

Cow's milk is promoted as natural, wholesome and healthy. It is none of these things. The saturated fat, animal protein, cholesterol, hormones and growth factors it contains are linked to a wide range of illnesses and disease including: heart disease, cancers of the breast, bowel and prostate, acne, asthma, eczema, colic, Crohn's disease, diabetes, dementia, ear infection, food poisoning, gallstones, migraine, multiple sclerosis and autoimmunity, osteoporosis, overweight and obesity... the list goes on! Aggressive marketing of the supposed virtues of milk-drinking results in confusion; people don't know who to believe. So why is dairy such a disaster for health and why aren't we talking about it?

### The origins of dairy farming

Sheep, cattle and goats were domesticated in parts of the Middle East and central Asia over 9,000 years ago but it is thought that the exploitation of animals for milk was not practiced until between 6,000-8,000 years ago in north-west Anatolia (Asia Minor or Turkey). Although this sounds like a long time ago, in evolutionary terms it is very recent history. Hominid (modern human) fossils date back to nearly seven million years ago. If this is represented as a twelve-hour clock, starting at midday, humans would have started dairy farming less than one minute before midnight!

### Modern dairy practises – milking the cash cow

At least two-thirds of cow's milk in the UK is taken from pregnant cows. This means that milk contains oestrogens and progesterone. In fact, there are 35 hormones and 11 growth factors in milk! Just like us, cows don't produce milk unless they have recently given birth. However, unlike humans, the modern dairy cow is routinely impregnated while she still is producing milk – this is how the milk yield is kept high. An intensive cycle of repeated pregnancies follows until she is worn out and her productivity drops, then she is slaughtered and sold for cheap meat. This intensive physical demand puts a tremendous strain on the dairy cow and, as she gets older, infertility and severe infections causing mastitis and lameness cut her life short. The average lifespan of a modern dairy cow is only about five years – that is after three or four lactations, when naturally she may live for 20 to 30 years.

### Dairy Farming Today

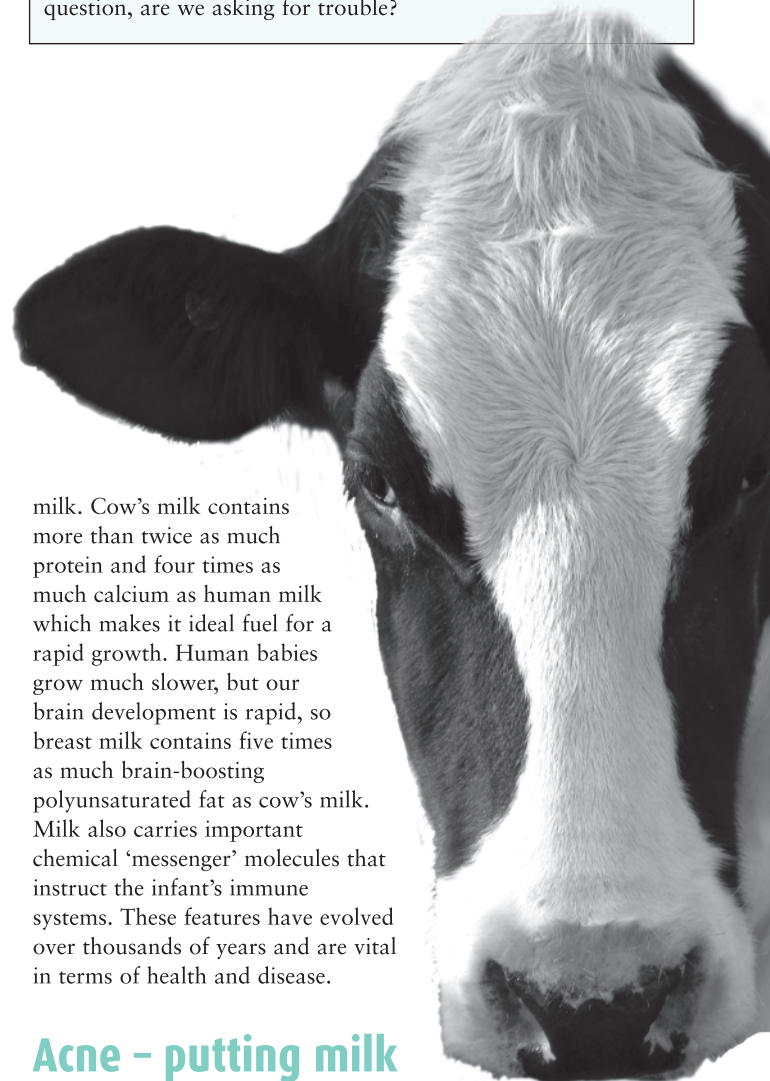
Milk production is big business, estimated to be worth £3.8 billion in the UK. More than the value of production of beef, lamb, pig, poultry, eggs and around three times the value of the production of fresh vegetables. There are 1.8 million dairy cows in the UK. Although the numbers of dairy cows are falling year by year (down 7.3 per cent or 142,000 dairy cows in the last five years), the milk yield continues to rise; the amount of milk produced in the UK from 2011-2012 increased by 163 million litres to 13.8 billion litres. Over the last 10 years, selective breeding and high protein feed has increased the yield per cow from just under 18 litres per day to over 20 litres per day. There is a clear trend; fewer cows are being forced to produce more milk.

### What lies beneath...

Cow's milk is perfect for calves but not for people. Nor is buffalo, badger, dog or rat milk – the best milk for babies is human breast

### Who has the white stuff?

Most people in the world (over 70 per cent) don't drink milk as adults. No other animal on the planet continues to drink milk beyond weaning, and not just that – milk taken from another species that is usually pregnant. This unusual practise begs the question, are we asking for trouble?



milk. Cow's milk contains more than twice as much protein and four times as much calcium as human milk which makes it ideal fuel for a rapid growth. Human babies grow much slower, but our brain development is rapid, so breast milk contains five times as much brain-boosting polyunsaturated fat as cow's milk. Milk also carries important chemical 'messenger' molecules that instruct the infant's immune systems. These features have evolved over thousands of years and are vital in terms of health and disease.

### Acne – putting milk on the spot

Cow's milk can increase our hormone levels, which may then lead to acne. This could be why some bodybuilders, who take whey supplements, get acne.

## Allergies

Food allergies cause ten per cent of eczema and five per cent of asthma cases. The most common food triggers for eczema are cow's milk and eggs. Cow's milk allergy affects two per cent of infants under the age of one. However, a hypersensitivity reaction to milk proteins can have adverse effects on iron nutrition in infants and young children; cow's milk-induced gastrointestinal bleeding can lead to iron deficiency anaemia. This may affect 40 per cent of otherwise healthy infants.

## Arthritis

Research shows that changing the diet can benefit arthritis patients. Cow's milk products can make symptoms worse for some people, while a low-fat vegan and gluten-free diet has been found to help. Chemicals called sulforaphanes (found in broccoli, Brussels sprouts and cabbage) have anti-inflammatory properties that may help protect against the cartilage damage in osteoarthritis. Diet is not the only factor to cause and aggravate symptoms, nor is it the only way to reduce or eliminate pain and damage, but a low fat vegan diet can be a powerful and positive, drug-free way of limiting the painful symptoms caused by this disease.

## Cancer

Currently one in three people in the UK will develop cancer during their lifetime. However, Macmillan Cancer Support says that by 2020, it may be closer to one in two. Up to 40 per cent of these cancers could be prevented by lifestyle changes. A poor diet may be responsible for a third of all cancer deaths and is the second largest preventable risk factor for cancer, coming close behind smoking. Western diets rich in animal foods, sugar and highly processed food products, can increase the risk of cancer. On the other hand, whole grain plant-based diets, (including fibre and antioxidants), lower the risk. A recent large-scale study from the EPIC cohort found that vegans had a 19 per cent lower risk of cancer than meat-eaters (fish-eaters had a 12 per cent lower risk and vegetarians 11 per cent lower). Taken together, evidence suggests that plant-based diets are a useful strategy for reducing cancer risk. The World Cancer Research Fund says that "...most diets that are protective against cancer are mainly made up from foods of plant origin".



### IGF-1 Signalling trouble

Milk taken from pregnant cows (and cows that have recently given birth) contains considerable levels of hormones which may be linked to some cancers. In addition to that, cow's milk increases circulating levels of the growth hormone IGF-1 by stimulating its production in the liver. A study from the *British Journal of Cancer* found that vegan men had a nine per cent lower IGF-1 level than vegetarians and meat-eaters.

IGF-1 stimulates the growth of human cancer cells in the laboratory and increased IGF-1 levels are linked to cancers of the bowel, breast and prostate. Professor T. Colin Campbell, Jacob Gould Schurman Professor Emeritus of Nutritional Biochemistry at Cornell University says that IGF-1 may turn out to be a predictor of certain cancers in the same way that cholesterol is a predictor of heart disease. Furthermore, IGF-1 may transform pre-existing or benign tumours into a more aggressive form of cancer. IGF-1 from cow's milk could easily be avoided by eliminating all dairy foods from the diet. Whether it is the saturated animal fat, the calcium, the hormones in milk or the hormones we produce in response to drinking milk, the fact remains that a high dairy diet may increase the risk of some cancers.

## Bowel Cancer

Bowel cancer is the second most common cancer in England and the third most common cause of cancer death (after lung and prostate cancer in men, and lung and breast cancer in women). Several lifestyle factors have been linked to bowel cancer; a Western diet, physical inactivity, obesity and type 2 diabetes. In fact, the links between diet, weight and exercise and bowel cancer are some of the strongest for any type of cancer. Raised IGF-1 levels are implicated and it may be the higher IGF-1 levels seen in obese people and those with insulin resistance that lead to bowel cancer. Eating cheese, butter, cream, ice cream and other dairy foods not only increases IGF-1 levels but also increases the risk of becoming overweight and developing diabetes, which, as stated, increases the risk of bowel cancer. Dairy foods offer no benefits to good bowel health. Whole grain plant-based diets containing plenty of fruit and vegetables (and therefore fibre) and low in saturated fat reduce the risk of bowel cancer.

The dairy industry has promoted a limited number of reports suggesting that dairy products may slightly lower the risk of bowel cancer. However, this effect may be due to vitamin D and/or calcium which can be obtained from healthier plant-based foods. Furthermore, dietary calcium increases the risk of prostate cancer so recommending dairy to men to lower their risk of bowel cancer would not be advisable.

## Crohn's disease

Crohn's disease also increases the risk of bowel cancer (it may be the damaged bowel that leads to cancer cells developing). Crohn's is linked to dairy foods too; the MAP bacterium that causes Johne's disease in cattle is implicated. MAP infection is widespread among cattle and is also found in retail pasteurised cow's milk. Infection may occur from inhaling MAP in fine water spray from rivers contaminated with infected cow manure. This could explain the clusters of Crohn's that occur around cities with rivers running through them like Cardiff in Wales and Winnipeg in Minnesota, US. Professor John Hermon-Taylor at St George's Hospital Medical School in London has found MAP in patients with Crohn's disease from the UK, Ireland, US, Germany and United Arab Emirates. Avoiding dairy products alone may not be enough to ensure avoiding exposure to MAP, although if everyone reduced their intake of animal products there would be fewer cattle and therefore less MAP present in the environment.

## Breast cancer

Breast cancer rates in the UK have risen steeply since the 1970s; the lifetime risk is now one in eight. Only five to 10 per cent of breast cancer cases are caused by genes, most cases are caused by environmental factors. Research from Harvard School of Public Health suggests that nearly a third of all breast cancer deaths in high-income countries are caused by preventable lifestyle factors; alcohol, overweight/obesity, lack of exercise. Women with breast cancer tend to have higher oestrogens levels and a typically meaty and dairy-rich Western-style diet increases the levels of these

hormones associated with breast cancer. Milk and dairy products are the main source of oestrogens in our diet. Changing the diet could prevent and/or limit the progression of the disease. High-fibre, low-fat diets may help by lowering hormone levels. Soya foods can also reduce breast cancer risk and improve the prognosis in women with breast cancer. A dairy-free plant-based diet can reduce the risk factors associated with breast cancer and may help those who have been diagnosed with the disease.

## Prostate cancer

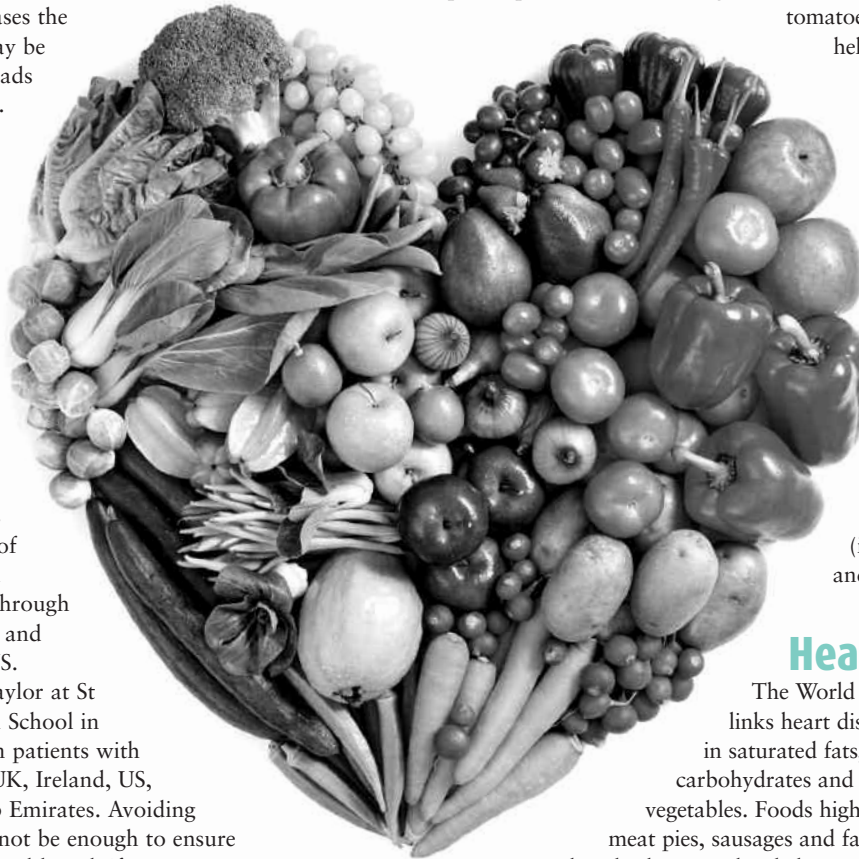
The lifetime risk of prostate cancer for men in the UK is also one in eight. Just five to 15 per cent of prostate cancers are linked to genes. So, like breast cancer, the majority of cases are caused by environmental and/or lifestyle factors. Obesity and lack of exercise increases the risk. Rates are higher in countries consuming a typical Western diet. Men who eat lots of saturated animal fats (including red meat such as beef, lamb and pork, eggs and dairy produce such as butter, whole milk, cheese and cream) have an increased risk of getting the disease. Diets high in calcium and dairy protein may also increase the risk of prostate cancer. Cow's milk protein increases IGF-1 levels, a known risk factor for prostate cancer. It has also been suggested that regular exposure to oestrogen in milk from pregnant cows may explain the increased risk of prostate cancer in Western societies. On the positive side, a plant-based diet may slow prostate cancer progression and improve prognosis. In addition, specific plant foods, including flaxseeds (linseed) and lycopene-rich

tomatoes and soya foods may

help reduce the risk along with a high level of physical activity.

Organic tomato ketchup may contain up to three times as much lycopene as non-organic.

The research linking cow's milk and dairy products to cancer provides a convincing argument for eliminating them from the diet while increasing the intake of whole grains, pulses (including soya), fruit and vegetables.



## Heart disease

The World Health Organisation links heart disease to poor diets; high in saturated fats, salt and refined carbohydrates and low in fruit and vegetables. Foods high in saturated fat include: meat pies, sausages and fatty cuts of meat, butter, ghee, lard, cream, hard cheese, cakes and biscuits and

foods containing coconut or palm oil. Replacing unhealthy saturated fat with healthier polyunsaturated fat may actually be more effective in lowering the risk of heart disease than reducing the total amount of fat in the diet. Soya (protein), nuts, plant sterols and soluble fibres (found in oats and some fruit, vegetables and pulses) can all help lower cholesterol which is a risk factor for heart disease. Vegetarians (whose diets are based on cereals, pulses, nuts, vegetables and fruits with some dairy products and eggs) tend to eat less saturated fat and more fruit and vegetables than meat-eaters. Vegetarians have a 25 per cent lower risk of dying from heart disease and the widespread adoption of a vegetarian diet could prevent approximately 40,000 deaths from heart disease in Britain each year. Cutting out the dairy component can only help!

## Diabetes

Over the last 60 years, the worldwide incidence of type 1 diabetes has risen by over three per cent a year, doubling every 20 years, with a rapid rise in the number of children affected. If this trend continues *in 2035 the NHS could be spending 17 per cent of its entire budget on treating diabetes.*

Early exposure to cow's milk proteins has been linked to type 1 diabetes, where little or no insulin is produced. Candidate proteins include: casein, bovine serum albumin and bovine insulin. Unfortunately, these proteins 'look like' our own pancreatic cells and trigger an inappropriate immune response whereby our own immune cells set about destroying these foreign dairy proteins and our pancreatic cells. This autoimmune reaction leads to diabetes. Even a short duration of exposure to cow's milk infant formula may constitute a risk factor for type 1 diabetes.

Type 2 diabetes (normally affects adults over 40) is occurring in young adults at the level of a global epidemic driven by the increasing burden of obesity. The risk factors for type 2 diabetes (obesity, poor diet and lack of exercise) are well-documented and one obvious preventative measure is to reduce the amount of saturated fat in the diet. This means cutting down on meat and dairy and increasing the intake of fruit, vegetables, whole grains, pulses, nuts and seeds. Vegetarian and vegan diets offer huge benefits for diabetes management including weight loss and improving blood lipid profile and glycaemic control. Increasing dietary fibre can help and should be encouraged as a disease management strategy. Indeed, low fat vegan diets have been shown to reverse type 2 diabetes.

## Lactose Intolerance

In 1836, after returning from the *Beagle*, Charles Darwin wrote "I have had a bad spell. Vomiting every day for eleven days, and some days after every meal." Darwin suffered for over 40 years from long bouts of vomiting, stomach cramps, headaches, severe tiredness, skin problems and depression. A number of researchers now suggest that he suffered from lactose intolerance. His case is a good example of how easily lactose intolerance can be missed. The ability to digest lactose (the sugar in milk) evolved as a result of a genetic mutation among some people in central Europe around 7,500 years ago. Descendants of these people are able to consume dairy milk today without suffering the symptoms of lactose intolerance (bloating, wind, discomfort etc). However, that doesn't mean it is good for them. Being lactose intolerant is the natural, normal state for most adults in the world.

## Allergy vs intolerance

Lactose intolerance should not be confused with cow's milk allergy, they are entirely different. Cow's milk allergy is where the immune system reacts to cow's milk proteins. Lactose intolerance is where the body cannot digest lactose – the sugar in milk.

## Taking the pus!

Cow's milk contains pus. Intensive farming ensures that, at any given time, one third of dairy cows have mastitis – a painful infection of the udders. Pus is produced in the fight against bacterial infection in diseased udders. EU regulations permit up to 400,000 cells per ml. So one teaspoonful of milk contains up to two million pus cells!

## Bone health

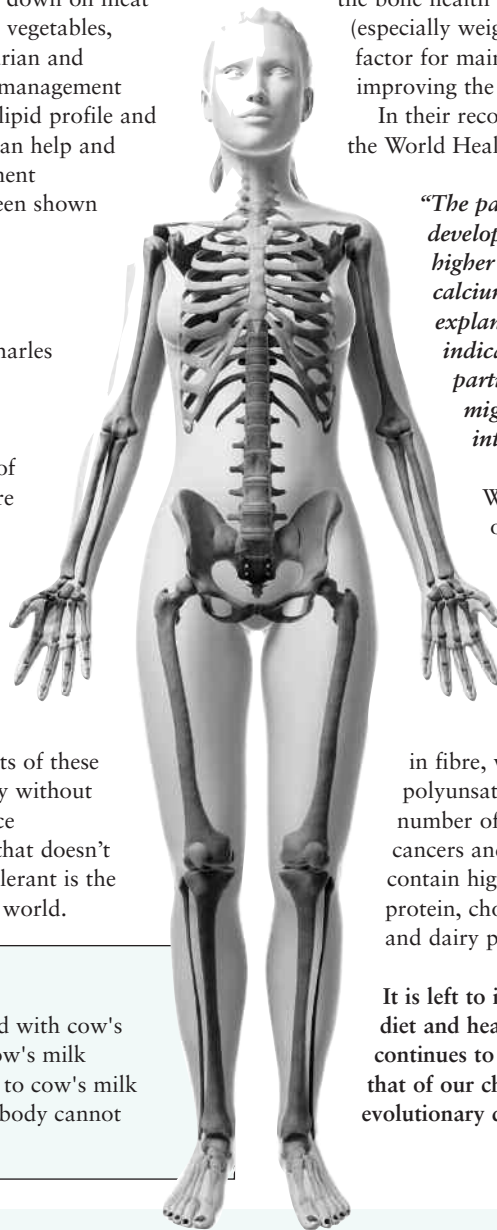
Those countries which consume the most dairy foods and animal protein have the highest hip fracture rates around the world. The research shows that dairy products do not protect against the risk of bone fracture. Cow's milk is not the best source of calcium; our bone health would benefit enormously if we switched to plant-based sources. In a study published in the *British Medical Journal*, it was suggested that it is time we revised our calcium recommendations for young people and change our assumptions about the role of calcium, milk and other dairy products in the bone health of children and adolescents. Physical (especially weight-bearing) exercise is the most critical factor for maintaining healthy bones, followed by improving the diet and lifestyle.

In their recommendations for preventing osteoporosis the World Health Organisation (WHO) state that:

*"The paradox (that hip fracture rates are higher in developed countries where calcium intake is higher than in developing countries where calcium intake is lower) clearly calls for an explanation. To date, the accumulated data indicate that the adverse effect of protein, in particular animal (but not vegetable) protein, might outweigh the positive effect of calcium intake on calcium balance."*

WHO claim that up to 80 per cent of cases of heart disease, 90 per cent of type 2 diabetes cases and one-third of cancers can be avoided by changing to a healthier diet, increasing physical activity and stopping smoking. A healthy diet contains a wide range of fresh fruit and vegetables, whole grains, pulses, nuts and seeds. It is rich in fibre, vitamins, minerals, antioxidants and polyunsaturated fats that protect against a huge number of illnesses and diseases including some cancers and cardiovascular disease. It does not contain high levels of saturated animal fat, animal protein, cholesterol and hormones found in cow's milk and dairy products.

It is left to individuals to find out what they can about diet and health while Government health policy continues to promote foods that harm our health and that of our children. It is a national disgrace and an evolutionary disaster.



This fact sheet presents a summary of an extensive fully-referenced scientific report called *White Lies*. All the facts presented are based on peer-reviewed published research. To find out more or to access the full references, see the full report online at: [www.viva.org.uk/resources/campaign-materials/reports/whitelies](http://www.viva.org.uk/resources/campaign-materials/reports/whitelies) or go to [www.whitelies.org.uk](http://www.whitelies.org.uk)