JOHN MUIR HEALTH

SERVICE LINE SPOTLIGHT

Lithotripsy at John Muir Health: It's Kidney Stone Season

As summer approaches, your patients may not be aware that their risk of developing kidney stones rises with the temperature – both during and after the warmer months.

There are a few easy steps to take for prevention. And if they do develop stones, John Muir Health is uniquely prepared to deal with them in a timely way, with minimal discomfort. Our onsite, dedicated lithotripsy suite is the only one in the East Bay, according to urologist Wei Zheng, MD, providing speedier relief from kidney stones and the severe pain and disability that this condition can cause.

Dr. Zheng, as well as Lynn Rodegard, RN, Nurse Navigator, Cancer Program, tells us below what is most important to know about lithotripsy treatment and care for those who are at risk of developing kidney stones. Although the condition may not be life-threatening, clinicians agree that it is not just inconvenient, but has a pain scale 'off the chart.'

JMHPN: What do you most want other JMH physicians to know about your program?

Dr. Zheng: It's important to know that in terms of timing of treatment, we have a lithotripter onsite, and can access it any time of the day. We have the only onsite lithotripsy suite in the East Bay -- it's highly unusual to have this easy access, which benefits patients from our area as well as much further away. We have patients from Chico, Sacramento, Placerville, and many other places. Sometimes, when they get a stone, they go to their local ER, then are sent to a urologist who may be able to treat them in two weeks. If they go online, they may learn about John Muir Health's lithotripsy program, and even if they are 150-200 miles away, they call us. Lynn Rodegard does a phone interview, and tells them to stop aspirin or other NSAIDS. Sometimes a patient may come in the morning, and if they are NPO, and are healthy, we can even treat them in the afternoon.

This is very, very convenient for the patient, and saves a lot of time and misery.

Lynn Rodegard: We want primary care and other doctors to know they can count on our accessibility. Also, for most referrals, physicians put in an order for a procedure, but we are more than happy to receive phone calls. With this direct route, we can see patients who are in pain as soon as possible. The usual referral process can take days, which delays treatment.

Dr. Zheng: We are the only local hospital with the luxury of having our own suite, so a referring physician can simply phone (925) 941-4004. This is so helpful to patients, who would probably be very thankful to have their physician pick up the phone.

Lynn Rodegard: I don't think our physician population is fully aware of our new lithotripsy suite, which is about one year old, and located on the second floor at John Muir Medical Center, Concord. It's very nice to have preop, surgery, and postop care all in the same place. It's very quiet, and very nice and convenient for patients and families.

Why must patients who used NSAIDS for pain wait for treatment for kidney stones?

Dr. Zheng: When a patient has a stone, we believe it causes inflammation. If a primary care physician sends a patient, and they are being treated with NSAIDs, which are in the bloodstream, we have to stop and wait for a week. This is because when we use shockwaves in lithotripsy, it increases the risk of bleeding.

If the stone is small enough not to treat, i.e., less than 4mm, we tell the patient they have a good chance to pass it, and we wait and see. The stone can cause lot of pain, so we usually give a narcotic, but also an antiinflammatory, as it makes the pain more tolerable.

If a stone is larger, about 6-7mm, it most likely needs to be treated with the lithotripter, and therefore we recommend managing the patient's pain with narcotics only, and telling the patient to stay away from all blood thinners. That way, we can treat them as soon as possible. If you give the patient NSAIDs, they have to wait, and we do see quite a few people come in who are taking aspirin or ibuprofen.

Why is summer an especially important time to be aware of kidney stone risk?

Dr. Zheng: Kidney stones are very much related to the status of hydration. We see more stones in the fall, actually, which is "stone season." Why fall? In summer, people may drink the same amount of water, but they are outdoors a lot, are more active, and possibly, due to barbeques, etc., they eat more protein. The combination of dehydration and a high protein diet puts them more at risk for creating kidney stones. For a few months in summer, crystals in the urine may start to aggregate. Then, at the end of August, and through November, we see the resulting kidney stones. So, it's absolutely important what people do in June, July and August.

Tell us how the lithotripsy procedure works.

Dr. Zheng: The procedure usually takes about half an hour, and is done under general anesthesia. We do a type of X-ray called fluoroscopy to localize the stone, and when it is in the focal point, the lithotripsy machine is activated, sending sound waves to blast the stone, fragmenting it into small pieces that can be passed.

We see about 450 patients per year. After we treat a stone, we do stone workups, and follow up with diet and prevention information. There is unfortunately a very high rate of recurrence: 50 percent within five years.

Lynn Rodegard: Our program includes a dedicated phone line that connects the patient directly to me. Once patients are scheduled for the lithotripsy procedure, they receive John Muir Health's patient packet, which includes information on what to expect before, during and after their treatment. We also include key dietary information which we hope will help the patient prevent recurrence.

Of what are you most proud?

Dr. Zheng: I'd say it's the ability to alleviate pain in our patients. We see them come in with such pain, and what we do makes them so much more comfortable. Another thing to be proud of is the cooperation between the hospital and our group, which has been fantastic, to provide this service. Everyone benefits.

Is it true that lemonade helps prevent kidney stones?

Dr. Zheng: Yes, it is true! Lemonade contains citrate – a stone inhibitor, which can prevent calcium crystals and oxalate crystals from forming stones. Patients can decrease their risk of kidney stones by consciously increasing their fluid intake this summer, and taking other steps shown at right.

For more information on our lithotripsy services, call (925) 941-4004.

Tips for Patients: Avoiding Kidney Stones

- Make a point to drink more water! Exercising in the heat can bring a significant loss of water through sweating. According to the Kidney Foundation, the more you sweat, the less you urinate, which allows stone-causing minerals to settle and bond in the kidneys and urinary tract. So keeping well hydrated is the best thing to do to avoid kidney stones. Take along more water than you think you need.
- Make lemonade! Chronic kidney stones are often treated with potassium citrate, but studies have shown that limeade, lemonade and other fruits and juices high in natural citrate offer the same stone-preventing benefits. Just watch the sugar intake.
- Consider lowering your intake of oxalates, as calcium oxalate stones are the leading type of kidney stones. Oxalate is found in peanuts, rhubarb, spinach, beets, chocolate and sweet potatoes. Moderating intake may help, though most kidney stones are formed when oxalate binds to calcium while urine is produced by the kidneys. Eat and drink calcium and oxalate-rich foods together during a meal. This way, oxalate and calcium are more likely to bind to one another before the kidneys begin processing, making it less likely that stones will form.
- Don't reduce calcium intake to avoid stones. Instead, work to cut back on sodium, and pair calcium-rich foods with oxalate-rich foods.
- Follow a healthy diet that contains mostly vegetables and fruits, whole grains, and low fat dairy products. Eating less animal-based protein and eating more fruits and vegetables helps decrease urine acidity and reduce the chance for stone formation.