



Allergy, Immunology, & Rheumatology  
University of Rochester Medical Center

# IQ LUPUS NEWSLETTER

For the latest lupus news and information

Volume 3, Number 2: Summer 2022

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## Lupus Labs: What Are They and What Do they Mean?

### Anti-Double Stranded DNA (Anti-DSDNA)

Anti-DSDNA test is a specific marker for lupus and measures the amount of antibody in the blood. Normally, antibodies protect against infection, but people with lupus produce autoantibodies that can attack their own cells. A higher anti-dsdna level may indicate active disease or flare in patients with lupus.

### Complements C3 & C4

C3 and C4 tests measure how much of these complement proteins are in the blood. The complement system is activated in our body when a bacteria or virus enters, but lupus autoantibodies can also activate this system. During active disease or flare, we often see these levels go below the normal range.

### Complete Blood Count (CBC)

CBC provides information about the red blood cell (RBC), white blood cell (WBC), and platelet counts, and health of RBCs, all of which may be abnormal in lupus and may need treatment.

#### Lab Level Normal Ranges

Anti-dsdna	0-4 IU/ML
C3	90-180 mg/dl
C4	10-40 mg/dl
WBC	4-10 thou/ul
RBC	3.9-5.2 mil/ul
ESR	0-30 mm/hr
CRP	0-8 mg/L

## Erythrocyte Sedimentation Rate (ESR)

ESR is an indirect indicator of inflammation. A high ESR, if there are no other reasons for it to be high, such as infection, suggests that lupus is active; a low test is reassuring.

## C-Reactive Protein (CRP)

CRP, like the ESR, is an indirect indication of inflammation, but is more specific in the detection of disease activity, since it is not affected by as many variables.

## Urine with Microscopy

Urine tests are ordered frequently to monitor for kidney disease. Components we are looking for in the urine are: bacteria and WBCs (may indicate infection), blood (may indicate kidney disease or stones), and protein (may indicate kidney disease).

## Have You Heard of the Gut Microbiome?

The gut microbiome consists of trillions of different microorganisms living in our small and large intestine. These microorganisms include bacteria, fungi, parasites, and viruses.

Each person has a unique microbiome. As we age, environmental exposures and diet can change one's microbiome to be either beneficial to health, or place one at greater risk for disease. The microbiome is very important to the immune system function.

There is growing evidence that there is a link between the gut microbiome and autoimmune diseases like lupus, however, more research is needed to better understand this relationship.

### How Can You Support Your Gut Health?

- 1. Eat the recommended dietary intake of fiber daily.**  
Women = 25 grams fiber/day  
Men = 38 grams fiber/day  
Most Americans eat about half of the recommended daily amount  
*See picture for some ideas of high fiber foods*
- 2. Eat a variety of fruits and vegetables as they provide fiber, vitamins, and minerals for gut health**
- 3. Get plenty of sleep**
- 4. Exercise often!**
- 5. Quit smoking**

## Vitamins, Supplements, & Lupus

Information and recommendations from current research

Please talk to your doctor before taking any vitamins or supplements as there is a risk for vitamin toxicity (especially with Vitamins A, D, E). It is always best to get vitamins through diet.

### Vitamin D

Vitamin D production is stimulated in our bodies by UV light from the sun. Patients with lupus are encouraged to avoid direct sunlight to avoid flares, so it is common for lupus patients to have low vitamin D levels (Vitamin D deficiency).

### Lupus Research

One recent placebo-controlled trial with 267 lupus patients with low vitamin D did find that supplementation with 2000 IU daily for 12 months did improve lupus disease activity score and decrease in dsDNA antibodies (Abou-Raya et al. J Rheum 2013).

We know Vitamin D has potent anti-inflammatory properties and low vitamin d levels has been associated with higher disease activity

2000 IU/day is recommended unless otherwise directed by your doctor.

### Vitamins C & E

Anti-oxidant vitamins such as vitamin C & E have beneficial effects on heart health. What is an antioxidant? Antioxidants are substances that protect cells from damage caused by free radicals. Free radicals are unstable molecules the body produces as a reaction to environmental and other pressures.

### Lupus Research

Vitamin C has been shown to reduce inflammation and lower antibodies levels (anti-dsDNA, IgG), and can help prevent heart disease.

One study suggests taking combination of vitamin C & vitamin E (vitamin C; 500 mg and vitamin E; 800 IU), due to its synergic action (Constantin et al 2019).

### Foods high in Vitamin C & E

Vitamin C: orange juice, tangerine, papaya and broccoli.

Vitamin E: nuts, seeds, collard greens, spinach, mango, avocado

### Vitamin A

Vitamin A (retinol, retinoic acid) is a nutrient important to vision, growth, cell division, reproduction and immunity. Vitamin A also has antioxidant properties.

### **Lupus research**

Vitamin A derivatives (retinoic acid) have had beneficial effects in Lupus patients with skin disease (however very few studies with few patients)

Some studies suggest improved immune function with vitamin A supplementation

Caution as too much vitamin A can cause toxicity

Daily recommended amount 5000 IU daily

### **Foods high in Vitamin A**

Many breakfast cereals, juices, dairy products, and other foods are fortified with retinol (preformed vitamin A). Beta carotene is converted into Vitamin A by the body and foods high in this are carrots, squash, pumpkin, cantaloupe.

### **Omega 3 Fatty Acid**

Omega 3 Fatty Acids are found in certain fish and have been found to be important for overall health, especially heart health.



### **Lupus Research**

Fish oil supplementation in mice with lupus helps prevent progression of disease

One prospective study found improvement in disease activity scores after supplementing with 3000mg of fish oil daily for 6 months (Wright et al. Ann Rheum Dis 2007).

However more recent study found no change in disease activity with supplementation over 3 months and actually found higher levels of LDL (bad cholesterol) in the treatment group. (Bello et al. Rheum Int 2013).

One small uncontrolled trial with 9 lupus patients with kidney disease did find small level of improvement in kidney function (Clark et al. J Coll Nutrition 2001)

We do know omega 3 fatty acids are the pre-cursors for anti-inflammatory compounds and they may help prevent cardiovascular disease

### **Foods High in Omega 3**

Fish such as salmon, tuna, halibut. Also walnuts and pumpkin seeds, flax seeds, green leafy vegetables, certain eggs

### **Vitamin B**

There are eight B vitamins. Some of the common ones are Vitamin B12, B6, and Folate.

### **Lupus Research**

Several studies have indicated a low level of vitamin B in lupus patients in comparison with those of healthy controls. More research is needed on Vitamin B and lupus patients.

## Foods High in Vitamin B

Salmon, green leafy vegetables, beef, eggs, chicken, lentils

## Turmeric

Turmeric is a spice, with curcumin being the active ingredient.

Curcumin gives the spice its yellow color, and has been found to have anti-inflammatory properties.



## Lupus Research

Recent study with 24 lupus patients with kidney disease found significantly improved kidney function in the patients given 1500 mg turmeric capsules daily. Difficult to interpret as the study only had 12 patients in each arm. (Khajehdehi et al. J Ren Nutrition 2012)

Warning: interacts with blood thinners, may increase risk of bleeding

The dosage for Lupus ranges from 100–200 mg daily to 4.5 grams/day

## DHEA

Not a nutrient or dietary supplement. DHEA is a naturally occurring adrenal steroid that is a pre-cursor to other steroids hormones like estrogen and androgen. It is sold over the counter as a supplement.

## Research

Levels of DHEA were found to be lower in patients with lupus vs healthy controls  
Several studies have looked at the role of DHEA supplementation in Lupus patients with mixed results.

## What Supplements Should I Avoid?

**Garlic, Echinacea, and Alfalfa Sprouts** have been shown to have immune-boosting properties and therefore it's been encouraged for patients with lupus to avoid consuming these as much as possible.

## Recipe to try: Spice-Rubbed Chicken with Red Lentil

Ingredients: 4 (4oz) boneless, skinless chicken thighs, dried red lentils, cherry tomatoes, baby spinach, ground turmeric, ground cumin, ground coriander, ground red & black pepper, bay leaves, onion (1 cup), 2 tablespoons canola or avocado oil, 3 cups water

### Directions:

#### Step 1

Heat a large saucepan over medium heat. Add 1 1/2 tablespoons oil; swirl to coat. Add onion; cook 3 minutes, stirring occasionally. Add 1 teaspoon turmeric and red pepper; cook 30 seconds, stirring constantly. Stir in water, lentils, and bay leaves; bring to a boil. Reduce heat, and simmer until thick and creamy, about 25 minutes. Discard bay leaves. Stir in 1/2 teaspoon salt. Gradually add spinach, stirring until spinach wilts.

#### Step 2

Meanwhile, combine remaining 1/2 teaspoon turmeric, 1/4 teaspoon salt, cumin, coriander, black pepper, and ginger. Sprinkle evenly over both sides of chicken thighs. Heat a large skillet over medium-high heat. Add 1 1/2 teaspoons oil; swirl to coat. Add chicken to pan; cook 5 minutes on each side or until done. Serve chicken with lentil and tomatoes.

**Do you have a healthy recipe you would like to share?  
We would love to add it to the next newsletter!**

Please call/text the IQ Lupus Team to submit or to ask us a question:

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**Enjoy the rest of your summer. Stay well!**

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