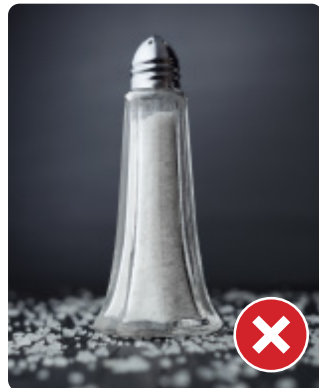


EATING RIGHT WITH LUPUS

A healthy diet improves overall health and helps manage symptoms associated with lupus.

Eating a balanced diet high in fresh fruits and vegetables, whole grains and lean sources of protein is an important part of maintaining everyday health. If you have lupus or another autoimmune condition, a healthy diet can be a powerful tool for managing symptoms. In fact, foods with a higher nutritional value improve healthy bacteria in the gut, which helps combat autoimmune diseases.¹

While there's no specific "lupus diet," working with your doctor or a nutritionist to develop and follow a diet can improve your chances of remission of lupus, lower the risk of lupus-related complications and keep you feeling great.²



FIND THE RIGHT FOODS

If you're interested in changing your diet, starting small is the way to go. Even setting small goals can have a large impact over time.

The Lupus Foundation of America offers the following dietary suggestions:^{2,3}

- **Antioxidants all the way.** Antioxidant-rich foods, such as prunes, raisins, blueberries and beets, might help lupus patients prevent cellular damage caused by environmental pollutants.³
- **Don't pass the salt!** Cut down on sodium to prevent high blood pressure, heart attack and stroke. Flavor foods with fresh herbs or spices and avoid processed foods.
- **Opt for foods with calcium and omega-3 fatty acids.** Lupus increases your risk for heart disease and osteoporosis. Calcium-rich foods, such as leafy greens and low-fat dairy, and foods high in omega-3 fatty acids, such as fatty fish, nuts and seeds, can boost bone and heart health.

For more patient resources, visit www.AviseTest.com/patient/resources.

HEALTHY EATING: HOW TO GET STARTED

Food plays a crucial role in managing lupus symptoms. Knowing which nutrients your body needs is the first step in taking control of your health.

You may have heard the saying, “Eat the rainbow.” For people with lupus, that’s good advice to follow. A colorful diet with a healthy mix of foods helps your body fight inflammation and combat the effects of lupus.¹

FIGHT INFLAMMATION

People with lupus often have chronic inflammation.⁴ Omega-3 fatty acids are a polyunsaturated fat found in fish, nuts and seeds that may reduce inflammation. Both farmed and wild-caught salmon and other fatty fish are good sources of omega-3s.

Fewer lupus-related antibodies usually lead to a decrease in inflammation. Vitamin C may decrease inflammation, lower antibody levels and help prevent heart issues.¹

Cayenne, ginger and turmeric are tasty spices with anti-inflammatory properties.

Additional foods that have been found to decrease lupus symptoms in some people include:¹

- **Avocados**
- **Bananas**
- **Carrots**
- **Eggs**
- **Sweet potatoes**

FOODS FOR GUT HEALTH

Maintaining a healthy gut microbiome can decrease inflammation and help your body get nutrients from your food. Probiotics exist naturally in yogurt and other fermented foods,⁵ but you can also ask your doctor if probiotic supplements can help.

Found in fruits, whole grains and vegetables, dietary fiber feeds probiotics in your gut and may help rid your body of unhealthy cholesterol and triglycerides.^{2,5}

VITAMINS AND MINERALS

Fruits and vegetables, such as beets, blueberries and red bell peppers, are excellent sources of antioxidants. These compounds promote healthy cells and prevent free radical damage.

Vitamin D is essential for supporting healthy bones and regulating the immune system, but people with lupus often have a vitamin D deficiency. To combat this, ask your doctor whether you should take a nutritional supplement and eat foods rich in or fortified with vitamin D, such as fish and orange juice.³

Corticosteroids reduce inflammation and decrease the immune response. However, they can also lead to low calcium levels and osteoporosis.³ If you take corticosteroids to manage lupus, eat low-fat dairy products and leafy greens, both of which are good sources of calcium.

LISTEN TO YOUR BODY WITH REGULAR MONITORING

Every body is different. Along with keeping a food log and having regular visits with your doctor to track symptoms, it’s important to get tested quarterly to manage your lupus. The AVISE SLE Monitor test helps manage symptoms, track flares and gauge whether your treatment plan is working, all of which can protect your organs from long-term damage.

Learn more about the AVISE SLE Monitor test at www.AviseTest.com/patient/sle.

SAMPLE DAILY MENU FOR MANAGING LUPUS



BREAKFAST

Overnight blueberry muesli⁶



MORNING SNACK

Banana with low-sodium, low-sugar peanut butter



LUNCH

Pear salad with walnuts⁷



AFTERNOON SNACK

Avocado toast on whole-grain bread



DINNER

Broccoli, brown rice and white bean skillet meal⁸

WHAT NOT TO EAT WITH LUPUS

Some foods and supplements that are healthy for most people can trigger symptoms and cause problems for people with lupus. Knowing which foods and supplements to avoid can help you stay healthy and keep symptoms under control.

BE CAREFUL WITH FATS, SALT AND SUGAR

Lupus and some medications used to treat it may cause an increased risk of heart disease and high blood pressure, also called hypertension. Additionally, the risk of diabetes and high cholesterol can increase with the use of corticosteroids.³

Eating salt, sugar and saturated fat can compound these problems. Opt for healthy fats, such as those in avocados and olive oil, to help prevent these health concerns and lupus symptom flare-ups.⁴

Instead of salt, enhance the flavor of your foods with herbs and spices.

Avoid high-sugar drinks and foods.² More than half of people with lupus have kidney issues.⁹ Take care of your kidneys by drinking plenty of water.³ Add flavor to water with low-sugar, high-flavor options, such as basil, cucumber and lime.

FOODS THAT INCREASE LUPUS SYMPTOMS

Foods that are healthy for most people may stimulate an overactive immune system, leading to worsening lupus symptoms. These include:^{1,3,10}

- Alfalfa seeds and sprouts
- Elderberries
- Garlic



SUPPLEMENTS AND LUPUS

Getting your nutrients from food is usually best for people with lupus. Supplements can change the effectiveness of medications, impair liver function or increase symptoms by revving up your immune system.³

Supplements with alfalfa, echinacea, elderberry, garlic or zinc may increase lupus symptoms.^{1,3,10}

Getting too much vitamin E and potassium may cause problems with your cardiovascular system.³

However, not all supplements are harmful to people with lupus. You may need a calcium or vitamin D supplement.^{3,11} Talk with your provider about how to get the right amount of nutrients to manage your symptoms.

WHAT YOU EAT MAY AFFECT YOUR MEDICATION

Certain foods and supplements can change how lupus medications work, making them less effective or raising their strength to dangerous levels.^{12,13}

BLOOD THINNERS

Blood thinners, also known as anticoagulants, are medications that prevent blood clots and are often prescribed to people with lupus. Their effectiveness may be impacted by:^{2,12,13}

- Alcohol
- The amount of vitamin K-rich foods you eat, such as kale or spinach
- Garlic
- High dose of vitamin E
- Pineapple juice

CORTICOSTEROIDS

These medications lower inflammation. If you take corticosteroids, you may need to avoid:¹²

- Licorice
- Senna

IMMUNOSUPPRESSANTS

Immunosuppressants help prevent your immune system from attacking healthy cells and tissue. They may be affected by:¹²

- Echinacea
- Elderberry
- Grapefruit juice
- St. John's wort

NONSTEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDS)

NSAIDs are typically prescribed to address pain and reduce inflammation. The effectiveness of these medications may be altered by:¹²

- Alcohol
- Caffeine
- Pineapple juice

Talk with your provider about how drinks, food and supplements may affect your medication.

DELICIOUS, LUPUS-FRIENDLY RECIPES

Eating well with lupus doesn't need to be boring or complicated. Cooking new recipes can be fun. Plus, eating the right foods for your body can help you feel better and have more energy. Here are a couple simple, tasty recipes to get you started.

AVOCADO BREAKFAST BRUSCHETTA¹⁴

Makes 4 servings

Ingredients

- 1 ripe avocado
- 2 medium tomatoes
- 1 green onion
- ½ cup chopped fresh basil, divided
- 4 hard-boiled eggs
- 12 slices of whole-wheat baguette bread
- ¼ cup ricotta cheese (reduced-fat)
- cracked black pepper to taste

DIRECTIONS

1. Dice avocado, tomatoes and green onions.
2. Peel and chop hard-boiled eggs.
3. Set aside 2 tablespoons basil for garnish. Gently toss the first five ingredients in a small bowl. Add pepper to taste.
4. Toast baguette slices and smear with ricotta cheese.
5. Top with avocado mixture and garnish with reserved basil.

Recipe courtesy of U.S. Department of Agriculture

OVEN-BAKED SALMON WITH SNOW PEAS¹⁵

Makes 4 servings

Ingredients

- 3 leeks, finely chopped (white parts only)
- 2 carrots, peeled and cut into thin matchsticks
- ½ pounds snow peas (fresh or frozen)
- 4 salmon fillets (4 ounces each)
- 2 teaspoons grated fresh ginger
- 2 tablespoons rice vinegar
- 3 teaspoons sesame oil, divided
- 1 (6 ounce) bag of baby spinach leaves
- 1 tablespoon fresh lemon juice
- 1 lemon, cut into quarters (for garnish)

DIRECTIONS

1. Preheat the oven to 450 F.
2. Tear off four large 18-by-12 inch sheets of heavy-duty aluminum foil and lay each piece on your workspace.
3. Divide the leeks, carrots and snow peas into four equal portions and place a mixture of each onto each sheet of foil.
4. Top each mound of vegetables with a piece of salmon.
5. Sprinkle ½ teaspoon of ginger on each piece of fish and drizzle each with ½ tablespoon of vinegar and ¼ teaspoon of sesame oil.
6. Fold the foil to form a "packet" around each piece of fish, leaving enough room for heat to circulate. Roll the edges to seal tightly.
7. Place the packets on a cookie sheet and bake for 20 minutes or until the fish flakes easily with a fork.
8. Meanwhile, place the spinach leaves in a microwave-safe bowl or platter.
9. Drizzle the greens with fresh lemon juice and the remaining 2 teaspoons of sesame oil.
10. Heat the spinach in the microwave at high power for 3 minutes, checking every minute to make sure the spinach is tender but not overcooked.
11. Divide the greens equally among four plates.
12. When the salmon is cooked, open the packets carefully to allow the steam to escape.
13. Empty each packet onto each of the beds of spinach.
14. Garnish each plate with a lemon wedge and serve.

Recipe courtesy of Produce for Better Health Foundation

Learn more ways to live well with lupus at www.Avisetest.com/patient/resources.

References

- 1) Constantin MM, Nita IE, Olteanu R, et al. Significance and impact of dietary factors on systemic lupus erythematosus pathogenesis. *Exp Ther Med*. 2019;17(2):1085-1090. doi: 10.3892/etm.2018.6986. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6327661/>. Accessed September 15, 2022.
- 2) Lupus Foundation of America. Eating Healthy When You Have Lupus. *Lupus.org*. Updated May 23, 2022. <https://www.lupus.org/resources/diet-and-nutrition-with-lupus>. Accessed September 15, 2022.
- 3) Lupus Foundation of America. Lupus Nutrition FAQs. *Lupus.org*. Date unknown. <https://www.lupus.org/resources/lupus-nutrition-faqs>. Accessed September 15, 2022.
- 4) Mazzucca CB, Raineri D, Cappellano G, Chiocchetti A. How to tackle the relationship between autoimmune diseases and diet: Well begun is half-done. *Nutrients*. 2021;13(11):3956. doi:10.3390/nu13113956. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8620243/>. Accessed September 16, 2022.
- 5) National Institutes of Health. Probiotics: What You Need to Know. National Center for Complementary and Integrative Health. Updated August 2019. <https://www.nccih.nih.gov/health/probiotics-what-you-need-to-know>. Accessed September 16, 2022.
- 6) U.S. Department of Agriculture. Very Berry Muesli. *MyPlate*. Date unknown. <https://www.myplate.gov/recipes/supplemental-nutrition-assistance-program-snap/very-berry-muesli>. Accessed September 16, 2022.
- 7) U.S. Department of Agriculture. Pear Salad. *MyPlate*. Date unknown. <https://www.myplate.gov/recipes/myplate-cnpp/pear-salad>. Accessed September 16, 2022.
- 8) U.S. Department of Agriculture. Skillet Meals. *MyPlate*. Date unknown. <https://www.myplate.gov/recipes/supplemental-nutrition-assistance-program-snap/skillet-meals>. Accessed September 16, 2022.
- 9) Lupus Foundation of America. What Is Lupus Nephritis? *Lupus.org*. Reviewed December 23, 2020. <https://www.lupus.org/resources/what-is-lupus-nephritis>. Accessed September 16, 2022.
- 10) Arreola R, Quintero-Fabian S, Lopez-Roa RI, et al. Immunomodulation and anti-inflammatory effects of garlic compounds. *J Immunol Res*. 2015;401630. doi:10.1155/2015/401630. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4417560/>. Accessed September 16, 2022.
- 11) Arthritis Foundation. Corticosteroids. *Arthritis.org*. Date unknown. <https://www.arthritis.org/drug-guide/corticosteroids/corticosteroids>. Accessed September 16, 2022.
- 12) D'Alessandro C, Benedetti A, Di Paolo A, Giannese D, Cupisti A. Interactions between food and drugs, and nutritional status in renal patients: A narrative review. *Nutrients*. 2022;14(1):212. doi:10.3390/nu14010212. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8747252/>. Accessed September 16, 2022.
- 13) Lupus Foundation of America. Medications Used to Treat Lupus. *Lupus.org*. Reviewed July 23, 2021. <https://www.lupus.org/resources/medications-used-to-treat-lupus>. Accessed September 16, 2022.
- 14) U.S. Department of Agriculture. Avocado Breakfast Bruschetta. *MyPlate*. Date unknown. <https://www.myplate.gov/recipes/myplate-cnpp/avocado-breakfast-bruschetta>. Accessed September 16, 2022.
- 15) Produce for Better Health Foundation. Oven-Baked Salmon with Snow Peas. *FruitsAndVeggies.org*. Date unknown. <https://fruitsandveggies.org/stories/oven-baked-salmon-with-snow-peas/>. Accessed September 16, 2022.

This publication in no way seeks to serve as a substitute for professional medical care. Consult your physician before undertaking any form of medical treatment or adopting any exercise program or dietary guidelines.

Exagen, AVISE and the Exagen and AVISE logos are registered trademarks of Exagen Inc. © 2022 Exagen Inc. All rights reserved. W1073

Exagen[®]
Patient Focused. Discovery Driven.