRATE, 2.2 GM FAT, 508 MG SODIUM, 0 MG CHOLESTEROL



# Grilled Polenta with Portabella Mushrooms

Serves 4

Grilling or oven-roasting vegetables is so easy and brings out their best flavors.

1/2 cup polenta (coarsely ground cornmeal)

- 1 15-ounce can vegetable broth or 2 cups vegetable stock
- ½ cup water
- 4 large portabella mushrooms
- 1 tablespoon olive oil
- 2 tablespoons soy sauce
- 2 tablespoons balsamic vinegar
- 2 tablespoons red wine or water
- 2 garlic cloves, crushed
- 1 roasted red pepper, cut into thin strips for garnish (optional)

Combine the polenta, vegetable broth, and ½ cup of water in a saucepan. Bring to a simmer and cook, stirring frequently, until very thick, 15 to 20 minutes. Pour into a 9

x 9-inch baking dish and chill completely (at least 2 hours). To grill, cut into wedges, brush or spray lightly with olive oil, and cook over medium-hot coals until nicely browned. Clean the mushrooms and cut off the stems. Prepare the marinade by stirring the remaining ingredients together in a large bowl. Place mushrooms top side down in the marinade and let stand 10 to 15 minutes. Grill bottom side down over medium hot coals about 5 minutes. Turn and pour some of the marinade into each of the cavities. Grill until mushrooms can be pierced with a skewer, about 5 minutes longer. Serve with grilled polenta. Garnish with roasted red pepper strips, if desired.

Note: The polenta may be broiled in the oven instead of grilled.

NUTRITION INFORMATION PER SERVING: 141 CALORIES, 4 G PROTEIN, 20 G CARBOHYDRATE, 3 G FAT, 308 MG SODIUM, 0 MG CHOLESTEROL

# Chili Mac

Serves 6

Kids of all ages love this simple meal.

8 ounces pasta spirals or macaroni

- 1 onion, chopped
- 2-3 cloves of garlic, minced
- 1 small bell pepper, diced

3/4 cup textured vegetable protein

- 1 15-ounce can crushed tomatoes
- 1 15-ounce can kidney beans, including liquid
- 1 15-ounce can corn, including liquid
- 1 tablespoon chili powder
- 1 teaspoon cumin

Cook the pasta in boiling water until it is tender. Drain and rinse it under hot water, then set it aside. Heat ½ cup of water in a large pot, then add the chopped onion and garlic. Cook until the onion is soft, about 3 minutes. Add the bell pepper, textured vegetable protein, crushed tomatoes, kidney beans, corn, spices, and an additional ½ cup water. Stir to mix, then simmer over medium heat, stirring occasionally, for 20 minutes. Add the cooked pasta and check the seasonings. Add more chili powder if



a spicier dish is desired.

Note: Textured vegetable protein is made from soybeans and is low in fat and high in protein. Look for it in natural food stores and the bulk section of supermarkets.

NUTRITION INFORMATION PER SERVING: 275 CALORIES, 14 G PROTEIN, 52 G CARBOHYDRATE, 1 G FAT, 549 MG SODIUM, 0 MG CHOLESTEROL



# Berry Cobbler

Serves 9

Easier to make and much lower in fat than fruit pie. For a real treat, top the hot cobbler with a spoonful of non-dairy frozen dessert.

5-6 cups fresh or frozen berries (boysenberries, blackberries, raspberries, or a mixture of these)

- 3 tablespoons wholewheat pastry flour
- 1/4 cup sugar or other sweetener
- 1 cup wholewheat pastry flour
- 2 tablespoons sugar or other sweetener
- 1 ½ teaspoons baking soda
- 1/4 teaspoon salt
- 2 tablespoons vegetable oil
- ½ cup non-fat soymilk or rice milk

Preheat oven to 400°F. Spread the berries in a 9 x 9-inch baking dish and mix them with 3 tablespoons of flour and ½ cup of sugar. In a separate bowl, mix 1 cup of flour and 2 tablespoons of sugar with the baking powder and salt. Add the oil and mix it with a fork or your fingers until the mixture resembles coarse corn meal. Add the soymilk or rice milk and stir to mix. Spread the mixture over the berries (don't worry if they're not completely covered), then bake until golden brown, about 25 minutes.

NUTRITION INFORMATION PER SERVING: 166 CALORIES, 3 G PROTEIN, 32 G CARBOHYDRATE, 3 G FAT, 67 MG SODIUM, 0 MG CHOLESTEROL

# More Recipes

For more delicious recipes please visit PCRM's Web site at

www.pcrm.org

# Vegetarian Vegetarian









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