Information for Patients about Percutaneous Nephrostolithotomy

How is a kidney stone removed?

Your surgeon recommends a surgical procedure called percutaneous [through the skin] nephrostolithotomy [tube in the kidney, removal of stone] There are usually three connections to the kidney: an artery (a blood vessel that carries blood from the heart to the kidney), a vein (a vessel that carries filtered blood from the kidney back to the heart) and a ureter (the drainage tube that carries urine to the bladder).

The surgery to remove a kidney stone can be done through a tube placed through the flank into the kidney pelvis. In order to place the tube, a needle is passed through the skin into the pelvis of the kidney. A wire is passed through the needle and then a dilator is used to stretch the size of the opening until it is large enough to accept a tube about the size of a little finger. A telescope is passed through the tube and smaller stones or stone fragments are grasped with an instrument that resembles a pickle fork and then removed. For larger stones, a laser or a shock wave generator is used to break the stone into small pieces. After the stone is removed, sometimes a catheter [drain tube] is left in the kidney. This tube will be removed either before you leave the hospital or in the clinic.

What are the possible complications of having a kidney stone removed?

Although we try our best to do everything possible to make the surgery safe, there are potential complications of the procedure. The most common complication of a kidney stone removal is failure to remove the stone or pieces of the stone. We cannot guarantee that every time we attempt to remove a kidney stone that we will be successful. Bleeding is also possible. This can occur when the needle is placed, when the tract into the kidney is dilated or when the stone is removed. If bleeding occurs, a blood transfusion or another procedure may be necessary. This is relatively uncommon. Infection is also possible following major surgery such as this. If an infection occurred following a kidney stone removal, antibiotics may be necessary. It might also be necessary to place a drain catheter or to perform a second surgery to drain an infection pocket.

Because other organs lie near the kidney, it is possible that those organs (the lung, the spleen, stomach, intestine, etc.) could be injured during the surgery. If so, a repair surgery may be required. This is quite rare. If air leaks through the tube entering the kidney into the space around the lung, it may be necessary to place a drain tube into the chest. During the surgery water is used to allow us to see in the kidney pelvis. If this water leaks into the space around the lung, it may be necessary to place a drain tube into the chest.

As with any major surgery, it is possible that a blood clot in the leg, a blood clot traveling to the lung, or pneumonia could develop following kidney donation. We take special precautions to try to prevent such complications. This includes having the patients cough and take deep breaths regularly to keep the lungs opened up. We also encourage patients to walk starting the day following the surgery. Other more rare complications could also occur. If you have specific questions, please ask your surgeon.
How long will I stay in the hospital?

Most kidney patients are ready to leave the hospital 1-2 days after surgery. Of course, each patient is unique, so your hospital stay could be longer. When you are eating regular food, when your pain is controlled with pain pills and when you are able to do the physical activities necessary at home, you will be ready to leave the hospital.

How much pain will I have? What can you do to control the pain? How long will the pain last?

These are some of the most difficult questions to answer because each person experiences pain in a different way. Following your surgery, you will be given pain medicine (pills or through an intravenous line). We will give you a prescription so that you can take the pain medication at home. Because each person is unique, it is impossible to predict how long you’ll need to take pain pills.

When will I be able to eat?

After surgery you can drink liquids if you feel up to it. Starting in the evening after surgery you can eat your normal diet. Many patients notice that their appetite isn’t as strong for a few days following surgery.

When can I drive again?

We recommend that you not drive until you no longer need narcotic pain medication.

When can I go back to work?

You can probably return to work in 1 – 3 weeks. Some patients are ready to go back to work sooner and some are ready later. You will need to listen to your body to know when you are ready. It may be helpful to return to work part-time or doing light work at first. If you need a letter for your employer, let us know.

What physical activities can I do following the surgery?

After you get home from the hospital, you should plan to do a little walking every day. Start slowly and gradually build up your endurance. If you overdo it, you will be sore. Listen to your body and use your head. Starting 1-2 weeks following the surgery, you may begin to do some stretching exercises that will help you to stay limber. Starting two weeks following the surgery, you may begin to do some light exercise. Gradually build up your exercise plan over the next two weeks.

When can I shower?

You can take a brief shower (5-10 minutes) starting the day following the surgery.

Will I need to eat a special diet after the surgery?

No. You can eat anything you would like. Of course, we recommend that you eat a healthy diet including plenty of fresh fruits and vegetables.

What if I have other questions?

We’re happy to answer all of your questions. It may be best to write down questions as you think of them. Please call your surgeon with any questions you may have.