



What is nephrology?

Nephrology (from the Greek: *nephros*, "kidney"; and *λόγος*, *logos*, "speech," to talk about kidneys") is a branch of internal medicine and pediatrics, which deals with the study of the function of the kidney and all the diseases that may affect it.

What does a nephrologist do?

A nephrologist, often called a renal physician or a kidney doctor, is a specialist, who after receiving a medical degree, has completed three years of specialty training in internal medicine and at least two years of additional training in the medical treatment of patients with kidney diseases or disorders. This training qualifies the nephrologist to diagnose and treat all kidney diseases in a comprehensive way because diseases of the kidney may affect the function of other body organs as well. Nephrologists also deliver all forms of dialysis and therapeutic plasma exchange.

Many patients with kidney disease require medications. Your nephrologist will adjust these medications according to the level of your kidney function.

One of the nephrologist's major activities is the use of the artificial kidney machine to treat patients with acute and chronic kidney failure. This is called dialysis or renal replacement therapy.

Who needs a nephrologist?

A patient may be referred to a nephrologist by a family physician, another internist, or any other healthcare provider, like a nurse practitioner (APRN), or a physician assistant (PA). Other subspecialists may also refer patients, such as cardiologists, vascular or general surgeons, or obstetricians.

Usually, blood or urine test irregularities due to the kidney dysfunction are the reason for referrals.

Patients are referred to nephrologists for various reasons, such as:

- **Hematuria**, blood in the urine
- **Chronic kidney disease, CKD**, progressive and slowly declining renal function, usually with a rise in serum creatinine and reduced e-GFR, (glomerular filtration rate)
- **Proteinuria**, the spilling of protein, especially albumin, in the urine
- **Kidney stones**, usually only recurrent stone formers
- **Hypertension**, or high blood pressure, which has failed to respond to multiple forms of anti-hypertensive medication or with an underlying secondary cause
- **Electrolyte** disorders or acid/base imbalance
- The care of **dialysis** patients, hemodialysis, or peritoneal dialysis

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- Medical care after **kidney transplant**
- **Acute renal failure**, or a sudden loss of kidney function
- Other rare forms of kidney disease, like **polycystic kidney disease** or **glomerulonephritis**

Does a nephrologist perform surgery?

No. A nephrologist does not perform surgery. However, he or she may need to perform a kidney biopsy by inserting a narrow needle through the body surface to the kidney, to obtain a sample of kidney tissue. In contrast, a urologist is a doctor who performs surgery on the kidneys and the urinary systems like the bladder and the prostate.

Will I still need my primary care provider (PCP)?

The answer is definitely **YES**. From time to time, you may develop illnesses that can be treated by your primary care provider. You should inform your primary care provider about the nature of your kidney disease and all medications you may be taking. This information is important because each medication has unique effects that might influence the way other medications interact. The nephrologist will be able to avoid adverse effects that could result from the interactions of these medications.

I have been referred to a nephrologist for a consultation. What happens next?

As all physicians do, the nephrologist takes a comprehensive history and performs a thorough physical examination of each patient because diseases of the kidney can affect other organs. A kidney disease also may be a manifestation of a systemic (whole body) disease. The nephrologist may order a urinalysis, cultures of the urine, 24-hour urine collection, blood tests, and kidney ultrasound or other imaging tests. Sometimes, the nephrologist may request that a kidney biopsy be performed in the hospital before any treatment begins. After beginning treatment, the nephrologist observes the patient at intervals to assess the response. The duration of this observation depends on the patient's condition. If the problem is chronic kidney disease, then a continued long-term relationship will be required, with the frequency of the visits determined by the nature and severity of the chronic kidney disease.

What treatment methods for my kidney disease are available?

The primary goal of a nephrologist in treating patients with kidney disease is to preserve kidney function for as long as possible. There are many potential treatments for kidney diseases depending on the patient's specific problem. Treatment options may include medications designed to control inflammation of



the kidneys. Sometimes, certain medications may need to be discontinued since they may be harmful to the kidney function, like ibuprofen or proton pump inhibitors, like Prilosec. Depending on the specific disease process involved, dietary interventions also may be appropriate. In almost all kidney diseases, tight control of high blood pressure is critically important to preserve kidney function. The control of diabetes and other risk factors like cholesterol and smoking are also very important.

Several treatment options are available if your kidneys are no longer able to function normally, and you are in complete kidney failure or end stage renal disease (ESRD).” One form of treatment is the use of the artificial kidney machine which acts in a limited way to carry out functions like a normal kidney. It does not “jumpstart” your kidneys. It is a lifesaving device for a patient with chronic and complete kidney failure. The treatment called hemodialysis is usually required three times a week; each treatment takes three to five hours. Hemodialysis may be performed in a hospital or outpatient hemodialysis clinic or center. A patient and family member can be trained to do it at home as well.

A second form of treatment available is peritoneal dialysis. In peritoneal dialysis (PD), a special fluid is run in and out of the patient's abdominal cavity, with membranes within the abdomen acting to remove the poisons. This also is called continuous ambulatory peritoneal dialysis.

Patients with ESRD or end stage renal disease must continue dialysis indefinitely unless they receive the gift of life, a kidney transplant. A transplanted kidney may come from a living donor or from a donor who has recently died: a cadaveric kidney transplant. In this case the donor or his family had designated his or her kidneys for transplantation.

Your nephrologist will explain the details to you if your condition requires either dialysis or transplantation. If you receive a kidney transplant, your nephrologist may participate in your care post-transplant to help manage your blood pressure, the interactions of medications, and other problems that may arise.

Sometimes, hemodialysis is needed for a short period of time in the case of acute renal failure. This form usually occurs in the face of an acute precipitating event such as shock. Resolution of kidney failure is usually the normal course, but dialysis is needed during this crucial time until the offending circumstances resolve. The dialysis again in this event is not to “jumpstart” the kidneys but to support the patient until recovery, when hopefully the kidneys will recover.



Can the nephrologist give me a routine physical checkup?

Certainly. Because a nephrologist is a trained internist as well, he or she can perform a comprehensive physical examination and order all the appropriate diagnostic work necessary as part of everyday practice. Some nephrologists prefer to see only patients referred from another healthcare provider; others may perform regular examinations of patients without referrals. During an examination, if a condition is found that does not fall within the specialty of nephrology, the nephrologist may arrange for you to obtain the services of another physician.

What about my care when my nephrologist is not available?

In his or her absence, your nephrologist may have another nephrologist or a similarly trained physician to take care of you. For emergencies, always call 911 or go to the nearest emergency room.

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