

SECTION 1

Fueling Up on Low-Fat Foods

Many teams of researchers have studied the health of various populations around the world, hoping to tease out the causes of cancer and ways to prevent it. In one study after another, they have found that people following plant-based diets tend to have strikingly low cancer rates. In rural Asia and Africa, for example, traditional diets are based on rice or other grains, starchy vegetables, fruits, and beans, and people eating these diets generally avoid the disease. When it does strike, they also seem to have better survival.

When these populations trade their traditional diets for a menu based on Western foods—either because they have migrated or because fast-food restaurants and other Western food purveyors have come to them—their cancer rates promptly change. In Japan, dramatic diet changes began after World War II. Traditional rice dishes were gradually replaced with hamburgers. Dairy products, which had been almost unknown in Japan, became popular. Carbohydrate intake fell, and fat consumption soared. Soon, cancer rates began to rise, as did the toll of obesity, heart problems, and other diseases.

Although many factors may be at work here, let us focus first on one key biological fact: Fatty foods boost the hormones that promote cancer. Specifically, diets rich in meat, dairy products, fried foods, and even vegetable oils cause a woman's body to make more estrogen.* In turn, that extra estrogen increases cancer risk in the breast and other organs that are sensitive to female sex hormones.

To see why this matters, think for a moment about estrogen's role in the body. In simple terms, estrogen makes things grow. As an adolescent girl develops a mature figure, she experiences estrogen's ability to stimulate the growth of breast tissue. The hormone also thickens the lining of the uterus every month as a woman's body prepares for the possibility of pregnancy.

Estrogen not only makes normal tissues grow. It can also make cancer cells grow. When researchers add a bit of estrogen to breast cancer cells in a test tube, they multiply rapidly. And, in fact, one of the main goals of breast cancer treatment is to reduce estrogen's effects (using drugs, such as tamoxifen, that block estrogen's activity).**

Here is where diet comes in. Foods influence estrogen's effect, too—to a striking degree. When a woman begins a low-fat diet, the amount of estrogen in her blood drops almost immediately. In a matter of weeks, the amount in her bloodstream drops by 15 to 50 percent, depending on how low in fat her diet is.^{2,3} She will still have more than enough estrogen for fertility, but she will nonetheless have less estrogen than before. From the cancer prevention standpoint, that's a good thing. It means there will be less stimulus for cancer cell growth.

A 2003 study published in the *Journal of the National Cancer Institute* found that when girls aged eight to ten reduced the amount of fat in their diet—even very slightly—their estrogen levels were held at a lower and safer level during the next several years. When the girls increased intake of vegetables, fruits, grains, and beans and reduced intake of animal-derived foods, the amount of estradiol (a principal estrogen) in their blood dropped by 30 percent, compared to a group of girls who did not change their diets.⁴

The same phenomenon occurs in men. Men have estrogen in their blood, too—although much less than women have—and cancer researchers have long suspected that both estrogen and testosterone (the “male hormone”) play roles in prostate cancer risk. But as men cut the fat from their diets, the amounts of both estrogen and testosterone tend to fall. Don't worry—this change does not make a man any less masculine. But it may well reduce the hormonal stimulus for prostate cancer growth.

Because of these and related findings, many researchers have suggested that steering clear of meat, dairy products, fried foods, and other fatty fare may reduce cancer risk. However, it is important to understand that in order to reduce cancer risk or effectively change its course, diet changes have to be significant. Studies have shown that modest diet changes do little or nothing. Indeed, large studies of American women have shown that moderate variations in their fat intake make no difference in their breast cancer risk. The best evidence suggests that, to be effective, diet changes have to be fairly profound.

Nonetheless, research bears out a major effect of diet, not only on cancer prevention, but also on cancer survival. Breast cancer patients who follow lower-fat diets do tend to live substantially longer. Researchers at the State University of New York in Buffalo tracked the diets of 953 women who had been diagnosed with breast cancer. They then followed them to see who did well and who did not. The results were striking. The risk of dying at any point in time increased by 40 percent for every 1,000 grams of fat the women consumed per month.⁵ To see what this means in practical terms: If you were to add up all the fat in a typical American diet over the course of a month and compare it to the amount of fat in a low-fat, pure vegetarian diet, the two would differ by approximate 1,500 grams of

fat each month. If the study's findings hold, that would correspond to a 60 percent increased risk of dying at any point in time for patients following a typical American diet.

Several other studies have found much the same thing: Women with breast cancer who eat fattier foods—meats, dairy products, and fried foods—succumb more frequently than do those whose diets are based on the lower-fat choices—vegetables, fruits, whole grains, and beans. Frightening as this sort of finding may be, it shows us a path toward reducing the need for further treatment and improves the odds of living a life free of the tolls cancer can take.

Similar findings have emerged regarding prostate cancer. Men on healthier diets—that is, diets rich in vegetables, fruits, and other low-fat foods from plant sources—are less likely to develop cancer in the first place and, if cancer does strike, more likely to survive it.⁶⁻⁸

Chicken Is Not a Vegetable

Many people try to trim fat from their diets by switching from beef to chicken. Unfortunately, chicken has nearly as much fat as beef. As you'll see in the table below, the leanest beef is 28 percent fat (as a percentage of calories). The leanest chicken—skinless breast meat, prepared without added fat—is not much better, at about 23 percent. Fish vary, with some lower than chicken and some higher, but the truly low-fat foods are in a class by themselves: Beans, vegetables, fruits, and whole grains are virtually all very low in fat and, as we'll see in later sections, high in vitamins, minerals, and healthy fiber.

Fat in Foods (PERCENTAGE OF CALORIES)

Atlantic salmon	40
Beef, round bottom, lean	29
Chicken, white meat, skinless	23
Tuna, white	21
Broccoli	8
Rice, brown	8
Apple	6
Beans, navy	3
Lentils	3
Orange	2

If you or your loved ones are trying to eliminate fat from your diet, switching from beef to chicken does not bring you very far. On the other hand, building your menu from whole grains, beans, vegetables, and fruits is a powerful way to trim the fat.

We'll conclude this section with the results from a surprising experiment conducted at the University of California at Los Angeles. Researchers drew blood samples from a group of men who had been following a low-fat diet and exercising regularly for several years. They also drew blood samples from overweight men who were not following any diet or exercise program. They then added portions of each man's blood serum to test tubes containing standardized prostate cancer cells. It turned out that serum from men on the low-fat diet and exercise program *slowed cancer cell growth* by 49 percent, compared to serum from the other men. The changes in diet and exercise had caused the amount of testosterone, estrogen, and other components in the blood to change so dramatically that the effect on cancer cells was obvious right in the test tube.⁹

The effect occurs quickly. The research team found cancer-inhibiting power within as little as eleven days after beginning a low-fat diet and exercise regimen.¹⁰

Cutting down on fat is an important first step in preventing cancer and in surviving it if it has been diagnosed. So how do we go about it? The easiest way is to build your meals from foods that are naturally low in fat and to use cooking methods that don't require you to add fats or oils. In the next session, we'll see how to begin.

Meal Planning: The New Four Food Groups

The easiest and perhaps most useful guide to basic nutrition is called the *New Four Food Groups*, introduced by the Physicians Committee for Responsible Medicine in 1991. Let's briefly review its guidelines; then, we will see how the guidelines turn into actual meals.

The New Four Food Groups are vegetables, legumes, fruits, and whole grains. The idea is to build your diet by choosing a variety from each of these groups. Here are suggestions for the number of servings from each group:

- Vegetables: 3 or more servings per day
- Legumes (beans, peas, and lentils): 2 or more servings per day
- Whole grains: 5 or more servings per day
- Fruits: 3 or more servings per day
- Add any common multiple vitamin to ensure adequate intake of vitamin B₁₂

The suggested serving numbers are just suggestions to get you started. Feel free to vary your proportions as you like. For example, one way of using the New Four Food Groups follows a traditional Asian pattern, favoring grains, such as rice or noodles, with smaller amounts of vegetables and bean dishes, and reserving fruit for dessert. However, it is just as acceptable to emphasize more vegetables and fewer grain products. Some people who gravitate toward raw foods will increase fruits. You can get complete and healthful nutrition using essentially any pattern that uses each of the four groups.

For optimal nutrition, you will want to avoid meat (red meat, poultry, and fish), dairy products, eggs, added oils, and high-fat foods (potato chips, olives, nuts and nut butters, seeds, and avocados). Steer clear of fried foods and any oily or fatty toppings, such as margarine or typical salad dressings (non-fat dressings are fine). Avoiding fatty foods helps your taste buds to reduce their preference for greasy tastes. When you select breads, cereals, or other grain products, favor those that retain their normal fiber (e.g., brown rice rather than white rice).

So how does all this translate into actual meals? The foods you'll now focus on are not really so different from what you already eat. Breakfast might be a big bowl of old-fashioned oatmeal with cinnamon and raisins (but skip the milk). If you like, add some cantaloupe or whole-grain toast. Lunch might be a bowl of split pea soup or perhaps a plate of baked beans with crackers. Dinner could be minestrone followed by angel hair pasta with marinara sauce—or perhaps an autumn stew of vegetables, beans, and hearty grains.

Recommended Recipes

Hummus (page 83)

Easy Bean Salad (page 96)

Easy Stir-Fry (page 117)

Breakfast Shakes (page 139)

To Do This Week:

Check Your Diet with a 3-Day Dietary Record

You can get a good idea of the healthfulness of your overall diet with a three-day dietary record. This is the same diet-tracking tool researchers use in clinical studies. It not only lets you see exactly what you're eating now, it also helps you see how to improve your diet over time. If, for example, you're getting a little too much fat or too little fiber, you'll spot it right away and can fix the problem.

To do your record, you simply take a sheet of paper, and note down *everything* you eat or drink (except water) for three days, including two weekdays and one weekend day (most of us eat a bit differently on weekends, compared to weekdays).

Using the Diet Record form on page 15 (photocopy it as many times as you need to), jot down each food, condiment, or beverage on a separate line. For example, if you had a salad made of lettuce, tomatoes, chickpeas, and dressing, use four lines, one for each ingredient. Or if you had a peanut butter and jelly sandwich, along with a cola, use four lines so you can separate out each part of the meal—bread, peanut butter, jelly, and the drink.

Write down everything you eat, including snacks and condiments. The only item to omit is water. Record the amount of each food as accurately as you can. You can either weigh each item using a food scale (available in stores that sell kitchenware) or measure or estimate its volume (e.g., one cup of orange juice, or perhaps a small, medium, or large apple).

Record your foods as you go so you don't forget. If it is more convenient, you can keep notes in a small notebook and transfer them to the Diet Record form later. Be thorough.

If you like, you can get a detailed nutrient analysis of your diet. Just be sure to fill in quantities carefully and use a food scale. A dietitian can analyze the record for you, or you can simply log onto a nutrient analysis Web site, such as the University of Illinois' Food Science and Human Nutrition Department's site, www.nat.uiuc.edu/mainnat.html, or www.dietsite.com. Please note that while the nutrient analyses on these sites are accurate, their nutrition guidelines are not necessarily optimal. Many commonly used guidelines allow too much fat and cholesterol. Here is a better set of goals: For an adult consuming 2,000 calories per day, a good fat intake goal is about 25–35 grams each day. This works out to about 10–15 percent of calories. Cholesterol intake should be zero. Your protein intake should be roughly 50 grams per day. Resist the temptation to push protein intake too high.

Diet Record

Make as many copies of this page as you need. Record only one ingredient per line.

Date:

Time of day method	Food	Amount	Cooking
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Section 1 References

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