

# THE TRUTH ABOUT **PASTA**



*One food, one love*

## FAQ: 8 PASTA QUESTIONS ANSWERED

Pasta is one of the most popular, affordable, delicious and simply nutritious dishes in the world. It is enjoyed by young and old from all walks of life and a myriad of cultures. A darling of the most sophisticated international chefs, it is as likely to be found in family pantries around the world as it is on the cover of glossy gourmet magazines.

And yet misperceptions remain about this nourishing staple. Here are the answers to some of the most frequently asked questions about pasta.

### 1. Is Pasta Healthy?

There is a consistent and mounting body of nutrition science for the healthfulness of pasta and the pasta meal, a delicious way to eat vegetables, legumes and other healthy foods often underconsumed.

In October 2015, nutrition scientists from nine countries met in Milan, Italy, during the 5<sup>th</sup> World Pasta Congress, to review the latest research on pasta and health at a scientific conference organized by the nonprofit food and nutrition organizations Oldways, the International Pasta Organisation (IPO) and AIDEPI.

The outcome was the [2015 Healthy Pasta Meals Scientific Consensus Statement](#) which concluded that pasta continues to be a health-promoting and nutritious food and that, contrary to fad diet thinking, pasta should be characterized as a healthy complex carbohydrate-containing food suitable to most diets. **Pasta is a key component of many of the world's traditional healthy eating patterns and healthcare providers should recommend varied and balanced pasta meals for good health.**



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Pasta joins other grains, as well as fruits, vegetables, olive oil, beans, legumes, nuts, seeds, herbs and spices as the basis of the Mediterranean Diet, one of the healthiest eating patterns in the world.<sup>1</sup> With these other foods, pasta sits at the base of the Oldways [Mediterranean Diet Pyramid](#), indicating people should use them as the foundation of all meals.

[The Scientific Report of the 2015 Dietary Guidelines Advisory Committee](#) (DGAC) - the group of nutrition scientists responsible for suggesting changes to the US Dietary Guidelines which gets updated every five years - names a healthy Mediterranean-style dietary pattern as one of three dietary patterns associated with maximum nutrition and health benefits.

A thorough review of decades of studies indicates that following a Mediterranean Diet, which has been recognized by UNESCO as an intangible heritage of humanity, may lower the incidences of major chronic diseases such as type 2 diabetes, heart disease, and some types of cancer, and may help people live longer.<sup>2</sup>

The Mediterranean Diet can also help people achieve weight loss and weight management goals, reduce asthma, resist depression, nurture healthier babies, and ward off Parkinson's Disease.<sup>3</sup> Pasta is also a key ingredient in other healthy traditional eating patterns around the world like the Asian, Latin American and vegetarian diets.

Pasta's fans include health and fitness aficionados like Madonna<sup>4</sup> and First Lady Michelle Obama, who was recently seen on the cover of *Cooking Light* with her fork twirling in a mouth-watering bowl of spaghetti and with the quote, "The most powerful thing people can do for their health is feed their bodies good, nutritious food."<sup>5</sup>

For an overview of studies that help us understand the role pasta plays as a healthy carbohydrate in traditional ways of eating such as the Mediterranean Diet, please visit the [Pasta For All web site](#).

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<sup>1</sup> [US News & World Report 2015 Best Diet Issue; Oldways Preservation Trust](#)

<sup>2</sup> Antonia Trichopoulou et al, BMC Medicine 2014, **12**:112

<sup>3</sup> <http://oldwayspt.org/sites/default/files/files/MedDietBrochure.pdf>

<sup>4</sup> On Twitter --"Italy was fun.....this is only my 3<sup>rd</sup> bowl of Pasta, I swear!"

<sup>5</sup> *Cooking Light*, cover story March 2015



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## 2. Will eating pasta make me fat?

Pasta does not make you fat. Many clinical trials confirm that excess calories, and not carbohydrates, are responsible for obesity. Diets successful in promoting weight loss can emphasize a range of healthy carbohydrates, protein and fat. All these three macronutrients, in balance, are essential for designing a healthy, individualized diet anyone can follow for their whole life. Moreover, very low carb diets may not be safe, especially in the long term.<sup>6</sup>

A pasta meal can be moderate in its calorie content, assuming the portion is correct and the dressing-topping is not calorie-rich. At a time when obesity and diabetes have a high prevalence around the world, pasta meals and other low-Glycemic Index foods may help control blood sugar and weight especially in overweight people. The Glycemic Index is a factor that impacts the healthfulness of carbohydrate-rich foods.<sup>7</sup>

In addition, there is a beneficial effect in the way pasta is made. The manufacturing process actually reduces pasta's glycemic response.<sup>8</sup> This is why pasta is satiating and keeps you fuller longer providing the prolonged feeling of satiety familiar to all pasta lovers.

Additionally, eating pasta at one meal lowers blood glucose and insulin responses at the next meal. Thus, pasta has the potential to satisfy taste buds and provide a sense of fullness so that less is eaten at the subsequent meal.<sup>9</sup>

As a healthy eating pattern, the Mediterranean Diet flexibly integrates fresh, delicious and nutritious choices -- and carbohydrate-containing foods like pasta are at its core.

One analysis, presented at Experimental Biology, an expansive scientific conference, even showed that people who regularly consumed pasta as part of a Mediterranean-style diet were less likely to be overweight or obese or have a high body mass index (BMI).<sup>10</sup>

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<sup>6</sup> [Healthy Pasta Meals, Scientific Consensus Statement, V World Pasta Congress, Milan, October 26, 2015 #3](#)

<sup>7</sup> [Healthy Pasta Meals, Scientific Consensus Statement, V World Pasta Congress, Milan, Oct. 26, 2015 #4, #5](#)

<sup>8</sup> [Healthy Pasta Meals, Scientific Consensus Statement, V World Pasta Congress, Milan, Oct. 26, 2015 #4](#)

<sup>9</sup> [Pasta: A Unique Grain Food Webinar](#)

<sup>10</sup> Pounis G, Di Castelnuovo A, Costanzo S, et al. Pasta consumption is negatively associated with obesity markers: an analysis of Molisani and INHES studies; (Abstract #8326/Program #LB308). Presented at Experimental Biology 2016, April 6, 2016, San Diego, CA



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The Mediterranean Diet has been so successful at weight management because it combines the pasta on your plate with fresh vegetables, tomato sauce, olive oil and small portions of fish, legumes and other lean proteins. It's important to remember that portion size is a key factor in weight management. According to most dietitians, a healthy serving of pasta for an adult is one-half to two-thirds of a cup of cooked pasta (80 grams of uncooked pasta), much less than most of us are used to seeing on our plates. Fill out your plate with extra vegetables and lean sources of protein such as fish or beans.

### 3. Should I be cutting down on carbohydrate-containing foods like pasta from my diet?

Progress in scientific research has highlighted the diverse functions of carbohydrates in the body and their importance in the promotion of good health. The WHO/FAO report on carbohydrates in human nutrition and the scientific opinion on dietary reference values for carbohydrates and dietary fibre from EFSA confirm that carbohydrate-containing foods like pasta are a necessary part of a healthy diet. In fact, 45 to 60 percent of our energy should be coming from carbohydrates.<sup>11</sup>

All plant-based foods, including fruits, vegetables and grains, contain carbohydrates, which provide vital fuel to your muscles and brain. Carbohydrates are the most important source of energy for the brain, like gas for a car. For instance, studies have shown that when following the Mediterranean Diet, including healthy pasta, mostly vegetables, and olive oil as the main fat source, the risk of getting Alzheimer's disease is lowered.<sup>12</sup>

It's clear that eating an apple is better for you than eating a chocolate chip cookie. Sticking mostly to healthy carbs like fruits, vegetables, legumes, and grains, and staying away from highly processed sweet desserts and snacks will help maintain a healthy diet.

Studies have shown that consuming a low-carbohydrate diet is not only associated with a *greater* likelihood of being obese,<sup>13</sup> but that it might not even be safe, especially in the long term.<sup>14</sup>

Made from durum wheat semolina or from the flour of other grains mixed with water and/or eggs, pasta is a simple nutritious way to add the necessary carbohydrates to any healthy diet. Countries with high per-capita wheat consumption have much lower rates of overweight and obesity than those with lower per capita wheat consumption. (The French, for instance, consume twice the wheat per person as Americans, but have about one-third the obesity rate.<sup>15</sup>)

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<sup>11</sup> V World Pasta Congress, Milan, Italy, Oct. 25-27, 2015; Dr. Luca Piretta, "The Perils of Spreading Misinformation"

<sup>12</sup> [Giancarlo Logroscino, of the University of Bari in Italy, World Pasta Congress, Milan Italy, Oct. 2015](#)

<sup>13</sup> Journal of American Dietetic Association, July 2009; 109 (7):1165-72

<sup>14</sup> [Healthy Pasta Meals, Scientific Consensus Statement, V World Pasta Congress, Milan, October 26, 2015 #3](#)

<sup>15</sup> Whole Grains: Breaking Barriers Conference November 9-11, 2014, Boston, ["Gluten and Celiac: What are the Facts?"](#) p. 5-4



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#### **4. I've heard the message "don't eat white food" like pasta. Is this based on science?**

There is no scientific evidence that the 'whiteness' of a food makes it an unhealthy choice. Contrary to popular belief, lack of color does not indicate lack of nutrition. Natural unprocessed white foods like cauliflower, onions, turnips, mushrooms, white beans, and white potatoes are all nutrient-dense foods that are welcome in a balanced diet. Traditional pasta falls in this category and is a healthy food choice, containing important nutrients like folate and iron. Additionally, unlike highly refined white bread, pasta is a slowly digested carbohydrate food, due to its unique starch structure. For additional health benefits such as greater fiber and essential nutrients, there are a number of delicious whole grain pasta options on the supermarket shelf.

Like any healthy white food, qualifying pasta as bad for you because it is white doesn't give it the credit it is due. In both whole grain and refined form, pasta comes in many shapes and sizes offering a variety of nutrients and health benefits.

Additionally, pasta is not intended to be eaten plain. When combined with other healthy foods like fruits, vegetables, or beans, or blended with olive oil, herbs, tomato sauce and lean proteins like fish and small amounts of red meat and cheese, it becomes a health professional's dream. Best of all, pasta meals can be quick and easy to make so that it appeals to almost everyone, bringing family and friends together and crossing culture, age and dietary boundaries like almost no other single food.

#### **5. I'm trying to maintain a low glycemic-index (GI) diet. Is pasta any different than other carbohydrate-containing foods?**

As the rates of obesity and diabetes are rising around the world, pasta and other low-glycemic foods can help control blood sugar and weight. According to leading scientists, a diet made up of low-Glycemic Index (GI) food reduces the risk of type 2 diabetes and coronary heart disease and reduces inflammation, a factor in many other diseases.<sup>16</sup>

GI is one of many factors that impact the healthfulness of foods and there is a beneficial effect in the way pasta is made which reduces the glycemic response.<sup>17</sup>

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<sup>16</sup> Oldways, "Glycemic Index, Glycemic Load and Glycemic Response: Scientific Consensus Statement" June 6 &7, 2013, Stresa, Italy

<sup>17</sup> Healthy Pasta Meals, Scientific Consensus Statement, V World Pasta Congress, Milan, October 26, 2015 #5



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The best foods for glucose metabolism and for health – like pasta cooked “al dente,” vegetables and fruit – have a low GI (less than 55).<sup>18</sup> The GI score of pasta in whole grain (37) and refined forms (42-45) is akin to buckwheat and brown rice. Surprisingly, pasta has a lower GI than oatmeal and quinoa. It comes in well below the recommended score of 55 or under because pasta’s starch structure causes it to be digested much more slowly than the same amount of flour made into bread.<sup>19</sup>

When durum wheat semolina and water are combined to make pasta, the Glycemic Index is low, meaning that pasta won't spike your blood sugar. However, when the same amount of flour and water are combined to make bread, the Glycemic Index is much higher.

Pasta has a low GI due to the way it’s made. Extruded durum pasta has a dense matrix that is less permeable even after cooking than other foods like durum bread or grits. This extrusion process leads to denser pastas, which are less susceptible to digestive enzymes and have a lower GI. They are also digested more slowly than sheeted pastas. From its bulk, extruded pasta is more satiating and less glycemic.<sup>20</sup> Another benefit is that eating pasta at one meal will even lower blood glucose and insulin responses at the next meal.<sup>21</sup>

Cooked “al dente,” the way the Italians eat it, pasta’s GI index is lower than if it’s overcooked. In addition, the development of resistant starch when you eat cool pasta further lowers its glycemic impact. Eating whole grain pasta can kick the health benefits up one more notch, adding extra vitamins, minerals and fiber to the low-glycemic advantages of pasta.<sup>22</sup>

Experts suggest that returning to traditional foods, like pasta, is a smart solution to help curb obesity and chronic disease. For instance, Dr. David Jenkins, one of the original developers of the glycemic index, found that “traditional foods tended to be low glycemic index... and could be very good in preventing diabetes.”<sup>23</sup>

All of this makes pasta a uniquely healthy carbohydrate-containing food.

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<sup>18</sup> [Oldways, “Glycemic Index, Glycemic Load and Glycemic Response: Scientific Consensus Statement” June 6 &7, 2013, Stresa, Italy](#)

<sup>19</sup> [Ibid](#)

<sup>20</sup> [Pasta: A Unique Grain Food Webinar](#)

<sup>21</sup> [Oldways, “Glycemic Index, Glycemic Load and Glycemic Response: Scientific Consensus Statement” June 6 &7, 2013, Stresa, Italy](#)

<sup>22</sup> [Ibid](#)

<sup>23</sup> [Ibid \(Video interview\)](#)



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## 6. I am teaching my family to eat responsibly and sustainably. How does pasta fit in?

Pasta is an affordable, nutritious and environmentally-sustainable food staple worldwide. Few foods can boast a “sustainability index” as high as pasta’s does. Grains like pasta are the most important source of food worldwide, providing nearly half of the calories eaten and are some of the least environmentally intensive foods to produce.<sup>24</sup>

Research published in [Ecosystems](#) found that grains (like the wheat used to make pasta) use only 0.51 liters of water to produce 1 calorie of food.

At the 2015 World Pasta Congress, presenter **Luca Ruini** explained that the carbon footprint of pasta is only 15.5 oz CO<sub>2</sub>eq/lb (34.44g CO<sub>2</sub>eq/kg), much lower than many other foods. In fact, at the 2015 Healthy Pasta Meals Scientific Consensus meeting, nutrition experts added a new point to the Scientific Consensus statement, declaring that "pasta is a simple plant based food, and has a low environmental impact."<sup>25</sup>

The [Union of Concerned Scientists \(UCS\)](#) noted that while locally grown foods are a sustainable choice, “there are more effective ways to reduce global warming emissions -- through dietary changes,” such as by choosing low emission foods like pasta. The Union of Concerned Scientists’ data singles out pasta as a low emission food. Additionally, pasta is more energy dense than other carbohydrates like fruits and vegetables, and it is easier to transport, package and store for year-round enjoyment.

Several countries are prioritizing sustainable diets. Through its [Roadmap to a Resource Efficient Europe](#), the European Union adjusted its dietary recommendations to less animal-based and more plant-based foods.<sup>26</sup> Additionally, [LiveWell for LIFE](#) demonstrates how low-carbon, healthy diets can help achieve a reduction in greenhouse gas emissions from the EU food supply chain. Also, in the [Dietary Guidelines for the Brazilian Population](#), revised in 2014, the Ministry of Health of Brazil affirms that “healthy diets derive from socially and environmentally sustainable food systems.”

Most recently, the Netherlands Nutrition Centre -- a government-funded program that creates dietary guidelines — issued a recommendation that people eat no more than two servings of meat per week reducing recommended intake by half --and encourages the consumption of more plant-based foods like pasta in the interests of health and sustainability.

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<sup>24</sup> Whole Grains: Breaking Barriers Conference November 9-11, 2014, Boston [Breaking Barriers, Busting Myths](#) p. 11

<sup>25</sup> Healthy Pasta Meals, Scientific Consensus Statement, V World Pasta Congress, Milan, October 26, 2015 #10

<sup>26</sup> Rockstrom, J., Willett, W., Stordalen, G., “An American Plate That is Palatable for Human and Planetary Health,” Huffington Post, March 26, 2015.



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Pasta has been at the core of traditional diets for centuries, integrating easily into many varied cultures. This versatility actually discourages food waste. Our ancestors were far less wasteful than we are today, and pasta made their job easier.

Whether it was combined with olive oil, greens, and tomatoes in the Mediterranean, or soy and vegetables in China, pasta has long been a delicious way to make precious foodstuffs stretch into multiple meals, without letting food go to waste. Haven't we all added the leftovers we find in the fridge with some cooked pasta to create a quick and delicious meal on the spot? Repurposing leftovers is a delicious way to eat more sustainably and reduce waste.

In [Cooking Light](#), First Lady Michelle Obama shared a recipe for [One-Pot Pasta with Spinach and Tomatoes](#), a healthy, energy saving pasta meal. This environmentally friendly dish requires less energy and less water because it uses one pot instead of at least two (no pouring water down the drain or wasting pots and pans) and is made from scratch with fresh produce. "It's some tomatoes ... basil. It's boiling pasta ... a little flavoring and seasoning, and you have a delicious meal." And, "It's fast," she says.

## **7. It seems that a lot of people are eating gluten-free lately. Is this necessary? Does pasta contain gluten?**

Pasta contains gluten, a protein composite found in wheat and other grains, which gives dough its elasticity. Sufferers of celiac disease, an autoimmune reaction to gluten in individuals who are genetically susceptible, must adhere to a strictly gluten-free diet.

The group that must avoid gluten is small. While 1 in 100 people suffer from celiac disease, fully 1 in 10 percent now say they 'avoid gluten.' Sufferers of celiac disease, non-celiac gluten sensitivity or a severe wheat allergy need to avoid gluten but there is no evidence of any health benefit to removing gluten from the diet for the remainder of the population.<sup>27</sup>

In fact, hoping to clarify matters, for the first time, scientists gathered for the 2015 Healthy Pasta Meals Scientific Consensus Statement included guidance on the gluten-free issue in the Consensus Statement concluding, "The general population can eat pasta and should not choose a gluten-free product if not affected by a gluten-related disorder correctly diagnosed. For those with gluten sensitivities or allergies, or celiac disease, there are gluten-free alternatives."

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<sup>27</sup> [FoodInsight.org](http://FoodInsight.org)



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Further, Dr. Alessio Fasano, world-renowned expert on celiac disease and gluten and Director of the Celiac Research Center at Massachusetts General Hospital, says that there is a fad component to the gluten-free trend and not everyone has to avoid gluten. He suggests that based on current research, it is the changes in our microbiome – the balance of “good” and “bad” bacteria in our guts – that are likely the root cause of the increase in celiac and other autoimmune diseases and that nutrition is the most influential component in microbiome composition.<sup>28</sup>

Dr. Luca Piretta MD, of the University Campus, Biomedico of Rome, points out that gluten-free diets are often fat-rich. While those suffering from celiac disease must follow a gluten-free diet there is no evidence that this diet is useful to other patients, obese or healthy people.<sup>29</sup>

For those pursuing a gluten-free diet in hopes that they will lose weight, celiac authority and assistant Harvard professor Dr. Daniel Leffler warns that the opposite effect is just as likely and that adhering to a gluten-free diet is often associated with weight gain.<sup>30</sup>

### **8. There has been a lot of talk about the wheat we eat today not being our grandparents' wheat. Should I avoid eating wheat for that reason?**

Modern wheat is virtually the same as the wheat we ate 50 years ago. According to Joseph A. Murray, a professor of medicine at the Mayo Clinic and the president of the North American Society for the Study of Celiac Disease who has also studied wheat genetics, “The wheat grain is not a lot different than it was 50 years ago. Chemically the contents just have not changed much.”<sup>31</sup>

According to the U.S. Department of Agriculture, U.S. food processors are wary of consumer reaction to products containing genetically modified (GM) wheat, so no GM wheat is commercially grown in the United States,<sup>32</sup> in line with European and worldwide wheat producers.

And in response to concerns that today's wheat contains more gluten, USDA researcher Donald Kasarda, who has been studying wheat genetics for decades, found that gluten content in wheat has not in fact increased.<sup>33</sup>

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<sup>28</sup> Whole Grains: Breaking Barriers Conference, Nov. 9-11 2014, Boston; Dr. Alessio Fasano presentation "[Why are Celiac Disease & Gluten Sensitivity on the Rise?](#)"

<sup>29</sup> V World Pasta Congress, Oct. 25-27, 2015, Milan; Dr. Luca Piretta "[The Perils of Spreading Misinformation](#)"

<sup>30</sup> Whole Grains: Breaking Barriers Conference, Nov. 9-11 2014, Boston "[Gluten and Celiac: What are the Facts?](#)" p.5-4

<sup>31</sup> New Yorker, Nov. 3, 2014 "AGAINST THE GRAIN" *Should you go gluten-free?* By Michael Specter.

<sup>32</sup> [United States Department of Agriculture, Economic Research Service](#)

<sup>33</sup> Whole Grains: Breaking Barriers Conference November 9-11, 2014, Boston [Breaking Barriers, Busting Myths](#) p. 3-5



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*For additional resources, please visit the [Pasta For All web site](#), where among other information, The International Pasta Organization offers [5 good reasons consumers can continue to enjoy pasta](#) as a delicious part of a healthy eating plan to help manage weight and prevent disease -- as we have for hundreds of years.*



**I.P.O.**

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