

LOW OXALATE DIET



WHAT ARE OXALATES?

Oxalates are naturally-occurring substances found in plants, animals, and in humans. The human body naturally generates oxalates and we also get oxalates by eating plant-based foods which contain them.

WHY ARE OXALATES A PROBLEM FOR SOME INDIVIDUALS?

Oxalates are ANTI-NUTRIENTS which can bind with minerals such as calcium, magnesium, and iron in your food and prevent their absorption in the body.

In a healthy individuals, moderate quantities of oxalates shouldn't be an issue. However, the following factors can influence the ability of the body to handle oxalates:

- **Antibiotic Use** (kills the primary bacteria responsible for breaking down oxalates)
- **Overconsumption of high oxalate foods** (spinach, swiss chard, chia seeds, nuts, rhubarb, plantains, etc)
- **Micronutrient deficiency** (Vitamin B1 and B6 deficiencies will make the body generate more oxalates; calcium and magnesium are necessary to bind to oxalates so they are excreted in the stool instead of being absorbed)
- **Fat malabsorption** (the extra fat binds to calcium, calcium isn't available to bind with oxalates, and oxalates are free to get into the blood and tissues)
- **Leaky gut** (allows oxalates to get into the bloodstream)
- **Not enough good bacteria in the GI tract** (to break down oxalates)
- **Genetic mutations** (some people have less of an ability to handle oxalates)

Normally, we absorb 1-2% of oxalates, but when gut inflammation is present, we can absorb as much as 50% of oxalates!

The body recognizes oxalates as a toxin, so it will store them to keep them out of circulation, until a certain level is reached where it is overwhelmed (due to the overconsumption of high oxalate foods or an inability to excrete oxalates very well) and it has to start "dumping" some of the excess oxalates.

HOW CAN A LOW OXALATE DIET HELP?

Reducing the amount of oxalates coming in from the diet helps decrease the oxalate burden on the body and allows the body to release stored oxalates. **A Low Oxalate Diet limits oxalates to 40mg to 60mg maximum for the day (based on a 2000 calorie diet).**

HIGH OXALATE SYMPTOMS:

Oxalates can bind with calcium to form crystals with razor sharp, knife-like edges. Because these crystals are like tiny shards of jagged glass, they are extremely irritating and painful to tissues where they cause or increase inflammation. Oxalates can affect every system of the body.

Common symptoms include:

- Pain (anywhere), but especially urinary, genital (vulvodynia), joints, muscles, eyes, head, intestines
- Painful or inflamed joints and muscles (similar to fibromyalgia or arthritis)
- Fatigue
- Insomnia
- Burning feet
- Gas and bloating
- Frequent urination and/or urinary pain
- Cloudy urine or crystals in the urine
- Kidney stones
- Interstitial cystitis
- Headaches, depression, anxiety, brain fog
- Yeast overgrowth
- Rashes and hives
- Blood sugar imbalances

OXALATE LIST

- A Low Oxalate Diet typically consists of mostly **LOW** oxalate foods with a few **MEDIUM** oxalate foods. The goal is to try to keep the oxalate content of each meal to 7-10 mg of oxalates. **Aim to consume a maximum of 40mg to 60mg total oxalates for the day.**
- **AVOID** foods containing “Extremely High” or “Very High” amounts of oxalates.
- **LIMIT** foods containing “MEDIUM” amounts of oxalates. MINIMIZE PORTION SIZES (eat ¼ cup of a medium oxalate food instead of ½ cup) and **COOK** (boil and discard the water) to lower oxalates.
- **EAT** foods “VERY LOW” or “LOW” in oxalates.
- A food’s oxalate content is **DECREASED** through **BOILING** and **SOAKING**; the soluble oxalates are **discarded when you dump the water**. (NOTE: While soaking and boiling can reduce the oxalate levels in food to a point, *it is not sufficient enough to make the “very high” or “extremely high” oxalate foods safe to consume*. No processing method can bring the oxalate content of these foods (i.e. spinach) down low enough.
- **IT IS IMPORTANT TO REMOVE OXALATES VERY SLOWLY FROM THE DIET.** In general, reduce oxalates by 5-10% per week. If you’ve been eating a lot of very high oxalate foods, it may take several weeks to months before you get to a “low oxalate” diet. Start by continuing to eat high oxalate foods but reduce the serving size (have a smaller spinach salad, a half of an almond flour muffin, etc). Keep decreasing little by little.
- The most comprehensive list detailing the oxalate content of foods is maintained and regularly updated by the *Trying_Low_Oxalates* Yahoo Group. Join the group to have access to this list.

| OXALATE SCALE | |
|-----------------|---------------|
| Very Low: | 0.0 - 0.9 mg |
| Low: | 1.0 - 4.9 mg |
| Medium: | 5.0 - 14.9 mg |
| High: | 15 - 20 mg |
| Very High: | 20 - 40 mg |
| Extremely High: | 41+ mg |

| LOW OXALATE | | MEDIUM OXALATE | | HIGH OXALATE (EXTREMELY HIGH*) | |
|---|---------------------|----------------------|-------------------------|-----------------------------------|-----------------------|
| - Bell Pepper (Red) | - Bok Choy | - Asparagus (boiled) | - Broccoli (steamed) | - Beets* | - Celery |
| - Broccoli (boiled) | - Cabbage | - Brussels sprouts | - Carrots (boiled) | - Field greens | - Green beans |
| - Cauliflower | - Cucumber | - Celeriac | - Collard greens (boil) | - Kale (except lacinato) | - Rhubarb* |
| - Kale (lacinato/dino) | - Lettuce | - Endive | - Fennel | - Russet potato | - Spinach* |
| - Mustard greens (boiled) | - Onions/Garlic | - Tomato | | - Sweet potato* | - Swiss chard* |
| - Radish | - Rutabaga | | | | |
| - Squash (winter): acorn, butternut, spaghetti, delicata | | | | | |
| - Turnip root/greens | - Zucchini | | | | |
| - Water Chestnuts | | | | | |
| - Apple | - Avocado | - Apricots | - Banana | - Blackberries | - Citrus peel (zest) |
| - Blueberries | - Cherries | - Dates | - Mango | - Figs | - Goose berries |
| - Cranberries | - Grapes | - Nectarine | - Olives | - Guava* | - Kiwi |
| - Lemon (without peel) | - Melon | - Papaya | - Pear | - Plantain* | - Pomegranate |
| - Orange | - Peaches | - Pineapple | | - Raspberries | - Starfruit |
| - Plums | - Strawberries | | | - Tangelo | |
| - Coconut | - Flax Seeds | - Sunflower Seeds | | - Almonds* | - Peanuts* |
| - Pumpkin Seeds | | | | - Most nuts | - Chia Seeds* |
| | | | | - Sesame Seeds* | - Chocolate |
| - Millet | - Rice | - Oats | - Garbanzo/Chickpea | - Amaranth* | - Buckwheat* |
| - Red Lentils | - Yellow Split Peas | - Brown Lentils | - Lima Beans | - Quinoa | - Most Beans & Grains |
| - Black-eyed Peas | | - Mung Beans | | - Soy beans* | |