

# MIND THE KNOWLEDGE GAP



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# Mind the knowledge gap

**MISCONCEPTIONS about meat are leaving thousands of Britons at risk of health problems caused by nutritional deficiencies, a survey<sup>1</sup> has revealed.**

Low levels of both iron and vitamin D are common throughout the UK and can lead to a range of health problems, but the poll of 2,000 people found that we routinely underestimate the importance of red meat in delivering these vital nutrients: Almost half (49%) of those questioned wrongly believe that spinach is a better source of iron than red meat, while more than one in five (23%) thought they were equally good.

Despite Popeye's power to persuade us otherwise, red meat actually has three times more iron<sup>2</sup> than spinach and the iron comes in a far more readily absorbed form than that found in vegetables.

Awareness of vitamin D was also poor, with more than one in five (22%) wrongly asserting that green leafy vegetables provide some vitamin D when, in fact, they contain none. However, around half that number (12%) correctly listed

red meat as a useful source of vitamin D.

The implications for the nation's health are worrying, as a lack of iron in the body can trigger tiredness, breathlessness and impaired immunity<sup>3</sup>, while insufficient vitamin D has been linked with bone pain and muscle weakness<sup>4</sup>.

There is growing evidence that vitamin D also plays an important role in maintaining the immune system, and studies have linked low blood levels to an increased risk of heart disease<sup>5</sup>, cancer<sup>6</sup>, diabetes<sup>7</sup> and auto-immune conditions, such as multiple sclerosis<sup>8</sup>. Dr Gill Jenkins, a GP and member of the Meat Advisory Panel says: "Red meat is an excellent source of iron and vitamin D, not to mention protein, zinc and other important nutrients. But unfortunately far too many people appear to be losing sight of the importance of meat within a healthy diet."

1 OnePoll survey of 2,000 meat eaters conducted during July 2013  
2 Calculated from USDA database Beef (NDB\_No13382) 85g=3.13mg of iron compared to raw spinach (NDB-No 11457) 10g=0.27mg of iron  
<https://www.ars.usda.gov/SP2UserFiles/Place/12354500/Data/SR25/nutrlst/sr25a303.pdf>  
3 <http://www.nhs.uk/conditions/Anaemia-iron-deficiency-/Pages/Introduction.aspx>  
4 <http://www.nhs.uk/Conditions/vitamins-minerals/Pages/Vitamin-D.aspx>

5 <http://www.sciencedaily.com/releases/2012/09/120924102504.htm>  
6 <http://www.cancer.ca/en/prevention-and-screening/live-well/vitamin-d/?region=on>  
7 <http://www.reuters.com/article/2011/04/27/us-vitamin-d-diabetes-idUSTRE73Q6VH20110427>  
8 <http://www.news-medical.net/news/20120620/Evidence-mounts-for-vitamin-D-multiple-sclerosis-role.aspx>

Dietitian and nutritionist Dr Carrie Ruxton, a fellow member of the Meat Advisory Panel, offers one possible explanation: “When you look at some of the nutrition advice out there, it’s hardly surprising that people are confused. Individual research studies often provoke sensational headlines which urge us to eat lots of meat, fish, eggs or bread one week before telling us to avoid them the next. So-called experts, in reality people with no credible qualifications, also encourage faddy diets where whole food groups are banned for some spurious reason. The truth is, foods such as red meat do have a positive role in a healthy, balanced diet.”

Scares about red and processed meat appear to have added to the confusion; whilst some studies have suggested a link between bowel cancer and a high intake of red and processed meat, others do not and the evidence is inconclusive. Much of the research is drawn from observational studies which don’t control for other factors which influence cancer risk, such as dietary fibre, physical activity and fat intakes<sup>9</sup>.

Dr Ruxton explains: “These mainly US studies often rely on people’s memory of what they ate 20 or 30 years earlier and, while they provide important clues about the possible impact of diet and other lifestyle factors, they cannot identify cause and effect, only correlation.”

Brits are switched on to the key causes of heart disease and cancer, with most of those questioned in the survey naming smoking (82%), obesity (77%) and lack of exercise (71%) as the top three triggers.

The survey also revealed that consumers are developing food-scare fatigue and tend to shrug off negative headlines.

More than half (57%) say that scare stories have no impact on their views about red meat, while one in three (30%) say media reports are so contrary they ignore them altogether. Almost one in five (18%) say they would check out the facts before making up their minds. On one point the respondents were clear; when asked why they eat meat, three out of five (62%) said they simply enjoyed the taste.



# Meating the health needs of the nation

**TWO out of three (65%) of those surveyed believe red meat is an important part of a healthy diet and almost half (47%) tuck into a red-meat meal between one and four times a week.**

Dr Ruxton says: “It is reassuring to see that so many consumers recognise the contribution that red meat can make to a healthy balanced diet. Red meat provides a powerhouse of essential nutrients including protein, which is the building block of every cell in our body, vitamin A for cell repair and immune-boosting zinc and vitamin D – plus, of course, iron for energy.”

Men are the most likely to eat meat every day, 22% compared with 15% of women, and beef is our favourite red meat, followed by pork and lamb.

As a precaution, official advice in the UK is to eat no more than 90g of red meat a day – which is well above the national intake average of 76g a day<sup>10</sup>. The survey confirms that consumption of red meat remains well within these guidelines.

Fewer than half (47%) of the meat-eaters questioned tuck in to red meat between one and four times a week, although the survey also revealed that almost three quarters of those questioned had no idea of the recommendation to limit intake.

Chicken is the favourite meat overall, with 94% of meat-eaters ranking it in their top three – although this fondness for poultry may reflect the low-cost of intensive farmed chickens. Beef is also very popular with 64% of respondents placing it among their top three favourite meats, followed by pork (47%). Brits also love a bacon butty, with almost three out of four (72%) enjoying bacon at least once a week.





But we are heeding warnings about eating excessive amounts of processed meat. The average weekly consumption was a modest 1.7 rashers of bacon and 1.6 sausages with half (50%) reporting they eat processed meat only once a week or less.

One in ten (9%) eats processed meat just once a month, with women the most likely to eat it only once a month — 12% compared to 6% of men.

Most of our meat is bought in supermarkets, with over half (57%) saying it is convenient and less expensive and almost one in five (18%) admitting they were intimidated, or felt they did not know enough about meat, to buy at a butcher's.

This lack of knowledge was borne out by the fact that fewer than half (47%) correctly named pork as a type of red meat. Curiously one in five (22%) did not realise lamb is also classed as a red meat.

Age brings wisdom when it comes to dietary knowledge, with almost all (98%) of the over 55s identifying beef as a red meat compared with 82% of 18 to 24-year-olds.

The horsemeat scandal does not appear to have dampened our appetite for red meat, but more than one in ten shoppers (11%) now stock up at either a butcher's shop or a farmers' market. Over 55s are twice as likely to seek out these specialist retailers than 18 to 24-year-olds; 15% compared to 6%.

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# Eating for energy

## Tiredness often goes with the territory as we juggle the competing demands of work, family and the search for some me-time.

But the survey results suggest that many Britons may be missing a trick when it comes to eating for endurance.

Red meat is one of the richest and most readily absorbed sources of energy-boosting iron, but the survey found that almost half (49%) of the respondents wrongly believe that spinach is better. Just one in six (15%) correctly rated red meat as a superior source of iron.

Women are most likely to underestimate how much iron red meat provides. Three out of four women (74%) thought spinach has as much, or even more, iron as red meat, compared with two out of three (68%) of men.

Official figures confirm that almost half of girls ages 11-18 years are risking iron deficiency due to chronically low intakes, while around a quarter of women aged 19-64 years fall short of the minimum recommended iron intake<sup>11</sup>.

Iron is essential for energy because we need it to make haemoglobin, the transport protein which moves oxygen around the body. To maintain good health, men need 8.7mg a day but women need almost twice that — 14.8mg — to make up for blood loss during the monthly menstrual cycle<sup>12</sup>.

Dr Jenkins says: “This is extremely worrying as we know that girls and women are the most likely to have low iron levels.”

Shockingly, the survey found that only 8% of women — fewer than one in ten — were aware of their greater need for iron. Almost half (44%) assumed they required the same amount as men and one in five (20%) had no idea whether there were any gender differences.

And despite it being rich in iron, one in four women (23%) do not think red meat is an important part of a healthy diet.

<sup>11</sup> <https://www.gov.uk/government/news/statistical-press-notice-national-diet-and-nutrition-survey-headline-results-from-years-1-2-and-3-combined-2008-09-2010-11>

<sup>12</sup> <http://www.nhs.uk/Conditions/vitamins-minerals/Pages/Iron.aspx>

People from Northern Ireland are the most iron-savvy with around one in four (26%) recognising that red meat is a better source of iron than spinach, followed by Londoners (19%), Scots (18%) and those living in the south west (17%).

Low iron levels can lead to a host of niggling health problems including tiredness, poor concentration, headaches, feeling short of breath, irritability and dizziness. Symptoms are easily overlooked, but other warning signs include pale skin, brittle nails, cracked lips, muscle pain and feeling the cold<sup>13</sup>.

Iron comes in two forms; haem-iron, from animal foods such as red meat and egg yolks, is the most readily absorbed. On average our body can capture up to 30% of the haem-iron from food. But non-haem iron, which is found in plant foods such as spinach, beans and lentils, is less bio-available and the body is only able to absorb 5-15%<sup>14</sup>.

This means that a 100g of steak provides 0.9g of usable iron while the same quantity of spinach will deliver just 0.4g<sup>15</sup>. Dr Ruxton says: "Red meat is one of the best sources of easily absorbed iron there is and it is important for women, especially, to enjoy beef, pork or lamb as part of their regular diets."



<sup>13</sup> <http://www.webmd.com/a-to-z-guides/iron-deficiency-anemia-symptoms>

<sup>14</sup> [http://www.sacn.gov.uk/pdfs/sacn\\_iron\\_and\\_health\\_report\\_web.pdf](http://www.sacn.gov.uk/pdfs/sacn_iron_and_health_report_web.pdf)

<sup>15</sup> Based on USDA figures 11g steak = 2.87g, a quarter of which is 0.71g while 100g of spinach has 2.7 of which an average of 5% is absorbed

# Latest D-velopments

**THE importance of vitamin D for healthy bones and teeth has long been recognised, but there is growing evidence that it plays a far more fundamental role in maintaining good health.**

One study found that low levels of vitamin D increased the risk of heart disease by 40% and the risk of suffering a heart attack by 64%,<sup>16</sup> while a large European trial reported that high levels reduce the risk of bowel cancer by 40%<sup>17</sup>.

In part this may be down to the fact that vitamin D trains and arms T-cells — the foot soldiers of our immune system which seek out and destroy threats, such as bacteria and viruses<sup>18</sup>.

Vitamin D is sometimes called the sunshine vitamin, because our skin makes it from sunlight. But Britain's climate means that for much of the year there is not enough UVB light to produce this health-giving nutrient and, as a result, deficiency is widespread<sup>19</sup>. Having darker skin, being overweight and spending a lot of time indoors are also associated with a lower vitamin D status, and it is estimated that at least one in five children and one in five

adults is deficient in vitamin D<sup>20</sup>. However, some experts believe the real number may be much higher<sup>21</sup>.

Red meat is one of the few foods which provides useful quantities of vitamin D, along with oily fish, eggs and fortified breakfast cereals.

However, whilst one in four of those surveyed nominated breakfast cereals (24%) and oily fish (24%) as good sources of vitamin D only half that number, 12%, realised that red meat is also an important source.

The survey suggests that healthy-eating messages are becoming muddled and we now overestimate the benefits of fruit and vegetables. Almost one in four (22%) thought green leafy vegetables provide vitamin D when, in fact, they contain none, and almost one in ten (7%) claimed citrus fruits, which are also devoid of D, are a source of the vitamin.

<sup>16</sup> <http://www.sciencedaily.com/releases/2012/09/120924102504.htm>

<sup>17</sup> <http://www.webmd.com/colorectal-cancer/news/20100121/vitamin-d-may-lower-colon-cancer-risk>

<sup>18</sup> <http://www.telegraph.co.uk/health/healthnews/7379094/Vitamin-D-triggers-and-arms-the-immune-system.html>

<sup>19</sup> [http://www.feedingforlifefoundation.co.uk/media/16095/feeding%20for%20life%20foundation%20report\\_%20december%202011.pdf](http://www.feedingforlifefoundation.co.uk/media/16095/feeding%20for%20life%20foundation%20report_%20december%202011.pdf)

<sup>20</sup> <https://www.gov.uk/government/news/statistical-press-notice-national-diet-and-nutrition-survey-headline-results-from-years-1-2-and-3-combined-2008-09-2010-11>

<sup>21</sup> [http://www.healthresearchforum.org.uk/reports/public\\_health.pdf](http://www.healthresearchforum.org.uk/reports/public_health.pdf)

In the UK there are no universal guidelines for vitamin D intake, although this is currently under review and daily supplements are advised for a number of at-risk groups<sup>22</sup>. In the United States and Canada a daily intake of 15mcg<sup>23</sup>, is recommended for most people. Red meat can provide a helpful contribution to meeting vitamin D targets with pork, for instance, delivering around 0.5mcg per 100grams, or 10% of the European target of 5 mcg daily<sup>24</sup>.

Despite the fact that red meat provides heart-health nutrients, such as B vitamins, selenium and vitamin D, more than a quarter (28%) of those surveyed thought eating it contributed to heart disease. One in three (31%) rejected the notion of a link while two out of five (41%) did not know whether red meat was a factor in heart disease or not.

While a diet rich in saturated fats is associated with an increased risk of heart disease, the picture in relation to red meat is far from clear. Much of the fat in red meat is unsaturated<sup>25</sup> and improved farming practices and a shift towards leaner cuts have seen the levels of saturates fall by as much as 30% since the 1950s<sup>26</sup>.

Dr Ruxton says: "Our perceptions have become skewed. Many people think of chicken as a lean, low-fat meat, but a grilled chicken breast with the skin on actually contains more saturated fat than a grilled pork steak. It is all about balance and variety. Eating red meat in moderation is an important part of a healthy diet and it's a simple and enjoyable way to ensure a good intake of protein, iron, vitamin D and other essential nutrients."

RED MEAT IS ONE OF THE FEW FOODS WHICH PROVIDES USEFUL QUANTITIES OF VITAMIN D, ALONG WITH OILY FISH, EGGS AND FORTIFIED BREAKFAST CEREALS.

<sup>22</sup> <http://www.nhs.uk/news/2012/01/January/Pages/vitamin-d-medical-advice-and-supplements.aspx>  
<sup>23</sup> <http://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/>  
<sup>24</sup> Calculated from USDA figures  
<sup>25</sup> <http://meatandhealth.redmeatinfo.com/news-and-research/research-article/red-meat-and-saturated-fat#>  
<sup>26</sup> Higgs, J.D. (2000). "The changing nature of red meat: 20 years of improving nutritional quality." Trends in Food Science & Technology 11(3):85-95  
<http://meatandhealth.redmeatinfo.com/news-and-research/research-article/red-meat-and-saturated-fat#>



# Final bites

**The survey confirms that Britons have a hearty appetite for red meat and most are aware of its importance as part of a healthy diet, but it exposes some glaring gaps in our nutrition knowledge.**

Iron deficiency is common in the UK, particularly among women, who require a higher intake than men to make up for blood loss during their monthly cycle.

Dr Jenkins says: "Fatigue is a modern-day epidemic, particularly among women who are often trying to juggle family, kids, a job and dozens of daily demands on their time, and who, as a result of regular menstruation, may be in a state of permanent iron loss. So it is worrying to see so much confusion over iron-rich foods. Something as simple as eating red meat more frequently could make a real difference to your iron status and energy levels."

Dr Ruxton agrees and adds: "All too often, advice on healthy eating is about 'don'ts' — don't eat too many saturated fats, don't eat too much junk food, don't drink too much. But eating red meat is a simple health-boosting 'do', along with eating more fruit and vegetables and wholegrain carbohydrates."

There was a similar story when it came to vitamin D, which is emerging as a key player in immunity and disease prevention.

Very few foods contain vitamin D and we get most of our supplies from sun exposure. Deficiency is common throughout the UK, but that message is not getting through.

Dr Jenkins says: "We are only just beginning to learn how important vitamin D is for long term health and there is now good evidence that it may have a role in protecting against common killers such as cancer and heart disease. Our climate means that we often can't make enough from sunshine and many of us have sub-optimal levels, so it is important that we get the most from natural food sources — such as red meat."

Dr Ruxton adds: "It's almost as if Mother Nature has given us a clue, because vitamin D deficiency is at its worst during the winter when there is no better time to tuck into a hearty beef stew or a delicious lamb hotpot."





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[www.meatmatters.com](http://www.meatmatters.com)

