

## The Protein Myth

How protein causes cancer and shortens life

It is argued by some that we need animal protein in the diet for healthy body growth, repair and cellular maintenance. This is not so. What we need in the diet is amino acids which the body can use to make its own protein as required. A varied diet of fruit, vegetables, nuts, seeds, legumes, sprouted seeds, and occasional eggs will provide plenty of amino acids for optimum health.

In fact, we need very little protein in our diet, and such protein is best obtained from amino acids in plant-based foods. When you eat 'ready-formed protein' from animal based foods some of that protein always results in waste protein that the body has to get rid of in the form of ammonium and nitrogen. It's much better to let the body make its own protein from the amino acids that you consume in a nutritious plant-based diet. We simply don't need animal-protein from meat or fish at all.



Here is a simplified scientific explanation of how ready-formed (animal) protein is digested: The cells in your intestine can't absorb whole proteins, only single amino acids or very small chains of two or three amino acids – called peptides. So digestive enzymes (specialized proteins themselves) break down the 'ready-formed proteins' into their component amino acids. The amino acids and peptides are absorbed into the bloodstream and safely delivered to different parts of the body where they are required, either to make new proteins or to be used to release energy. Most arrive first at the liver, where many new proteins are made, and where excess protein is broken down ready for burning as a fuel for metabolism, or for storing as body fat, or for excreting as ammonium and nitrogen.

Note the above underlined sentence "or for storing as body fat." It is well known to medical science that animal protein always provides the body with a degree of excess protein (i.e. protein that is not assimilated or used by the body). It is also well known that such excess protein is readily converted and stored as body fat, i.e. as triglycerides.

This is what Dr. J. Mercola, M.D., has to say about consuming animal protein (abridged extract from 'The Very Real Risks of Consuming Too Much Protein', [www.mercola.com](http://www.mercola.com)):

## Quote

"With the popularity of 'high-protein' diets, you might be tempted to believe you simply can't over-eat protein. But the truth is that consuming excessive protein can actually be quite detrimental to your health.

Eating more protein than your body needs can [cause] weight gain, extra body fat, stress on your kidneys, dehydration, yeast overgrowth, shortened life-span, cancer and leaching of important bone minerals. Granted, your body needs protein for your muscles, bones, and many hormones. You cannot live without it. [But] there is an upper limit to how much protein your body can actually use. Excessive protein can have a stimulating effect on an important biochemical pathway called the mammalian target of rapamycin (mTOR). This pathway has an important and significant role in many cancers. When you reduce protein to just what your body needs, mTOR remains inhibited, which helps minimize your chances of cancer growth. Additionally, when you consume too much protein, your body must remove more nitrogen waste products from your blood, which stresses your kidneys. New studies [show that] methionine intake which happens to be high in meat protein [may shorten life-span]".

## Unquote

There is no shortage of evidence showing that when food is heated/cooked it creates harmful substances that cause illness and cancer. This applies particularly to meat and fish. For example, heating food that contains cholesterol (e.g. meat and fish) creates harmful unnatural oxysterols in the food eaten. This can cause digestive problems, a weakened immune system, vascular diseases, and more importantly it creates oxidized LDL which contributes to clogged arteries, illness, and a shortened life.

Here are three further compelling reasons for giving up animal-based protein:

- A. Phosphate.
- B. Antibiotics.
- C. Insulin resistance.

## Phosphate

Phosphate is high in most kinds of meat, poultry, fish and seafood (whether raw or cooked). It is common practice throughout the world to add phosphate to such products to improve the color, act as a preservative, and retain moisture so as to provide bulk. When such meat is consumed "phosphate is thought to cause damage to blood vessels, to accelerate the aging process, and even, potentially, to hurt our bones by contributing to osteoporosis via a disruption of hormonal regulation. Nearly 100 percent of the phosphate is absorbed into the human body". Source: Michael Greger, M.D., What Do Meat Purge and Cola Have in Common? Oct. 2014, [www.nutritionfacts.org](http://www.nutritionfacts.org).

"People living near phosphate fertilizer plants are twice as likely to develop lung cancer and osteoblastic leukemia". Source: George Glasser, Death in the air (Air pollution from phosphate fertilizer production), [www.cqs.com/death.htm](http://www.cqs.com/death.htm).

Do not confuse 'phosphate' with 'phosphorous'. Phosphate is a harmful inorganic chemical. Phosphorous is a healthy organic compound found naturally in plants. Phosphate is an essential plant nutrient (not human nutrient), so it is used in fertilizers. But such phosphate is converted into organic phosphorous by the plant as it grows. When we eat plant-based foods we assimilate organic phosphorous, not phosphate. So the phosphate injected into meat and poultry is very different because it is assimilated into the human body as harmful phosphate, not as organic phosphorous.

The meat and fish industries do their best to justify the use of phosphates by stating that "Phosphates occur naturally in all forms of life and are therefore present in almost all food". This is a deliberate attempt to confuse harmful 'added phosphates' with organic phosphorous (which is indeed found in almost all food). The avoidance of inorganic phosphates is reason enough to avoid all kinds of commercially sold animal-based foods.

### **Antibiotics**

Antibiotics are prescribed by doctors to help your body fight or prevent bacterial infection. In this way, modern antibiotics save millions of lives each year and greatly help prevent disease. But each time your body receives antibiotics it makes your body more resistant to the future medical effect of such antibiotics. This puts your health and even your life at risk. If and when you become ill and your doctor prescribes antibiotics, they will have little or no effect and your illness can get worse or even kill you.

Antibiotic resistance kills about 10 million people every year throughout the world. A UK report estimates that by the year 2050 antibiotic resistance will have killed about 300 million people. Source: Jim O'Neill, Review on antimicrobial Resistance, a study commissioned by David Cameron, UK Prime Minister, July 2014, <http://amr-review.org>.

Throughout life you always want to minimize the use of antibiotics so that your body does not become immune to them when they are really needed. Also, if you are antibiotic resistant, you are more vulnerable to catching infections and your immune system will be less capable of fighting bacterial diseases. In most parts of the world you cannot buy antibiotic medicines over the counter precisely because their indiscriminate use is harmful. Like most people you may already be a little resistant to antibiotics, in which case it is even more important to avoid unnecessary antibiotics going into your body.

The meat industry has been giving animals regular doses of antibiotics since their discovery decades ago. They do it to prevent illness in farmed animals raised in filthy conditions, and to reduce veterinary bills and thus improve profits. But the antibiotics stay in the meat that you consume, so you receive antibiotics indirectly, through the animal-based products that you eat.

Stuart B. Levy, M.D., who has studied the subject for years, estimates that 15 to 17 million pounds of antibiotics are used on animals in the United States each year.

Fish and seafood are also beset with antibiotics. They are heavily used in farmed fish and seafood such as shrimp. Antibiotics are simply added to the water. Fish and seafood caught in rivers and at sea also contain antibiotics as a result of water pollution. "Farmed fish are often raised in pens in the ocean.... the antibiotics can also spread to wild fish (via aquaculture and wastewater runoff) and that's exactly what recent research has revealed". Source: [mercola.com](http://mercola.com).



Antibiotics are not affected by food processing or cooking. So when you eat meat/poultry/ fish the antibiotics go into the tissues of your body. This is how so many people in the world become antibiotic resistant, causing much illness and millions of deaths.

### **Insulin Resistance**

Now we come to a main reason for avoiding animal and fish protein. In the context of food, this counts among the biggest hidden secrets of the modern age, a secret that the animal-food industry does not want the public to contemplate.

Put simply, animal-protein significantly makes your insulin go up on a par with eating sugary foods, and this can lead to insulin resistance and diabetes. Indeed, regular meat consumption is a principal, yet hidden, cause of diabetes (more about this in a moment).

Coming back to insulin resistance, the research shows that when you eat animal-protein this elicits a big insulin response on a par with eating spoonfuls of sugar.

Clearly, you are never going to eat spoonfuls of sugar! But the point here is that animal protein puts you at greater risk of diabetes than even junk food (i.e. processed carbs) such as cookies, sweets and waffles.

The insulin increase in response to the consumption of animal-protein is a result of incretins rather than an increase in blood glucose. Incretins such as GLP-1 and GIP have a powerful effect on raising insulin. "Proteins and their constituent parts – the amino acids raise insulin without any effect on the blood sugar. Carbohydrates are not the only stimulator of insulin. Proteins also cause an insulin increase....the incretin effects....are felt to be responsible for the increase in insulin. Blood glucose does not drive weight gain and diabetes. Increased insulin does. Type 2 Diabetes is a disease of too much insulin resistance, so it's just a matter of controlling your blood insulin. This cannot be done effectively with medication, but it can be done through the diet.... medications aimed at controlling blood sugar do not help. You need to control blood insulin rather than blood sugar. Diabetes is not a disease of too much blood sugar, it's a disease of too much insulin resistance". Source: Dr. Jason Fung, Canadian nephrologist, The Incretin Effect – Hormonal Obesity XXII, [intensivedietarymanagement.com](http://intensivedietarymanagement.com).

"Incretins are a group of metabolic hormones that stimulate a decrease in blood glucose levels by causing an increase in the amount of insulin released from pancreatic beta cells...after eating" (Wikipedia).

"Overall, a low-carbohydrate high-fat diet resulted in greater impairment in glucose tolerance. Our results do not support the recommendation of [such a diet] for use in prediabetes; rather interventions aimed specifically at reducing obesity and improving insulin sensitivity should be pursued". Source: B J Lamont, et al, A low-carbohydrate high fat diet increases weight gain and does not improve glucose tolerance, insulin secretion or  $\beta$ -cell mass in NZO mice, *Nutrition & Diabetes* (2016) 6, e194.

The very significant increase in insulin explains how regular meat or fish consumption can make you diabetic even if you are not overweight and even if you avoid sugary foods and processed carbs. But regular animal-protein consumption does indeed make you fat just as much as processed carbs because they both raise insulin, they both inhibit fat loss by turning off lipolysis, and they both increase the body's propensity to store more fat. High insulin is high insulin, however it may be caused.

So meat is indeed fattening, but not because it may contain fat or be high in calories; it is fattening because of the protein incretin effect that pushes up insulin, and this in turn makes you store more of what you eat as body fat than otherwise.

Here is the science showing a direct link between animal-protein consumption and insulin resistance: Animal-protein consumption greatly increases blood cortisol. This increase in blood cortisol is triggered by the hypothalamus. When cortisol goes up in the blood, it counteracts insulin. It does this by contributing to gluconeogenesis, i.e. by galvanizing the body into making its own glucose from non-carb substances, including the protein consumed. This has the effect of preventing insulin from delivering glucose to body cells: it does this by inhibiting the peripheral utilization of glucose by decreasing the translocation of glucose transporters (especially GLUT4) to the cell membrane. The net result is insulin resistance.

Several studies show that high levels of cortisol within the bloodstream (from the digestion of animal protein) can contribute to the development of insulin resistance. Additionally, animal protein, because of its high content of purine, causes blood pH to become acidic. Research shows that high uric acid levels, apart from other contributing factors, by itself may be a significant cause of insulin resistance.

"In summary, diets high in animal protein are associated with an increased risk of incident diabetes....The consumption of energy from protein, at the expense of the same percentage of energy from either fat or carbohydrate, increased diabetes risk by about 30%.... These results underline the importance of taking into account the protein content of diet in dietary recommendations to prevent diabetes". Source: Sluijs, I, et al, Dietary intake of total, animal, and vegetable protein and risk of type 2 diabetes in the European Prospective Investigation into Cancer and Nutrition, January 2010, *Diabetes Care* 33 (1): 43–48.

"We've known for half a century that carbs make your insulin go up, but so does protein. In fact meat elicits an insulin response greater than, for example an apple, a bowl of oats, a plate of white spaghetti or a serving of fish. Beef, chicken and pork all produce an insulin spike that is equally high. In fact, meat-protein causes as much insulin release as pure sugar. Those who eat meat have up to fifty percent higher insulin levels. Insulin levels can be reduced by eating [unprocessed] high-carbohydrate plant

foods....Put people on a plant-based diet and with moderate exercise such as just walking, within three weeks they will drop their bad cholesterol 20 percent and their insulin levels 30 percent, despite a 75 or 80 percent carbohydrate diet". Source: Michael Greger, M.D., Paleo Diets May Negate Benefits of Exercise, Volume 22, December 19th 2014, <http://nutritionfacts.org>.

The risk of type 2 Diabetes, closely related to obesity, was examined in a 2011 study in relation to red meat consumption. The study found a strong correlation between diabetes and the consumption of processed and unprocessed red meat. For every extra 100 grams of unprocessed meat (steak, pork chop etc.), there was a 20% increase in risk of diabetes. For every extra 50 grams of processed meat (bacon, sausages, luncheon meats etc.) there was a 50% increase in the risk of diabetes. The study concluded that "red meat consumption, particularly processed red meat, is associated with an increased risk of type 2 diabetes". Source: Pan A, et al, Red meat consumption and risk of type 2 diabetes: 3 cohorts of US adults and an updated meta-analysis, *Am J Clin Nutr*, 2011 Oct; 94(4):108896.

As stated, processed red meat products are much more likely to cause diabetes and health problems because of their protein content and because of their higher toxicity. The toxicity arises from farming practices and commercial processing.

Diabetic associations tend to be very cagey about the advice they give regarding meat & fish consumption. They are reluctant to say outright 'avoid meat because it aggravates insulin resistance and diabetes'. Instead, they advise diabetics to get their protein mostly from plant based foods. Remember that diabetic associations are often sponsored directly and indirectly by the food industry so they cannot blatantly tell people to stop eating animal-based foods.

On average, the protein content of fish and sea-food is as high as that of meat. This is why all fish and sea food should be avoided to minimize the risk of diabetes. In a very comprehensive study of 36,328 women carried out over sixteen years, it was shown that fish consumption increases the risk of diabetes. This randomized, double-blind, placebo controlled trial concluded the following: "This was a study of 36,328 women.... who were followed from 1992 to 2008. We showed that dietary marine Omega-3 fatty acids (EPA and DHA) were individually associated with an increased risk of incident diabetes....Furthermore, fish consumption was positively related to incident diabetes, and this association was attenuated after further adjustment for DHA. In contrast, the plant-based Omega-3 fatty acid (ALA) was not associated with incident diabetes in this cohort. Marine but not plant-based Omega-3 fatty acids were positively associated with incident type 2 diabetes".

Source: Luc Djoussé, et al, Dietary Omega-3 fatty acids and fish consumption and risk of type 2 diabetes, *Am J Clin Nutr*. 2011 Jan; 93(1): 143–150.

Can it get worse? Yes, there are three further reasons for avoiding animal protein: IGF-1, mTOR and leucine.

### **IGF-1**

Animal protein is very high in IGF-1, a hormone that promotes cellular division and growth. So when you eat animal protein, you increase the concentration of IGF-1 in the blood. Research shows that this increases the risk of cancer because IGF-1 feeds the growth of cancer cells.

By inhibiting IGF-1 you can boost lifespan and reduce your risk of cancer (remember, cancer is an out of control proliferation of malignant cells). By allowing the body to make its own IGF-1 for growth, maintenance and repair, you minimize the risk of overburdening the body with IGF-1 and you minimize the risk of cancer and a shorter life.

### **m-TOR**

There is now strong and growing evidence that low-protein diets extend lifespan and the underlying reason is improved mitochondrial function and mTOR inhibition. mTOR is a kind of protein that orchestrates all the available nutrient sensors in your body, and decides whether cells should replicate now or stay alive to replicate at a more opportune time in the future when nutrients are more plentiful. But when you eat animal protein (meat, poultry, fish, seafood) you greatly activate mTOR inside your body.

This increases the risk of cancer and other serious illness as evidenced by many studies. Here are just two of the many studies on this subject: "Virtually all cancers are associated with mTOR activation, so activating mTOR is something you'll definitely want to avoid". Source: Ron Rosedale, M.D. [www.drrosedale.com](http://www.drrosedale.com).

"Many experts in the biology of ageing believe that pharmacological interventions to slow ageing are a matter of the inhibiting of [the mTOR] pathway [so as to] extend lifespan and confer protection against a growing list of age-related pathologies". Source: Simon C. Johnson, et al, "mTOR is a key modulator of ageing and age-related disease, *Nature* 493, 338–345, January 2013.

To summarize, inhibiting mTOR is important, indeed vital for longevity. We can extend our lifespan and be healthy by allowing our body to make just as much IGF-1 and mTOR as it needs (not too much, not too little), and avoid animal protein as this overburdens the body with IGF-1 and mTOR, thus increasing the risk of cancer and a shorter life.

### **Leucine**

It is less well known that an amino acid found in animal protein called 'leucine' also promotes cancer and body aging. Leucine is used by the body to make sterols which play an important role in human biology. But too much leucine makes mTOR proliferate. By avoiding animal protein you avoid having too much leucine.

Several studies show that leucine is also implicated in obesity and diabetes. Here is one such study: "Epidemiological evidence points to increased dairy and meat consumption as major risk factors for the development of type 2 diabetes (T2D). This paper presents a comprehensive review of leucine, [showing that] type 2 diabetes and obesity are caused by leucine stimulation of mTOR." Melnik BC, et al, "Leucine signaling in the pathogenesis of type 2 diabetes and obesity, *World J Diabetes*, March 2012, 15;3(3):38-53.

As with mTOR, you avoid too much leucine by avoiding animal protein; it really is as simple as that.

Don't get caught up in trying to work out which types of meat or fish are best to eat. Or which formulas can calculate how much lean meat is appropriate to eat for your body mass. Or how best to cook meat/fish to avoid carcinogens. Or which types of seafood have the least mercury. Or whether you're eating enough protein in your diet. Or whether organic, grass fed meat is okay to eat. Forget all that.

Also don't get caught up in fad diets that exhort you to consume regular amounts of animal protein such as the Paleo diet, the Atkins diet, and others.



If you want to extend your life into a healthy old age simply give up all kinds of meat and fish to optimize your health and stay slim. You will not go hungry and your body will make all the protein it needs from plant-based foods. But if you are still concerned about not getting enough protein, eat one or at most two eggs a day as egg-whites are very high in protein; more than this may cause health problems similar to those associated with high meat/fish consumption.

Saturated fats such as cream, cheese and butter (preferably organic) should form a regular part of your diet. Also saturated fats and healthy oils from coconut milk, avocados, nuts & seeds should be consumed regularly, plus occasional eggs. This provides vital nutrients such as vitamins B12, D and K2. Do not skimp on saturated fats but make sure to exclude harmful fats that have been heated or hydrogenated.

**Summary: Avoid meat, poultry, fish, and seafood because animal protein promotes bad health and shortens life.**

Source: The Science of Longevity by Russell Eaton

For more information on ways to extend your life, visit our website at [www.dragonfirenutrition.com](http://www.dragonfirenutrition.com)

