Low Oxalate Diet

Cut the plant compound that crystallises into kidney stones.

MAINLY USED FOR	CORE RESTRICTION	EFFORT
Calcium oxalate kidney stones, oxalate sensitivity	Under 40-50 mg oxalate/day, spread across meals	4 of 5

01 How it works

Oxalate is a small molecule made by many plants and also produced by your own liver. In the gut it binds calcium; in the kidney, unbound oxalate binds calcium in urine and can crystallise into calcium oxalate stones — the most common stone type by a wide margin.

The counterintuitive part: eating more calcium with meals lowers stone risk, because calcium binds oxalate in the intestine so it leaves in stool rather than urine. Low-calcium diets make oxalate stones worse, not better.

People with fat malabsorption, gastric bypass, or inflammatory bowel disease absorb far more oxalate than average — a condition called enteric hyperoxaluria — which is why the same spinach salad is harmless for one person and a stone-former for another.

02 Nutrition at a glance

Oxalate targets are cumulative across the day, and calcium timing matters as much as the total.

Oxalate	40–50 mg/day	Spread across meals, not saved up
Calcium	1000–1200 mg/day	Eaten with meals so it binds oxalate in the gut
Fluid	2.5–3 L/day	Aim for pale urine and 2+ L output
Sodium	Under 2300 mg/day	High sodium pushes calcium into urine
Vitamin C	Under 500 mg/day	Excess converts to oxalate

Nutrients that often run short: Magnesium · Vitamin C (from food only) · Fibre · Plant variety.

ELECTROLYTES

A word on electrolytes

Any change in how you eat changes how much sodium, potassium and magnesium you take in — usually downwards, because cooking from scratch removes the packaged foods that supplied most of it. Headaches, cramps, lightheadedness on standing and that flat, foggy feeling in the first fortnight are far more often an electrolyte dip than the diet failing. Drink to thirst rather than to a rule, salt your food unless you have been told not to, and lean on potassium- and magnesium-rich whole foods. If you have kidney disease, heart failure or high blood pressure, or you take a diuretic, ACE inhibitor or ARB, set your targets with your clinician — and avoid potassium-based salt substitutes unless told they are safe for you.

03 Key cautions

The things that most often catch people out — worth raising at your next appointment.

TALK TO A CLINICIAN

Cutting calcium backfires

Low-calcium eating raises stone risk because unbound oxalate is absorbed instead. Calcium is part of the treatment, not a competing risk.

WORTH TESTING

Get your stone type confirmed

Only calcium-oxalate stones respond to this diet. Uric acid, struvite and cystine stones need completely different management.

KEEP AN EYE ON

Oxalate dumping is not an established phenomenon

There is little evidence for a rebound syndrome when you cut oxalate quickly, but a gradual reduction over a few weeks is easier on the gut either way.

KEEP AN EYE ON

Keto and low-oxalate collide

Almond flour, spinach and chia are keto staples and oxalate bombs. Doing both diets means swapping to coconut flour, cabbage and romaine.

04 Conditions it is used for

- Recurrent calcium oxalate kidney stones
- Enteric hyperoxaluria after bariatric surgery or with fat malabsorption
- Primary hyperoxaluria (genetic), as part of specialist management
- Inflammatory bowel disease with a stone history
- Reported vulvodynia and joint pain relief, though the evidence here is weak and contested

05 Your food lists

Eat freely

Very low oxalate vegetables

- Cabbage
- Cauliflower
- Cucumber
- Mushrooms
- Onion
- Peas
- Iceberg and romaine lettuce
- Zucchini
- Bok choy

Fruit

- Apple (peeled)
- Banana
- Melon
- Grapes
- Cherries
- Peaches
- Mango

Protein and dairy

- All meat, poultry and fish
- Eggs
- Milk, yoghurt and cheese — eat them with meals

Grains

- White rice
- Sourdough white bread
- Corn tortillas in moderation
- Oat bran is lower than whole oats

Eat with care

Moderate oxalate — small portions, always with calcium

- Carrots, celery, tomato, green beans, broccoli
- Blueberries, strawberries, oranges
- Coffee and black tea — one to two cups
- Corn, wheat bread, brown rice
- Dark chocolate in very small amounts

Best to skip

The high-oxalate hall of fame

- Spinach
- Swiss chard
- Beet greens and beets
- Rhubarb
- Sorrel
- Amaranth greens
- Purslane

Nuts and seeds

- Almonds and almond flour
- Cashews
- Peanuts and peanut butter
- Sesame and tahini
- Chia in quantity

Other heavy hitters

- Soy products including tofu and soy milk
- Wheat bran
- Buckwheat
- Sweet potato
- Potato skins
- Cocoa powder
- Star fruit
- Excess vitamin C supplements above 500 mg

06 Three days of meals

Day 1

Breakfast: Scrambled eggs with mushrooms and cheese, a glass of milk, half a banana.

Lunch: Roast chicken over romaine with cucumber, yoghurt-dill dressing, white roll.

Dinner: Baked cod, white rice, buttered cabbage.

Snack: Greek yoghurt with peach slices.

Day 2

Breakfast: Cottage cheese with melon and a drizzle of honey.

Lunch: Turkey and cheese sandwich on sourdough white with iceberg.

Dinner: Pork chop, cauliflower mash with butter and cream, peas.

Snack: Apple slices with a cheese stick.

Day 3

Breakfast: Omelette with onion and pepper jack, glass of milk.

Lunch: Rice bowl with grilled shrimp, zucchini and lime.

Dinner: Beef stir fry with cabbage and bok choy over white rice.

Snack: Grapes and a small yoghurt.

07 Getting started

- Ask for a 24-hour urine collection first. It tells you whether oxalate is actually your problem — plenty of stone formers have a calcium, citrate or volume problem instead.
- Drink enough to produce 2.5 litres of urine a day. Fluid volume beats every dietary change for stone prevention.
- Pair calcium with oxalate at the same meal: 300-400 mg of dietary calcium per meal, from food rather than supplements taken alone.
- Add citrate — lemon juice in water, or prescribed potassium citrate — which inhibits crystal formation.
- Cut sodium. High salt drives calcium into urine and raises stone risk independently.

08 Common mistakes

- Avoiding dairy 'because stones are made of calcium'. This is backwards and increases oxalate absorption.
- Switching from wheat to almond flour for health reasons, and quintupling oxalate intake.
- Megadosing vitamin C, which the body converts to oxalate.
- Focusing only on spinach while drinking six cups of black tea a day.
- Cutting oxalate to near zero. Very low intake is unnecessary, socially miserable, and strips out useful plant foods.

09 Questions people ask

Does boiling reduce oxalate?

Yes, meaningfully. Boiling and discarding the water can remove 30-60% of soluble oxalate from vegetables. Steaming removes far less; roasting removes almost none.

Is 'oxalate dumping' real?

The idea that cutting oxalate too fast causes a flare of symptoms is popular online and has essentially no controlled evidence behind it. Reducing gradually is harmless advice regardless.

How low do I need to go?

Most guidance lands at 40-50 mg a day for stone formers, versus a typical Western intake of 150-250 mg. Extreme restriction is not supported.

10 How it overlaps with other diets

- Low oxalate is the hardest partner for keto, vegan and paleo diets, all of which lean on nuts, seeds, spinach and sweet potato.
- Low oxalate plus low FODMAP is workable — cabbage, carrot and rice are shared safe foods.
- If you also have IBD or short bowel, treat fat malabsorption first; it drives oxalate absorption more than diet does.

> This guide is educational and is not medical advice. Therapeutic diets can change how medication works and can leave gaps in nutrition, so please plan any of this with your doctor or a registered dietitian.

SneakyKeto · sneakyketo.com/diets/low-oxalate