

**This leaflet is about the effects of red and processed meat on cancer risk and the healthy alternatives that could help you reduce your meat intake.**

**Red and processed meat increase your risk of bowel cancer – one of the most preventable, but also one of the most common, cancers in the UK.**

Following our advice doesn't mean that you need to give up red meat altogether, but by reading this leaflet, you will be able to make informed choices to help you get the balance right.

Trying some new alternatives to red and processed meat can add variety and excitement to your meals. You may discover a whole new list of favourite foods!

### **Making informed food choices – the meat issue**

The choices you make about what you eat can reduce your chances of developing cancer. Often we make food choices without thinking, out of habit or tradition. We might choose a bacon sandwich for lunch because that's what we always have, or ham for Christmas because it is a family tradition.

A Panel of expert scientists advises, however, that we think more carefully about the foods we regularly choose to eat. Among other things, the Panel suggests that we limit the amount of red meat we eat and avoid processed meat almost always in order to reduce cancer risk.

These Recommendations appear in WCRF UK's 2007 Expert Report. The Expert Panel reviewed all of the available evidence on diet, physical activity and weight management in relation to cancer risk and produced 10 Recommendations for Cancer Prevention. If we all followed these Recommendations, experts estimate that **about a third of the most common cancers could be prevented.**

*This booklet focuses on the meat Recommendation:*

**Limit consumption of red meats (such as beef, pork, lamb and goat) and avoid processed meats**

### **Red meat and cancer risk**

The evidence examined by the Report regarding red meat is particularly convincing. A review of 87 different studies shows that eating too much red meat (beef, lamb, pork and goat) increases the risk of bowel cancer. The evidence shows that eating up to 500g (cooked weight) of red meat per week does not significantly raise cancer risk. Eating more than this, however, definitely increases your risk of bowel cancer.



Researchers are continuing to study exactly how red meat raises cancer risk. Red meat contains haem, an iron-containing compound that gives red meat its colour. This compound has been shown to damage the lining of the bowel. Red meat also stimulates the production in the stomach of substances called N-nitroso compounds, which can damage DNA in our cells.

### **Red meat in moderation**

Red meat is a good source of nutrients including protein, iron and zinc. However, it is important to remember that eating a varied diet that contains less red meat can still provide you with all the vitamins and minerals you need.

For many of us, reducing the amount of red meat we eat is simply a matter of thinking in a new way about our meals. Often, we plan dinner around red meat, which can lead to eating more than the recommended amount. So when planning meals:

- ◆ Choose your vegetables and wholegrains first.
- ◆ Think of red meat as one of the many protein sources you could choose (when you feel like adding extra flavour to your meal).
- ◆ Experiment with poultry and fish – or why not try including some meat-free meals using beans or lentils? These are all good choices as fish and poultry have not been linked to an increased cancer risk, and a portion of beans or lentils will count towards your 5 A DAY.
- ◆ Always try to keep the serving size small – the recommendation is a limit of 500g (cooked weight) per week. That means you could have three meals with 150g of red meat each. Or you could plan six meals, each with an 80g serving.

Some average serving sizes of red meat (cooked weight):

**Medium steak** = 145g red meat

**Pork chop** = 75g red meat

**Spaghetti bolognese with minced beef** = 140g red meat

**Serving of roast beef** = 90g red meat

Restaurant portions may be quite large and often the meat served is not very lean. When eating out, why not try vegetable or fish options that you wouldn't usually cook yourself and save red meat for special meals?

### **Thinking about portion sizes**

Meat shrinks during cooking, so 500g is roughly equivalent to 700-750g of raw meat. This is useful to keep in mind when you are looking at food packaging or purchasing meat from a butcher.

When dining out, exact portion sizes may not be listed. Even at home, it is difficult to know how much you are eating unless you use kitchen scales. One useful trick is to use visual clues. In general, 80g of cooked meat is about the size of a deck of cards.

### **Processed meat and cancer risk**

**Processed meat is defined as meat – usually red meat – that has been preserved by smoking, curing, salting or adding other chemical preservatives.** It includes bacon, ham and some sausages. It also includes popular sandwich fillings such as salami, corned beef and pepperoni.

After reviewing 58 studies, the Expert Panel found convincing evidence that eating processed meat is linked to an increased risk of bowel cancer. This research shows that the risk is higher than the risk linked to fresh red meat. The Panel could find no amount of processed meat that can be confidently shown not to increase cancer risk.

Processed meat may increase our chances of developing bowel cancer in a number of ways. Processing can produce several cancer-causing substances including N-nitroso compounds, which are the product of nitrates – a common preservative in processed meat. Processed meat, like bacon and ham, may produce higher levels of N-nitroso compounds than fresh red meat. This may be why the evidence linking it to cancer risk is stronger. Processed meat made from red meat also contains haem, which may also pose a risk.

WCRF UK continues to fund research in this area, but from the current findings we advise people concerned about cancer risk to avoid all processed meat whenever possible.

Most processed meat is red meat but sausages, 'bacon' and processed sandwich meat (such as turkey slices) made from poultry are also best avoided until we know more.



## Tasty alternatives to processed meat

If you eat processed meat regularly, reducing your intake may feel like a challenge. There are, however, plenty of delicious and satisfying alternatives. It's just a case of trying new ideas to see which you enjoy best.

### Breakfast

◆ Try breakfasts based on wholegrains and fruit. Porridge or wholegrain cereal sweetened with fruit make a good start to the day and will fill you up until lunch.

◆ If you enjoy a cooked breakfast, or like a treat at the weekend, try poached or scrambled eggs on wholemeal toast. Serve with grilled tomato, peppers, onions or mushrooms.



### Lunch

◆ Instead of a ham and pickle sandwich, try an egg and cress roll or a vegetable wrap with houmous. Fresh turkey, chicken breast, salmon, tuna or a small portion of cheese on wholegrain bread with lettuce or spinach leaves and tomato are all good options.

◆ Alternatively, try lunches based on soups or salads. With microwaves and refrigerators in so many work places, they can be just as convenient as the traditional sandwich.

### Dinner

◆ Think first about the vegetables, wholegrains and pulses to put on your plate. Then add a small serving (80g) of fish, poultry, or, occasionally, lean, red meat.

◆ Why not try grilled fish, lean turkey or chicken instead of roast ham for Sunday lunch or family meals?

◆ Instead of salami or pepperoni, add flavour or heat to your pizza using spicy chicken, roasted vegetables, chilli, olives or jalapeño peppers.



**WCRF UK has lots of exciting recipes and cookbooks, which are available online. Visit us at [www.wcrf-uk.org](http://www.wcrf-uk.org) to find out more.**

## 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 leaflet 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.

**Did you know that many cases of cancer could be prevented? For practical information on choosing a healthy diet, managing your weight and becoming more active to help reduce your risk, visit our website:**

**[www.wcrf-uk.org](http://www.wcrf-uk.org)**

### WCRF UK 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 added sugar, or low in fibre, or high in fat)
- 4 Eat more of a variety of vegetables, fruits, wholegrains, and pulses 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 is best for mothers to breastfeed exclusively for up to 6 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*

# RED AND PROCESSED MEAT: finding the balance for cancer prevention



WCRF UK is part of the WCRF global network

World Cancer Research Fund (WCRF UK)  
22 Bedford Square, London WC1B 3HH Tel: 020 7343 4200 Fax: 020 7343 4201  
Web: [www.wcrf-uk.org](http://www.wcrf-uk.org) Email: [wcrf@wcrf.org](mailto:wcrf@wcrf.org)

Registered in London, England No: 2536180  
Registered with the Charity Commission in England and Wales  
(Registered Charity No: 1000739)  
Registered Office: 22 Bedford Square, London WC1B 3HH

**“Stopping cancer before it starts”**

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