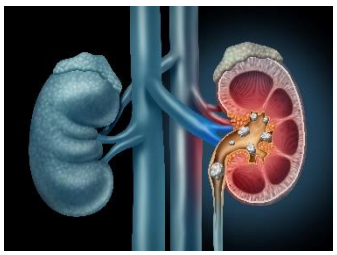
FROM THE PARISH NURSE….



The Anti-Kidney Stone Diet

If you know anything about kidney stones, you probably know they are not uncommon and can be excruciatingly painful, though not always. Kidney stones are formed by chemicals in your urine (urine contains various wastes). Crystals can form when you have too much waste in too little liquid. They can get larger if you don't pass them out of your body through your urine with the help of your kidneys. Most individuals have enough liquid to prevent a stone from forming. The chemicals that form kidney stones are calcium, oxalate, urate, cystine, xanthine and phosphate.

According to the National Kidney Foundation (NKF), an estimated 1 in 10 people will have a kidney stone at some point - a number that has more than doubled since the late 1970s. Kidney stones are more prevalent in men. The NKF also advises diabetes may increase the risk for kidney stones. There is a strong association between type 2 diabetes and uric acid stone formation. This may be due to higher levels of uric acid (acidic urine) in people with diabetes.

More research is needed to better understand the causes of kidney stones. Until then, prevention is key. One step to help prevent kidney stones from forming is to follow an anti-kidney stone diet, also known as a low-oxalate diet. Always seek the advice of your doctor before changing your diet. The following are important components of an anti-kidney stone diet.

Stay away from salt

Kidney stones grow and thrive in a salty environment, which can come from table salt, sea salt and Himalayan rock salt. Try to keep your salt intake to a minimum. Aim to consume less than 2,000 mg of sodium per day. Stone formers need to cut out processed and fast foods, because they're extremely high in sodium. Research shows that stone formers should also stay away from refined and simple sugars like table sugar.

Hydrate with a hint of lemon juice

Proper hydration really is key. Studies show those who drink the highest quantities of water exhibit the lowest incidence of stone formations. Lemon water is being touted by kidney stone experts as one of the best and most effective ways to prevent stones. The Kidney Stone Centre at St. Michael's Hospital in Toronto advises that kidney stone formers should aim to drink 2.5 to 3 liters of lemon water per day using this recipe: Add 2 tablespoons of organic lemon juice to half a liter of water. Lemon juice contains citrate, which binds with calcium and prevents calcium from binding with oxalates (as noted, oxalates can form stones).

Defend with dairy

For reasons that are not completely clear, experts say research shows moderate amounts of dairy in your diet actually help to prevent kidney stones. The calcium and magnesium in dairy bind to oxalate - a naturally occurring molecule found in abundance in plants and humans. It is not a nutrient we require, and too much can lead to kidney stones. Contrary to what you may believe, studies have shown dairy decreases our ability to absorb oxalate and form kidney stones. In fact, those who consume diary regularly have a 40% lower risk of forming stones.

If you can tolerate dairy, consume it in moderation. Also, don't consume dairy on its own, instead consume it with low-oxalate foods. A high intake of calcium in isolation can have a reverse effect. St. Michael's Hospital's Kidney Stone Centre recommends consuming 3 cups of calcium-rich dairy per day (again, to be consumed with low-oxalate foods).

Dairy products like aged cheddar, kefir and yogurt are generally easier to digest and less of an issue with respect to lactose compared to cow's milk. They are also high in probiotics, vitamin K (linked to better calcium absorption), and other vitamins and minerals.

A well-known study published in *The New England Journal of Medicine* looked at more than 45,000 men. Those who had diets rich in calcium had a one-third lower risk of developing kidney stones compared to those with lower-calcium diets. The researchers concluded, "A high dietary calcium intake decreases the risk of symptomatic kidney stones."

Limit animal protein

Eat less animal protein (animal flesh, poultry, organ meat, and fish) because too much animal protein leads to high levels of uric acid and sodium, as well as low levels of citrate, and an acidic urine pH. Try to limit your animal protein portions to the size of the palm of your hand and thickness of your little finger. Vegetarians - despite consuming a fair amount of high-oxalate foods - have half the rate of forming stones compared to meat-eaters.

Hide from high-oxalate foods

Last but not least, limit high-oxalate foods. When you eat foods that contain oxalate, it travels through your digestive tract and is passed out in your stool or urine. As it passes through, it can bind with calcium. When too much oxalate passes through your kidneys, it can lead to kidney stones. Examples of high-oxalate foods include these nuts, fruits and vegetables: almonds, avocados, baked potatoes with skin, cashews, dates, dried figs, dried pineapple, grapefruit, kiwi, oranges, peanuts, pistachios, pumpkin seeds, raspberries, rutabagas, spinach, sweet potatoes, and walnuts.

Additional considerations

- Maintain a healthy weight because being overweight is linked to kidney stone formation.
- Avoid caffeine as much as possible as it is associated with kidney stones.
- Avoid vitamin C supplementation as it gets metabolized into a form of oxalate.

Litin, S. C., & Nanda, S. (2018). *Mayo Clinic family health book*. Rochester, MN: Mayo