

FIVE A DAY? WHAT ABOUT NONE?



Carnivores only eat meat and animal products — some eat only beef, salt and water. They say the diet mimics what our ancestors ate — but does it? *Hatty Willmoth* writes

How many portions of fruit and veg should we eat? The government says five a day, and many nutritional experts say 30 different plant foods per week. (See p14.) But how about none? What if you never ate any vegetables, or fruit, or pulses, or grains, or nuts, or seeds, or even herbs — at all, ever? Well, then you could call yourself a carnivore.

Carnivores only eat animal products. Some eat meat, fish, seafood, eggs and dairy, and may make allowances for seasoning, tea and coffee. Others say they stick to beef, salt and water.

It's called a 'zero-carb' ketogenic diet, which means it relies on fats — not carbohydrates — for energy. It's also high in saturated fat and devoid of fibre.

Not a single long-term clinical trial appears to have been conducted on the carnivore diet, so there's no conclusive evidence it's safe; in fact, many have proclaimed it decidedly unsafe. In

IN BRIEF

- Carnivores only eat meat, and sometimes other animal products.
- Those on the diet say it's anti-inflammatory and contains all the nutrients a person could need.
- Critics say it is unhealthy because it lacks fibre and may raise the risk of heart disease and some cancers.
- Our ancestors did not only/mainly eat meat, say archaeologists.

a *Guardian* article, one Stanford professor of medicine proclaimed it “disastrous”;¹ *Healthline* rates it a 1.17 out of five on its diet review scorecard;² and one US clinic website says it is “extremely restrictive” and potentially dangerous.³

But it has recently gained some traction. Thousands of people say they've tried it out with great success,⁴ including a few big names. Canadian

clinical psychologist and controversial public speaker Jordan Peterson went carnivore after it purportedly healed his daughter Mikhaila of chronic arthritis and depression. He famously explained its transformative effect on *The Joe Rogan Experience*, perhaps the biggest podcast in the world.⁵

There's even a doctor in the US who recommends it to his patients.

The carnivore doctor

Stay Off My Operating Table by Florida-based heart surgeon Dr Philip Ovadia describes five different diets as pathways towards metabolic health: vegetarian or vegan, Mediterranean, low-carb, ketogenic, or carnivore — Ovadia's own diet.

What if you never ate any vegetables, or fruit – or pulses, or grains, or nuts, or seeds, or even herbs – at all, ever?

Ovadia came to the carnivore life gradually. Overweight as a child, he became obese while training to be a heart surgeon. Seven years ago, he was morbidly obese, pre-diabetic and, he says, “headed down the same path as the patients that ultimately end up on my table”.

To avoid continuing down that path, Ovadia gradually cut out sugar, carbs, vegetable and seed oils, and processed foods from his diet, until he was ketogenic. Three years ago, he made the switch to carnivore, eating only red meat, seafood, eggs and dairy, and he says he sticks with it “because it works”.

Ovadia, much like the Petersons, says the diet is great for reducing inflammation. “It’s clearly anti-inflammatory,” he says. “We now have, in large experience, many, many people who have had inflammatory conditions, autoimmune conditions that healed themselves with a carnivore diet... Many of the triggers for autoimmune conditions, it turns out, are plant products.”

Lectins, saponins, oxalates and goitrogens are examples of natural pesticides that plants produce in varying quantities to protect themselves against being eaten. Generally considered to be pro-inflammatory, they affect individuals differently.

Ovadia continues: “The carnivore diet ended up being a good anti-inflammatory elimination diet that I will oftentimes use to help reset the system — and then go from there. Some people need to continue with that strict carnivore diet. Other people don’t.”

Nutritional debate

Kirstie Lawton, PhD, an AfN-registered nutritionist and registered nutritional therapy practitioner, says that “a temporary auto-immune paleo or ketogenic diet” may benefit those who can’t tolerate substances such as oxalate, salicylate, or histamine (found in plant foods), or “who have severe SIBO [small intestinal bacterial overgrowth] and react to most high FODMAP foods”.

However, the carnivore diet seems to fly in the face of swathes of nutritional (and environmental) advice. Diets that are rich in plant-based foods have been associated with lower risk of various chronic conditions like heart disease, certain cancers, Alzheimer’s, and type 2 diabetes, because they provide micronutrients, fibre and antioxidants.^{6,7,8} Meanwhile, red meat has been linked to increased risk of various diseases, including heart disease⁹

and certain cancers, particularly colon and rectal cancer.¹⁰ Many of the health risks associated with red meat are also linked to the quantity of saturated fat it contains, although research and opinion on saturated fat continues to be divided.

Missing out?

Lawton adds that a carnivore may miss out on fibre, plant-based polyphenols and phytonutrients, and certain vitamins, for example vitamin C. However, Ovadia says: “Animal products have in them all the nutrients that we need.”

Advocates, unsurprisingly, agree with Ovadia. Amber O’Hearn, a computer scientist and blogger who says she has been carnivore for over a decade and is often cited within carnivore circles, wrote a paper stating that the diet can meet all micronutrient requirements, including vitamin C.¹¹ Yet many experts dispute this, pointing to research indicating that a carnivore diet may lead to deficiencies in some nutrients and overconsumption of others.¹²

Fibre — only found in plants — is also highly contested. Studies suggest it is important for gut health: promoting healthy bowel movements¹³ and nourishing gut bacteria.¹⁴

Lawton says: “Fibre provides prebiotic fibres that feed our gut microbiome, allowing it to be diverse and healthy. There are a number of evidenced benefits to a healthy gut microbiome, including links to immune health, cardiovascular health and brain health.”

Yet, Ovadia says, “it’s clear that you don’t need [fibre]”, arguing that “the benefits from fibre all seem to be what the fibre replaces in the diet”.

Ovadia also dismisses the idea that “fibre in and of itself is beneficial”.

He says: “I’ve been doing this for three years with minimal to zero fibre and do just fine and have normal gut health. I know thousands and thousands of other people who do the same.”



“...our hunter-gatherer ancestors were diverse in their diets, so there’s no one ancestral diet...”

An imbalance of evidence

Meat, he says, is “the most basic food group that humans can exist on”. He adds: “When you go back to our evolutionary history, there was clearly a large period of time that we were mostly carnivore, if not totally carnivore.” It’s an idea that is commonly touted; that the diet is best because it most closely resembles what our ancestors ate.

But that’s inaccurate, according to archaeologists. Dr Louise Humphrey, research leader in human origins at the Natural History Museum, says: “The non-agricultural diet would have varied through time and in different parts of the world.”

In fact, an imbalance of archaeological evidence may have led to an over-emphasis of hunter-gatherer meat consumption. Professor Dorian

SATURATED FAT AND RED MEAT: A DEBATE

Ovadia dismisses anti-saturated fat narratives as based on “poorly-done science that was very heavily promoted” and says it gets blamed for damage done by sugar, carbs and processed food. But Lawton takes a different stance.

“There is research that indicates that red meat in excess, particularly in conjunction with low fibre, leads to a higher likelihood of bowel health issues and cardiovascular health issues,” she says. “There is evidence linking excessive amounts of saturated fat to various health concerns, so we should take that into consideration.”

However, she adds: “It is important to note that the research that links meat to cardiovascular health concerns generally includes processed foods such as pizza, hot dogs, and pies which are highly inflammatory, and served with refined carbs and unhealthy vegetable oils.”



Fuller, an archaeobotanist at University College London, says: “In a way, it’s a simple observation that animal bones survive in the archaeological record relatively easily.” Humphrey adds: “Cut marks and percussion marks on animal bones are persuasive evidence that people were butchering animal carcasses and very likely consuming parts of the animal including muscle, fat and bone marrow.”

Plants, says Humphrey, do not preserve as well, while Fuller explains that the technology needed to recover and analyse plant remains is much more recent, developed more than a century after archaeologists started collecting animal bones. Relatively little research has been done on plants from the Palaeolithic era, so there is much less evidence of pre-agricultural plant consumption.

However, in recent years, archaeologists have found evidence that hunter-gatherers ate plants, including high-carbohydrate plants such as starch-rich tubers (potatoes, yams, etc.) and grains. Humphrey says: “Traces of plant residues on stone grinding tools and charred plant remains at archaeological sites reveal that humans in many parts of the world were eating wild grains and other wild plant foods rich in carbohydrates thousands of years before plant foods were cultivated.”

There is also evidence of plant foods in an Australian cave dated around 60,000 years ago,¹⁵ and cooked plant carbohydrates in Africa from at least 170,000 years ago.¹⁶ Plus, humans have more copies of amylase genes than other

primates, an adaptation that enables us to digest starch-rich foods efficiently. It’s proposed that this adaptation occurred, up to 80,000 years ago, as a result of carbohydrate-rich diets.¹⁷

“There’s no one answer”

That’s not to say that all Palaeolithic people ate high-starch, plant-centric diets; because evidence does suggest otherwise. Fuller explains that there was “a wide range of hunter-gatherer diets” depending on resources available.

And we have continued to adapt. Humphrey says: “Many people today have relatively recent genetic adaptations that allow us to consume foods that would have been less well tolerated by our predecessors. Lactase persistence [the ability to digest lactose in milk] throughout childhood and even into adulthood is one of the best-known examples. There are also differences in the modern human gut microbiome that may allow us to digest some foods more easily.”

This could imply that some of us do better on certain diets due to what our own ancestors ate. Thus, descendants of predominantly hunting groups may do well on something like a carnivore diet — as Ovardia says he does.

Fuller says: “That’s almost certainly true... Clearly, [eating only animal products] suits the people with Inuit ancestry, right? They may have certain genetic adaptations to that diet that make them different from, say, someone of South Asian or African descent.

“You would have some groups that are very heavily meat and fish reliant traditionally, and they might have genetic predispositions to that. But that’s going to be very rare, I think.

“The real general issue is that our hunter-gatherer ancestors were diverse in their diets, so there’s no one ancestral diet. That’s just a false assumption. There’s no one answer.”

Real food personalised to you

Today, we live in a different world. Many object to carnivores’ choices on environmental grounds — although Ovardia does not believe reducing meat consumption would impact the environment “in any way”.

But also, modern humans “have access to an unparalleled diversity of food choices” — in the words of Humphrey. She says: “It’s worth remembering that our ancestors would not have had access to highly-processed foods and would have eaten fewer, if any, refined carbohydrates.”

GENERALIST SPECIALIST NICHE

The term ‘generalist specialist niche’ was proposed to explain why humans survived when other hominins, such as Neanderthals, didn’t.¹⁸ It suggests that, because humans could survive on a diverse range of diets, they could migrate to differently challenging environments, such as coastal regions, mountains, rainforests and deserts, where vastly different resources were available.

Fuller explains: “It’s essentially an adaptation of adaptability, of not really being specialised in anything, but being able to become specialised.”

A key benefit of the carnivore diet, says Ovardia, is cutting out those processed foods and refined carbohydrates. He says: “A central part of my message is: eat real food. So I think the elimination of processed food would certainly go a long way towards improving everyone’s health, and carnivore is one of the ways to do that.”

Yet when working with patients individually, he has found that “some people don’t thrive on [the carnivore diet] as much as someone like myself”.

His final advice is to “be more curious” and “run the experiment for yourself”. That doesn’t have to be carnivore, he says, but “if you’re not happy with your current state of health... try something different, and keep trying something different until you find what works for you.”

Lawton says: “Any dietary intervention that is restrictive should be seen as a short-term measure and have a clear purpose.”

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