

Seafood & Type 2

A DIVE INTO DIABETES



For people with type 2 diabetes or those at high risk, the statistics are familiar. In the United States, approximately 30 million people have diabetes¹ – that’s nearly 10% of the country – and rates are on the rise. Healthy lifestyle changes can help reduce diabetes risk and help keep diabetes in control. But change can be hard, especially when unhealthy options surround you.

Small improvements to your eating habits can make a huge impact on your health. Remember, your health matters to you and to those who love you! The American Diabetes Association offers recommendations, tips and recipes for balanced meals, including the suggestion to eat fatty fish 2-3 times per week.²

Based on the overwhelming research, just one more seafood meal a week improves your health, and ideally for those with diabetes and/or prediabetes, 1,000 – 2,000 mg of omega-3s EPA+DHA a day can show significant impacts to your health.



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- The type of fat in seafood, heart-healthy omega-3s, helps prevent clogging of the arteries, according to the American Diabetes Association, and it has so many other benefits – including reducing inflammation, increasing insulin function, and even improving your mood (with the release of blissful serotonin).^{3,4} Simply, **omega-3s may improve effectiveness of insulin and reduce your risk for related complications.**
- Studies have shown that **eating (non-fried) fish and shellfish can reduce your risk of getting type 2 diabetes⁵** – and the data show the more fish, the better.
- Diabetes has many side effects and complications. People with type 2 diabetes are twice as likely to die from heart attack or stroke.⁶ A study that followed young adults for 25 years showed that **eating (non-fried) fish reduced risk of high blood pressure, a large waistline, prediabetes, and abnormal cholesterol measurements** later in life.⁷ In women living with diabetes, **higher consumption of fish is linked to less sudden cardiac death,⁸ may reduce the risk of heart disease,⁹ lower triglycerides and blood pressure,¹⁰ and improve HDL-cholesterol.^{11,12}**

QUICK TIPS TO UP YOUR SEAFOOD INTAKE

The American Diabetes Association recommends fatty fish 2-3 times per week. Seafood with the highest amounts of these healthy fats include salmon, herring, mackerel, sardines, swordfish, trout, albacore tuna, pollock, barramundi, oysters, mussels, and crab. Get your dose of omega-3s EPA and DHA from eating seafood – **just one 4 oz. serving of salmon has more than 1,200 mg!**

- **Try canned seafood.** Keeping canned options, like salmon, tuna or sardines on hand can make for an easy and healthy weeknight dinner.
- **Throw it on a sheet pan!** Sheet pan meals are an easy way to save time in food preparation and cleanup and allow you to cook everything at once. Pair your choice of fish with some delicate veggies like asparagus for an easy, delicious and-nutritious meal.
- **Get creative with seafood.** Try adding it as a salad topper, layering it in a sandwich or making homemade fish tacos for an easy way to add protein, nutrients and flavor.

SMOTHERED SHRIMP OVER POLENTA

Recipe by Maya Feller, RDN

Servings: 3
Prep Time: 5 minutes
Cook Time: 10 minutes
Total Time: 15 minutes

INGREDIENTS:

3 cups low sodium vegetable broth
¾ cups yellow cornmeal
1 lb. of shrimp (shelled and deveined; small or medium; thawed if frozen)
3 Tbsp. olive oil, divided
1 small onion, diced
2 cloves of garlic, minced
1 red bell pepper, diced
1 green bell pepper, diced
3 ribs of celery, diced
¼ tsp. smoked paprika
Salt and pepper to taste
1 ½ cups tomato sauce
¼ cup Parmesan cheese, freshly grated



INSTRUCTIONS:

- 1. Making Polenta:** Bring vegetable broth to a boil in a large pan. Pour the cornmeal into the boiling water and whisk until all the “polenta” is stirred and you do not see any clumps. Lower heat to low and whisk until the polenta begins to thicken, approximately 5 minutes. Cover and cook for 30 minutes, whisking every 5-6 minutes.
- 2. Sauté shrimp:** Meanwhile, rinse and dry shrimp. Heat 1 tablespoon of oil in a pan with medium heat until sizzling. Add onion, garlic, bell peppers and celery. Cook for 3-5 minutes until vegetables soften. Add shrimp and season with smoked paprika, salt and black pepper to taste. Sauté for 2 minutes on each side. Once they turn opaque pink or white, turn heat off. Add tomato sauce to shrimp and stir.
- 3. Seasoning Polenta:** After 30 minutes, turn heat off and add in 2 tablespoons of olive oil and Parmesan cheese. Stir until the cheese has melted. Cover and let sit for 5 minutes to thicken.
- 4. Serve.** Plate shrimp over the polenta.

¹ Centers for Disease Control and Prevention. National Diabetes Statistics Report, 2017. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services; 2017. <https://www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf>

² American Diabetes Association. Protect Your Heart: Choose Healthy Fats. 2009. https://professional.diabetes.org/sites/professional.diabetes.org/files/media/Choose_Healthy_Fats.pdf

³ Gao H, et al. Fish oil supplementation and insulin sensitivity: a systematic review and meta-analysis. *Lipids Health Dis.* 2017 Jul 3;16(1):131.

⁴ Chen C, Yu X, Shao S. Effects of Omega-3 Fatty Acid Supplementation on Glucose Control and Lipid Levels in Type 2 Diabetes: A Meta-Analysis. *PLoS One.* 2015 Oct 2;10(10):e0139565.

⁵ Patel PS, et al. Association between type of dietary fish and seafood intake and the risk of incident type 2 diabetes: the European prospective investigation of cancer (EPIC)-Norfolk cohort study. *Diabetes Care.* 2009 Oct;32(10):1857-63.

⁶ Danaei G, et al. The preventable causes of death in the United States: comparative risk assessment of dietary, lifestyle, and metabolic risk factors. *PLoS Med.* 2009 Apr 28;6(4):e1000058.

⁷ Kim YS, et al. Intake of fish and long-chain omega-3 polyunsaturated fatty acids and incidence of metabolic syndrome among American young adults: a 25-year follow-up study. *Eur J Nutr.* 2016 Jun;55(4):1707-16.

⁸ Hu FB, et al. Fish and long-chain omega-3 fatty acid intake and risk of coronary heart disease and total mortality in diabetic women. *Circulation.* 2003 Apr 15;107(14):1852-7.

⁹ Harris WS, Del Gobbo L, Tintle NL. The Omega-3 Index and relative risk for coronary heart disease mortality: Estimation from 10 cohort studies. *Atherosclerosis.* 2017 Jul;262:51-54.

¹⁰ Kim H, et al. Association between fish and shellfish, and omega-3 PUFAs intake and CVD risk factors in middle-aged female patients with type 2 diabetes. *Nutr Res Pract.* 2015 Oct;9(5):496-502.

¹¹ Hendrich S. (n-3) Fatty Acids: Clinical Trials in People with Type 2 Diabetes. *Adv Nutr.* 2010 Nov;1(1):3-7.

¹² Wang F, et al. Treatment for 6 months with fish oil-derived n-3 polyunsaturated fatty acids has neutral effects on glycemic control but improves dyslipidemia in type 2 diabetic patients with abdominal obesity: a randomized, double-blind, placebo-controlled trial. *Eur J Nutr.* 2016 Dec 2.