



American Institute
for Cancer Research

RECOMMENDATIONS FOR CANCER PREVENTION



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 the 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)

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The power to prevent cancer

Most cases of cancer are preventable. And, by choosing a healthy diet, being physically active and maintaining a healthy weight, we all have the power to reduce our risk.

This publication explains the recommendations of WCRF/AICR's Second Expert Report, *Food, Nutrition, Physical Activity and the Prevention of Cancer: a Global Perspective*. The recommendations were developed by a panel of 21 international experts, who assessed the evidence of nearly 7,000 research studies from around the world to draw firm judgements on the steps we can take to reduce our cancer risk.

At present, around one in three people in the U.S. will develop cancer at some point during his or her lifetime, but research gives us hope and shows that cancer isn't simply due to fate or bad luck. Scientists estimate that by making changes to the food we eat, the amount of exercise we get and maintaining a healthy weight, about one third of cancers could be prevented. In addition, choosing not to smoke (or giving up smoking) can play a big role in reducing our risk, as smoking is known to cause about one-third of all cancers. Together, these factors have the potential to prevent most cancer cases in the U.S. and around the world.

This is a powerful message - it means that changes to our daily diet and way of life can help us to prevent cancer.



Our Second Expert Report

This booklet is based on the findings of WCRF/AICR's Second Expert Report, *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*. The Report reviewed thousands of leading research studies relating to cancer prevention.



Collecting the evidence on cancer prevention

In total, about 200 scientists and other experts from around the world were involved in the production of the Expert Report. Nine independent teams of scientists from universities and research centers around the world reviewed research relating to 17 different types of cancer. They also reviewed research relating to obesity and cancer as well as to cancer survivors.

The results were assessed by a world-class panel of 21 scientists, who were supported by observers from the United Nations and other international organizations. They made judgements and developed the most up-to-date public health goals and recommendations on how members of the public can reduce their risk of cancer.

The recommendations

These recommendations are all based on the conclusions of the panel that certain foods, drinks and lifestyle choices protect against or lead to the development of one or more types of cancer.

Each of these factors was graded according to the strength, quality and quantity of the scientific evidence. The panel rated the likelihood that a particular factor causes or protects against cancer as convincing or probable; or, if there was not adequate evidence, as 'limited - suggestive' or 'limited - no conclusion'. The recommendations in this booklet are based only on convincing or probable evidence. We hope to encourage further research in some areas where there is only limited evidence.

Looking to the future

At AICR, we are committed to interpreting scientific evidence in the field of food, nutrition, physical

activity and cancer prevention, and to translating the results into meaningful and practical advice for individuals to follow. To do this, WCRF/AICR has set up a continuous review process to update the evidence on an ongoing basis. An independent team of researchers will review and analyze new studies each year. The results will be assessed by a special expert panel to keep the conclusions and recommendations current. The results will form the basis of all our education programs.

What is cancer?

Cancer is a broad term used to describe a group of over 200 types of diseases that affect specific organs or tissues of the body. Simply speaking, cancer is a disease of cells, and every type starts in the same way. Cancer begins when the genetic information in a single cell becomes damaged in some way and causes the cell to divide at an uncontrolled rate.

The resulting group of cells often forms a lump or swelling, which is commonly referred to as a 'tumor'. The tumor may then grow and go on to damage surrounding healthy tissues or organs, or cancer cells may break away from the original tumor and spread through the bloodstream or the lymphatic system to other parts of the body - a process known as 'metastasis'.



What causes cancer?

The development of cancer is a complex biological process that is still not completely understood. Thanks to scientific research, we do, however, have an increasing understanding of the factors that are involved in the cancer process. Hormones, immune conditions and inherited alterations in the genetic material of a cell can all play a part in cancer development.

However, only a small proportion of cancers are caused by single 'faulty' genes. It is now known that the risk of cancer is mainly affected by environmental factors: smoking and other use of tobacco; some infectious agents; radiation; some medications; some industrial chemicals and pollutants. These all increase the risk.

Some infections are also linked to an increased risk of cancer, although new research shows that if you have one of these infections, you are less likely to go on to develop cancer if you have a healthy diet.

In contrast, the very good news is that there is now general agreement among scientists that other environmental factors, such as our diet and physical activity levels, can reduce our risk of cancer by about a third. Research shows that choices we can make about what we eat, drink and how active we are each day will together give us important protection against cancer at all times of life, from childhood to old age. If you choose to follow the recommendations in this booklet, and also do not smoke or use tobacco, you can substantially reduce your cancer risk. This is a really positive message for you, your family and community.

The information in this booklet is based on the most thorough and reliable review and judgement of the science ever undertaken. By building the recommendations into each day, you and your family will dramatically reduce your risk of cancer and will greatly improve your chances of enjoying good health throughout life.

Research shows that choices we make each day give protection against cancer.

Recommendations for cancer prevention

- Cancer prevention is about getting the balance right in terms of diet and lifestyle. Enjoying food and drink with family and friends should be one of life's pleasures, and these recommendations have been put together with that in mind. Don't worry about the occasional indulgence - we all need a treat sometimes. The important thing is to make healthy eating and being active a normal part of everyday life.

- Our recommendations for cancer prevention work together to cover the different ways we can reduce our risk of the disease. If we follow them, experts estimate that we could reduce our risk of cancer by about one third.

- Reducing our risk of cancer is about making long-term changes to the foods we eat and how active we are, as well as maintaining a healthy weight. A good way to do this is to make small, gradual changes over time that help us meet the recommendations described in this booklet.

Don't worry about the occasional indulgence – we all need a treat sometimes. The important thing is to make healthy eating and being active a normal part of everyday life.

1. Be as Lean as Possible without Becoming Underweight.

Maintaining a healthy weight is one of the most important things you can do to reduce your risk of cancer. Aim to be at the lower end of the healthy BMI range.

Maintaining a healthy weight brings an array of health benefits. As well as making us feel better, it also means that we are less likely to develop not only cancer, but also other chronic diseases such as type 2 diabetes and heart disease.

What is a healthy weight?

One of the easiest ways to check if you're a healthy weight is by measuring your Body Mass Index (BMI), which calculates the range of healthy weights for different heights and is a useful guide for most adults. A healthy BMI for men and women is between 18.5-25. For cancer prevention, we should aim for the lower end of this range.

We also know that where we store extra weight affects cancer risk. Scientists have discovered that carrying excess fat around our waists can be particularly harmful - it acts like a 'hormone pump' releasing estrogen into the bloodstream as well as raising levels of other hormones in the body. This is strongly linked to colon cancer and probably to cancers of the pancreas and endometrium (lining of the uterus), as well as breast cancer (in postmenopausal women).

Overweight, obesity and cancer - the evidence

- The evidence linking overweight, obesity and cancer is now even stronger than it was in the mid-1990s. Therefore, taking steps to avoid becoming overweight or obese is one of the most important things we can do to reduce our cancer risk.
- There is convincing evidence that excess body fat increases the risk of cancers of the colon · esophagus · pancreas · kidney · endometrium (lining of the uterus) and breast (in postmenopausal women).
- Being overweight or obese probably also increases the risk of gallbladder cancer.

What is the link to cancer?

- Scientists believe there are several reasons for the link between overweight, obesity and cancer. One example is the relationship between excess fat and the hormonal balance in the body. Research has shown that fat cells release hormones such as estrogen, which increases the risk of cancers such as breast cancer.
- Studies have also shown that fat, particularly if it is stored around the waist, encourages the body to produce substances known as 'growth hormones'. Having high levels of these hormones is linked to a greater risk of cancer.

Top tips for maintaining a healthy weight

- **Choose foods lower in energy density.** ‘Energy density’ is a term used to describe how many calories foods contain relative to their weight. For weight management, it’s best to choose lower energy-dense foods, which contain fewer calories but are filling because they contain plenty of water and fiber. You can find out more about these foods on page 12.

- **Be physically active.** Keeping active helps us burn calories, which are stored as fat if they are not used up. See page 10 to find out more about the cancer prevention benefits of being active.

- **Watch out for high-energy-dense foods and avoid fast food and sugary drinks.** High-energy-dense foods are likely to contain a lot of fat and/or sugar, so they can lead to weight gain, especially if they are consumed frequently and in large portions. Many fast foods, such as burgers, fried chicken, chips and fatty drinks like milkshakes are energy dense. A significant amount of research also shows that sugary drinks, like colas, contribute to weight gain especially if they are consumed often. You can find out more on page 12.

- **Keep an eye on portion sizes.** Portion control is one of the best ways to maintain a healthy weight. Too much of any food can cause us to gain weight, so only eat when you’re hungry and try to stop before you feel full. Opt for the smallest serving size available to make it easier to control how much you’re eating.

Measuring your BMI

1. Find your weight in pounds and your height in inches.

2. Divide your weight by your height squared. This figure is your BMI.

For example, here is the calculation for a person who is 5’3” tall and who weighs 150 pounds.

$$\frac{\text{Weight: 150}}{\text{Height}^2: (63" \times 63")} \times 703 = \text{BMI of 26.5}$$

Results

Less than 18.5	<i>underweight</i>
Between 18.5 - 24.9	<i>healthy weight</i>
Between 25-29.9	<i>overweight</i>
30 or more	<i>very overweight or obese</i>

Measuring your waist

Another good way of checking if you’re a healthy weight is by measuring your waist.

1. Place a tape measure around your waist at the narrowest point between the bottom of your ribs and the top of your hip bone.

2. Make sure the tape is snug but doesn’t compress your skin.

3. Measure after breathing out.

As a guide, a healthy waist measurement is less than 31.5" for women and less than 37" for men.

This may seem easier to achieve when you are younger, but it’s important to try to be as lean as possible around the waist at any age.

Note: The BMI may not be a suitable indicator for athletes, elderly people, pregnant women, children or adults less than five feet tall.

2. Be Physically Active for at Least 30 Minutes Every Day.

Physical activity in any form helps to lower cancer risk. Aim to build more activity, like brisk walking, into your daily routine.

Most of us know that regular physical activity can help keep our hearts healthy - and the good news is that it can also reduce our risk of cancer. As well as helping us avoid weight gain, research shows that activity itself can help to prevent cancer.

AICR is encouraging us all to build more activity into our everyday lives. If you're not used to doing much activity, start by working toward 30 minutes of moderate activity each day - remember that anything is better than nothing. You can build up slowly until you reach your target. The more you do each day, the more you are helping to reduce your cancer risk.

Avoiding weight gain

Being moderately active for 30 minutes a day is a great starting point, but research shows that to avoid weight gain doing more activity is beneficial. For maximum health benefits, scientists recommend that we aim for 60 minutes or more of moderate activity every day, or 30 minutes or more of vigorous activity. Try to build up to this as your fitness improves.

What is moderate activity?

Moderate activity is anything that gets your heart beating a bit faster and makes you breathe more deeply - like brisk walking. There are plenty of easy ways to build this type of activity into your daily routine, so you don't need to set aside half an hour each day to exercise. Shorter bouts of activity are just as beneficial (it's the total time that's important).



Why not try some of these ideas? Opt for a range of activities that you enjoy.

- Swimming
- Dancing
- Walking briskly to the bus stop or train station
- Cycling to your local shops
- Walking up the stairs instead of taking the elevator
- Doing housework like sweeping and vacuuming
- Gardening, like raking leaves

What is vigorous activity?

Vigorous activity means raising our heart rates so that we warm up, start to sweat and feel out of breath. If you want to make vigorous activity a regular part of your life, it's important to find something that is fun and accessible. Good examples include:

- Jogging
- Hill walking
- Fast cycling
- Aerobics classes
- Working out at the gym, for example running on the treadmill
- Team games like football

Physical activity and cancer prevention - the evidence

- Since the early 1990s, the evidence that physical activity can protect against cancer and obesity has continued to grow.
- The Expert Report found convincing evidence that physical activity protects against colon cancer. It probably also protects against breast cancer (in postmenopausal women) and endometrial cancer.

What is the link to cancer?

- Studies show that regular activity can help to keep our hormone levels healthy, which is important because having high levels of some hormones can increase our cancer risk.
- Physical activity may also strengthen our immune system, help keep our digestive system healthy and allow us to consume more food - and more cancer-protective nutrients - without gaining weight.

The decline in physical activity

Until the middle of the 20th century, most people in the U.S. had active lifestyles. Jobs in factories or on farms required a lot of physical activity, as did housework. Many people walked or cycled to work too.

In the second half of the 20th century, things began to change. Most jobs in cities and towns are now sedentary and we have machines (like vacuum cleaners and washing machines) to do most household tasks. Most short journeys are made by car or public transportation, and watching television and using computers now takes up a lot of our leisure time.

These changes mean that we now have to make a conscious effort to make activity a part of our everyday life. But small changes, like choosing to walk or cycle short distances rather than take the car or bus, can add up to make a real difference.

3. Avoid Sugary Drinks. Limit Consumption of Energy-Dense Foods (particularly processed foods high in added sugar, or low in fiber, or high in fat).

Choosing healthy foods and drinks instead of those that are high in refined carbohydrates and often in added sugar and fat (energy-dense foods) can help us avoid overweight and obesity and thereby reduce our cancer risk.

What are energy-dense foods?

Most foods provide us with energy (calories), but some foods contain more energy ounce-for-ounce than others. Energy-dense foods tend to be processed foods with sugar and fat added to improve the taste. The result is more calories per ounce.

For example, 3.5 oz. chocolate contains 10 times more calories than the same amount of apple:

- 3.5 oz. of milk chocolate = 520 calories
- 3.5 oz. of apple = 52 calories



It can be difficult to control how much energy you are consuming if you eat a lot of energy-dense foods because you only need to eat a small amount to take in a lot of calories.

It's okay to eat energy-dense foods occasionally, or in small quantities, but try not to make them the basis of your diet. By choosing a diet based on low-energy-dense foods, you can actually eat more food but consume fewer calories.

Low-energy-dense foods are high in water and fiber and help us feel full. They are a healthy choice for weight maintenance.

Sugary drinks and weight gain

The Expert Report found that regularly consuming sugary drinks contributes to weight gain. More and more of us are consuming these drinks frequently, and often in 'super-sizes' too. They are easy to drink in large quantities but don't make us feel full, even though they are quite high in calories. Sugary drinks include: soft drinks like colas and juice flavored drinks. We should try to avoid these drinks. Water is the best alternative. Unsweetened tea and coffee are also healthy options.

Natural fruit juice counts as one of our recommended 5 or more daily portions of vegetables and fruits, but it does contain a lot of sugar. It's best not to drink more than one glass a day.

Energy-dense foods and drinks and cancer prevention - the evidence

- The expert panel found that high-energy-dense foods and diets, and sugary drinks, increase the risk of weight gain, overweight and obesity, which increase our risk of a range of cancers, including colorectal cancer and breast cancer in postmenopausal women.
- Foods low in energy density probably help us avoid weight gain and obesity.

High-energy-dense foods

- Higher in calories - they contain more than about 225-275 calories per 3.5 oz. Most food labels show the calorie content per 3.5 oz., so this is a helpful guide.
- Contain more fat and/or sugar
- Contain little fiber or water
- Examples are: snack foods like chocolate, chips and cookies and processed foods like burgers, chips, fried chicken and most pizzas. These foods should be eaten sparingly.
- Some energy-dense foods, eaten in smaller amounts, are a valuable source of nutrition. These include nuts, seeds and some vegetable oils.

Low-energy-dense foods

- Contain less fat and/or sugar
- Contain plenty of fiber and water
- Help us feel full

Examples are non-starchy vegetables, fruits and beans. These foods should form the basis of your diet.



4. Eat More of A Variety of Vegetables, Fruits, Whole Grains and Legumes Such as Beans.

Basing our diets on plant foods (like vegetables, fruits, whole grains and legumes such as beans), which contain fiber and other nutrients, can reduce our risk of cancer.

For good health, AICR recommends that we base all of our meals on plant foods. When preparing a meal, aim to fill at least two-thirds of your plate with plant foods like vegetables, fruits, whole grains and beans. Aim to eat these types of foods with every meal and choose whole grains whenever possible.

These foods contain plenty of fiber and water and tend to be lower in energy density, which means they can help us maintain a healthy weight. However, they can quickly become high in calories if we add lots of fat to them, so watch out for rich, creamy sauces that contain lots of oil, butter or cheese.

Choose whole grains whenever possible.

Plant foods and cancer prevention – the evidence

- Research shows that vegetables and fruits probably protect against a range of cancers, including mouth, pharynx, larynx, esophagus, stomach, lung, pancreas and prostate.
- According to the Expert Report, it is probable that foods containing dietary fiber decrease the risk of colorectal cancer. These foods include whole-grain bread and pasta, oats and vegetables and fruits.

What is the link to cancer?

• There are lots of reasons why vegetables and fruits may protect against cancer. As well as containing vitamins and minerals, which help keep the body healthy and strengthen our immune system, they are also good sources of substances like phytochemicals. These are biologically active compounds, which can help to protect cells in the body from damage that can lead to cancer.

- Foods containing fiber are also linked to a reduced risk of cancer. Fiber is thought to have many benefits, including helping to speed up ‘gut transit time’ - how long it takes food to move through the digestive system.
- Plant foods can also help us to maintain a healthy weight because many of them are lower in energy density.

At least 5 every day

Vegetables and fruits are the building blocks of a healthy diet - we should aim for at least five servings a day. That is easier to do than you think. Standard servings of fruit and vegetables are actually quite small. The portions you usually eat may contain two or three.

What is a serving?

Almost all vegetables and fruits count, apart from starchy vegetables like potatoes, yam, sweet potatoes and cassava. You can even use frozen, dried and canned vegetables and fruits. The more variety, the better. As a guide, a standard serving is:

- Half a cup of cooked vegetables, like broccoli or carrots
- One cup of raw, leafy salad vegetables, like lettuce or spinach
- A medium-sized piece of fruit, like an apple or a banana
- A slice of large fruit, like melon
- A handful of smaller fruit, like grapes
- A tablespoon of dried fruit like raisins
- Two small fruit, like apricots or plums
- A small glass of pure fruit juice. Limit fruit juice to one glass a day, because it is high in sugar and



doesn't contain as much of the beneficial substances (like fiber) that are found in whole fruits.

Starchy foods and whole grains

Low-carbohydrate diets like the Atkins diet have led many people to believe that starchy foods are ‘fattening’. In fact, ounce-for-ounce, carbohydrate contains less than half the calories of fat. Less processed carbohydrates are better for us than the refined alternatives, because they contain more fiber and water, and so are less energy dense. The closer a food is to its natural state, the better.

Some unprocessed carbohydrate foods are known as whole grains. They contain all the fiber and nutrients of the ‘whole’ grain, which are removed in processing to make foods like white bread and white pasta. Whole-grain foods release their energy slowly and help us feel full. Try to include more whole grains in your diet. Why not try some of these substitutions?

Instead of	Try
White bread	Whole-grain bread
White rice	Brown rice
Cornflakes	Whole grain cereal, muesli or oatmeal
White pasta	Whole-grain pasta

Potatoes are healthiest eaten with their skins, because they contain more fiber. Opt for boiled potatoes with skins and baked potatoes instead of French fries or potato chips.

Foods that contain a lot of added sugar, like cakes and cookies, are high in refined carbohydrates. They also contain fat, so shouldn't be eaten too often. They are energy-dense and can lead to weight gain.

5. Limit Consumption of Red Meats (such as beef, pork and lamb) and Avoid Processed Meats.

To reduce your cancer risk, eat no more than **18 oz. (cooked weight)** per week of red meats, like beef, pork and lamb and avoid processed meat such as ham, bacon, salami, hot dogs and some sausages.

What is red meat?

- Red meat refers to beef, pork and lamb, - foods like hamburgers, steak, pork chops and roast lamb.

What is processed meat?

- The term processed meat refers to meats preserved by smoking, curing or salting, or by the addition of preservatives. Examples include: ham, bacon, pastrami and salami, as well as hot dogs and sausages.

Red and processed meat and cancer prevention - the evidence

- The evidence from the Expert Report that red meat is a cause of colorectal cancer is convincing. This evidence is much stronger now than it was in the mid-1990s.
- There is also convincing evidence that processed meat is a cause of colorectal cancer.

What is the link to cancer?

- Red meat contains substances that are linked to colon cancer. For example, heme iron, the compound that gives red meat its color, has been shown to damage the lining of the colon.
- Studies also show that people who eat a lot of red meat tend to eat less plant-based foods, so they benefit less from their cancer-protective properties.
- When meat is preserved by smoking, curing or salting, or by the addition of preservatives, cancer-causing substances (carcinogens) can be formed. These substances can damage cells in the body, leading to the development of cancer.

The evidence from the Expert Report that red meat is the cause of colorectal cancer is convincing.

Can red meat form part of a healthy, balanced diet?

Red meat is popular in the U.S. and is a valuable source of several nutrients. It can form part of a healthy, balanced diet, but it need not be eaten every day. Aim for less than 18 oz. (cooked weight) a week, and avoid processed meat.

As a rough guide, 18 oz. of cooked red meat is about 24-27 oz. of raw meat. It is wise to limit the amount of red meat you eat. The evidence suggests setting the limit at 18 ounces a week. In other words, if you serve yourself the recommended 3 oz. (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 size of 6 or 8 oz. cooked, two or three meals with red meat will bring you up to the limit.

If you do eat red meat, always opt for the leanest meat available, trimming any visible fat before cooking. Make up the rest of your meal with vegetables and other nutritious plant foods.

Cutting down on the amount of red meat that you eat might be easier than you think. Fish, low-fat poultry and plant sources of protein (like beans and lentils) are great alternatives.

The Expert Report takes a harder line on processed meats. The research shows there is a safe amount of red meat you can eat before cancer risk increases. Not so with processed meats. Save processed meats for special occasions such as ham for a holiday dinner or a hot dog at a baseball game.

6. If Consumed at all, Limit Alcoholic Drinks to 2 for Men and 1 for Women a Day.

For cancer prevention, we recommend not to drink alcohol. However, our Expert Report recognizes that modest amounts of alcohol may have a protective effect on coronary heart disease. If you do drink alcohol, limit your consumption to no more than two drinks a day for men and one drink a day for women.

What is a 'drink'?

As a rough guide, a drink contains about $\frac{1}{3}$ - $\frac{1}{2}$ oz. of pure alcohol, so one drink is the same as:

- 12 oz. of normal strength (3-5% ABV*) beer, lager or hard cider
- One 1.5 oz. measure of spirits (40% ABV), such as vodka or whisky
- One small 5 oz. glass of wine (12-13% ABV)

This information is useful as a guide, but we should be aware that drinks contain different amounts of alcohol depending on their size and strength. In recent years, both the serving size and strength of alcoholic drinks such as wine have increased. Beers and lagers have also become stronger, making it easy to drink more than we realize.

Limiting alcohol intake to no more than two drinks a day for men and one drink a day for women is important. Heavy drinking, or binge drinking, is particularly bad for our health, even if only done occasionally.

*ABV= Alcohol By Volume

Did you know?

The risk of some alcohol-related cancers is even greater if you smoke. For more about the links between tobacco and cancer, turn to page 30.

Alcohol and cancer prevention - the evidence

- According to the Expert Report, the evidence that all types of alcoholic drinks are a cause of a number of cancers is now stronger than it was in the mid-1990s. There is convincing evidence that alcohol increases the risk of cancer of the mouth, pharynx, larynx, esophagus and breast, as well as colorectal cancer in men.
- Alcoholic drinks also probably increase the risk of colorectal cancer in women as well as liver cancer.
- For cancer prevention, AICR recommends not to drink alcoholic drinks. However, some evidence suggests that small amounts of alcohol may have a protective effect on the heart, but the benefits only outweigh the risks in those particularly at risk of heart disease, such as men over 40 and postmenopausal women.

What is the link to cancer?

- Scientists are still researching how alcohol causes cancer. One theory is that alcohol can directly damage our DNA, increasing our risk of cancer.
- Research shows that alcohol is particularly harmful when combined with smoking.

Top tips for reducing your alcohol intake

- When ordering drinks, opt for the smallest serving size. Avoid double measures of spirits, which are often encouraged as better value.
- Alternate between alcoholic and non-alcoholic drinks.
- Dilute alcoholic drinks or opt for low calorie/low alcohol alternatives. For example, opt for a white wine spritzer rather than a full glass of wine.
- Aim to keep a few nights each week alcohol-free.

Alcohol, calories and weight gain

Alcoholic drinks contain a lot of calories and offer little nutritional benefit.

For example, 12 oz. of ordinary strength beer contain about 160 calories. A 5 oz. glass of 12% ABV wine contains about 150 calories.

Cutting down on the amount you drink could play an important role in helping you to lose weight or maintain a healthy weight, and so reduce cancer risk.

7. Limit Consumption of Salty Foods and Foods Processed with Salt (sodium).

Consuming too much salt can be harmful to our health, increasing our risk of stomach cancer as well as high blood pressure.

How much salt do we need?

Our daily intake of salt should be less than 2,400 milligrams. We actually need much less than this. Most people in the U.S. currently consume more than 2,400 mg, but there are simple ways to cut down on our intake.

Salt and sodium - what's the difference?

Some food labels list the sodium content instead of the amount of salt; sodium is a component of salt. According to the U.S. Food and Drug Administration, foods high in salt have more than 480 mg per single serving size listed on the Nutrition Facts label. For whole packaged meals or entrees, more than 600 mg is considered high. In contrast, low sodium-foods have 140 mg or less sodium per standard serving size or 140 mg per 3.5 oz. of a main dish or entire meal.

Salt and cancer prevention - the evidence

- The expert panel found that salt and salt-processed foods are probably a cause of stomach cancer.
- There is also evidence that refrigeration indirectly protects against some cancers - probably because it increases the availability of fresh, perishable foods like vegetables and fruits and reduces the need for processed foods, which are often high in salt, fat and sugar.

Five steps to reduce salt intake

- Eat more vegetables and fruits in place of salty, processed foods. Most of the salt in our diets comes from processed foods. We are not always aware that these foods are high in salt because they may not taste 'salty'. Watch out for: breakfast cereals, bread, frozen meals, pizzas, ham, sausages,

soups, chips and sauces. Even sweet foods like cookies can contain high levels of salt.

- Choose home-cooked meals made with fresh produce where possible.

This gives you more opportunity to control the amount of salt in your diet.

- Check food labels and select products with less salt or sodium.

Bear in mind that foods labeled as 'reduced salt/sodium' can still be quite salty. Choose canned or packaged food with no added salt.

- Gradually reduce the salt you add during cooking or at the table.

Your taste buds should adjust within a few weeks, allowing you to enjoy the true taste of food and notice more subtle flavors.

- Use spices, herbs, garlic and lemon instead of salt.

Black pepper, chili powder, ginger and herbs such as basil and bay leaves all add flavor to food quickly and easily.

What is the link to cancer?

Studies have shown that high salt intakes can damage the lining of the stomach. This is one way in which it might increase the risk of stomach cancer.

Most of the salt in our diets comes from processed foods.



8. Don't Use Supplements to Protect against Cancer.

To reduce your risk of cancer, choose a balanced diet with a variety of foods rather than taking supplements.

Dietary supplements - the evidence

- ◆ The Expert Report found strong evidence that high-dose supplements of some nutrients can affect the risk of different cancers.
- ◆ The panel judged that in general, the best source of nourishment is food and drink, not dietary supplements.
- ◆ There are some situations when supplements are recommended - your doctor (or registered dietitian) can advise you when they are necessary.

What is the link to cancer?

Some studies have shown that supplements can upset the balance of nutrients in the body. More research needs to be done, but this is one way that they might affect our risk of cancer.

The best source of nourishment is food and drink, not dietary supplements.

To reduce your risk of cancer, choose a balanced diet with a variety of foods rather than taking supplements.

Nutrient-rich whole foods contain substances that are necessary for good health - like fiber, vitamins and minerals. Although some of these substances are available as supplements, scientists cannot be sure that we get the same benefit if we consume nutrients in this form. Research also shows that taking high doses of some supplements could be harmful to our health.

Studies have shown some supplements increase cancer risk while others protect against it. Some supplements can have side effects but the trials are not always able to identify them. So for most people, it's sensible to get nutrients from whole foods, where the balance of risks and benefits is known. By eating a balanced diet rich in vegetables, fruits and other plant-based foods, most of us should be able to obtain all the nutrients we need.

However, some groups of people may benefit from taking supplements. These are the most common situations when taking a supplement can be beneficial:

- All women of childbearing age intending to conceive a child should take a folic acid supplement before conception and up to the twelfth week of pregnancy.
- Pregnant women and nursing mothers should also take a vitamin D supplement and possibly an iron supplement if their iron levels are low.
- Children between six months and five years could benefit from taking drops containing vitamins A, C and D, although children with a good appetite who eat a wide variety of foods may not need them.
- Frail older people who have low calorie needs may benefit from a low-dose, balanced multi-vitamin.
- Older people should consider taking a vitamin D supplement, as should: people who rarely go outdoors; people who cover up all their skin when outdoors; those who don't eat meat or oily fish.

If you want more advice on any of these situations, it's best to contact your doctor or a registered dietitian.



The following recommendations don't apply to everyone, but if they are relevant to you, following them can help to reduce your risk of cancer.

9. It's Best for Mothers to Breastfeed Exclusively for up to Six Months and Then Add Other Liquids and Foods.

You may already know that breastfeeding has many benefits for mothers and children - and the positive news is that it can help to protect us from cancer. Evidence shows that breastfeeding can help protect mothers from breast cancer. It also protects babies from excess weight gain that can lead to their being overweight in adult life. And overweight adults have higher cancer risk

Breastfeeding protects both mother and baby.

If you're planning to breastfeed your baby, your doctor or certified lactation consultant will be able to provide more information and support.



Breastfeeding and cancer prevention - the evidence

- According to the Expert Report, the evidence that breastfeeding protects mothers against breast cancer is convincing.
- Having been breastfed probably protects children against overweight and obesity. Overweight and obese children tend to remain overweight in adult life.

What is the link to cancer?

- Breastfeeding lowers the levels of some cancer-related hormones in the mother's body, reducing the risk of breast cancer.
- At the end of breastfeeding, the body gets rid of any cells in the breast that may have DNA damage. This reduces the risk of breast cancer developing in the future.
- Research shows that babies who are breastfed are less likely to consume too many calories and too much protein than babies who are fed infant formula. This means that they are less likely to become overweight or obese as they grow up.

10. After Treatment, Cancer Survivors Should Follow the Recommendations for Cancer Prevention.

Cancer survivors are people who are living with a diagnosis of cancer, including those who have recovered from the disease.

Anyone who has received a diagnosis of cancer should receive specialized nutritional advice from an appropriately trained professional. Once treatment has been completed, if you are able to do so (and unless otherwise advised), aim to follow our cancer prevention recommendations for diet, healthy weight maintenance and physical activity.

For cancer survivors who want to reduce their risk of a recurrence of the disease, or a new primary diagnosis of cancer or other chronic disease, the best advice is to follow the recommendations in this booklet for diet, healthy weight and physical activity.

However, people who are currently undergoing treatment for cancer are likely to have special nutritional requirements, and in these cases, it's best to ask an appropriately trained health professional (usually a doctor or dietitian) for advice. This is also true for cancer survivors whose treatments have affected their ability to eat or digest some foods - for example, patients who have undergone a gastrectomy or a colostomy.

Future research priorities

More and more people are living with a diagnosis of cancer in the U.S., and this is likely to increase as treatments for the disease improve. Preventing a recurrence of the disease in cancer survivors is a new focus of research, and it is a priority for AICR to fund more studies in this area.

Cancer survivors and preventing recurrence of the disease - the evidence

- There is growing evidence that physical activity and other measures that help us to maintain a healthy weight, such as a balanced diet, may help to prevent cancer recurrence, particularly for breast cancer. However, the evidence is not yet clear enough to be able to make any specific recommendations for cancer survivors in general, or for those who are survivors of any specific form of cancer.
- The recommendations in this publication can also reduce the risk of other chronic diseases like heart disease and diabetes.



Meet our expert panel

The information in this booklet is based on the Expert Report *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*, published by WCRF/AICR.

The Report was compiled by 21 of the world's top researchers in this area, with the support of independent observers. Each scientist brought a special area of expertise to the Report.

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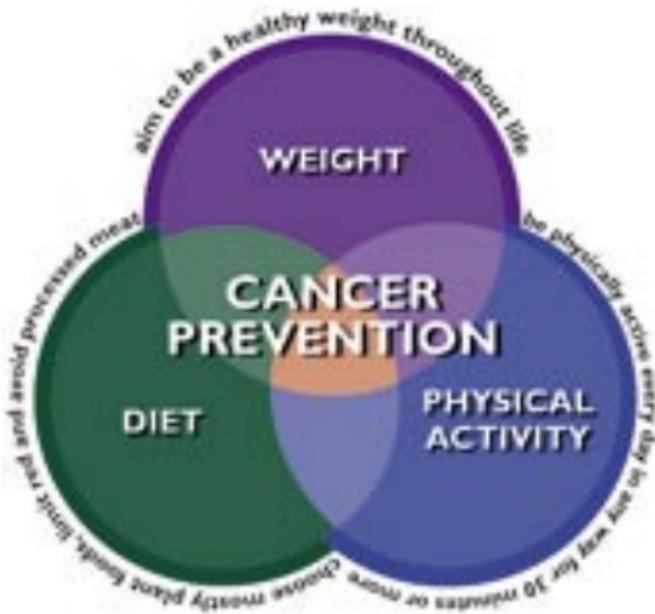
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American Institute
for Cancer Research

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 use tobacco in any form.***

AICR is part of the WCRF global network