My friend recently had a kidney stone. Now, he says I shouldn't drink caffeinated beverages or I'll get one too. I know lots of people who drink caffeine but he's the only one I know with a kidney stone. Is he right? What exactly is a kidney stone and what causes them?

Question: My friend recently had a kidney stone. Now, he says I shouldn't drink caffeinated beverages or I'll get one too. I know lots of people who drink caffeine but he's the only one I know with a kidney stone. Is he right? What exactly is a kidney stone and what causes them?

Answer: Kidney stones are formed when minerals and acid salts that are naturally present in urine are out of balance with the amount of fluid passing through the body. Thus, stones sometime develop when urine is more concentrated than it should be, causing minerals and salts to crystallize and combine. Normally, people drink enough fluid to prevent this. However, dehydration, among other less common causes, can lead to the formation of stones.

Different minerals in the body form kidney stones. The most common type of stone is primarily formed from calcium oxalate. Oxalate is found in caffeinated beverages, such as coffee, cola, and especially, tea. It's also found in many foods such as chocolate, spinach and nuts. Consuming these foods or beverages in very large amounts, especially if you are not consuming enough other liquids, may create the conditions for kidney stones to form. Without knowing your friend's history, I can't diagnose what type of stone he had but it may have been this type.

Another common type of stone is formed from calcium phosphate. Struvite stones, which often result from kidney infection, are common, and uric acid stones, which are associated with dehydration, excess protein in the diet, and gout, are also fairly common.

Large stones can block the flow of urine from the kidneys to the bladder and can cause severe pain in the lower back that can radiate to the abdomen and into the groin. Some people notice blood in their urine. Kidney stones may also cause nausea, vomiting and fever.

However, small stones often pass through the urinary tract and exit the body without being noticed.

Treatment usually involves a recommendation to drink plenty of fluid to help pass the stones and medication is prescribed to control pain. However, a medical procedure is sometimes necessary to remove, or break up, large stones.

One of these procedures called lithotripsy uses “shock waves” to break up kidney stones. Some stones that are very large or “stuck” in the ureters, the tube that leads from the kidney to the bladder, may need to be removed through a moderately invasive surgical procedure.
As often is the case, prevention is the best treatment. Maintaining good hydration is key to preventing the formation of kidney stones. Water, ginger-ale, lemonade, lemon-lime sodas and fruit juices are the beverages of choice for this purpose. The citric acid found in lemons and other citrus fruits helps inhibit oxalate stone growth. In fact, people who drink large amounts of iced tea in the summer should add lemon juice to their tea to decrease the risk of developing calcium oxalate stones.

The bottom line is that most people with no family history of kidney stones, if conscientious about staying well hydrated, can safely consume caffeinated beverages in moderate amounts.

Family Medicine questions can be sent to Martha A. Simpson, D.O., M.B.A., Ohio University College of Osteopathic Medicine, Communication Office, Athens, Ohio 45701, or familymedicine@oucom.ohiou.edu
. Please do not send letters asking Dr. Simpson to diagnose a condition or suggest a treatment plan. Medical information in Family Medicine is provided as an educational service only and does not replace the judgment of your personal physician, who should be relied on to diagnose and recommend treatment for your medical condition