WCRF UK’s Recommendations for Cancer Prevention have been simplified into three Guidelines that explain the key ways we can reduce our risk.

**WCRF UK Guidelines for Cancer Prevention**

- **WEIGHT**
  - aim to be a healthy weight throughout life
  - be physically active every day in any way for 30 minutes or more

- **DIET**
  - choose mostly plant foods, limit red meat and avoid processed meat

- **PHYSICAL ACTIVITY**
  - aim to be a healthy weight throughout life

The choices you make about food, physical activity and weight management can reduce your chances of developing cancer

- 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

WCRF UK is a part of the WCRF global network

“Stopping cancer before it starts”
Our vision
World Cancer Research Fund (WCRF UK) 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 World Cancer Research Fund (WCRF UK) 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

WCRF UK is part of the World Cancer Research Fund global network, which consists of the following charitable organisations: The American Institute for Cancer Research (AICR); World Cancer Research Fund UK (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, 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, published in November 2007. The Recommendations were developed by a Panel of 21 international experts, who assessed the evidence of nearly 7,000 research studies from all over 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 UK develops cancer at some point during their lifetime, but research gives us hope and shows that cancer isn’t simply down to fate or bad luck. Scientists estimate that by making changes to the food we eat, increasing the amount of physical activity we do and maintaining a healthy weight, about a third of cancers could be prevented. Also, 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 UK 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 centres 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 organisations. 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

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 analyse 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 programmes.

At the same time, WCRF/AICR is also working on a separate Policy Report that aims to help national and international organisations to develop policies that will help populations take steps to reduce their risk of cancer. You can read more about this Policy Report, which will be published in late 2008, on page 27.
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. Recommendations 9 and 10 don't apply to everyone, but if they are relevant to you, it's best to follow them.

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 you meet the Recommendations described in this booklet. Experts estimate that by following them we could reduce our risk of cancer by about a third.

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.

What is cancer?

Cancer is a broad term used to describe a group of more than 200 types of disease 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 'tumour'. The tumour may then grow and go on to damage surrounding healthy tissues or organs, or cancer cells may break away from the original tumour 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 which 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 and 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 your community.

The information in this booklet is based on the most thorough and reliable review and judgment 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.
Recommendation 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 Body Mass Index (BMI) range.

Maintaining a healthy weight brings a range 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 18.5-24.9. For cancer prevention, we should aim for the lower end of this range.

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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 oestrogen into the bloodstream, as well as raising levels of other hormones in the body. This is strongly linked to bowel cancer and probably to cancers of the pancreas and endometrium (womb), as well as to 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 the following cancers: bowel, oesophagus, pancreas, kidney, endometrium (womb), 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 oestrogen, 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 fibre. You can find out more about these foods on page 10.

• Be physically active
  Keeping active helps us burn calories, which are stored as fat if they are not used up. See page 8 to find out more about the cancer prevention benefits of being active.

• Avoid fast food and sugary drinks and watch out for high energy-dense foods
  A significant amount of research shows that sugary drinks, like cola and squashes, contribute to weight gain especially if they are consumed often. High energy-dense foods are likely to contain a lot of fat and/or sugar, so they can also 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. You can find out more on page 10.

• 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. Convert your weight into kilograms (kg) and your height into metres (m).
2. Divide your weight by your height squared. This figure is your BMI.

For example, here is the calculation for a person who is 5’7” (1.7m) tall and who weighs 11 stone (70kg).

\[
\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)}^2} = \frac{70}{1.7^2} = 24.2
\]

Results

<table>
<thead>
<tr>
<th>Weight Range</th>
<th>BMI Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 18.5</td>
<td>underweight</td>
</tr>
<tr>
<td>Between 18.5-24.9</td>
<td>healthy weight</td>
</tr>
<tr>
<td>Between 25-29.9</td>
<td>overweight</td>
</tr>
<tr>
<td>30 or more</td>
<td>very overweight or obese</td>
</tr>
</tbody>
</table>

Measuring your waist

Another good way of checking if you’re a healthy weight is by measuring your waist. A significant amount of research shows that sugary drinks, like cola and squashes, contribute to weight gain especially if they are consumed often. High energy-dense foods are likely to contain a lot of fat and/or sugar, so they can also 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. You can find out more on page 10.

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”/80cm for women and less than 37”/94cm 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 – try to do your best!

Note: BMI may not be a suitable indicator for athletes, elderly people, pregnant women, children, or adults less than 5 feet (1.5m) tall.

Measuring your waist

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Note: BMI may not be a suitable indicator for athletes, elderly people, pregnant women, children, or adults less than 5 feet (1.5m) tall.
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 to avoid weight gain, research shows that activity itself can help to prevent cancer.

WCRF UK is encouraging us all to build more activity into our everyday lives. If you’re not used to doing much activity, start by working towards 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). Opt for a range of activities that you enjoy. Why not try some of these ideas?

- Swimming
- Dancing
- Walking briskly to the bus stop or train station, or to work
- Cycling to your local shops
- Walking up the stairs instead of taking the lift
- 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 or netball

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 bowel cancer. It probably also protects against breast cancer (in postmenopausal women) and endometrial (womb) cancer.

What is the link to cancer?

- Studies show that regular activity can help to keep our hormone levels healthy, which is important as 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.

Lifestyle changes fact box

Until the middle of the 20th century, most people in the UK 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, this began to change. Most jobs in cities and towns are now sedentary and we have machines (like washing machines) to do the majority of household tasks. Most short journeys are made by car or public transport, 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.
Avoid sugary drinks. Limit consumption of energy-dense foods (particularly processed foods high in added sugar, or low in fibre, or high in fat)

Choosing healthy foods and drinks instead of those that are high in fat, sugar and calories (energy dense) can help us avoid overweight and obesity and reduce our risk of cancer.

What are energy-dense foods? Most foods provide us with energy (calories), but some foods contain more energy-weight-for-weight than others. Foods that contain a lot of calories are known as energy-dense foods. They tend to be high in fat and/or sugar and are causes of weight gain and obesity.

For example, 100g of chocolate contains around 10 times more calories than 100g of apple:

- 100g of milk chocolate = 520 kcals
- 100g of apple = 52 kcals

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 ok 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 lower energy-dense foods, you can actually eat more food but consume fewer calories. Lower energy-dense foods are high in water and fibre and help us feel fuller for longer. 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 fizzy drinks like cola and lemonade, as well as cordials and squashes like blackcurrant juice drinks. We should try to avoid these – water is always the best choice and unsweetened tea and coffee are also preferred (aim to limit coffee to no more than four cups a day).

Natural fruit juice counts as one of our recommended 5 A DAY portions of vegetables and fruits, but it does contain a lot of sugar, so 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 in turn increase our risk of a range of cancers including bowel cancer, and breast cancer (in postmenopausal women).
- Foods low in energy density probably help us avoid weight gain and obesity.

Fast foods fact box
Did you know that people in Britain eat more fast food than those from any other country in Europe?

Readily available convenience foods, like takeaways, ready meals, burgers, chips and fried chicken, tend to be energy dense. We often eat these foods in big portions too. Eating these foods too often can lead to weight gain and obesity. The good news is that fast food doesn’t have to be unhealthy. Simple meals, using fresh ingredients, can be quick to prepare and inexpensive.

Visit www.wcrf-uk.org to download some quick and healthy recipes.
Eat more of a variety of vegetables, fruits, wholegrains, and pulses such as beans

Basing our diets on plant foods (like vegetables, fruits, wholegrains, and pulses such as beans), which contain fibre and other nutrients, can reduce our risk of cancer.

For good health, WCRF UK 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, rice, pasta, lentils and cereals. Aim to eat these types of foods with every meal and opt for wholegrain options whenever possible.

These foods contain plenty of fibre 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.

Plant foods and cancer prevention – the evidence

- Research shows that vegetables and fruits probably protect against a range of cancers, including mouth, pharynx, larynx, oesophagus, stomach, lung, pancreas and prostate.
- According to the Expert Report, it is probable that foods containing dietary fibre decrease the risk of bowel cancer. These foods include wholegrain 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 that can help to protect cells in the body from damage that can lead to cancer.
- Foods containing fibre are also linked to a reduced risk of cancer. Fibre 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 less energy dense.

At least 5 A DAY, every day

Vegetables and fruits are the building blocks of a healthy diet – we should aim for at least five portions a day. They are high in nutrients like vitamins and minerals. Most are also low in calories and are good sources of fibre, so they are filling and can help us avoid weight gain.

What is a portion?

Almost all vegetables and fruits count, apart from starchy tubers and roots 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 portion is:
- Three heaped tablespoons of cooked vegetables like broccoli or carrots
- A small cereal bowl of 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 satsumas or plums
- A small glass (150ml) of pure fruit juice – but this only counts once a day, no matter how much you drink, as fruit juice is high in sugar and doesn’t contain as much of the beneficial substances (like fibre) that are found in whole fruits.

Instead of

| White bread | Wholemeal or wholegrain bread |
| White rice | Brown rice |
| Cornflakes | Wholegrain cereal, muesli or porridge |
| White pasta | Wholemeal pasta |

Starchy foods and wholegrains

Low-carbohydrate diets like the Atkins Diet have led many people to believe that starchy foods are ‘fattening’. In fact, weight-for-weight, carbohydrate contains less than half the calories of fat. Less processed carbohydrates are better for us than the refined alternatives, because they contain more fibre 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 wholegrains. They contain all the fibre and nutrients of the ‘whole’ grain, which are removed in processing to make foods like white bread and white pasta. Wholegrain foods release their energy slowly and help us feel fuller for longer. Try to include more wholegrains in your diet – why not try some of these swaps?

Potatoes are healthiest eaten with their skins, as they contain more fibre. Opt for boiled potatoes with skins and jacket potatoes instead of chips or roast potatoes.

Foods that contain a lot of added sugar, like cakes and biscuits, 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.
Limit consumption of red meats (such as beef, pork and lamb) and avoid processed meats

To reduce your cancer risk, eat no more than 500g* (cooked weight) per week of red meats, like beef, pork and lamb, and avoid processed meats such as ham, bacon, salami, hot dogs and some sausages.

What is red meat?
• Red meat refers to beef, pork, lamb and goat – foods like hamburgers, minced beef, 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 some sausages. Hamburgers and minced meats only count as processed meat if they have been preserved with salt or chemical additives.

*500g = 1 lb 2 oz

The evidence from the Expert Report that red meat is a cause of bowel cancer is convincing

Can red meat form part of a healthy, balanced diet?
Red meat is popular in the UK, 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 500g (cooked weight) a week, very little if any to be processed.

As a rough guide, 500g of cooked red meat is about 700-750g of raw meat. This is useful if you are looking at food packaging. To help you visualise 500g, here are some common red meats and their average serving sizes. These are useful as a guide, but bear in mind that some serving sizes might be much larger.

<table>
<thead>
<tr>
<th>Red meat</th>
<th>Cooked weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium portion of</td>
<td>90g</td>
</tr>
<tr>
<td>roast beef, lamb or pork</td>
<td></td>
</tr>
<tr>
<td>Pork or lamb chop</td>
<td>75g</td>
</tr>
<tr>
<td>‘Quarterpounder’ beefburger</td>
<td>90g</td>
</tr>
<tr>
<td>Medium steak</td>
<td>145g</td>
</tr>
</tbody>
</table>

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. Why not try some of these suggestions?

• Make every other evening meal red-meat free.
• If you’re making a dish using minced meat, try halving the quantity of meat and adding beans or pulses instead – for example, a chilli with extra kidney beans. They are inexpensive, nutritious and tasty.
• Swap a grilled chop or sausages for grilled fish.
• Try a chicken or tuna sandwich with salad instead of a BLT.
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 recognises 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 10-15g of pure alcohol, so one drink is the same as:
- half a pint of normal strength (3-5% ABV*) beer, lager or cider
- one 25ml measure of spirits (40% ABV*), such as vodka or whisky
- one small 125ml 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 alcohol than we realise.

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.

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, oesophagus and breast, as well as bowel cancer in men.
- Alcoholic drinks also probably increase the risk of liver cancer, as well as bowel cancer in women.
- For cancer prevention, WCRF UK 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 aged 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.

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 26.

*ABV= Alcohol By Volume

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:
- A pint of ordinary strength beer or lager contains about 250 calories.
- A 125ml glass of 12% ABV wine contains about 85 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.
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 6g (2.4g sodium) – we actually need much less than this. Most people in the UK currently consume more than 6g, 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. To work out how much salt a food contains, multiply the sodium content by 2.5. According to the Food Standards Agency, a food that is high in salt will contain more than 1.5g of salt per 100g. A food that is low in salt will contain less than 0.3g of salt per 100g.

Salt and cancer prevention – the evidence
• The expert Panel found that salt and salt-preserved 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.

5 steps to reduce salt intake
1. Eat more vegetables and fruits in place of salty, processed foods
Over 80 per cent 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, ready meals, pizzas, ham, sausages, soups, crisps and sauces. Even sweet foods like biscuits can contain high levels of salt.

2. Choose home-cooked meals made with fresh produce where possible
This gives you more opportunity to control the amount of salt in your diet.

3. Check food labels and select products with less salt or sodium
Bear in mind that foods labelled as ‘reduced salt/sodium’ can still be quite salty. Choose canned or packaged food with no added salt.

4. Gradually reduce, then cut out, 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 flavours.

5. Use spices, herbs, garlic and lemon instead of salt
Black pepper, chilli powder, ginger and herbs such as basil and bay leaves all add flavour 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.

Multiply sodium content by 2.5 to work out the equivalent salt value in grams
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 drinks, not dietary supplements.
- There are some situations when supplements are recommended – your GP (or other healthcare provider) can advise you when this is 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 drinks, 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 fibre, 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.

Although some studies do show that supplements protect against some cancers, they have normally been tested in one particular group of people, so the benefits might not apply to the general population. Some supplements can have side effects but the trials are not always able to pick them up. 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 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 micronutrient supplement.
- Older people should consider taking a vitamin D supplement, as should: people of Asian origin; 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 GP.

By eating a balanced diet, rich in vegetables, fruit and other plant-based foods, most of us should be able to obtain all the nutrients we need.
It is best for mothers to breastfeed exclusively for up to 6 months and then add other liquids and foods

If you are able to, aim to breastfeed your baby exclusively up to the age of six months, and then continue breastfeeding with complementary feeding from then on. Evidence shows that breastfeeding can help protect mothers from cancer and babies from excess weight gain.

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 against cancer too. WCRF UK’s Recommendation follows guidance from the World Health Organization and UNICEF that babies should be exclusively breastfed until they are six months old. Breastfeeding is the ideal way of providing babies with all the nutrients that they need.

If you’re planning to breastfeed your baby, your GP or health visitor will be able to provide more information and support.

Evidence that breastfeeding protects mothers against breast cancer is convincing

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 which 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.

Having been breastfed probably protects children against overweight and obesity
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 specialist 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 in the UK are living with a diagnosis of cancer, 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 WCRF UK 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 as a whole, 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, so they can be beneficial to cancer survivors for this reason.
And, always remember – do not smoke or chew tobacco

Smoking or using tobacco in any form increases the risk of cancer and other serious diseases.

**Tobacco and cancer prevention – the evidence**
- Tobacco can cause cancer whether it is smoked or consumed in other ways, and it is particularly harmful when combined with alcohol. Research has shown that passive smoking is also harmful.
- Tobacco causes 90 per cent of lung cancers and is implicated in cancers of the mouth, pharynx, larynx, oesophagus, pancreas, cervix, kidney and bladder.

If you do smoke, giving up is one of the most important things you can do to reduce your risk of cancer. The positive news is that it’s never too late to stop and your health will benefit immediately.

Your GP can provide support and more information on the many methods available to help you give up.

Public health goals

The Recommendations covered in this publication are aimed at families, communities and individuals. The Expert Report also contains separate Recommendations aimed at populations as a whole. These have been developed to help health professionals, governments and national and global organisations reduce the risk of cancer among their communities.

In late 2008 we will publish a separate Policy Report, which will provide further advice to health professionals and governments around the world on how best to help the people they work with to reduce their risk of cancer.

Visit [www.wcrf-uk.org](http://www.wcrf-uk.org) to find out more.
This chart shows which food, nutrition and physical activity factors increase and decrease our risk of different cancers. Like the Recommendations in this booklet, it is based on ‘convincing’ and ‘probable’ evidence from the Expert Report – *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*.

Although some of the terms may not be familiar to you, it gives an idea of the range and depth of the scientific research that went into producing the Report. Please contact us if you would like more information on any of these terms.

Visit [www.dietandcancerreport.org](http://www.dietandcancerreport.org) to find out more about the Report.

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### Cancer prevention – at a glance

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<th>Breast premenopause</th>
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<th>Ovary</th>
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**KEY**

- **Convincing decreased risk**
- **Probable decreased risk**
- **Probable increased risk**
- **Convincing increased risk**

1. Includes evidence on foods containing carotenoids for mouth, pharynx, larynx; foods containing beta-carotene for oesophagus; foods containing vitamin C for oesophagus
2. Includes evidence on foods containing carotenoids for mouth, pharynx, larynx; foods containing beta-carotene for oesophagus; foods containing vitamin C for oesophagus
3. Includes evidence from supplements for prostate
4. Includes ‘fast foods’
5. Convincing harm for men and probable harm for women for colorectum
6. The evidence is derived from studies using supplements for lung
7. Includes evidence on television viewing
8. Judgement for physical activity applies to colon and not rectum

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Meet our expert Panel


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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Denise Costinho PhD
Chizuru Nishida PhD MA
Pirjo Pietinen DSc
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About WCRF UK

WCRF UK is the principal UK charity dedicated to the prevention of cancer through the promotion of healthy diet and nutrition, physical activity and weight management. WCRF UK is committed to providing cancer research and education programmes which expand our understanding of the importance of our food and lifestyle choices in the cancer process.

By spreading the good news that cancer can be prevented, WCRF UK hopes that many thousands of lives will be saved. The education and research programmes of WCRF UK are funded almost entirely by donations from the public.

This booklet gives information based on WCRF UK’s Recommendations for Cancer Prevention developed from the Expert Report: Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective (2007). 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. WCRF UK 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.