



## What is a Nephrologist

Your physician noticed an abnormal laboratory test and suggested you see a kidney specialist, known as a nephrologist. Nephrology is a subspecialty of Medicine. It is the study of diseases of the kidney. With blood and urine tests, and sometimes non-invasive studies such as an ultrasound, the cause of the problem may be determined. If this is not sufficient, a kidney biopsy may be suggested, but this is not performed very often.

You are born with two kidneys. They are roughly the size of your fists and anatomically rest in your upper back. The multiple tasks they perform is second to no other organ system. They filter toxins, control electrolytes, maintain blood pressure, synthesize a hormone that stimulates the bone marrow to make red blood cells, manufacture the active form of vitamin D, and prevent dehydration and fluid overload.

The blood test which is likely abnormal is the creatinine. Creatinine is an amino acid which is a product of muscle protein. The amount in the blood is usually constant. If this should be elevated on a blood test, then less creatinine would show up in the urine. This parallels toxins in the blood and may be an indication that the kidneys are not filtering efficiently.

Since creatinine is based upon muscle mass, it is not an accurate measure of the overall amount of kidney function which may be present. On average, the normal level is 1.0 mg/dL which corresponds to 100 % function. Further, this number may define quite different levels of kidney function when comparing individuals. For example, a 35 year old man with a creatinine of 1.8 mg/dL likely has 55% function. The same creatinine in a woman who is 80 years old would correspond to a function of only 30%.

There are other equations that your doctor uses to calculate the kidney function. You may be asked to collect your urine for 24 hours and return it to the laboratory. This will give a more accurate measure of the amount of kidney function which remains, but this also has some shortcomings.

### **Kidney Failure**

Unfortunately, signs and symptoms of kidney failure overlap with many diseases. The amount of urine one makes or doesn't make is not a good sign of kidney disease. Even those who are on dialysis still make urine.

A person may be very tired, have no appetite, complain of itching, weight gain or loss, leg swelling or even shortness of breath. Laboratory studies may indicate an elevated potassium, low bicarbonate, high phosphorus and anemia. Renal replacement therapy is instituted when the function falls to 5 – 15%.

There are several modalities of kidney replacement therapy available today. The best option we suggest, is a kidney transplant. You may be considered for transplant should your

function fall below 20%. Although you may yet need a new kidney, the evaluation and testing does take time. In addition, if a family member or friend is not capable of donating, you will need to be listed for a deceased donor kidney. This may not be available for several years. Many areas of the country have wait lists in excess of five years. The local transplant center average is much less. Of course, many factors may determine your place on the list. You should be considered early for transplant, as the evaluation may reveal other medical problems that take precedent.

Many persons are not fortunate to receive a kidney, and need to undergo kidney replacement therapy in the form of dialysis. Two current methods are available today. Home peritoneal dialysis (PD) takes advantage of the one cell thick covering of all your internal abdominal organs. A sugar solution of varying strength is placed into the abdominal cavity and allowed to sit for several hours at a time. The peritoneal membrane, via osmosis and diffusion, allows both fluids and toxins to pass. The fluid is changed several times per day or in multiple “cycles” overnight. Several advantages include: the comfort of being at home, ease of therapy, ability to work and travel, preservation of residual kidney function and possible avoidance of a “fistula” or “graft” that is needed for hemodialysis. This form of therapy is performed in center, three days per week. Advantages here include less time and less work by the patient.

Both modalities are sufficient medically and the patient, along with the physician, decide on the modality that best fits his or her lifestyle. Further information may be obtained from your nephrologist. Many websites today are available that further explain these therapies.

Electrolyte disturbances are quite common, and may need a nephrologist to assist in the management.

Your blood pressure may be difficult to control. Your doctor may have initiated more than three medications, and yet your blood pressure remains elevated. A nephrologist will help rule out certain disorders that could potentially be reversible and help fine tune your medications to get you to “goal” blood pressure of 120/70.

Not everyone with chronic kidney disease will require dialysis. If you are diagnosed with stage 3 kidney disease, only about 1 in 40 to 1 in 50 persons will make it to stage 5 and thus require kidney replacement therapy. Medications and lifestyle adjustments with dieting and exercise could prolong not only the life of the kidneys, but the life of the person.

If you wish for further information, please visit our website at:  
[www.naplesnephrology.com](http://www.naplesnephrology.com).

Mark S. Russo, MD, PhD and Vera M. Stricevic, MD are at Naples Nephrology, PA and are accepting new patients. They have privileges at all four hospitals in Collier County as well as all dialysis centers, including North Naples Dialysis located near North Collier Hospital across Immokalee Road. In addition, they see patients at the only free standing Peritoneal Dialysis Center in Southwest Florida, Kidney Institute of Naples, located at 878 109<sup>th</sup> Avenue North in Naples Park. Both are accepting new patients.