



Put Out the Fire! Simple Strategies to Reduce Chronic Inflammation



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What's the big deal about inflammation and kidney disease?

Chronic kidney disease is an inflammatory chronic disease. There are many factors that contribute to this inflammatory state including diet, lifestyle, and environment. In addition, once the kidneys have started declining, decreased ability to filter toxins and a variety of other cascading mechanisms further exacerbate an inflammatory state.¹ For example, uremic toxins also cause oxidative stress and lead to inflammation.¹ Uremic toxins have also been linked to changes in the intestinal microbiome (think of this term as what keeps your gut healthy and protects your body from

dangerous pathogens).¹ Intestinal imbalance can then lead to more inflammation because the gut is critical in controlling inflammation. There has also been evidence suggesting that the anti-inflammatory properties of certain foods and supplements, such as omega 3 fatty acids from food, fish oil, or flax seed oil, may help decrease inflammation in kidneys.⁵ Decreasing inflammation is valuable for anyone with kidney disease to preserve kidney function, improve quality of life, and maintain a strong immune system.

What foods can I eat to combat inflammation?

High Fiber

Dietary fiber has been shown to lower inflammation and lower mortality risk in the CKD population.³ High fiber may also decrease acidosis, thus further reducing inflammation.³ It is uncertain, however, whether it is the actual fiber that decreases



inflammation or rather the nature of foods that are high in fiber. Two possible reasons why fiber intake is so powerful:

1. Dietary fiber sustains and modulates the gut microbiome, as fiber is essentially “fuel” for the good bacteria in the gut.
2. Fiber-rich food groups may contain antioxidant and anti-inflammatory properties.³ Some kidney-friendly sources of dietary fiber include many fruits and vegetables. Legumes and whole grains are also a great source of fiber although may be higher in potassium and phosphorus. They can fit into many renal diet regimens, but patients should discuss adding these with their renal dietitian. The following table is a list of food substances that are good sources of fiber and lower potassium and phosphorus options.

| Food Item | Amount | Fiber (g) | Potassium (mg) | Phosphorus (mg) |
|--------------|----------|-----------|----------------|-----------------|
| Apple | 1 medium | 4 | 195 | 20 |
| Blackberries | ½ cup | 4 | 117 | 16 |
| Pear | 1 small | 5 | 172 | 16 |
| Raspberries | ½ cup | 4 | 93 | 18 |
| Green beans | 1 cup | 4 | 183 | 36 |
| Green peas | ½ cup | 4 | 88 | 62 |
| Chickpeas | ½ cup | 5 | 83 | 65 |
| Black beans | ¼ cup | 5 | 167 | 62 |
| Barley | ½ cup | 4 | 77 | 61 |

Omega 3 fatty acids/fish oil

Supplements of omega 3 fatty acids or fish oil have shown promising anti-inflammatory effects in some recent research.⁴ These effects on inflammation are likely due to the ability of these fatty acids to combat oxidative stress and downregulate pathways of inflammatory cytokines.⁴ Both supplements and diet have been shown to be effective. Fatty fish are a great source of dietary omega 3’s and include: salmon, mackerel, herring, trout, and tuna.

Prebiotics and Probiotics

Prebiotics and probiotics may have anti-inflammatory effects, according to some studies, presumably due to their actions of

modulating the gut microbiome. ¹ Prebiotics are the fibers that are food for the good bacteria in your gut. Probiotics consist of supplements containing the actual bacteria that are good for your gut. Currently, there isn’t much conclusive evidence of the benefits of prebiotics/probiotics for CKD patients. However, one study has shown reduced inflammation with probiotic supplementation in animal models. This leads us to believe there would be little harm, and possibly some benefit, to supplementing with a probiotic food.¹ We need more data!

Physical Activity

Physical activity has a multitude of benefits in healthy and CKD populations. Experts suggest that in patients with pre-dialysis CKD, 6 months of regular walking exercise (30 minutes per day 5 days weekly) has anti-inflammatory effects.¹ Therefore, an evening walk around the neighborhood may be a great step toward reducing inflammation and slowing the progression of CKD.

Knock out that Fire!

Taking small steps to reduce inflammation in your lifestyle can pay dividends. Increasing fruit and vegetable intake, eating more fish, and getting exercise can be important lifestyle habits. Talk with your dietitian and physician about ways to incorporate more diet, lifestyle, or supplement approaches to decrease inflammation. ●

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