

UNDERSTANDING THE SCIENCE COMMUNICATING TO CLIENTS RESOURCES AND RECIPES TO SHARE

RDN Toolkit: Mental Health



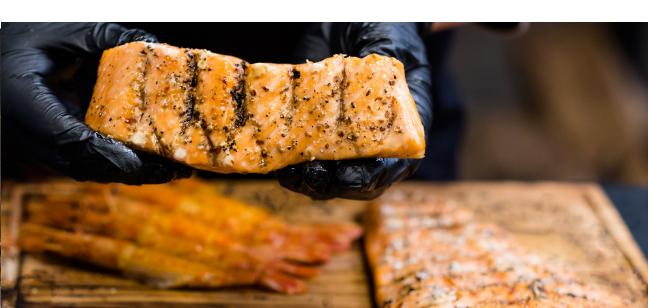


As nutrition experts, we understand that daily food choices influence mental health. Depression and anxiety are the most common mental health conditions in the world and impact our clients' abilities to make the best choices for their health.

When we feel depressed or anxious, it's natural to resist self-care, including preparing and eating nutritious food. But good nutrition is important for those suffering from depression.

This guide educates clients on how to maximize the brain benefits of fish and the simple ways to buy, cook, and enjoy seafood.





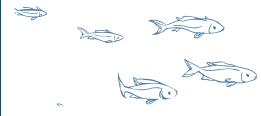
Seafood + Mental Health

Inflammation and mood are linked.

One of the most powerful tools to counteract excess inflammation is seafood.



Eating foods with antiinflammatory properties, like seafood, can help reduce inflammation in the brain and lower the risk of mental illness.





Seafood is a Multivitamin for Your Brain

Fish is an excellent source of lean protein and essential omega-3s. It provides vitamins and minerals important for mental health. Nutrients that tend to be low in people who are depressed – vitamin D, magnesium, and zinc – are found in seafood. **







People who regularly eat fish are at least 20% less likely than their peers to have depression.

If you are taking anti-depressant medication, research shows the nutrients in fish may make them work better.⁹⁻¹⁵





Reel in the Health Benefits

Vitamin D

Most people don't get enough from the sun and vitamin D deficiency is common in people who suffer from depression and anxiety. Seafood is one of the only foods that naturally contains this nutrient. Species like salmon, trout, and tuna are good sources.





Omega-3 Fatty Acids EPA + DHA

Since the human body cannot produce omega-3s, they must come from your diet. These marine-sourced fatty acids have been linked to decreased rates of anxiety and depression.

Sablefish, oysters, and tinned fish provide these nutrients.

Help your clients meet the twice a week goal with these helpful tips!

Despite the health benefits gained by eating seafood twice a week, less than 20% of Americans are following the recommendation.

> TOP IT OFF

Top a salad, grain bowl, or sandwich with canned tuna or salmon. Canned salmon and tuna contain vitamin D which may improve mood.

> JAZZ UP THE FLAVOR

Herbs, herbs, herbs! It's all about the flavor. Fresh herbs like basil, oregano, thyme, and tarragon, not only add a hearty dose of flavor to your fish, but they're packed with healthy antioxidants and vitamins.

> AIR FRY IT FAST!

There are so many different ways to cook seafood quickly, one being the air fryer. Most fish cooks in 8-10 minutes!



FISH SKEWERS WITH CILANTRO LIME RICE

Servings: 4

Ingredients:

- 12 oz. thick fish fillet of salmon, ahi tuna, swordfish, or scallops
- 1 large bell pepper, cut into 16 chunks
- · Fresh pineapple, cut into 16 chunks
- 1 medium zucchini, sliced lengthwise, then cut into 16 large chunks
- · 1 small red onion, sliced into bite-sized quarters
- 1/4 cup teriyaki sauce
- 8 extra long skewers (if using wood, soak in water first)

Cilantro Lime Rice

- · 2 cups brown rice, cooked to package directions
- 1/2 tbsp. extra virgin olive oil
- Zest of 1 1/2 limes
- 2 tbsp. chopped cilantro

st)

Recipe courtesy of Annessa Chumbley, RDN

Directions:

- 1. Cut fish into approximately 16 chunks. Build skewers by starting with bell pepper, then pineapple, zucchini, fish, and onion. Repeat the process on the same skewer. This can be a fun activity for older children to help out with! Complete the skewers utilizing all of the ingredients.
- 2. Brush grill (or indoor grill plate) with a light coat of oil or spray with nonstick cooking spray. Heat grill to medium-high.

 Add skewers, cooking on one side for about 3 minutes. Flip skewers and brush several times with teriyaki glaze, cooking 3 minutes. Drizzle teriyaki glaze over each. Remove.
- 3. Drizzle olive oil into rice and toss with lime zest and chopped cilantro. Season to taste with sea salt.
- 4. Serve fish skewers over cilantro lime rice.

GRILLED FISH TACOS WITH STRAWBERRY AVOCADO SALSA AND LIME CREMA

Servings: 4

Ingredients:

- 1 1/2 lb. of cod, mahi mahi, or halibut
- 2 cups finely chopped strawberries
- 1 small avocado, diced
- 2 tbsp. finely chopped mint leaves
- 3 tbsp. lime juice
- 1/2 jalapeno, de-seeded and finely chopped
- 1 tsp. salt
- 1 cup Greek yogurt
- 1/4 cup green onions, sliced
- 1/4 cup cilantro leaves, chopped
- 1 1/2 tsp. garlic powder
- 1 tsp. chili powder
- 1/2 tsp. paprika, smoked or regular
- 1/2 tsp. cumin
- 1 cup finely sliced cabbage
- 8 corn tortillas, warmed

Directions:

- 1. Preheat grill to medium high or oven to 425°F.
- 2. Make salsa by combining strawberries, avocado, mint, jalapeno, 2 tbsp. lime juice, and 1/4 tsp. salt. Toss to combine and set aside.
- 3.Make crema by combining yogurt, green onions, cilantro, 1 tbsp. lime juice, 1/4 tsp. salt, and 1/2 tsp. garlic powder. Combine in bowl or blender and refrigerate until ready to eat.
- 4.Place fish on a baking sheet. Combine chili powder, paprika, cumin, 1 tsp. garlic powder, 1/2 tsp. salt, and a few grinds of black pepper in a small bowl. Rub evenly over both sides of fish.
- 5. Oil grill surface and cook fish for 4 minutes per side. If using oven, bake fish in oven for 9 minutes or until it's cooked through and flakes with a fork. Place in bowl and gently break apart with fork.
- 6. Warm tortillas. To serve, top with slaw, fish, salsa, and crema. Season each taco with a pinch of salt and pepper.



Recipe courtesy of Alexis Joseph, MS, RD, LDN

Seafood Grilling Guide

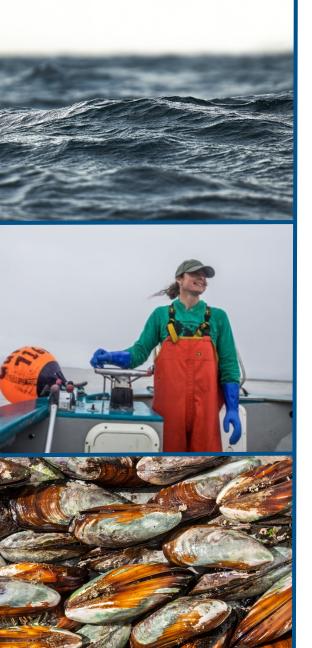
 Cooking a fish filet with skin on? Start with skin-side down for three to five minutes before flipping over.



The best filets or steaks for grilling directly on the grates are at least an inch thick. You can still get the delicious smoky flavor from grilling thinner fillets, but to make sure they don't overcook, wrap them in corn husks, banana leaves, or aluminum foil — or place the fish on pre-soaked cedar planks.

- When cooking on a grill, proteins lose moisture quickly so coat the fish with oil or a thick marinade.
- To tell if a fish is done, insert a fork at an angle, at the thickest point, and twist gently. The fish will flake easily when it's done, and will lose its translucent or raw appearance.
- A good rule of thumb is to cook the fish to an internal temperature of 140° to 145°F.





Why Eustainable Seafood?

Seafood is sourced half from the wild and the other half is farmed. It's important that wild fisheries and farmed seafood follow responsible practices.

You can feel confident about recommending seafood as all major grocery stores and most restaurants in the U.S. follow sustainable seafood sourcing policies.

Also, look for third-party certifier logos on packaging, and seafood harvested in the U.S. The U.S. is a global leader in responsibly managed fisheries and sustainable seafood.











Access our Sustainability Guide:



The Science

For Mental Health:

"Seafood, greens, nuts, and beans. And don't forget a little dark chocolate."

Dr. Drew Ramsey, Author of Eat to Beat Depression And Anxiety

- 1) Thesing CS, et al. Omega-3 and omega-6 fatty acid levels in depressive and anxiety disorders. Psychoneuroendocrin, 2018;87:53-62.
- 2) Swardfager W, et al. Zinc in depression: A meta-analysis. Biol Psychiatry, 2013;74(12):872-878. 16 Wang J, Um P, Dickerman, BA. Zinc, magnesium, selenium and depression: A review of the evidence, potential mechanisms and implications. Nutrients, 2018;10(5):584.
- 5) Jacka FN, et al. Association between magnesium intake and depression and anxiety in community-dwelling adults: The Hordaland Health Study. Aust N Z J Psychiatry, 2009;43(1):45 -52.
- 4) Wilkins, CH, et al. Vitamin D deficiency is associated with low mood and worse cognitive performance in older adults. Am J Geriatr Psychiatry, 2006;;14(12):1032-1040.
- 5) Polak MA, et al. Serum 25-hydroxyvitamin D concentrations and depressive symptoms among young adult men and women. Nutrients, 2014;6(11):4720-4730.
- 6) Grosso G, et al. Dietary n-3 PUFA, fish consumption and depression: A systematic review and meta-analysis of observational studies. J Affect Disord, 2016;205:269-281.
- 7) Li F, Liu X, Zhang D. Fish consumption and risk of depression: A meta-analysis. J Epidemiol Comm Health, 2016;70(3):299-304.
- 8) Sanchez-Villegas A, Henriquez P, et al. Long chain omega-3 fatty acids intake, fish consumption and mental disorders in the SUN cohort study. Eur J Nutr, 2007;46(6):337-346.
- 9) Grosso G, et al. Dietary n-3 PUFA, fish consumption and depression: A systematic review and meta-analysis of observational studies. J Affect Disord, 2016;205:269-281.
- 10) Hibbeln JR. Fish consumption and major depression. Lancet, 1998;351:1213
- 11) Gertsik, L, et al. Omega-3 fatty acid augmentation of citalopram treatment for patients with major depressive disorder. J Clin Psychopharmacol, 2012;32(1):61-64.
- 12) Ranjbar E, et al. Effects of zinc supplementation on efficacy of antidepressant therapy, inflammatory cytokines, and brain-derived neurotrophic factor in patients with major depression. Nutr Neurosi, 2014;17(2):65-71.
- 13) Hibbeln JR, et al. Relationships between seafood consumption during pregnancy and childhood and neurocognitive development: Two systematic reviews. PLEFA, 2019;151:14-36.