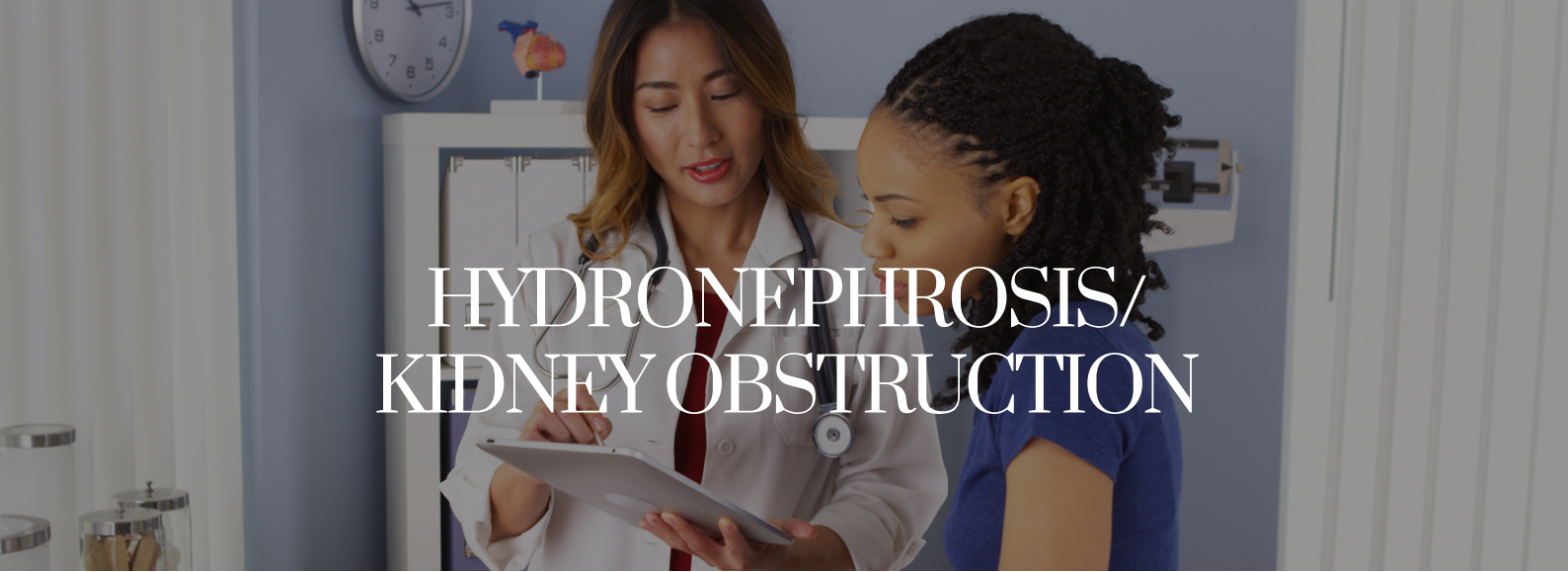




HYDRONEPHROSIS/ KIDNEY OBSTRUCTION

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OVERVIEW

Hydronephrosis is a condition in which one or both kidneys begin to swell. This swelling is due to the inability of urine to drain from the kidney. Hydronephrosis is typically caused by a blockage of the ureters, the tubes through which urine drains from the kidneys. In some instances, anatomical defects can be the cause. This condition can affect patients of any age. Infants can even have hydronephrosis before birth. In some cases, there are no symptoms present whatsoever.

There are generally two causes of hydronephrosis. One is blockages where the kidney meets the ureter. These blockages can also occur when the ureter meets the bladder, but this is less common.

Vesicoureteral reflux is another potential cause, where urine backs up from the bladder to the kidney. That is a reversal of the typical flow, where urine only proceeds from the kidney to the bladder.

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The most common symptoms of hydronephrosis include:

- A pain in the back or side, which may travel to the groin or lower abdomen
- Pain during urination
- Frequent or urgent need to urinate
- Nausea or vomiting
- Fever

In some cases, patients don't experience any symptoms during hydronephrosis.

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If a doctor suspects hydronephrosis after a patient comes in with urinary issues or pain, a general practitioner will likely refer the patient to a urologist for closer evaluation. The first tests to be performed are a blood test that verifies kidney function and a urine test to check for urinary tract infections or urinary stones.

A CT Scan may also be ordered if an ultrasound does confirm dilation of the kidneys to get more information about where a blockage may be located.

TREATMENT

Hydronephrosis often goes undiagnosed and usually resolves itself over time. In cases where treatment is required, the common interventions include surgery for severe cases and preventative antibiotics for more mild cases.

TREATMENT FOR SEVERE HYDRONEPHROSIS

In some cases, hydronephrosis can severely impact kidney function. In instances of severe hydronephrosis or cases where there is significant reflux from the bladder, surgery may be the best option. If untreated, hydronephrosis of this type can permanently damage the kidney.

Hydronephrosis typically only affects one kidney. As a result, the other (unaffected) kidney can still function. In some cases, this condition can lead to kidney failure. In patients who have lost a kidney or have weakened kidneys, the condition is far more severe.

TREATMENT FOR MODERATE HYDRONEPHROSIS

In many cases, the physician might decide that the best course of action is to wait and see how the hydronephrosis develops. There is an increased risk of urinary tract infections during hydronephrosis, so the physician may prescribe a preventative course of antibiotics to help you avoid infection.

Ureteroscopy

Ureteroscopy is a minimally invasive procedure where your urologist passes a scope through your bladder and into your ureter (the tube that runs from the kidney to the bladder). It is most commonly performed for stone disease, but can also be used to treat or diagnose tumors of the ureter or kidney, or to evaluate the ureter for obstruction. Other instruments can be passed through the ureteroscope such as a laser fiber or a basket in order to complete your procedure. Often a stent (a soft, hollow tube) is left within the ureter for several days to allow healing.

WHAT TO EXPECT AFTERWARDS:

Utereroscopy is generally performed under general anesthetic as an outpatient. Afterwards you may have minor abdominal and flank discomfort as well as frequent and sometimes painful urination. Narcotic pain medication is usually prescribed as well as bladder relaxant pills. Blood in the urine is common for several days and may occur intermittently while the stent is in. You can resume normal activity 24-48 hours after surgery, although you should refrain from heavy lifting if you have a lot of blood in the urine or pain with urinating. You should not drive while taking narcotic pain medication. The stent will be removed, typically in the office, when appropriate.

FOR AN EXAMPLE OF URETEROSCOPY, SEE THE FOLLOWING YOUTUBE VIDEO:



ESWL

COMING SOON!



PCNL



PERCUTANEOUS NEPHROSTOLITHOTOMY (PCNL)

Percutaneous Nephrostolithotomy is a procedure performed to remove large stones in the kidney or ureter. There are two parts to the operation. The first involves looking in your bladder with a scope and placing a small catheter into your kidney. This allows your urologist to find the correct spot in which to access the kidney in order to remove your stones. The second part involves placing a small tube directly into the kidney through the flank. A combination ultrasound and suction device is used to remove the stones. A flexible scope is used in some cases to look at all the areas of your kidney and remove any remaining stones. At times, additional accesses into the kidney may be required to remove all of the stones. At the end of the procedure a small drainage tube is placed into the kidney. It generally remains for 2-7 days at the discretion of your urologist. You may be sent home with the tube in your kidney, but will be instructed on care of it prior to your discharged. You will have a catheter in the bladder the first night. A one night hospital stay is generally required. X-rays are checked after surgery to evaluate if all of the stones were removed. You will be able to eat and drink afterwards and discomfort is generally mild.

WHAT TO EXPECT AFTERWARDS:

Blood in both the kidney tube and your urine is normal for a few days to a few weeks. After the kidney tube is removed, it is common to have flank drainage for 2-5 days. If it lasts longer call your doctor. Pain is generally mild but you will have both IV and oral pain medications available.

CALL YOUR DOCTOR IF:

- Temperature >101° F.
- Inability to void.
- You are passing clots in your urine.
- Flank drainage for more than five days after the kidney tube is removed.

PYELOPLASTY



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What Steps Can Be Taken to Prevent Hydronephrosis?



Hydronephrosis is generally caused by underlying issues that are not within a person's control. However, increasing general urinary health can help prevent or mitigate cases. Drinking sufficient water is a good start, along with reducing salt intake. Avoiding fried foods and red meat can improve urinary health, along with regular aerobic exercise.

What Are The Potential Risk Factors of Hydronephrosis?



In severe cases, hydronephrosis can permanently impact kidney function. However, that is rare, and such cases would likely require surgical intervention. A more likely complication is the development of urinary tract infections. Anyone suffering from cloudy urine, pain during urination, bladder pain, or weak urination could have a urinary tract infection.

What Is Kidney Blockages?



Partial kidney blockages can occur from a variety of causes. Among men, an enlarged prostate gland can apply pressure to the ureter, causing a partial blockage. In women, pregnancy can compress the ureters to the point of partial blockage. There is also a chance that tumors in or near the ureter could cause any blockages.

What Is the Outlook for Patients of Hydronephrosis?



This condition is highly treatable, and in many cases, requires no treatment at all. In severe cases where surgery is needed, the recovery rate to full function is more than 95 percent.

