



NUTRITION NEWS ABOUT MUSHROOMS

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OUTDOOR GRILLING: A RECIPE FOR BETTER BARBECUING

By: Katie Morford Sullivan, MS, RD

There's much to love about a summer cookout. Grilling infuses everything with a pleasing, smoky flavor, cooks food quickly, and involves minimal cleanup (no pots and pans to fuss over). As far as nutrition goes however, barbecuing can be a mixed bag, from plates that pack a nutritious punch to ones that leave much to be desired.

Beware the Burn

One upside to grilling is that it can cut the fat in meat and poultry. The problem is when fat drips into the flames, it can flare up and char the meat, which can adversely impact flavor. Here are a few tips to get the best results on the grill:

- Choose lean cuts of meat and remove skin from poultry.
- Trim visible fat before cooking.
- Marinate. Use lemon juice, vinegar, garlic, herbs, fruit juice, and other full-flavored ingredients to boost the taste without adding fat or sodium.
- Grill at a lower temperature to minimize charring.

Swap Mushrooms for Meat

Many of the classic cuts bound for the grill are high in saturated fat (think sausages, cheeseburgers and ribs). Replace meat with mushrooms and you'll slash saturated fat and calorie intake. You'll also boost your vegetable intake and lighten your carbon footprint (harvesting mushrooms is friendlier to the planet).¹ And you won't sacrifice flavor, since mushrooms have that same umami quality that we love in meat. This may explain why one national food service provider replaced its standard burger with a blended beef and mushroom one in all 250 of the school districts it serves.² Studies have also found blended burgers and tacos measure up brilliantly to all-beef ones.^{3,4} To help you make the switch seamlessly, here are three easy ideas:

- Modern Mixed Grill -- Trade out the traditional "mixed grill" and lean on vegetables instead. Toss mushrooms, peppers, zucchini, onions and other grill-friendly vegetables with olive oil and seasonings.

Cook over a medium-high flame until tender. Serve straight up or with chimichurri, salsa verde, teriyaki or another favorite sauce.

- Blended Burger -- Make your own blended burgers by pulsing 1/3 pound white button or cremini mushrooms in a food processor until ground up like beef. Sauté mushrooms and mix with 2/3 pound ground meat and season as you would any burger. The result? You'll cut fat, sodium, calorie, and cholesterol intake by nearly a third or more.⁵ Choose beef that's 85 or 90 percent lean and you'll knock down the saturated fat even further. For more details on how to make a Blended Burger, don't miss [this newsletter's recipe!](#)
- BBQ Portobello -- The generous caps of portobello mushrooms are excellent in lieu of steak or pork when sandwiched between slices of grilled bread. A whole mushroom weighs in at just 18 calories, which leaves room in your calorie coffers to top it with a slice of cheese and spoonful of herb pesto.⁶ To cook, brush with olive oil, season with salt and pepper, and grill over a medium flame until juicy.

Slim Down your Sides

Standard barbecue side dishes aren't always the best bets from a nutrition standpoint. Mayonnaise-laden potato salads and slaws, for example, can be high in fat and camp-style baked beans can be heavy on the sugar shaker.^{7,8} The dietary guidelines advise we up our daily intake of vegetables. Here are a few ways to do so without a lot of added fat, sugar, or sodium:

- Grill corn on the cob and finish with a squeeze of lime, a drizzle of olive oil, and chopped fresh cilantro.
- Dress potato salads and vegetable slaws with oil and vinegar-based dressings rather than creamy ones.
- Slice and layer garden-fresh tomatoes and cucumbers. Drizzle lightly with olive oil, add salt and pepper, and shower with chopped basil.



Katie Sullivan Morford, MS, RD is a writer and registered dietitian. She is the author of two cookbooks: *Rise & Shine: Better Breakfasts for Busy Mornings* and *Best Lunch Box Ever*, with a third book in the works. She has been published in *Real Simple*, *Family Circle*, *Parents*, *Self*, *Dr. Oz The Good Life*, the *San Francisco Chronicle*, and the *New York Times*. Katie is also the voice behind the blog [Mom's Kitchen Handbook: Raising Fresh-Food Kids in a French-Fried World](#). She lives in San Francisco with her husband and three daughters.

THE LATEST MUSHROOM RESEARCH

Anti-Atherogenic Potential of Portobello and Shiitake Mushrooms.

Results of a study to investigate mushrooms' ability to suppress fat-induced atherosclerosis, an inflammatory disease of the arteries, were presented at Experimental Biology, April 25, Chicago. Atherosclerosis long has been considered a lipid/fat disease characterized by collection/ deposition of cholesterol and other obstructive debris in the artery wall. The role of inflammation in the initiation and progression of the disease process affecting the arterial wall is an active area of contemporary research.

Moshen Meydani, DVM, PhD, Vascular Biology Laboratory, USDA Human Nutrition Research Center on Aging, Tufts University, investigated the effectiveness of portobello and shiitake mushrooms to prevent atherosclerosis and associated inflammation in an animal model of human atherosclerosis.⁹ Hypothesis generating and preliminary cell culture and animal studies suggest that these mushrooms show potential anti-atherogenic activities.¹⁰ Both mushrooms provide soluble and insoluble fiber, the former having a role in cholesterol management, and bioactive compounds with antioxidant activity such as ergothioneine. Portobello mushrooms contain the highest level of ergothioneine of the *Agaricus* variety, and shiitake mushrooms contain higher levels of ergothioneine than portobello ([Nutrition News about Mushrooms, December 2016](#)). Both mushrooms are commonly eaten and readily available at retail markets making research on their ability to lower the risk of cardiovascular disease and add to consumers' health important.

In the study, mice were fed one of five diets varying in fat and mushroom content. The mushrooms were freeze-dried for incorporation into the animal's diet and thus referred to as "powder."

1. Low fat (4% weight in diet) control diet
2. High fat (8%) control diet
3. High fat control with 10% mixture replaced with portobello mushroom powder
4. High fat control diet with 10% mixture replaced with shiitake mushroom powder
5. Control mixture diet matched to the average nutrient levels of the mushroom powder.

Mice fed the high fat diet with either freeze-dried portobello or shiitake mushrooms had lower body weight gain compared to the other groups. The mice on the high fat/shiitake diet had significantly lower average body weight gain compared to the mice in the high fat/portobello group. Overall lean mass was not affected as significantly as the fat mass. According to the researcher, this finding may suggest a plausible, possible effect of the mushrooms studied on fat metabolism and lipid profiles. There was a greater attachment of cells to the aorta surface in mice on the high fat control diet compared to mice on the low fat control or the high fat/shiitake diet. Only mice fed the high fat/shiitake diet had significantly fewer aortic lesions. While extrapolation of the findings directly to humans is not possible at this time, according to the researchers, results suggest shiitake mushrooms may play a role in suppressing dietary fat-induced atherosclerosis.

CLIENT EDUCATION RESOURCE

When summer hits, so does the less-than-healthy, traditional cookout foods. Help your clients, customers and communities have a healthier grilling season this summer by promoting The Blend burger, a nutritious, tasty twist on an iconic recipe. [In this handout](#), we provide media pitches, talking points and sample social media posts to help you along the way!



RD MUSHROOM LOVE IN THE MEDIA

[5 Eating Habits for a Healthier Planet via WebMD Blog](#)

“One of the easiest ways to cut back—and still enjoy your favorite burger—is to make a blended burger by replacing up to half of the beef with chopped mushrooms. A recent environmental study found that mushrooms require only 1.8 gallons of water to produce a pound, making mushrooms healthy on your plate and gentle on the planet.” - Katherine Brooking, MS, RD

[11 Easy Ways to Make Your Food Last Longer - MSN via SELF](#)

“To make your ground meat go further, add a half pound of chopped mushrooms to any recipe that calls for it. The texture and flavor of the mushrooms blends seamlessly with the meat, and it allows you to use less meat in one go—meaning more for later. Plus, it’s a great easy way to cut a few calories...” - Sarah-Jane Bedwell, RD, LDN

[Mushroom and spinach crepes via Detroit Free Press](#)

“Mushrooms provide niacin and riboflavin, two B vitamins that help the body transform food into energy. And, if they are exposed to ultraviolet light just before or after harvesting, mushrooms provide a nice dose of vitamin D.” - Darlene Zimmerman, MS, RD

[11 Delicious Summer Foods via Reader's Digest](#)

“Eating your burger patty open-face on a grilled Portobello mushroom cap, topped with pesto and mozzarella.” - Caroline Passerello, MS, RDN, LDN.

[Tofu, Kale, Mushroom and Bell Pepper Quiche recipe via The Times-Picayune/NOLA.com](#)

Molly Kimball, New Orleans based registered dietitian, highlights mushrooms in her eggless quiche recipe.

[What Nutritionists Cook When They're Feeling Lazy via Mic.com](#)

“I always keep some whole-wheat pizza crusts on hand or pita bread rounds. You can cut up veggies like mushrooms, tomatoes and fresh mozzarella, then just add tomato sauce for a quick and easy dinner!” - Sandy Wolner, RDN

[Turn Dinner Flop into Fabulous Frittata in No Time via TallahasseeDemocrat.com](#)

Anna Jones, RD, shares a recipe for a delicious and simple Spinach, Mushroom and Feta Frittata. She encourages readers to cook at home instead of ordering takeout and offers this as a simple dish when you're in a pinch.

[8 Healthy Meal Hacks to Steal from Dietitians via Food Network HealthyEats Blog](#)

“Chop and sauté a large batch of onions, peppers, mushrooms, and fresh spinach. Refrigerate it, and use it in pasta sauce, in an omelet—or in couscous, quinoa, or other healthy grains.” - Hope Warshaw, RD, CDE

[Centsable Health: The Mushroom Blend via WHO-TV, Des Moines](#)

On Earth Day, one of the local news stations in Des Moines, WHO-TV, did a feature on The Blend, the culinary technique of blending mushrooms with meat. Whitney Hemmer, RD, highlights the benefit of The Blend and shares the recipe for the Mighty Mushroom Blended Burger.

DID YOU KNOW?

[Take the Blenditarian Pledge!](#)

You can now shout your love for The Blend from the rooftops of the Internet! Join over [1,000 other Blenditarians](#) who have already taken the pledge to do better for health, flavor and sustainability with The Blend. Upon pledging, you'll receive a free digital recipe book, exclusive event invites and be entered to win blenditarian swag!



1. The Mushroom Sustainability Story: Water, Energy, and Climate Environmental Metrics, 2016 Report. 2. <http://www.sodexousa.com/home/media/news-releases/newsListArea/news-releases/healthy-lunch.htm> 3. <https://eric.ed.gov/?id=EJ1082613> 4. <http://onlinelibrary.wiley.com/doi/10.1111/1750-3841.12549/abstract> 5. <http://www.mushroomsonthemenue.com/the-blend/> 6. <https://ndb.nal.usda.gov/ndb/foods/show/19303?fgcd=&manu=&facet=&format=&count=&max=50&offset=&sort=default&order=asc&qlookup=potato+salad&ds=&qt=&qp=&qg=&q=&ing=8> 7. <https://ndb.nal.usda.gov/ndb/foods/show/26391?manu=&fgcd=Branded%20Food%20Products%20Database&ds=Branded%20Food%20Products> 9. Kim S, Thomas M and Meydani M. Anti-Atherogenic Potential of Edible Mushrooms. The FASEB Journal April 2017. Vol 31, no. 1 Supplement 973.3. 10. Martin, KR. Both common and specialty mushrooms inhibit adhesion molecule expression and in vitro binding of monocytes to human aortic endothelial cells in a pro-inflammatory environment. Nutr J. 2010; 9: 29. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2916885/>.

IN THE KITCHEN WITH MUSHROOMS

Mighty Mushroom Blended Burger

Serves: 4

Prep time: 10 minutes

Cook time: 15 minutes

Ingredients:

1/2 pound mushrooms, any variety

2 tablespoons olive oil, divided

1 pound ground beef

1/2 teaspoon salt

4 buns

Optional toppings: pickled red peppers, crumbled blue cheese and watercress greens

Directions:

1. Finely dice mushrooms or gently pulse in food processor.
2. In skillet, warm 1 tablespoon olive oil on medium-high heat and add mushrooms, cooking 5-7 minutes, or until golden brown. Remove from heat and cool 5 minutes.
3. Transfer cooled mushrooms to medium bowl. Add ground beef and salt, mixing until combined. Make four patties.
4. Add remaining olive oil to pan and cook burger patties on medium-high heat until internal temperature reaches at least 160°F.

Plate and add desired toppings to bun.



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