



American Institute
for Cancer Research

GUIDELINES FOR CANCER PREVENTION

Healthy Living for Cancer Prevention





American Institute
for Cancer Research

Our Vision

The American Institute for Cancer Research (AICR) helps people make choices that reduce their chances of developing cancer.

Our Heritage

We were the first cancer charity:

To create awareness of the relationship between diet and cancer risk

To focus funding on research into diet and cancer prevention

To consolidate and interpret global research to create a practical message on cancer prevention

Our Mission

Today the American Institute for Cancer Research continues:

Funding research on the relationship of nutrition, physical activity and weight management to cancer risk

Interpreting the accumulated scientific literature in the field

Educating people about choices they can make to reduce their chances of developing cancer

AICR is part of the World Cancer Research Fund global network, which consists of the following charitable organizations: The American Institute for Cancer Research (AICR); World Cancer Research Fund (WCRF UK); World Cancer Research Fund Netherlands (WCRF NL); World Cancer Research Fund Hong Kong (WCRF HK); World Cancer Research Fund France (WCRF FR) and the umbrella association, the World Cancer Research Fund International (WCRF International).

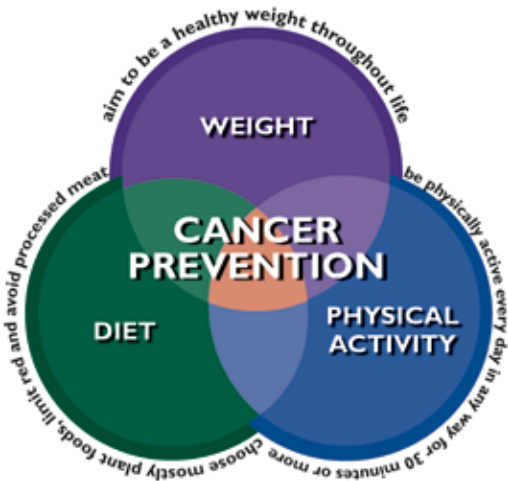
Table of Contents

Choices and Chances	3
How do I reduce my chances of developing cancer?	4
Choose Mostly Plant Foods, Limit Red Meat and Avoid Processed Meat.	6
What other plant foods should I eat?	7
Should I eat meat?	7
What You Can Do	10
Be Physically Active Every Day in Any Way for 30 Minutes or More.	12
How does physical activity reduce cancer risk?	12
What counts as “physical activity”?	13
How many calories do different activities use?	14
What’s the rule of thumb for physical activity?	15
What You Can Do	16
Aim to Be a Healthy Weight Throughout Life.	18
What does the research say about managing weight?	19
Why is physical activity so important for weight control?	22
What You Can Do	24
Recommendations for Cancer Prevention	26



AICR's Recommendations for Cancer Prevention have been simplified into three guidelines, which explain how the choices you make about food, physical activity and weight management can reduce your chances of developing cancer.

AICR Guidelines for Cancer Prevention



Choose mostly plant foods, limit red meat and avoid processed meat.

Be physically active every day in any way for 30 minutes or more.

Aim to be a healthy weight throughout life.

*And always remember –
do not smoke or chew tobacco.*

AICR is part of the WCRF global network.

Choices and Chances

Every day, we make hundreds of choices about how we will live and what we will do. Those choices have consequences. Consider a man who has to cross a busy intersection every morning on his way to work. Each morning he makes a choice. Will he dodge among the cars, thereby exposing himself to greater danger? Or will he wait for the light to change and the traffic to stop, thereby minimizing his chances of getting hit? Because he is always late, he chooses to dodge among the cars each morning. After a while, he no longer thinks about his choice. Crossing against the light has become a habit that increases his chances of getting seriously harmed by a measurable percentage.

Then, one day, he hears about a friend who was struck by a car and ended up in the hospital. He resolves that from the next morning on, he will wait for the light to change as often as possible. His new choice has reduced his chances of getting hurt, again by a measurable percentage. That percentage is not 100 percent, because there are no guarantees. Our friend still might get hurt by an erratic driver, but his chances are greatly reduced.

This brochure is about the choices you can make and the habits you can change to reduce your chances of developing cancer.

How do I reduce my chances of developing cancer?

We used to believe that cancer was caused by heredity and perhaps chance contact with some pollutants in the air, in water or in food. But today we know that factors we can control have a lot to do with the risk of developing this terrible disease.

A special report, *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective* reconfirmed what AICR has always maintained: we can make changes in our lives that will reduce our risk of developing cancer. Published by AICR and its affiliate, the World Cancer Research Fund in the U.K., this report is the result of an exhaustive process involving world-famous scientists, researchers and physicians and more than a hundred peer reviewers and observers. First, nine independent research teams collected all the relevant research on the relationship of diet, physical activity and body size to cancer risk. Together they identified 500,000 studies, screened them down to 22,000 and finally came up with 7,000 that met their standards. Then a panel of 21 world-renowned experts compared and evaluated these studies, and drew from them 10 evidence-based recommendations for preventing cancer.

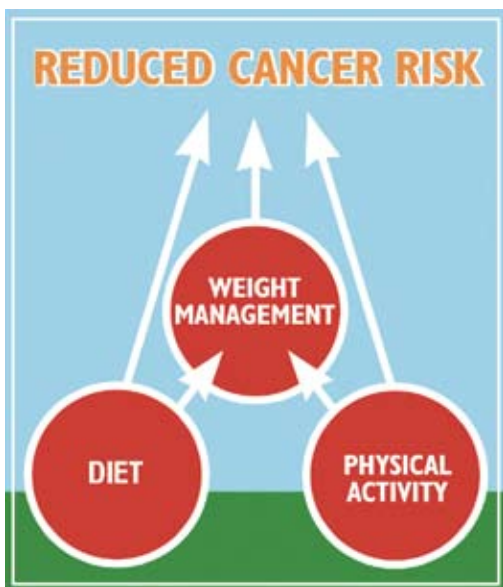
To make it easy for you to follow these recommendations, AICR has grouped them into three realistic guidelines that you can think about and gradually adopt as principles to guide your choices.

- **Choose mostly plant foods, limit red meat and avoid processed meat.**
- **Be physically active every day in any way for 30 minutes or more.**
- **Aim to be a healthy weight throughout life.**

Following any one of these guidelines is likely to reduce your chances of getting cancer. But following all three offers the greatest protection. In part that is because the three are so closely related to each other. For instance your diet has to do with taking in energy (usually measured in calories), and physical activity has to do with expending or burning the energy you have taken in. How you balance the energy you take in and the energy you expend determines your weight.

As we will see, diet and physical activity have double impact on cancer risk. The evidence shows that the healthy diet described in this brochure helps your body fight cancer directly. It also helps you manage your weight, which in turn lowers your cancer risk.

Similarly, physical activity through reducing hormone levels very directly helps your body fight cancer. It is also the second important means of controlling your weight and therefore reducing your cancer risk.




In choosing to follow these three guidelines you will be choosing to follow an integrated program. This integrated program may require some basic changes in what you eat and what you do. But the effort will be worth it because they will lead to a leaner, healthier body, greater vigor and less chance that you will develop cancer or other chronic diseases like heart disease, stroke or diabetes.

Choose Mostly Plant Foods, Limit Red Meat and Avoid Processed Meat.

The traditional American meal features meat. Perhaps it consists of an 8-ounce piece of steak or a large hamburger, a big serving of mashed potatoes and a tiny serving of some starchy vegetable such as peas or corn.

The proportions of that meal are all wrong for your health. The first step in improving your diet is to shift the proportions so that your plate features plant foods – vegetables, fruits, whole grains and beans – with just a small serving of meat on the side.

Why this emphasis on plant foods? Evidence shows that eating more vegetables and fruits probably protect against cancer of the mouth, pharynx, larynx, esophagus and stomach. There's more. Fruits probably protect against lung cancer as well, and various vegetables protect against other cancers. For instance, garlic probably protects against colorectal cancer, and foods containing lycopene – processed tomatoes, for example – probably protect against prostate cancer. Furthermore, most vegetables and fruits are rich in fiber, and fiber probably protects against colorectal cancer.



**Plant foods
bolster our
bodies' defenses
against cancer.**

That's why AICR has always recommended at least five servings of vegetables and fruits a day. That's not hard to do, because standard servings are so small. (See the chart on page 23.) But we constantly tell people about this rule of thumb because it could actually save lives.

Researchers continue to study how vegetables and fruits protect us against cancer. They are discovering that plants contain compounds that affect the

chemical processes in the body. In the laboratory, these phytochemicals (plant chemicals) prevent or interrupt the development of cancer in many ways. Some phytochemicals protect the body by preventing cancer-causing substances (carcinogens) from becoming active. Others reduce oxidation, prevent or heal damage to normal cells, or trigger the “suicide” of cancer cells. Many scientists have found evidence that when we consume plant foods with beneficial phytochemicals in them, we are bolstering our bodies’ defenses against cancer.

What other plant foods should I eat?

Another category of plant food that should be eaten every day is whole grains. That means substituting brown rice for refined (white) rice, choosing whole-wheat bread or rolls, or preferring oatmeal to a high-calorie pastry made with refined flour for breakfast.

When grains are refined, the bran and the germ are removed. That produces a white or light colored product that is often soft and spongy. Refined products were traditionally considered luxury items. But nutritionally, they are very poor. Refining robs them of the fiber and phytochemicals that may lower cancer risk.


Another plant food that should be eaten every day is legumes. In this category are dried beans like red, black, pinto and navy beans, garbanzos, split peas and lentils. These foods deliver a lot of fiber and protein. Furthermore, whole new families of phytochemicals with health benefits have recently been discovered in them.

Should I eat meat?

So far we have suggested that you cut back on meat to make room for larger portions of vegetables, fruits, whole grains and beans, all of which offer cancer protection. That does not mean that you have to eliminate all animal foods from your meals. No evidence connects fish or poultry to increased cancer risk. A three-ounce piece of fish or poultry will supply beneficial nutrients and round off your meal.

Red meat, however, is a special case. There is convincing evidence that red meat (beef, lamb and pork) increases your chances of developing colorectal can-

cer. In fact, the expert panel concluded that it is safe to eat 18 ounces of lean red meat each week. But every ounce and a half over that amount increases your risk of cancer by 15 percent.



Red meat, however, is a special case.

Just how red meat increases cancer risk is still under study. Heme iron, the compound that gives red meat its color, has been shown to damage the lining of the colon. Red meat can also stimulate production in the gut of carcinogenic substances called N-nitroso compounds. What's more, cooking meat at high temperatures produces two other kinds of carcinogens, heterocyclic amines (HCAs) and polycyclic aromatic hydrocarbons (PAHs). Any or all of these might be the culprit.

Processed meat is defined as red meat that is preserved by smoking, curing, salting or adding other chemical preservatives. Sausage, bacon, ham and lunch meats (such as bologna, salami and corned beef) are processed meats. The evidence is also convincing that processed meats raise your risk of colorectal cancer, but the risk is considerably greater. For every ounce and half of processed meat eaten per day, risk rises by 21 percent.

It is not yet clear exactly what in processed meats increases cancer risk. Is it the heme iron or N-nitroso compounds or the substances with which the meat is preserved, usually nitrates (which change into nitrosamines)? Or is it a combination of these? Until the answer is found, it is best to reduce your exposure to these meats. Even exposure to the new sausages and bacon made from poultry should be avoided until we know more.

The guidelines for red meat and processed meats differ. It is wise to limit the amount of red meat you eat. The evidence suggests setting the limit at 18 ounces a week. For most of us, that means cutting way back. If you serve yourself the recommended 3-ounce (cooked) servings, you can include red meat

in 6 meals out of your weekly 21 and stay within the limit. If you usually eat the more common serving size of 6 or 8 ounces cooked, two or three meals with red meat a week will bring you up to the limit.

The guideline for processed meats is more stringent. If you are concerned with avoiding colorectal cancer and stomach cancer, it is best to avoid processed meats almost always. That will mean finding substitutes for bacon at breakfast, ham sandwiches at lunch and hot dogs at cookouts. (If you are in the process of switching to a diet based primarily on plant food, finding substitutes will be a little easier.) Strong evidence suggests the effort will be worth it. So try to think of processed meats as something you save for special occasions – maybe a modest serving of ham at Christmas or a hot dog at a baseball game.

Some Other Dietary Choices

The first step toward a cancer-fighting diet is gradually shifting the proportions of plant foods to meat on your plate until you are eating mostly plant-based meals. After that has become a habit, here are some other changes for you to consider.

1. There is convincing evidence that alcoholic drinks cause several types of cancer. **If you drink at all, limit consumption to no more than 2 drinks a day for men and 1 drink a day for women.**

What is considered one drink?

5 ounces of wine

12 ounces of beer

1.5 ounces of 80-proof liquor

2. Many foods are preserved with salt (sodium). The consumption of excessive amounts of salt – more than 2,400 milligrams per day – can cause cancer of the stomach. **Avoid salt-preserved, salted or salty foods.** If you have already eliminated processed meats from your diet, you've already done a lot to satisfy this guideline.

What You Can Do

A good rule of thumb is fill $\frac{2}{3}$ (or more) of your plate with vegetables, fruits, whole grains and beans and $\frac{1}{3}$ (or less) with animal foods. To do so, you may decide to serve two vegetables on the plate accompanied by a whole grain. Or you may find recipes for casseroles, stews and stir fries that call for $\frac{2}{3}$ vegetables, whole grains and beans and use meat almost as a condiment.

Vegetables and fruits. To ensure variety, choose vegetables and fruits with deep colors – dark green, red, orange or yellow. Dark colors indicate the presence of phytochemicals. Then plan a meal that looks like a rainbow.

Whole grains. To include whole grains, substitute brown rice for potatoes or white rice. Or try some other whole grains, such as kasha, bulgur, quinoa and whole-wheat pasta. If you have bread or rolls with your meal, always choose a product made with whole-wheat flour. (Whole wheat should appear first on the ingredient list.) Oatmeal or whole-grain cereal with minimal added sugar are good choices for breakfast.

Legumes. As for beans and lentils, introduce them gradually into your meals. Red, black, pinto and navy beans are among the many types of beans from which to choose. When you use canned beans, empty the can into a colander and rinse away the sodium that was added to the can as a preservative. Serve beans and lentils plain or find recipes for casseroles,

soups and salads that combine beans and lentils with vegetables.

Meat. Don't even think about your meat dish until you've selected all the vegetable, fruit, whole grain and bean dishes you intend to serve. Three ounces of white poultry meat or fish is a good choice. If you can prepare them with a vegetable or fruit sauce, so much the better. Limit beef, lamb and pork to a few meals per week. (The total amount of red meat for the week should not exceed 18 ounces per person.) Save processed meats (sausage, bacon, ham and lunch meats) for special occasions.

For recipes that will help you plan meals that feature plant foods, go to

www.aicr.org.



Be Physically Active Every Day in Any Way for 30 Minutes or More.

Regular physical activity protects against cancer, so it's important to make sure it's part of your daily routine. In general, every little bit of physical activity you get helps, but the more you get, the better.

Since the 1990s, growing scientific evidence has shown that physical activity protects against three specific cancers: colon cancer, post-menopausal breast cancer and cancer of the uterine lining (endometrium). In fact, regular physical activity reduces cancer risk independently of separate risk factors such as body fat.

How does physical activity reduce cancer risk?

One way physical activity may prevent cancer is by lowering levels of hormones in the body that elevate the risk for breast and endometrial cancers. What's more, regular exercise also keeps the digestive system working well; more rapid passage of waste through the colon may be associated with a lower incidence of colorectal cancer.

It is only in recent history that humans have led lives without much regular physical activity. In early times, people in hunter-gatherer societies and later in agricultural settlements expended a great deal of physical energy. Even during early industrialization, working in factories, cooking and cleaning all demanded more physical activity than they do today.

Cancer rates have increased as the population has become more sedentary.

Now, at the beginning of the 21st century, sedentary jobs are the norm, and sitting in front of a TV or a computer screen has become common leisure activities. Rates of cancer and other chronic diseases have increased as the population has become more sedentary.

What counts as “physical activity”?

The basic definition of physical activity is any form of movement that uses muscles. Three terms are used to describe the intensity of physical activity: light, moderate and vigorous. The chart gives examples of activities at each level.

Examples of Activities at Different Levels of Intensity

Light	Slow walking, weeding the garden, light housework (such as dusting)
Moderate	Brisk walking (17-minute miles), leisurely cycling, dancing, slow swimming, using exercise equipment (including stationary cycle, rowing machine, stair-climbing machine) at a moderate pace, golf (without a cart), yoga, tai chi and Pilates
Vigorous	Running (10-minute miles), fast walking (12-minute miles), tennis, aerobic exercises, rapid cycling, climbing hills or stairs, basketball, squash, racquetball, dancing (ballet, fast ballroom, square, tap), gymnastics, rope skipping, using exercise equipment (stationary cycle, rowing machine, stair-climbing machine) at a vigorous pace

Your body works harder to breathe at more intense levels of activity, so one way to judge the intensity is by how easy it is to talk. While engaged in moderate activity, you should be able to talk, but not sing. With vigorous activities, talking should be possible, but only in short phrases, not conversations with long sentences.

The total amount of energy a person uses is a combination of the duration and the intensity of an activity. A person may use the same total amount of energy in 20 minutes of vigorous activity as he or she does in 1 hour of light activity.

How many calories do different activities use?

Knowing the calories used in a given activity is another helpful way to gauge its intensity, because calories are a measure of energy expenditure. The chart below shows the calories used by a 154-pound man who is 5' 10" tall. People who weigh more will use more calories, and those who weigh less will use fewer.

Activity	In 1 hour	In 30 minutes
Running (1 mile in 12 minutes or 5 miles per hour)	590	295
Swimming (slow freestyle laps)	510	255
Walking (1 mile in 13 minutes)	460	230
Playing basketball	440	220
Weight lifting (vigorous effort)	440	220
Heavy yard work (chopping wood or clearing brush)	440	220
Golfing (walking and carrying clubs)	330	165
Dancing	330	165
Light gardening/yard work	330	165
Bicycling (more than 10 miles an hour)	290	145
Walking (1 mile in 17 minutes)	280	140
Weight lifting (general light workout)	220	110

(Source: USDA, www.mypyramid.gov)

What's the rule of thumb for physical activity?

A review of the entire body of evidence about physical activity and cancer resulted in a three-part rule of thumb:

1. Be moderately physically active for at least 30 minutes every day.
2. As fitness improves, aim for at least 60 minutes of moderate activity or 30 minutes of vigorous activity every day.
3. Limit sedentary habits such as watching television.

The scientific evidence is quite clear that 30 minutes a day of moderate activity lowers the incidence of colon cancer. Once you're used to that level, you'll reap additional benefits by being active for longer periods and incorporating some hard-breathing activities into your routine.

Just as regular physical activity reduces the risk of cancer, the flip side is equally true: Sedentary behavior – sitting or lying around without being active – increases cancer risk because it contributes to weight gain and obesity. In sedentary activity, the heart and breathing rates are not raised perceptibly above resting levels.



What You Can Do

Use these tips to make more walking part of your day:

- Start parking at the perimeter of the lot or two blocks away if you're using street parking, instead of trying to get as close as possible to your destination.
- If you take public transportation, get off the train or bus when you are a stop away.
- Take the stairs instead of the elevator. If you're heading for the 20th floor, walk up a few flights and then catch the elevator.
- Recruit a partner for after-lunch walks.
- Go for a 30-minute walk every day, or two 15-minute walks: one each morning and one each evening.

These changes may mean you have to leave the house 15 or 20 minutes earlier. The goal is lifelong health, so reset your alarm. On weekends, walk when doing your errands or to other destinations like museums or movies.

Why not think of household chores as an opportunity for physical activity, too? Do these household activities energetically to chalk up some time toward that 30-minute minimum:



- Weed and hoe the garden
- Scrub the bathtub and shower walls
- Wash the car yourself
- Vacuum the bedroom
- Mop the floor
- Rake the leaves
- Mow the lawn with a manual push-mower

Your best choices for vigorous activity are sports or exercises you enjoy. For example, if you went dancing in the past, look for dance classes or dance clubs. If ballroom, salsa or tango classes sound too difficult, try line dancing, where instructions are called out.

Water aerobics or swimming offer a great option for a good workout. They put minimal stress on joints and are great for flexibility.

If you like team sports or competitive activities, look for a community volleyball, softball or basketball team. Many communities have leagues of all ages for many sports. Hiking clubs are a great way to get exercise and see natural scenery in the safety of a group.

Pilates, tai chi, or yoga are also popular classes in many communities. A more vigorous activity is kick boxing. County recreation departments or local YMCA/YWCAs may also offer inexpensive classes.

Aim to Be a Healthy Weight throughout Life.

There is convincing evidence that excess body fat increases your chances of developing cancer. In a country in which two-thirds of the population is overweight or obese, excess body fat must be considered the major risk factor for cancer.

Scientists have found convincing evidence that greater body fat raises the risk of cancer of the esophagus, pancreas, colon and rectum, breast (post-menopausal), endometrium and kidney. It probably raises the risk of gallbladder cancer.

There is convincing evidence that fat around the waist increases the risk of colorectal cancer and probable evidence that it increases risk for cancer of the pancreas, breast (post-menopausal) and endometrium.

Laboratory studies help to explain why being overweight raises your chances of developing cancer. The fat we store on our bodies is not an inert mass. Fat cells produce estrogen, which promotes cell growth. They also produce a variety of proteins that cause inflammation and insulin resistance, which in turn promotes cell growth and cell reproduction. Fat at the waist is even more active in producing these growth stimulants. So overweight people – particularly if they are apple-shaped – have high levels of substances circulating in their blood that stimulate cell division. The more often cells divide, the more opportunity there is for cancer to develop.

Maintaining a healthy weight is the single most important way to protect against cancer.

Measuring Body Fat

Scientists have developed two ways to determine whether your weight puts you at risk for cancer and other chronic diseases.

The first, Body Mass Index (BMI), gives an indication of body fat based on height and weight of adults. The BMI chart shows three ranges: healthy, overweight and very overweight or obese. It can be used for both men and women. However, the BMI chart may not be accurate for people who have more muscle mass, like athletes; for seniors who have less; or for people under 5 feet tall. To use the BMI chart, find your height on the left side, then locate the number closest to your weight. The bottom row of your weight column shows your BMI. You can view a BMI chart online at www.aicr.org/bmi.

Waist measurements are another way to assess risk due to excess body fat. Fat at the waist is more risky than other body fat. Waist measurements of 31.5 inches or more for women and 37 inches or more for men indicate high risk.

What does the research say about managing weight?

Maintaining a healthy weight throughout life may be the single most important way to protect against cancer as well as other chronic diseases.

Examination of the existing research suggests strongly that the best way to do that is by:

1. Limiting consumption of energy-dense foods and avoiding sugary drinks
2. Increasing the level of physical activity

Energy density is a helpful term when thinking about healthy eating. Foods that are energy-dense have more calories ounce-for-ounce than foods that have low-energy density. For example, milk chocolate has 10 times more calories ounce-for-ounce than sliced apples have.

3.5 ounces of milk chocolate = 520 calories

3.5 ounces of apple = 52 calories

Why is it helpful to think about calories in relation to specific amounts of food? In general, people tend to eat about the same amount of food every day. Set a plate with 3 cups of high-energy-dense food beside a plate with 3 cups of low-energy-dense food. Both plates will fill you up. But the plate of low-energy-dense food will satisfy you while delivering far fewer calories.

Obviously, substituting low-energy-dense food for high-energy-dense food is an important step in managing your weight. How do you distinguish between them?

Limit energy-dense foods by increasing the proportion of plant foods on your plate.

Energy-dense foods tend to be high in fat and added sugars and low in fiber. Most processed foods are energy-dense, because fat as well as sugar is added in the processing to enhance taste. Fatty foods – like fatty meats, cheese and butter, pastry and oils – are all high in energy density. Perhaps the best example of energy-dense foods is traditional fast food items – cheeseburgers, fried chicken pieces, French fries and fatty shakes.

Foods with low-energy density, on the other hand, are high in water and, often, fiber. Water is heavy, yet has zero calories. Fiber in foods is filling, yet delivers few if any calories. In low-energy-dense foods, fiber and water dilute other constituents and bring down the calorie level. At the same time their bulk tends to fill you up. The most easily recognized low-energy-dense foods are vegetables, fruits and beans.

The best way to limit energy-dense foods is to increase the proportion of plant foods on your

plate. If you are already filling your plate $\frac{2}{3}$ full with vegetables, fruits, whole grains and beans to reduce your chances of developing cancer, you are half way toward managing your weight.

It isn't helpful to think of drinks in terms of energy density since all drinks are high in water. In addition, with the exception of milk, they don't fill you up so that your stomach signals you to stop drinking. Still, drinks with added sugar – soda and sweetened fruit drinks, for instance – deliver a lot of calories and should be avoided by people concerned about managing their weight. Unsweetened fruit juices are high in natural sugar and therefore high in calories. Limit yourself to one glass a day. Soda with artificial sweeteners is not linked to weight gain, but there are healthier choices. Water and unsweetened coffee or tea are your best bets.

The evidence that “sugary drinks,” as well as traditional fast food, are linked to weight gain is convincing.

Low-energy-dense foods satisfy you while delivering far fewer calories.



Why is physical activity so important for weight control?

Strong and consistent evidence suggests that the second step toward managing your weight is increasing your level of physical activity. As we mentioned earlier, your weight stays at its current level as long as the energy (measured in calories) that you take in by eating balances the energy you expend. To lose weight you have to operate at a deficit. The best way to create that deficit is to take in less energy and expend more energy. You take in less energy by preferring foods with low-energy density, and you expend more calories by increasing your physical activity.

One way to become more active is simply to become less sedentary. That is, reduce the number of hours each day that you sit:

- Stand instead of sitting while talking on the phone or conferring with a colleague.
- Do activities that get you moving (such as cleaning the house, cooking a meal, visiting the local mall or going for a stroll with a friend).
- Avoid watching TV or surfing the net for four hours each evening.

The second way is to set aside some time each day for exercise. We've already described the range of possibilities. (See page 13). Choose an activity you enjoy and start by devoting at least a half hour a day to it. If you have chosen to reduce cancer risk through increasing physical activity, you are already part way there. But for weight control, you should work gradually toward doing 60 minutes of moderate physical activity or 30 minutes of vigorous activity every day.

Limiting Portion Size

People generally eat and are satisfied by the same amounts of food each day. During the last two decades of the 20th century, however, the example set by the restaurant industry and intensive marketing by the food industry did succeed in increasing the size of the portions many of us consume.

That is why, for many Americans, there is a third step involved in weight management: reducing the size of the portions we are currently accustomed to eating. Try this simple test. Pour out your usual portion of a favorite food on a plate. Then using the chart on this page, measure out a standard serving of the same food on a same size plate. Compare. If your usual portion is two or three times as large as the standard serving, it may be time to cut back.

Cut back gradually. Weight loss and hunger don't mix well. Reduce your usual portion by one quarter, and get accustomed to eating that amount over several days before you make any further reductions. Once you get used to eating smaller portions, managing your weight will be noticeably easier.

Standard Serving Sizes		
Chopped Vegetables	½ cup	½ baseball or rounded handful
Raw Leafy Vegetables (such as lettuce)	1 cup	1 baseball or rounded handful
Fresh Fruit	1 medium piece ½ cup chopped	1 baseball ½ baseball or rounded handful
Dried Fruit	¼ cup	1 golf ball or scant handful
Pasta, Rice, Cooked Cereal	½ cup	½ baseball or rounded handful
Ready-to-Eat-Cereal	1 oz., which varies from ¼ cup to 1 ¼ cups	(check label)
Meat, Poultry, Seafood	3 oz. (boneless cooked weight from 4 oz. raw)	Deck of cards
Dried Beans	½ cup cooked	½ baseball or rounded handful
Nuts	⅓ cup	Level handful
Cheese	1 ½ oz. (2 oz. if processed cheese)	1 oz. looks like 4 dice

What You Can Do

AICR's guideline for managing your weight to reduce cancer risk is to maintain a healthy weight throughout life.

The approach to following this guideline will vary according to where you are in life right now. Let's consider people in three different situations.

The first category is people who are still lean, perhaps because they are young or very active. They face the challenge of maintaining their current weight through the phases of life that commonly contribute to weight gain: going to college, getting married, having children, building a (sedentary) career, becoming middle aged with a slackening metabolism rate and muscle loss, or experiencing menopause.

These people should follow the general advice for managing their weight. They should reshape their meals to include a higher proportion of low-energy-dense foods and commit themselves to greater physical activity. In addition, they should monitor their weight on a regular basis. The warning signs can be gaining even a few pounds. Certainly, as they approach a 10-pound gain, they should take immediate action. The point is, taking off five or six pounds as soon as they appear is relatively easy to accomplish. Taking off 30 or 40 pounds can be a far greater challenge.

The second category is people who suddenly discover that they are 30 or 40 pounds heavier than their ideal weight. Most often they are people who have gained a few pounds a year as they went about their business and at middle age discover that they have grown "stout." Just because this condition is common does not mean it should be accepted as normal.

Remember that feeling panic about gaining 30 to 40 extra pounds is not a reason to go

on a fad diet that reduces calories to starvation level or eliminates whole categories of foods. Such restrictive diets may bring short term weight loss, but eventually the restrictions lead people to give up and the weight is regained.

People in this second category, like those in the first, should begin reshaping their meals to include a higher proportion of low-energy-dense foods and raise their physical activity level, eventually getting to 60 minutes a day. These changes should not be regarded as temporary measures taken to lose weight over a short period of time. They should be regarded as choices that become habits for life. Once these changes are made, this second category of people can expect to see weight gain stopped and pounds gradually shed.

The third category is people who have been overweight or obese for years. Often they have tried all the fad diets and even medicines and supplements for which claims about weight loss have been made. Perhaps genetics or complicated medical conditions are involved. They've tried over and over again to lose weight, but nothing has worked.

AICR advises such people to focus on the other risk factors for cancer prevention – factors they can control. Following our first guideline, they should increase the proportion of plant foods on their plate, limit red meat and avoid processed meat. They should talk to a physician or perhaps a coach or trainer and develop a physical activity program that their bodies can sustain. They should choose to make these changes in their lives, not to lose weight, but to reduce their chances of developing cancer. If they focus on lowering cancer risk and they also see gradual weight loss, they can regard that as a bonus.

This booklet gives information based on AICR's Second Expert Report: *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*. The report, produced by WCRF/AICR, is the largest study of its kind ever published and its recommendations are based on the most comprehensive review of all the available evidence. AICR is committed to interpreting scientific research in the field of food, nutrition, physical activity and cancer prevention and to translating the results into meaningful and practical advice for the public to follow.

AICR Recommendations for Cancer Prevention

- 1. Be as lean as possible without becoming underweight.**
- 2. Be physically active for at least 30 minutes every day.**
- 3. Avoid sugary drinks. Limit consumption of energy-dense foods (particularly processed foods high in sugar, or low in fiber, or high in fat).**
- 4. Eat more of a variety of vegetables, fruits, whole grains and legumes, such as beans.**
- 5. Limit consumption of red meats, such as beef, pork and lamb, and avoid processed meats.**
- 6. If consumed at all, limit alcoholic drinks to 2 for men and 1 for women a day.**
- 7. Limit consumption of salty foods and foods processed with salt (sodium).**
- 8. Don't use supplements to protect against cancer.**

Special Population Recommendations

- 9. It's best for mothers to breastfeed exclusively for six months and then add other liquids and foods.**
- 10. After treatment, cancer survivors should follow the recommendations for cancer prevention.**

***And always remember –
do not smoke or chew tobacco.***



Need More Help?

American Institute for Cancer Research
1759 R Street, NW, P.O. Box 97167
Washington, DC 20090-7167
1-800-843-8114 or 202-328-7744
www.aicr.org

Call The Toll-Free Nutrition Hotline

Dial 1-800-843-8114 to leave a message for a registered dietitian, who will return your call. Monday-Friday, 9 a.m.-5 p.m., Eastern Time. Or visit the AICR hotline on-line at www.aicr.org.

How You Can Support Cancer Research and Education through Your Will

You can help provide for future cancer research and education through a simple bequest in your will. Consult with your attorney when first writing your will or to add a simple paragraph to your existing will. Your bequest to help in the war against cancer can be a cash amount, a gift of the remainder of your estate or a portion of the remainder after obligations to your family and loved ones are met.

Your attorney can easily help you make a bequest to the American Institute for Cancer Research (AICR). To do so, your attorney will need to know:

AICR's official name:

American Institute for Cancer Research

AICR's mailing address:

1759 R Street, NW, Washington, DC 20009

AICR's telephone number:

202-328-7744

AICR's identification:

A not-for-profit organization under Section 501(c) (3) of the Internal Revenue Code

AICR's tax-exempt IRS number:

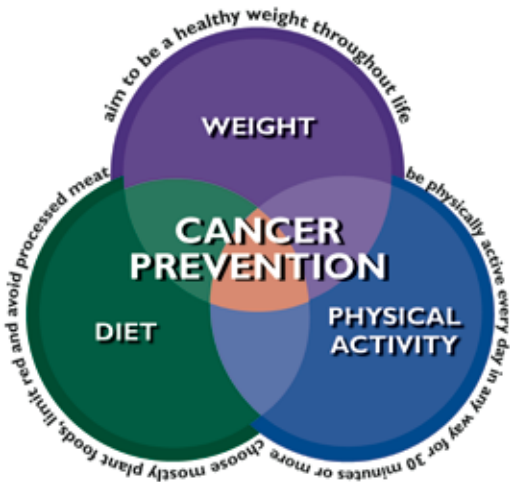
52-1238026

For further information, contact AICR's Gift Planning Department at 1-800-843-8114.



AICR's Recommendations for Cancer Prevention have been simplified into three guidelines, which explain how the choices you make about food, physical activity and weight management can reduce your chances of developing cancer.

AICR Guidelines for Cancer Prevention



Choose mostly plant foods, limit red meat and avoid processed meat.

Be physically active every day in any way for 30 minutes or more.

Aim to be a healthy weight throughout life.

*And always remember –
do not smoke or chew tobacco.*

AICR is part of the WCRF global network.