

The Antidepressant Diet

A top-down view of a breakfast table. In the center is a white bowl filled with yogurt, topped with a variety of fresh fruits including blueberries, kiwi slices, figs, oranges, and raspberries. To the right is a white mug filled with coffee. Above the mug is a white pitcher. To the left is a silver spoon. In the bottom right corner, there is a small white container with several popsicles. The background is a light-colored, textured surface.

Simple
Effective
Delicious

Chris Aiken, MD

A Diet for Depression

In 2017, researchers in Australia discovered a new antidepressant: Food. This is not the quick chemical fix of a sugar high or caffeine rush. This is a food plan that nourishes the brain with B-vitamins, omega-3s, flavanols, and anti-inflammatories. The Australian study compared this diet to general counseling for depression, and the results surprised them. Full recovery from depression was four times more common with the diet.

That finding has since been confirmed by four independent trials, each showing high rates of recovery with the nutritional approach. The nutrients in this diet build the neurotransmitters that keep us energized and motivated. They replenish the coating that protects neuronal membranes, and balance the neurohormones that bridge the mind-body connection.



Poor diet is
responsible
for 1 in 3 cases
of depression

The Antidepressant Diet is...

Effective

for depression, anxiety, and memory

Steady

benefits build over 4-8 weeks

Simple

based on the Mediterranean approach

Healthy

rated the #1 healthy diet by *US News*

Sustainable

causes more long-term weight loss than
calorie counting because people stick with it

The Antidepressant Diet is *not*...

Difficult

no calorie counting
no foods are completely prohibited

Expensive

costs less than the typical Western diet

All-or-nothing

follow it half-way
and you'll still get half the benefits

Painful

enjoying your meals is one of the ingredients



Eat More

Seven foods you can enjoy in abundance

Swap your carbs for whole grains and your butter and oils for extra virgin olive oil. Snack on nuts and berries, home-made popcorn, or carrot sticks dipped in almond butter. You'll be on your way to better moods. Most people don't need to worry about overeating in these categories (I've listed a few exceptions - like diabetes - at the end).

Fruit

Vegetables

Beans

Fish

Nuts, seeds, olives

Whole grains

Extra virgin olive oil





Fruit

As dessert. As a snack. Enjoy them on toast, cereal, yogurt.

Brain super-foods: Berries are best. Eating $\frac{3}{4}$ cup of blueberries a day improved depression and memory in 15 clinical trials.

Less brain-friendly: Fruit juice

Shopping tips: Fresh, frozen, canned and cook are all good. Dried is good unless there is added sugar. Fruit juice has fewer nutrients but still counts. Purchase juice that's low in added sugars and limit to 1 small cup/day.

Ideal daily servings: 1.5 cups



Nuts, Seeds, Olives

This step alone can make a big difference. Adding a half cup of almonds a day lifted depression for people with diabetes in a controlled trial.

Brain super-foods: Almonds and walnuts are great, but variety is key. Even the humble peanut is a helper (it contains PEA, an amino acid that treated depression and bipolar mania in controlled trials).

Less brain-friendly: Nuts covered in salt or processed flavors

Shopping tips: Spreads like almond and peanut butter also work, but look for products that are low in sugar, salt, and chemical preservatives

Ideal daily servings: $\frac{1}{4}$ - $\frac{1}{2}$ cup/day



Keep fruits and vegetables fresh longer with vented containers like Rubbermaid's Freshworks



Vegetables

Each color has unique brain benefits, so aim for a variety. Mushrooms count.

Brain super-foods: Green leafy vegetables (the darker the better), tomatoes, eggplant, purple corn, sweet potatoes, and orange, yellow, and red vegetables

Less brain-friendly: Potatoes (but purple and sweet potatoes are good)

Shopping tips: Frozen vegetables retain more nutrients. Look for ones that are loosely frozen in a bag, not trapped in a block of ice. Canned is fine.

Ideal daily servings: 6 cups



Whole Grains

Every carb comes as a 100% whole grain version. Bread, cereal, pasta, rice, crackers, even pizza and chips (although the more processed they are, the less brain-friendly). Refined flours are the opposite of whole grains. The good stuff is refined away, much like juice strips away the fiber and nutrients from fruit.

Brain super-foods: Fresh baked bread, sprouted breads, oatmeal without artificial flavorings, home-popped corn, brown rice, quinoa

Less brain-friendly: Processed carbs with lots of salt, sugar, and chemicals

Shopping tips: Look for products labeled "100% whole grains," "100% whole wheat," or that list a "whole" grain as one of the first two ingredients. Those labeled "wheat bread," "multi-grain," and "made with whole grains" *do not* have enough of the good stuff to count.

Ideal daily serving: 5-8 (1 serving = 1 slice bread, 1/2 cup rice, 2/3 cup cereal)

Popcorn

Popcorn is a whole grain, but microwavable and prepackaged popcorns are drenched in processed chemicals that cancel out the healthy side of this snack. To get an antidepressant effect, pop it at home.

Place 3 tablespoons of extra virgin olive oil and 3 popcorn kernels in a heavy-bottom pot on high heat. When the 3 test kernels start to pop, add another 1/3 cup of kernels, spread them evenly, cover, turn off the heat, and let it sit for 30 seconds. Turn the heat back to high and cook until the popping slows down. While it's cooking, shake the pot 2-3 times a minute to keep it from burning, and lift the top now and then to let out steam.

Top with a little "popcorn salt" (sold in stores) or - to bring it one step healthier - go light on the salt and add your favorite herbs and spices.





Beans

Beans are full of what the brain needs: fiber, folate, magnesium, zinc, and antioxidants. Hummus, falafel, and tofu count as beans.

Shopping tips: Dried, fresh, and canned are fine

Ideal servings: 4 servings a week (1 serving = ½ cup)



Extra Virgin Olive Oil

Spread it. Dip it. Cook with it. Swap butter and oil for extra virgin olive oil.

Brain super-foods: The "extra" means more antioxidants. Consumer Labs rated *California Olive Ranch* and *Lucini Organic* as the healthiest brands.

Cooking tips: You can cook in it up to 325-375°F. For higher temperatures, use safflower (up to 510°F) or avocado oil (up to 520°F)

Ideal daily serving: 3 tablespoons





Fish

Fish are rich in the omega-3s that coat neurons. If you don't eat enough of them the brain will substitute less flexible oils like cholesterol. Without omega-3's, brain cells are less "fluid" and flexible in an MRI scan, and people are more depressed and irritable.

Brain super-foods: Oily fish like salmon, tuna (either fresh ahi tuna or canned light tuna), sardines, anchovies, caviar, and mussels

Less brain-friendly: Fried fish

Shopping tips: Frozen fish are great (they are often frozen right off the dock, while "fresh" fish at the grocery store are often defrosted after a long journey). Costco's Kirkland brand of frozen salmon won out in a *Washington Post* taste test, hands down.

Ideal servings: 2 per week (1 serving = 3 ounces cooked). You can eat more, but children and pregnant women should heed the warning below.

Low Mercury Fish

Children and pregnant women should limit fish to 2 servings a week and aim for low mercury options like:

Salmon, shellfish, catfish, flounder, sole, black sea bass, tilapia, pollock, anchovies, herring, and perch.

Also canned light tuna, but not white or albacore tuna.

Medical Modifications

If you are on a special diet for medical reasons, or have one of these conditions, talk with your doctor before starting the antidepressant diet:

- Diabetes
- Renal (kidney) insufficiency or failure
- Renal (kidney) stones
- Gout

The conditions below often require people to avoid or reduce certain foods, such as lactose, gluten, or salt. In those cases, continue to avoid the restricted foods while shifting to the antidepressant ones:

- Heart failure
- High blood pressure
- High cholesterol
- Gastroesophageal Reflux
- Celiac Disease (Gluten intolerance)
- Lactose intolerance
- Food allergies



Eat Some

Four foods to appreciate in moderation

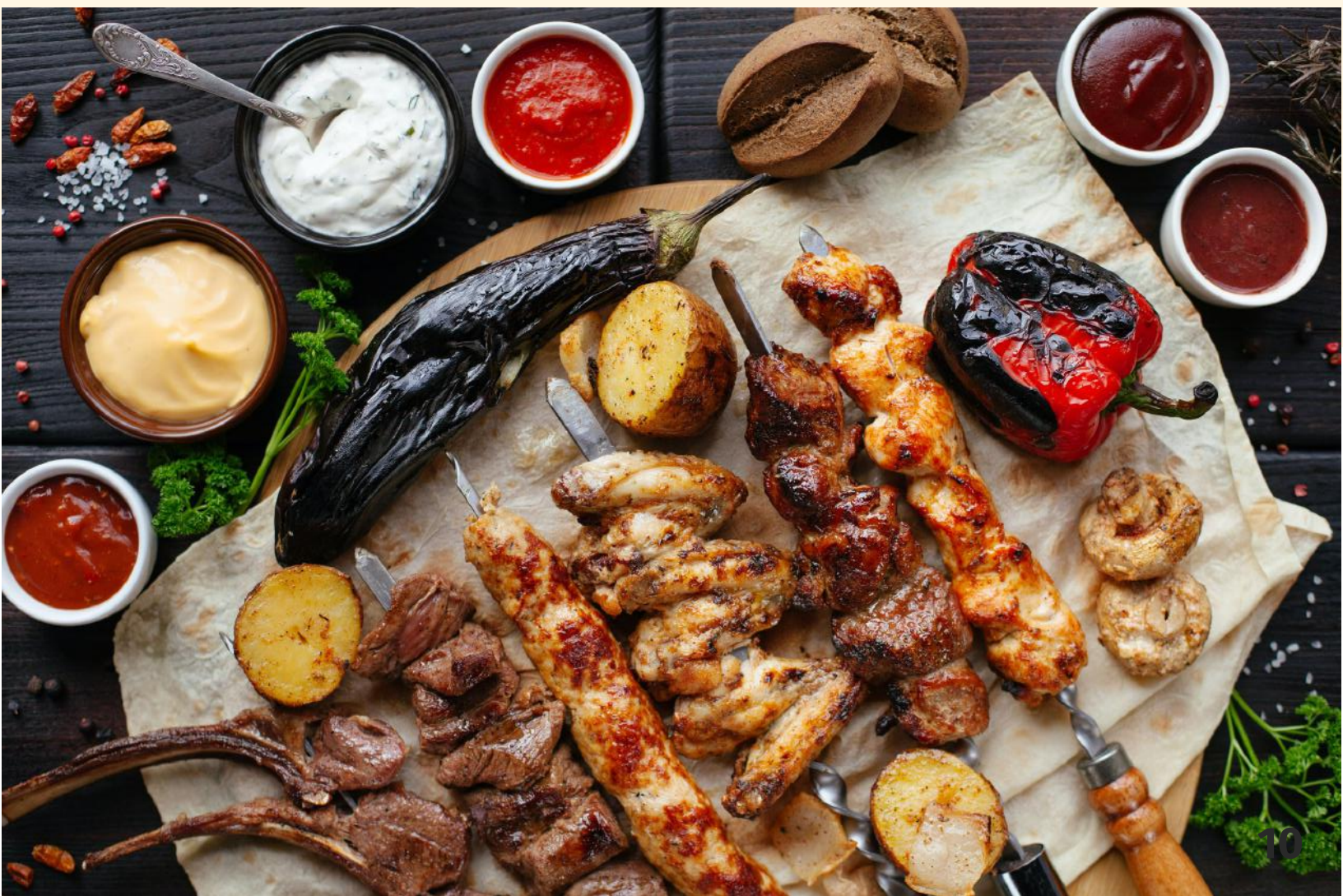
Google the foods in this category and you'll find conflicting results. Half the sites tout their health benefits and the other half warn you away. The solution? Eat in moderation. Life is full of things that are good in low doses but harmful in excess.

Chicken & Poultry

Eggs

Lean red meat

Dairy





Dairy

Milk, yogurt, and cheese are all good in moderation

Brain super-foods: Yogurt *with* probiotics and *without* artificial flavorings.

Healthier cheeses include feta, mozzarella, ricotta, cottage cheese, parmesan, swiss, goat, blue, and cheddar.

Less brain-friendly: Avoid processed cheeses like American and Velveeta.

Most nutritionists don't recommend low-fat options, but creamy cheeses like brie and camembert are too high in saturated fats.

Max daily servings: ¼-½ cup/day



Eggs

The nutrients in eggs have unique antidepressant effects: Vitamin D, choline, PEA, and omega-3 fatty acids.

Brain super-foods: *Free range* or *cage free* eggs enriched with omega-3s.

Cook in extra virgin olive oil and eat them on whole grain bread.

Warning: Limit to 3 egg yolks per week if you have diabetes, high cholesterol, or heart disease

Max weekly servings: 6 eggs per week



Chicken & Lean Meat

Meat supplies essential nutrients like iron, zinc, magnesium, choline, and B vitamins. Small doses will get the brain what it needs, but too much meat clogs the arteries and saturates the brain with depressing inflammation.

Brain super-foods: With red meat, choose only the lean cuts like roast beef, 95% lean ground chunk, bison, buffalo, ostrich, and beef cuts labeled "loin" or "round" like pork loin. For chicken, duck, and poultry, any type will do.

Less brain-friendly: Sorry, you'll want to avoid fried chicken, bacon, and processed deli meats. Your brain will thank you.

Cooking tips: Free range and hormone free are ideal if affordable. Trim off saturated fats by removing the skin from poultry (when roasting, take off the skin after cooking so the meat stays moist). With red meat, you can reduce glycation toxins by cooking at a low temperature and marinate in lemon or vinegar for an hour.

Max servings: 1 serving a day of either. Mix those 7 servings up throughout the week so half is red meat and the other half poultry. For chicken, 1 serving = a breast or a leg and a thigh. For red meat, 1 serving = 3-4 ounces cooked.

Burger & Fries

For an antidepressant version of this popular meal, grill it at home in extra virgin olive oil. Use a lean meat like 95% ground chunk, bison, or ostrich. As a bonus, blend finely chopped vegetables like onions, carrots, or bell peppers in with the meat, or swap the meat for a grilled filet of fish.

Top with your favorite vegetables: lettuce, tomato, onion, pickles, spinach, arugula, or bell peppers. Place on a 100% whole wheat bun (*Dave's* and *Arnold's* brands score high in taste-tests). Mustard is fine, but best to hold the ketchup and mayo, or spread a little smashed avocado.

For healthy french fries, roast sliced potatoes in the oven at 450° with a thin coating of olive oil for around 20 minutes (the time depends on how thick you cut them and how crispy you like them). Healthy bonus: sweet potatoes.



Vegetarian Options

This may be a plant-based diet, but the antidepressant approach includes a few animal products. Why? Vegetarian diets are linked to depression, probably because meat is a unique source of essential ingredients for the brain like iron, vitamin D, B-vitamins, choline, and omega-3's.

Vegetarians and vegans can still benefit from this approach. Look for products that are fortified with vitamins, and consult with your physician about whether a supplement would help.

One supplement with strong brain benefits is omega-3 fatty acid. You need to get the right dose and formulation for this to work (check moodtreatmentcenter.com/products for dosing and shopping information). Unfortunately, only seafood based-products derived from seafood have the right ingredients (high in omega-3 EPA).

Eat Less

Foods to shy away from

Most of these foods were invented in the past century, and our bodies have not yet caught up. They are OK in small amounts. The liver will clean some of the unfamiliar chemicals out, but eating too much will overload that protective filter.

Eat no more than 3 small servings a week of these foods (small = 120 calories). That's 3 per week for all these foods, not 3 for each category. A can of coke, a small bag of chips from the vending machine, and a half-slice of cake will max you out.

Fried & fast foods

Processed foods

Sodas

Sweets

Simple carbs

Refined flour

Bacon & sausage

Deli meats

Condiments





Fried & fast foods

Healthier options: Cook at home. A whole grain pizza loaded with veggies, or the burger & fries on page 13. Stuck at a fast food restaurant? Order grilled chicken, salad, or stuff a "build your own" item with veggies at Subway, Chipotle, or Five Guys.



Sweets, sodas, & refined grains

Healthier options: Dark chocolate. Deserts with nuts, fruits, and whole grains. Nut bars like Kind, Rx, and Kashi. Baked pears sprinkled with cinnamon and cocoa nibs. Frozen grapes. Swap sodas for iced tea or sparkling water. Swap refined grains for whole grains.

Warning: Artificial sugars are linked to depression and shrinkage in the hippocampus (memory center). Instead, opt for natural sugar substitutes like xylitol, which has a 10-fold lower glycemic index than regular sugar.



Processed foods

Most packaged, shelf-stable foods are processed. The chemicals on the ingredient panel are like experimental medications, and from what we know the experiment is not going well. They are linked to poor brain health, ADHD, weight gain, heart disease, cancer, and early death.

Healthier options: Products that are low in salts, added sugars, and have the fewest unfamiliar chemicals on their list. Scan the bar code with the free OpenFoodFacts app to get a quick read on how risky it is.



Bacon & Deli Meats

Bacon, hot dogs, sausage, pepperoni, bologan and most deli meats are full of saturated fats and chemicals like nitrates that contribute to depression.

Healthier options: Prosciutto, chicken and turkey are among the healthier deli options; hot dogs the least.



Condiments

They may be everyday staples, but condiments have all the side effects of processed foods. Butter, margarine, jelly, ketchup, mayonnaise, barbecue sauce, and creamy, shelf-stable salad dressings.

Healthier options: extra virgin olive oil, mustard, smashed avocado (instead of mayo), pesto, tahini, guacamole, hot sauce, vinegar. Refrigerated options usually have fewer preservatives.

Healthy Fats for Sugar Cravings

Sugar cravings are intense, but they usually go away within 1-2 weeks if you cut out added sugars entirely. Artificial sweeteners are worse for the brain, but healthy fats lessen those cravings, like...

Nuts, seeds, coconut, olives, hummus, yogurt, avocado, oily fish like salmon, tofu, extra virgin olive oil








Alcohol

Alcohol has some health benefits, but only in small amounts. Going beyond the recommended dose damages the hippocampus (memory center) and raises the risk of cancer and heart disease. In men, excess alcohol raises estrogen and lowers testosterone, causing breast enlargement and impotence.

Just like with medication, the ideal dose of this drug is different for everyone. For the average male, no more than 1.5 standard drinks a day. Women metabolize alcohol differently and need to drink less, like 1 standard drink every other day. Some people need to avoid alcohol completely. Consult with your physician before drinking if you have a history of substance abuse; are taking medications like benzodiazepines, sedatives, or opioids; are over age 60; or have health problems.

Healthier options: Red wine is the best of the bunch, but it still does some good and does some harm. Drink 3 glasses of water with every alcoholic drink.

Standard Drink

8–9 oz. of malt liquor	12 oz. of beer or cooler	5 oz. of table wine	3–4 oz. of fortified wine	2–3 oz. of cordial, liqueur, or aperitif	1.5 oz. of brandy	1.5 oz. of 80-proof spirits
						
8.5 oz.	12 oz.	5 oz.	3.5 oz.	2.5 oz.	1.5 oz.	1.5 oz.



Enjoy!

There's a paradox to this diet. Even though it has no caloric limits, Mediterranean approaches like this cause more weight loss over the long term than calorie counting diets. The reason sheds some light on how it treats depression.

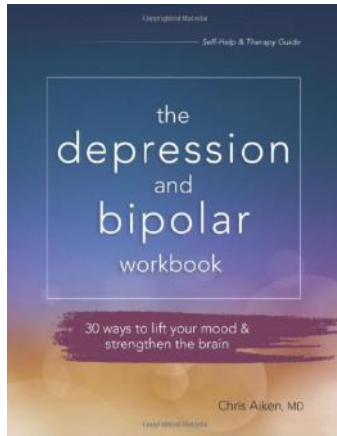
Calorie counting is stressful, and stress causes weight gain. You're always worrying about whether you ate the right amount. The way that stress causes weight gain is similar to how stress causes depression. Stress disrupts the neurohormones that run metabolism, sleep, and mood. Those hormones like cortisol, insulin, and epinephrine make up the mind-gut connection, and this diet balances them.

The antidepressant diet should be challenging enough to keep you focused, but not so challenging that it makes you feel stressed, guilt-ridden, or demoralized. If it starts to feel that way, turn it down a notch and go slower with the changes.

Start with foods you enjoy and build from there at your own pace. Think about how the food you eat will make you feel 2-3 hours later, rather than how it tastes on your tongue. You'll discover wonderful flavors in this diet, but they won't hit you with the addictive punch that salt, sugar, and chemical additives have. Eat slowly, savor the flavors, and - if you're up for it - enjoy a meal with supportive friends.

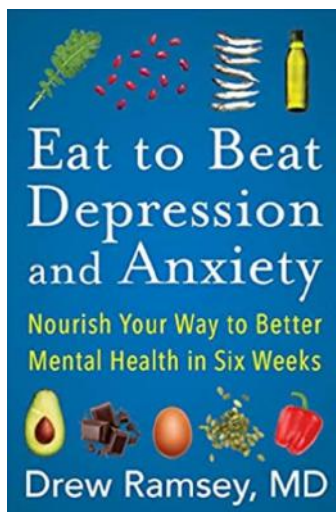


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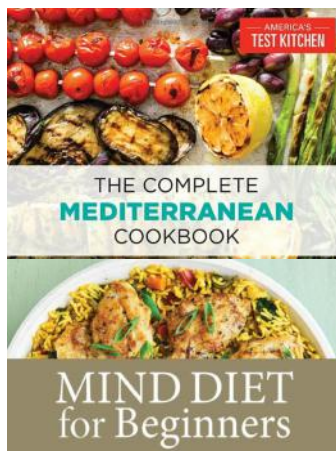
The Depression and Bipolar Workbook

The antidepressant diet is just one of the 30 simple lifestyle changes that change the brain and lift depression in Dr. Aiken's 2021 book.



Eat to Beat Depression and Anxiety

Drew Ramsey is a psychiatrist who specializes in nutritional approaches, and he delivers compassionate advice to help people weave these changes into their lives.



Cookbooks

America's Test Kitchen has two Mediterranean Cookbooks. Run by *Cook's Illustrated*, they test all their recipes to bring out the best techniques. Any book on the MIND DIET will work. This diet was developed to prevent dementia (which it did) and is very similar to the antidepressant diet.

The Science

Clinical trials of the antidepressant diet

1. Jacka FN, O'Neil A, Opie R, et al. A randomised controlled trial of dietary improvement for adults with major depression (the 'SMILES' trial). *BMC Med.* 2017 Jan 30;15(1):23.
2. Chatterton ML, Mihalopoulos C, O'Neil A, et al. Economic evaluation of a dietary intervention for adults with major depression (the "SMILES" trial). *BMC Public Health.* 2018 May 22;18(1):599.
3. Parletta N, Zarnowiecki D, Cho J, et al. A Mediterranean-style dietary intervention supplemented with fish oil improves diet quality and mental health in people with depression: A randomized controlled trial (HELFIMED). *Nutr Neurosci.* 2019 Jul;22(7):474-487.
4. Francis HM, Stevenson RJ, Chambers JR, et al. A brief diet intervention can reduce symptoms of depression in young adults - A randomised controlled trial. *PLoS One.* 2019 Oct 9;14(10):e0222768.
5. Bayes J, Schloss J, Sibbritt D. The effect of a Mediterranean diet on the symptoms of depression in young males (the "AMMEND: A Mediterranean Diet in MEN with Depression" study): a randomized controlled trial. *Am J Clin Nutr.* 2022 Aug 4;116(2):572-580.

Studies of specific foods

1. Aiken C, The Mighty Blueberry, *Psychiatric Times*, April 12, 2021
2. Aiken C, Almonds May Lift Depression in Diabetes, *Psychiatric Times*, May 19, 2021
3. Jackson SE, Smith L, Firth J, et al. Is there a relationship between chocolate consumption and symptoms of depression? A cross-sectional survey of 13,626 US adults. *Depress Anxiety.* 2019 Oct;36(10):987-995.
4. Grosso G, Micek A, Castellano S, et al. Coffee, tea, caffeine and risk of depression: A systematic review and dose-response meta-analysis of observational studies. *Mol Nutr Food Res.* 2016 Jan;60(1):223-34.
6. Hirashima F, Parow AM, Stoll AL, et al. Omega-3 fatty acid treatment and T(2) whole brain relaxation times in bipolar disorder. *Am J Psychiatry.* 2004 Oct;161(10):1922-4.

Weight loss with the Mediterranean approach

1. Estruch R, Martínez-González MA, Corella D, et al. Effect of a high-fat Mediterranean diet on bodyweight and waist circumference: a prespecified secondary outcomes analysis of the PREDIMED randomised controlled trial. *Lancet Diabetes Endocrinol.* 2019 May;7(5):e6-e17
2. Shai I, Schwarzfuchs D, Henkin Y, et al. Dietary Intervention Randomized Controlled Trial (DIRECT) Group. Weight loss with a low-carbohydrate, Mediterranean, or low-fat diet. *N Engl J Med.* 2008 Jul 17;359(3):229-41.