

# Anti-Inflammatory Diet



THE OHIO STATE UNIVERSITY

WEXNER MEDICAL CENTER

An anti-inflammatory diet is a **plant-based diet**, which also:

- Limits added sugar.
- Limits processed foods.
- Avoids cooking methods that can cause inflammation.

## Use your diet to decrease inflammation

### Eat

- **Whole plant foods**, which provide antioxidants to prevent or reduce inflammation in your body:
  - › Vegetables
  - › Fruit
  - › Whole grains
  - › Beans and lentils
  - › Nuts and seeds
  - › Herbs and spices
  - › Extra virgin olive oil
  - › Tea, ideally green tea
  - › Coffee
- **Mushrooms (cooked)**, such as white button, crimini, shiitake, enoki, maitake, and oyster mushrooms.
- **Foods high in omega-3 fats:**
  - › Walnuts
  - › Ground flax seeds
  - › Salmon
  - › Mackerel
  - › Anchovies
  - › Sardines
  - › Herring



### Avoid

- **Fried foods.**
- **Charred grilled meat.**
- **Too much added sugar.**

The American Heart Association (AHA) recommends no more than 100 calories or about 6 teaspoons (25 grams) of added sugar per day for women and 150 calories or about 9 teaspoons (38 grams) for men. For example, a 12-ounce can of regular Coke has 39 grams of total sugar or about 9 ⅓ teaspoons!

## Avoid (continued)

- **Too much animal protein.**

Limit to 6 to 8 ounces by cooked weight per day and choose lean meat, such as skinless chicken and turkey, ground beef (90% lean/10% fat), fish and shellfish, and pork loin.

- **Processed foods**, which are foods changed from their natural forms.

Eat foods closer to their natural form for more nutrients and fewer calories. For example, choose a plain baked potato over potato chips.

Processed foods often have a long list of unfamiliar ingredients on their food labels and include ingredients like enriched white flour and processed fats, such as hydrogenated oils, interesterified oils, monoglycerides, or diglycerides.

- **Overeating.**

To prevent overeating, eat at regular intervals. Eat 3 meals and 1 or 2 snacks a day.

- **Too much oil that is high in omega-6 fatty acids**, such as soybean, cottonseed, and corn oils

## Follow these cooking methods

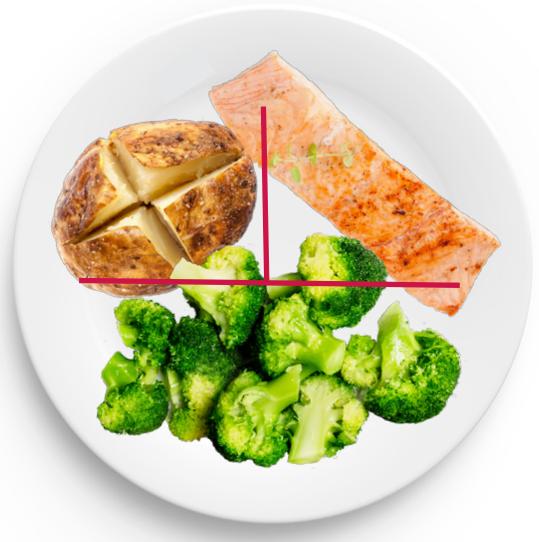
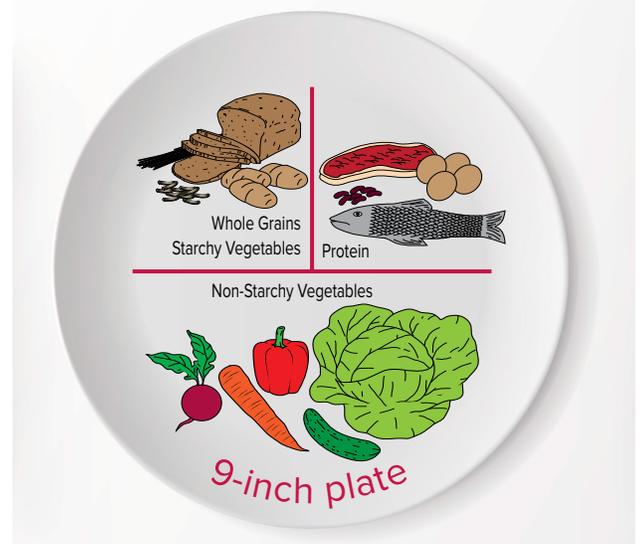
- Cook, stir-fry, or sauté meats and vegetables in broth or water instead of oil to avoid production of inflammatory compounds during the cooking process.
- If oil is used, keep heat to medium to prevent smoking. Do not heat oil or fat too hot, such as deep frying foods.
- Marinate meats in olive oil and sprinkle with spices and herbs before grilling. Grill with lower heat and turn often to prevent charring.

## Putting it all together

1. Use the 'plate method' to help you build an anti-inflammatory meal and see pages 5-6 for some meal makeover ideas.

Use a 9-inch plate at meals:

- Fill half ( $\frac{1}{2}$ ) of your plate with **non-starchy vegetables**. Aim for at least 5 servings each day. Choose a variety of colors and include cruciferous vegetables, like broccoli, cabbage, cauliflower, and Brussels sprouts, and green leafy vegetables each day.
- Fill one-quarter ( $\frac{1}{4}$ ) of your plate with **whole grains or starchy vegetables**. Choose a variety and avoid enriched white products, like white bread and white rice.



- Fill one-quarter (¼) of your plate with animal or plant **protein**. Choose lean animal protein rather than high fat or processed meats. Include plant protein daily, such as beans, lentils, nuts, seeds, tofu or tempeh.
2. For dessert, choose fresh seasonal fruit. Aim for 2 to 4 servings of fruit each day.
  3. Limit dairy products. Eat 1 to 2 servings per day. Probiotic sources, such as kefir and yogurt are preferred. Choose products with no additives, such as added sugar.
  4. Include healthy fats each day, such as nuts, seeds, avocado, and olive oil. Use extra virgin olive oil as your main cooking and salad oil. Remember to use lower heat to prevent smoking or use broth or water when sautéing.
  5. Use herbs and spices each day.
  6. For beverages, drink mostly water. Drink tea each day, ideally green tea. Limit alcohol. Avoid sugary drinks.

## Cooking and eating habits

- Take time to prepare meals rather than buying processed or pre-made foods. Think of this time as an investment in your health.
- Eat slowly, thoughtfully, and mindfully – rather than rushed, emotional, or distracted.

## Resources for anti-inflammatory recipes

- The World's Healthiest Foods, [www.whfoods.com](http://www.whfoods.com)
- Eating Well, [www.eatingwell.com/recipes/17896/lifestyle-diets/clean-eating/](http://www.eatingwell.com/recipes/17896/lifestyle-diets/clean-eating/)
- Clean Eating, [www.cleaneatingmag.com](http://www.cleaneatingmag.com)

## More about antioxidants

Antioxidants come from three sources: vitamins, minerals, and phytonutrients, also called phytochemicals.

### Vitamins

Vitamins	Food Sources
Vitamin C	Fruits, such as papaya, strawberries, pineapple, oranges, kiwi, and cantaloupe Vegetables, such as bell peppers, broccoli, Brussels sprouts, and cauliflower
Vitamin E	Nuts and seeds, such as sunflower seeds, almonds, and peanuts Fruit, such as avocado Vegetables, such as spinach, Swiss chard, mustard greens, turnip greens, beet greens, asparagus

## Minerals

Minerals	Food Sources
Selenium	Animal foods, such as seafood and other animal proteins Plant foods, such as whole grains, mushrooms, and Brazil nuts
Zinc	Animal foods, such as beef, lamb, turkey, and shrimp Plant foods, such as sesame seeds, pumpkin seeds, lentils, garbanzo beans, cashews, and quinoa
Copper	Plant foods, such as nuts, seeds, beans, lentils, and mushrooms
Manganese	Plant foods, such as whole grains, beans, seeds, and spinach

## Phytonutrients, also called phytochemicals

- They are chemical compounds found in plants.
- They give plants their color, odor, and flavor.
- Thousands have been identified so far. They show promise in decreasing inflammation and preventing disease.
- They are found in all plant foods, including vegetables, fruits, whole grains, beans, lentils, nuts, seeds, olive oil, tea, and coffee.

Color	Phytonutrient	Food Sources
Red	Anthocyanins	Red berries, cherries, apples with skin, beets, cabbage, kidney beans, adzuki beans, (also onion)
	Ellagic acid	Pomegranate, (also green tea, walnuts, pecans)
	Lycopene	Tomatoes, watermelon, pink grapefruit, guava
Orange	Carotenoids, such as beta-carotene	Carrots, pumpkin, winter squash, sweet potato, mango, papaya, cantaloupe, oranges
	Flavonoids/ polyphenols, such as curcumin, naringenin	Turmeric, citrus fruit
Yellow	Carotenoids, such as lutein and zeaxanthin	Corn, orange pepper, oranges, honeydew melon, mango, summer squash, winter squash, pumpkin, (also green leafy vegetables, peas, Brussels sprouts, broccoli)

Green	Glucosinolates, such as isothiocyanates, sulforaphane, indole-3-carbinol	Cruciferous vegetables (brassica family), which includes broccoli, Brussels sprouts, bok choy, cabbage, collard greens, horseradish, kale, kohlrabi, mustard greens, Swiss chard, watercress, (also cauliflower, radishes, rutabaga, turnips)
	Chlorophyll	Any green vegetable, herbs
	Isoflavones, such as daidzein, genistein	Edamame (soybeans), (also soybean products such as soy milk, tofu, tempeh)
	Phytosterols	Olive oil
	Catechins, such as EGCG	Green tea
Blue/Purple/Black	Anthocyanins	Blueberries, blackberries, figs, grapes, prunes, eggplant, plums
	Resveratrol	Grapes, red wine, dark chocolate, blueberries, (also peanuts with skin)
White/Tan/Brown	Allicin	Garlic, onions, leeks, chives
	Lignans	Ground flax seeds, other seeds, nuts
	Chlorogenic acid	Coffee, tea

### A note about antioxidant supplements

Some research has shown that taking antioxidant supplements can be harmful, such as taking more than the recommended daily allowance (RDA) of beta-carotene or vitamin E. Antioxidant supplements may also interact with some medicines. To be safe, **talk to your healthcare provider before you start any supplements.**

## Anti-inflammatory meal makeovers

Breakfast	
Meal before makeover	Anti-inflammatory meal makeover
<ul style="list-style-type: none"> <li>• 2 packs maple and brown sugar oatmeal, topped with whole milk</li> <li>• 12 ounces orange juice</li> <li>• Coffee with powdered creamer and 2 packs of sugar</li> </ul>	<ul style="list-style-type: none"> <li>• ½ to 1 cup cooked old-fashioned or steel-cut oats, topped with unsweetened soy milk, cinnamon, 1 tablespoon ground flax seeds, and 2 tablespoons chopped pecans</li> <li>• 1 cup mixed berries with 1 to 2 tablespoons of plain Greek yogurt</li> <li>• Black coffee</li> </ul>

<b>Lunch</b>	
<b>Meal before makeover</b>	<b>Anti-inflammatory meal makeover</b>
<ul style="list-style-type: none"> <li>• Salad made with iceberg lettuce, tomatoes, cucumber, bacon bits, croutons, and ranch dressing</li> <li>• Sandwich made with salami, provolone, mayonnaise, and white bread</li> <li>• Potato chips</li> <li>• Soda</li> </ul>	<ul style="list-style-type: none"> <li>• Salad made with spinach and kale, tomatoes, cucumber, radish, garbanzo beans, 1 tablespoon pumpkin seeds, homemade dressing (olive oil, lemon juice, turmeric, ginger)</li> <li>• Sandwich made with 2 ounces roast beef, lettuce leaf, onion, mustard, and sprouted grain bread</li> <li>• Apple</li> <li>• Water</li> </ul>

<b>Dinner</b>	
<b>Meal before makeover</b>	<b>Anti-inflammatory meal makeover</b>
<ul style="list-style-type: none"> <li>• Homemade chili made with 1 pound ground beef (80% lean/20% fat) and 1 can kidney beans, topped with corn chips and sour cream</li> <li>• Cornbread</li> <li>• Sweet tea</li> </ul>	<ul style="list-style-type: none"> <li>• Homemade chili made with ½ pound ground beef (90% lean/10% fat) and 2 cans beans, topped with avocado slices and green onions</li> <li>• Roasted vegetables with olive oil and marjoram</li> <li>• Orange</li> <li>• Water</li> </ul>

---

**Talk to your doctor or health care team if you have any questions about your care.**

For more health information, contact the Library for Health Information at **614-293-3707** or e-mail **health-info@osu.edu**.