

HOW MUSHROOMS FIT INTO POPULAR DIETS

New year, new diet? Each January, *U.S. News & World Report* shares its annual “Best Diets” list that looks at extensive data and information on 40 diet plans across nine categories. A perennial list topper is the DASH Diet that addresses reducing hypertension followed by the popular Mediterranean Diet.

Regardless of whether you’re making a short-term commitment or long-term lifestyle changes, few foods offer the versatility and general diet acceptance as mushrooms. The diet-friendly fungi is low in calories, fat and cholesterol free and very low in sodium. Plus, with innovative cooking techniques like The Blend, it’s easier than ever to stick with your nutrition goals with the help of mushrooms.

Check out how mushrooms deliciously fit into some of today’s most popular eating plans. Note: while we know these are ‘popular’ diets, we aren’t recommending them and consumers should always check with their health care provider. For more nutrition information on mushrooms, visit mushroomcouncil.com/nutrition-benefits.

DASH Diet (Dietary Approaches to Stop Hypertension)

This diet is promoted by the National Heart, Lung and Blood Institute and focuses on consuming foods high in potassium, calcium, protein and fiber such as fruits, vegetables, whole grains, lean protein and low-fat dairy. Followers of this diet also focus on sodium reduction capping out initially at 2,300 milligrams a day, and then gradually working down to 1,500 milligrams a day.

How mushrooms fit into the DASH Diet:

A 2014 study from the Culinary Institute of America and University of California-Davis, published in the *Journal of Food Science*, explored the flavor-enhancing properties of mushrooms and found that blending finely chopped mushrooms with ground meat enhances flavor and nutrition¹. As the study showed, a traditional ground meat recipe prepared with 50 percent mushrooms and 50 percent meat (or even 80 percent mushrooms and 20 percent meat) can:

- Maintain flavor while reducing sodium intake by 25 percent
- Reduce calorie, fat and sodium intake, while adding nutrients like vitamin D, potassium (8% DV), B-vitamins and antioxidants.
- Enhance the overall flavor because of double the impact of umami¹.

¹ Myrdal Miller, A., Mills, K., Wong, T., Drescher, G., Lee, S.M., Sirimuangmoon, C., Schaefer, S., Langstaff, S., Minor, B. and Guinard, J.-X. (2014), Flavor-Enhancing Properties of Mushrooms in MeatBased Dishes in Which Sodium Has Been Reduced and Meat Has Been Partially Substituted with Mushrooms. *Journal of Food Science*, 79: S1795–S1804.

Flexitarian Diet

The Flexitarian Diet (or Semi-Vegetarian, as some refer to it) is a style of eating that encourages mostly plant-based foods while allowing meat and other animal products in moderation.

How mushrooms fit into the Flexitarian Diet:

In 2015, the Mushroom Council introduced the term “Blenditarian” to describe advocates of The Blend, a cooking technique that blends finely chopped mushrooms with ground meat. The Blend and the flexitarian diet go hand-in-hand. Both encourage moderation over elimination. With the blenditarian lifestyle, you can still enjoy your favorite foods such as burgers, tacos and pasta but in a more a delicious, nutritious and sustainable way. A 2014 study from the Culinary Institute of America and University of California-Davis, published in the *Journal of Food Science*, explored the flavor-enhancing properties of mushrooms and found that blending finely chopped mushrooms with ground meat enhances flavor and nutrition¹. As the study showed, a traditional ground meat recipe prepared with 50 percent mushrooms and 50 percent meat (or even 80 percent mushrooms and 20 percent meat) can:

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Ketogenic Diet

The Ketogenic Diet (or Keto Diet, for short) is a low-carb (less than 20 grams per day), high-fat diet. The diet claims to lower blood sugar and insulin levels and shifts the body’s metabolism away from carbs and toward fat and ketones.

How mushrooms fit into the Keto Diet:

One cup (84 grams) of whole mushrooms contain 2.7 grams total carbohydrates².

² US Department of Agriculture (USDA), Agricultural Research Service, Nutrient Data Laboratory. USDA National Nutrient Database for Standard Reference, Legacy. Version Current: April 2018. Internet: <http://www.ars.usda.gov/nutrientdata>

Low FODMAP Diet

FODMAP stand for **F**ermentable **O**ligo-, **D**i-, **M**ono-saccharides **A**nd **P**olyols. These are the scientific terms used to classify groups of carbohydrates that may cause gas and bloating and could cause issues for those with irritable bowel syndrome³. This diet suggests eliminating many common high FODMAP foods and then slowly reintroducing them 3-8 weeks later to see if the cause symptoms persist.

How mushrooms fit into a low FODMAP Diet:

A quick glance at low FODMAP food choices may find mushrooms on the 'foods to limit' side, but for those planning to follow this diet it's important to look at which mushroom variety they are consuming. Mushrooms contain mannitol which falls under the category of polyols or the 'P' in FODMAP. Mannitol is a naturally occurring alcohol found in fruits and vegetables, including mushrooms, but the amount varies by variety. Low FODMAP varieties of mushrooms include *Pleurotus ostreatus* or oyster mushrooms (0.54mg mannitol) and *Pleurotus eryngii* or King trumpet mushrooms (0.60mg mannitol) while higher FODMAP varieties include *Lentinus edodes* or shiitake (10g mannitol) and *Agaricus bisporus* or white button (6g mannitol)⁴.

Mayo Clinic Diet

Developed by the Minnesota's Mayo Clinic, this diet focuses on both what you eat and your overall lifestyle. There are two phases: "Lose It," which kicks off the weight loss process and "Live It," which helps continue and maintain newly formed healthy habits.

How mushrooms fit into the Mayo Clinic Diet:

Since reducing meat consumption is a big part of the Mayo Clinic diet, substituting Portabella mushrooms for steak or beef patties can be a tasty way to enjoy a meatless diet. If meat reduction is the goal, The Blend, a cooking technique that blends finely chopped mushrooms with ground meat, is a helpful technique for still enjoying the foods you love (such as burgers and tacos) with less guilt.

³ Manning L, Biesiekieski J (2018), Use of dietary interventions for functional gastrointestinal disorders. Current Opinion in Pharmacology, Vol. 43, Pages 132-138.

⁴ Valverde ME, Hernandez-Perez T, Paredes-Lopez O. International Journal of Microbiology Volume 2015, Article ID 376387, 14 pages.

Mediterranean Diet

While there isn't a specific "Med Diet Eating Plan," the thinking behind it is simple: consume less red meat, sugar and saturated fat while increasing the amount of produce, nuts and healthy fats.

How mushrooms fit into the Mediterranean diet:

Mushrooms are a bit of the unsung hero of the Mediterranean Diet. With their umami-rich flavor, they are the perfect complement to other Med Diet stars such as tomatoes and seafood while filling that "meaty flavor" void. Mushrooms pair well with others and they also shine on their own when simply roasted with olive oil.

MIND Diet

The MIND (**M**editerranean-**D**ASH Intervention for **N**eurodegenerative **D**elay) Diet combines the Mediterranean Diet and the DASH Diet to create a dietary pattern that focuses specifically on brain health.

How mushrooms fit into the MIND Diet:

A recent study⁵ examined mushrooms as a rich source of two antioxidants: ergothioneine and glutathione. Preliminary research⁶ has looked at the role, if any, ergothioneine has in decreasing the likelihood of neurodegenerative diseases such as Parkinson's disease and Alzheimer's disease, although further studies are needed.

Paleo Diet

Since mushrooms are one of the oldest known foods, it's highly likely it was a favorite of cavemen making it a must for the Paleo diet.

How mushrooms fit into the Paleo Diet:

Unlike cavemen, it's no longer necessary to forage for mushrooms when there are many varieties available at your local grocery store. They also check all the Paleo must-have boxes: they are unprocessed and can be found in nature.

⁵ Kalaras M, Richie J, Calcagnotto, A, Beelman, R (2017), Mushrooms: A rich source of the antioxidants ergothioneine and glutathione. Food Chemistry, Vol. 233, Pages 429-433.

⁶ Cheah IK; Feng L, Tang RMY, Lim KHC, Halliwell B (2016) Ergothioneine levels in an elderly population decrease with age and incidence of cognitive decline; a risk factor for neurodegeneration?. Biochem Biophys Res Commun, 478(1): 162-167.

TLC Diet

The Therapeutic Lifestyle Changes diet was created by the National Institute of Health's National Cholesterol Education Program with the goal of cutting cholesterol as part of a heart-healthy eating regimen.

How mushrooms fit into the TLC Diet:

Since the goal of the diet is to lower LDL cholesterol, and in some instances reduce weight, counting calories and consuming less saturated fat are key with the TLC diet. Substituting mushrooms, a cholesterol and saturated-fat free food, for lean ground beef in an entrée just once a week would save almost 20,000 calories in one year⁷.

Volumetrics

Created by Barbara Rolls, PhD, Volumetrics focuses consuming more low energy density foods, essentially foods with lower calories with more volume, so you'll lose weight by feeling full on fewer calories.

How mushrooms fit into the Volumetrics Diet: This diet has four categories and mushrooms fit into category 1, the "free" or "anytime" foods, which include fruits, nonstarchy vegetables (which is how mushrooms are classified here) and broth-based soups. Because Volumetrics relies on foods with a high water content, mushrooms are an ideal fit for followers of this diet with their high water content (approximately 90 percent) and low calories (22 calories per 100 grams).

WW/Weight Watchers

WW, formerly Weight Watchers, recently rebranded to focus less specifically on weight loss and incorporate more of an overall approach to health and wellbeing by delivering science-based solutions that fit into people's lives. WW still tracks meals through SmartPoints and activity via FitPoints.

How mushrooms fit into Weight Watchers:

Raw mushrooms, all varieties, are a 0-point food.

Blending finely chopped mushrooms into 80/20 ground beef results in a burger with less points than a burger with no added mushrooms.

- 6 oz. cooked 80/20 lean ground beef patty 10 points
- 3oz. 80/20 lean ground beef mixed with 3 oz. finely chopped mushrooms, cooked 5 points

⁷ Cheskin L.J., Davis, L.M., Lipsky L.M., Mitola, A.H., et al. Lack of Energy Compensation Over 4 Days When White Button Mushrooms Are Substituted for Beef. *Appetite* (2007).

Whole30 Diet

Whole30 is less a weight-loss plan, and more of a “change your life” approach, per the program’s founders. It begins with 30 days eliminating sugar, alcohol, grains, dairy and legumes, and at day 31, begin reintroducing some of those foods.

How mushrooms fit into Whole30 Diet:

Mushrooms are an approved food in the first 30 days of Whole30.