TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P. M.G. PESACRETA, M.D. A. J. KARAMBELKAR, M.D.
J.E. McCANN, D.O. E.B. BAHTA, M.D. S. HE, M.D., Ph.D.
A.I. WOLFERT, M.D. J.C. SYSAK, D.O. E. KURTZ, M.D.
Q. XIE, M.D., Ph.D. N.D. PATEL, M.D. S. TOROK, CRNP

Kidney & Hypertension Education

*Anemia – *Bone Disease – *Diabetes & Kidney Disease - *Diabetic Nephropathy - *Glomerulonephritis - *High Blood Pressure – *Kidney Disease - *Kidney Stones - *Lupus - *Nephritis - *Polycystic Kidney Disease - *Proteinuria & Microalbuminuria - *Pyelonephritis - *Renal Artery Stenosis - *Renal Osteodystrophy - *Simple Kidney Cysts - *Urinary Tract Infection

Anemia

What is Anemia?
Anemia is an insufficient number of red blood cells (RBC's). Red blood cells are made in bone marrow. Hemoglobin, a protein that binds to oxygen, is the main component of red blood cells.

Red blood cell production is initiated by the hormone erythropoietin (EPO), which is produced in the kidneys. If the kidneys are unable to produce enough EPO, anemia develops.

Injectable EPO(Procrit, Epogen , Aranesp) is a treatment for chronic anemia. The injectable EPO is identical to the natural hormone in its role of stimulating the bone marrow to produce red blood cells. It is seen used in chronic renal failure, oncology and surgery.

Blood transfusions are also another type of treatment in Anemia. Hospitals use blood supplied by blood banks. Blood banks type blood and test the compatibility of donor and recipient blood before transfusion. All types of blood (A, B, AB, and O) can receive O negative blood.
Back to top

1597 Washington Pike, Suite A22, Bridgeville, PA 15017
P: 412-489-6919 F: 412-489-6279

TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P. M.G. PESACRETA, M.D. A. J. KARAMBELKAR, M.D.
J.E. McCANN, D.O. E.B. BAHTA, M.D. S. HE, M.D., Ph.D.
A.I. WOLFERT, M.D. J.C. SYSAK, D.O. E. KURTZ, M.D.
Q. XIE, M.D., Ph.D. N.D. PATEL, M.D. S. TOROK, CRNP

Bone Disease

What is Bone Disease?

It is not uncommon for patients with chronic kidney disease to have problems with their bones. The bones tend to become thin and weak, which causes them to break easily or they may begin to hurt. This happens because the minerals begin to come out of the bones.
The most common types of bone disease happen when:

- The balance between the two important minerals in your body, Calcium and Phosphorus, change leading to the loss of calcium in the bones.
- Four small glands (Parathyroid glands), which regulate calcium in your body, become too active.
- A change occurs in the way your body uses vitamin D, a mineral that is important to healthy bones.

Your doctor will examine you and do certain blood tests to decide what type of bone disease you have and what treatment is best for you.

Back to top

Diabetes & Kidney Disease

What is Diabetes?
Diabetes is a disease in which the body does not produce enough insulin or cannot properly use the insulin it produces. There are two types of diabetes. Type I or insulin dependent diabetes mellitus and Type II or non-insulin dependent diabetes mellitus. There are about 14 million people in the United States with diabetes.

What effects does Diabetes have on the body?
Diabetes effects all the blood vessels, large and small and major organs in your body. It is the leading cause of kidney failure, blindness, poor circulation leading to amputations, and is a major contributor to heart disease and stroke. Diabetes that is not controlled properly can lead to kidney damage or diabetic nephropathy, a disease in which the damaged kidneys do not cleanse the body of its waste products.

TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P. M.G. PESACRETA, M.D. A. J. KARAMBELKAR, M.D.
J.E. McCANN, D.O. E.B. BAHTA, M.D. S. HE, M.D., Ph.D.
A.I. WOLFERT, M.D. J.C. SYSAK, D.O. E. KURTZ, M.D.
Q. XIE, M.D., Ph.D. N.D. PATEL, M.D. S. TOROK, CRNP

Will all diabetics get kidney disease?

Although diabetes is the most common cause of end stage renal disease, not all diabetics will have kidney failure. It accounts for about 35% of all patients with chronic renal failure.

What are the signs of kidney failure?

- Hypertension or high blood pressure
- Swelling of the ankles, legs, hands, and around the eyes Nausea and vomiting
- Weakness and anemia
- Protein in the urine
- Itching
- Elevated BUN and creatinine levels
-

What can be done to help slow kidney damage?

1. Control hyperglycemia or high blood sugar
   Routine blood sugar monitoring should be done at home. Good control can lower your risk of kidney disease. Medications should be taken as ordered by your physician.

2. Control hypertension or high blood pressure
   Routine blood pressure monitoring should be done at home. The higher your blood pressure the harder your kidneys have to work. You will be placed on medications for your blood pressure. Drugs called ace inhibitors are commonly prescribed. These drugs are used because of their ability to slow down the disease process. We would like to see your blood pressure at 120 / 80.

3. Dietary modifications and weight control
   Lowering your daily intake of protein can slow the process of kidney disease. With a low protein diet, the kidneys do not have to work as hard. If you have high blood pressure, your sodium or salt should be decreased. Your intake physician will discuss this with you and will advise you to have a dietary consult.

4. Prevent infection
   People who have diabetes are prone to more serious infections and complications. Immediate attention to any urinary tract problems is advised.

Back to top

1597 Washington Pike, Suite A22, Bridgeville, PA 15017
P: 412-489-6919 F: 412-489-6279

TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P. M.G. PESACRETA, M.D. A. J. KARAMBELKAR, M.D.
J.E. McCANN, D.O. E.B. BAHTA, M.D. S. HE, M.D., Ph.D.
A.I. WOLFERT, M.D. J.C. SYSAK, D.O. E. KURTZ, M.D.
Q. XIE, M.D., Ph.D. N.D. PATEL, M.D. S. TOROK, CRNP

Diabetic Nephropathy

Diabetic Nephropathy is a disease of the kidney that includes inflammation, degenerative, and sclerotic lesions of the kidney. The disease develops as a result of Diabetes Mellitus. As the disease progresses the damaged kidneys do not cleanse the body of its waste products. This complication of diabetes mellitus often leads to end stage renal disease.

Although there is no prevention for Diabetic Nephropathy, there are several ways to reduce or delay the processes.

1. Normalization of blood pressure
Early identification and aggressive treatment of high blood pressure are key elements in the prevention of chronic renal failure from any cause. Medications known as ace inhibitors and angiotensin 2 receptor blockers are commonly used to control high blood pressure.

2. Strict blood sugar control
Strict control is known to delay the damage that causes Diabetic Nephropathy.

3. Sodium restriction
As the kidney damage progresses and the filtration rate declines, salt and water tend to be retained. This may also affect your blood pressure. You may be advised to restrict your sodium intake.

4. Dietary protein restriction
Lowering your protein intake reduces the work of your kidneys. This may help in slowing the process of Diabetic Nephropathy.

1597 Washington Pike, Suite A22, Bridgeville, PA 15017
P: 412-489-6919 F: 412-489-6279

Individuals vary considerably; it may take years for symptoms to appear. This may be a result of vascular changes, changes that occur related to the metabolism of carbohydrates, fats, and proteins, and to the extent which the blood pressure and blood sugar have been controlled. As the disease progresses you will have a change in lab studies; Serum Creatinine and BUN will increase, Urinalysis results will show proteinuria. During this time, you will be followed closely by your Nephrologist.

They will monitor your lab studies and adjust your medications as needed. You may also be advised to see a dietician for dietary modifications.
Back to top

Glomerulonephritis

What is Glomerulonephritis?
Nephritis is a short name for Glomerulonephritis, a group of kidney diseases where the filtering part of the kidney is inflamed.

What are the different types of Glomerulonephritis?
There are two types of Glomerulonephritis, **Acute** and **Chronic**:

The **acute** form develops suddenly. Common bacterial or viral infections, such as strep throat, or a skin infection are often associated with this disease. In acute Glomerulonephritis there is a tendency for spontaneous recovery.

What are the signs and symptoms of the Acute form?

- Sore throat
- Blood in urine
- Swelling of face
- Increased blood pressure
- Decreased kidney function
- Loss of energy

The acute phase of the disease lasts from three to four weeks. Usually, any complications can be treated successfully if recognized early. During this time there is close observation to detect any signs of complications. Rest and dietary modifications are required. Complete recovery generally occurs in less than one month.

Chronic Glomerulonephritis

In some cases the acute form may progress to the chronic form, but in most cases the cause is unknown. In the chronic form there is progressive damage of the kidney tissue. In the early stages of the disease the only abnormal findings may be protein and / or blood in the urine. As the disease progresses you may show symptoms of high blood pressure and have swelling of the face and legs. If there is a severe loss of kidney function or kidney failure you will have the following signs:

- Loss of appetite
- Nausea and vomiting
- Extreme fatigue
- Difficulty sleeping
- Itching and dry skin
- Muscle cramps

Chronic Glomerulonephritis is one of the most common causes of chronic kidney failure leading to End Stage Renal Disease.

What treatment is available for Chronic Glomerulonephritis?

There is no way to prevent Glomerulonephritis, but there are several treatments that can slow down the progression of kidney disease:

- Control high blood pressure
- Dietary modifications, (a diet low in protein, sodium and potassium)
- Diuretics ,(to control excess retention of body fluid)
- Steroids
- Plasmapheresis, (a special blood filtering process)

Other kidney diseases that have similar signs and symptoms are:

- Systemic Lupus Erythematosus
- Henoch-Schonlein Purpura
- Vasculitis
- Good Pasture's Disease
- Membrano-Proliferative Glomerulonephritis
- IgA Nephropathy
- Focal and Segmental Glomerulonephritis

Back to top

High Blood Pressure

What is High Blood Pressure?
High Blood Pressure or Hypertension occurs when the force of blood pushing against the walls of your arteries increases.

What causes High Blood Pressure?
Many different diseases can cause High Blood Pressure, although in 90% of the cases, the cause is unknown. This is known as Primary or Essential Hypertension.

There are several risk factors that can increase your chances of having High Blood Pressure. They include:

- Family history of High Blood Pressure
- Race (African Americans are affected more often)
- Obesity
- Age (chances increase as you get older)
- Diet (excess sodium can lead to High Blood Pressure)
- Stress
- Smoking

TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P. M.G. PESACRETA, M.D. A. J. KARAMBELKAR, M.D.
J.E. McCANN, D.O. E.B. BAHTA, M.D. S. HE, M.D., Ph.D.
A.I. WOLFERT, M.D. J.C. SYSAK, D.O. E. KURTZ, M.D.
Q. XIE, M.D., Ph.D. N.D. PATEL, M.D. S. TOROK, CRNP

What are the symptoms of High Blood Pressure?

- Headaches
- Fatigue
- Dizziness
- Shortness of breath
- Chest pain
- Blurred vision
- Nose bleeds
- Protein in the urine

How is High Blood Pressure related to kidney disease?

Kidney Disease may cause you to have High Blood Pressure but more often High Blood Pressure causes kidney disease. Over time, the stress that is added to the working units of the kidneys or nephrons becomes damaged. This can lead to kidney failure. High Blood Pressure is the second leading cause of kidney failure in the United States. By controlling your blood pressure you can decrease the chances of kidney disease and other complication.

How is High Blood Pressure treated?

There are several ways that you can help to control your High Blood Pressure:

- Lose weight
- Stop smoking
- Cut down on your salt intake
- Exercise
- Reduce stress
- Reduce your consumption of alcohol
- Take medications as ordered by your doctor

Your blood pressure should be checked at least once a year and more often if not controlled well. We recommend that you monitor your blood pressure at home on a routine basis in addition to seeing your doctor.

Back to top

1597 Washington Pike, Suite A22, Bridgeville, PA 15017
P: 412-489-6919 F: 412-489-6279

TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P.
J.E. McCANN, D.O.
A.I. WOLFERT, M.D.
Q. XIE, M.D., Ph.D.
M.G. PESACRETA, M.D.
E.B. BAHTA, M.D.
J.C. SYSAK, D.O.
N.D. PATEL, M.D.
A. J. KARAMBELKAR, M.D.
S. HE, M.D., Ph.D.
E. KURTZ, M.D.
S. TOROK, CRNP

Kidney Disease

Functions of the Kidney

Your kidneys are powerful chemical factories that perform life-sustaining operations to keep the other body organs in balance, such as:

- Removing waste products and excess fluid from the body
- Producing hormones (to regulate blood pressure and those to stimulate the production of red blood cells)
- Synthesize vitamins which control growth
- Balance the body's fluids, electrolytes, and ph

Renal insufficiency is revealed when the kidneys cannot meet the normal demands the body requires. When your kidneys become damaged by disease, the entire body is affected as well.

Kidney disease may either be **acute** or **chronic** in nature.

Acute renal failure is a sudden, severe impairment of renal function.

Chronic Renal Failure is a slow, progressive, and irreversible impairment of renal function.

In both situations the goal is to preserve the kidney function. This is done by medication, dietary modifications, and closely monitoring the kidney status through special lab tests and procedures.

1597 Washington Pike, Suite A22, Bridgeville, PA 15017
P: 412-489-6919 F: 412-489-6279

Types of Kidney Disease

Although there are many causes of kidney disease, they can be placed into three different categories:

- Hereditary Disorders
- Congenital Disease
- Acquired Kidney Disease (meaning inflammation of the kidney)

Common warning signs of kidney disease include:

- Burning or difficulty during urination
- Increase or decrease in the frequency of urination
- Passage of bloody urine
- Puffiness of the eyes, hands and feet
- Pain in the small of the back just below the ribs
- High blood pressure
- Puffiness of the eyes, hands and feet
- Pain in the small of the back just below the ribs
- High blood pressure

Back to top

Kidney Stones

What are Kidney Stones?

Kidney Stones are small, gravelly Stones formed in the kidney. Usually these Stones are made up of uric acid or calcium. After the stone forms and matures in the kidney it passes down the ureter into the bladder and then out the urethra. It is this movement that causes the pain. Renal stone disease affects approximately 4% of the general population. It is greater in males 4:1. Prompt diagnosis and therapy are required to minimize pain and prevent complications such as infection, obstruction, and kidney damage.

What causes Kidney Stones?

There are a number of factors that can cause Kidney Stones:

- Heredity, your chance increases if someone in your immediate family has had Stones
- Injury, to the kidney can cause a stone to form
- Biochemical imbalances, an increase in calcium in the body can cause the formation of Stones

- Diseases, such as hyperparathyroidism, hyperthyroidism, and certain types of cancer can cause Kidney Stones
- Diet, foods high in oxalate, calcium, and uric acid increase the risk of Stones
- Urinary tract infections, increase the chance of Kidney Stones
- Drinking too little fluid, can cause urine to become very concentrated, which can lead tot he formation of Stones
- Medication, misuse of some medications can enhance Stones to form

What are the symptoms of Kidney Stones?

- Sudden onset of intense pain that radiates to the groin, the pain may be steady or colicky
- Nausea and vomiting
- Burning and frequent urge to urinate
- Blood in the urine
- Fever, chills and weakness
- Obstruction which blocks the flow of urine

How are Kidney Stones diagnosed?

X-rays can usually identify the presence of Stones. Further tests using the injection of dye and sound waves, may be used to identify more accurately the size and location of the Stones and to test kidney function. Blood and urine tests may be done to find the cause of the Kidney Stones. The doctor to plan your best care and treatment may do a complete medical evaluation.

How are Stones treated?

Treatment is aimed toward relief of pain, treatment of infection, and removal of the stone. Most Stones will pass by themselves. They can be treated with an increased fluid intake, diet changes and medication. Stones should always be removed when infection, obstruction or kidney damage is present. If the Stones are not spontaneously passed a surgical procedure or lithotripsy may be done.

Back to top

TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P. M.G. PESACRETA, M.D. A. J. KARAMBELKAR, M.D.
J.E. McCANN, D.O. E.B. BAHTA, M.D. S. HE, M.D., Ph.D.
A.I. WOLFERT, M.D. J.C. SYSAK, D.O. E. KURTZ, M.D.
Q. XIE, M.D., Ph.D. N.D. PATEL, M.D. S. TOROK, CRNP

Lupus

What is Lupus?

Lupus is a chronic systemic disease characterized by pathological changes in the vascular system. It involves the collagen, which serves as a binding substance for the capillaries and small blood vessels. Symptoms include fever, arthritis, signs of renal, lung, and heart involvement. There is usually a skin rash present that spreads across the bridge of the nose and face in a butterfly pattern. Lupus has a higher incidence in females than males. Renal disease is very common in patients with Lupus.

What are the clinical changes?

Urinalysis is usually abnormal, revealing protein and / or blood in the urine. A renal biopsy is commonly done, which may show both glomerular and tubular changes in the kidney. Systemic Lupus erythematous (SLE) or Lupus nephritis has four types of glomerular stages or forms.

1. Mesangial: This is the mildest form of SLE and may show no signs of clinical abnormalities. Some may have mild protein and blood in the urine. The prognosis is excellent unless the patient develops further complications. At this time no renal treatment is required.
2. Focal Proliferative: During the second stage of Lupus, in almost all patients, clinical presentation reveals protein and blood in the urine. Mild renal insufficiency and high blood pressure are uncommon, but can occur. Prognosis is good unless there is transition to a further stage. No treatment is required unless there is chronic changes or transition to a further stage.
3. Diffuse Proliferative clinical presentation will reveal protein and blood in the urine. Nephrotic syndrome, high blood pressure, and renal insufficiency are common and may be severe in this stage. If untreated, progression to end stage renal failure will occur in 2 to 4 years. Patients are treated with steroids and cytotoxic agents (chemotherapy medications).
4. Membranous in this stage 50-90% of the patients have nephrotic syndrome. Urinalysis may reveal hematuria and hypertension may occur. There may be mild renal insufficiency. You may see a slow progression to renal failure in the patients that have persistent nephrotic syndrome. There is remission in one-third of the patients. Treatment depends on renal function. Steroids and cytotoxic agents are used in the treatment of this stage.

Prognosis

The prognosis for patients with SLE has been improving. This improvement is due to the early recognition of the milder forms of the disease, and of the results provided from the medications.

Back to top

Nephritis

What is Nephritis?

Inflammation of the kidneys is called Nephritis. There are two types of Nephritis. The first being called Glomerulo-nephritis and the second called Interstitial-Nephritis. Glomerulo-nephritis involves the glomeruli (the beginning of the nephron) and Interstitial-nephritis involves the tubules and interstitium (tissue binding the nephrons). Both types of nephritis almost always involve both kidneys. When such inflammation occurs, the kidney may fail to function properly.

Nephritis, in extreme cases may cause the kidneys to "shut down". It is then called Acute Nephritis. When the kidney fails quickly it is called acute renal failure. When the inflammation is mild but progressive, it is called chronic nephritis or chronic kidney disease. Patients with chronic kidney disease, during the beginning stages may not have any symptoms and may be unaware of the condition. Most of the time chronic kidney disease is recognized on routine blood and urine tests. When chronic kidney disease progresses, patient may lose the kidney function to the point that he or she will not be able to survive without artificial kidney treatment(dialysis) or a transplant.

Some possible symptoms of Nephritis:

1. Tiredness, generalized feeling of not feeling well
2. Decrease in urine output
3. Increased frequency of urination(polyuria), increased night time urination (nocturia)
4. Cloudy or dark urine
5. Blood in urine(hematuria)
6. Swelling of face and legs
7. Difficulty in breathing

Back to top

TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P. M.G. PESACRETA, M.D. A. J. KARAMBELKAR, M.D.
J.E. McCANN, D.O. E.B. BAHTA, M.D. S. HE, M.D., Ph.D.
A.I. WOLFERT, M.D. J.C. SYSAK, D.O. E. KURTZ, M.D.
Q. XIE, M.D., Ph.D. N.D. PATEL, M.D. S. TOROK, CRNP

Polycystic Kidney Disease

What is Polycystic Kidney Disease?

Polycystic Kidney Disease or (PCKD) is a genetically transmitted disorder. It accounts for 3.4% of end stage renal disease cases. In Polycystic Kidney Disease, normal kidney tissue is replaced by grape like clusters of cysts, varying in size that enlarge over time and destroy the surrounding tissue by compression. Why the cysts form is unknown. Cysts may also be found in the liver and less commonly in the pancreas, spleen, and other organs. Other complications are:

- Infection
- Kidney stones
- Obstruction
- Renal bleeding
- Weakness of the walls of the cerebral arteries that can lead to aneurysm formation and intracerebral or subarachnoid hemorrhage

What are the signs and symptoms of Polycystic Kidney Disease?

Usually the diagnosis of PCKD is not made until the age of 30 to 50, the time at which the symptoms first appear.

Common presenting problems are:

- Back pain
- Abdominal complaints

Blood in the urine

- High blood pressure
- Enlarged kidneys that are palpable on examination

How is Polycystic Disease diagnosed?

There are several ways that Polycystic Kidney Disease can be diagnosed. An ultrasound of the kidneys is usually the first step taken. If the diagnosis is not conclusive, an even more accurate test is the CT scan; it can detect cysts not seen by the ultrasound. A special blood test called, a gene linkage analysis can be done. This test involves looking for the abnormal gene that causes the disease. This test may be done on several people in the family who have the disease to determine if the gene is likely to be carried by others in the family.

1597 Washington Pike, Suite A22, Bridgeville, PA 15017
P: 412-489-6919 F: 412-489-6279

How is Polycystic Kidney Disease treated?
There is no specific treatment available for Polycystic Kidney Disease, at the present time. The goals for treatment concentrate on preventing high blood pressure and infection to preserve kidney function. Routine checkups are recommended to prevent any complications. Kidney dialysis and transplantation are options when there is chronic kidney failure. Genetic counseling is available for those patients who wish a greater understanding of the disease and who are considering pregnancy.

Should a special diet be followed?
No specific diet can prevent the cysts from forming. Although in advanced Polycystic Kidney Disease a low protein diet may slow the progression of kidney failure. If you have high blood pressure the doctor may have you restrict your sodium intake.
Back to top

Proteinuria & Microalbuminuria

Proteinuria is an abnormally high amount of protein in the urine. Proteins in the blood help coagulation (clotting), balance of body fluids and fight infection. The kidneys remove wastes from the protein rich blood through millions of tiny filters called glomeruli. Most proteins are too large to pass through the glomeruli into the urine stream, but when the glomeruli are damaged, proteins pass through the glomeruli and are excreted through the urine. As kidney disease progresses, more protein enters the urine stream.

Albumin is useful in absorbing bodily fluid into the blood. Since the albumin is relatively small, it is often among the first proteins to enter the urine after the glomeruli are damaged.

Causes and Risk Factors
Hypertension and Diabetes are the two biggest risk factors for proteinuria. Weight gain also increases the risk for proteinuria.

Signs and Symptoms

Foamy urine and edema (swelling) are two signs of proteinuria that become more evident as the disease progresses. Excess protein in the urine can cause the urine to foam in water. This occurs because protein can change the surface tension between water and urine.

Decreased amount of albumin in the blood causes edema (swelling) that is first noticeable in the hands, lower legs, and feet. In more serious cases, the face and abdomen will swell.

Complications

People with high blood pressure who develop proteinuria stand a greater chance for kidney failure. Increasing proteinuria in people with Diabetes may be a sign that kidney disease is worsening.

Back to top

Pyelonephritis

Pyelonephritis is a kidney infection, usually caused by bacteria that has spread from the bladder.

Signs and symptoms

- Back, side and groin pain
- Urgent, frequent urination
- Pain or burning during urination
- Fever
- Nausea and Vomiting
- Pus and blood in the urine

Diagnosis is made with urine test to identify the bacteria and formation of white blood cells. If an infection cannot be easily found, x rays may be done to look for abnormalities in the kidneys and bladder. A kidney infection is treated with an antibiotic.

Back to top

TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P. M.G. PESACRETA, M.D. A. J. KARAMBELKAR, M.D.
J.E. McCANN, D.O. E.B. BAHTA, M.D. S. HE, M.D., Ph.D.
A.I. WOLFERT, M.D. J.C. SYSAK, D.O. E. KURTZ, M.D.
Q. XIE, M.D., Ph.D. N.D. PATEL, M.D. S. TOROK, CRNP

Renal Artery Stenosis

Renal Artery Stenosis is the narrowing of the lining of the main artery that supplies the kidney with blood. Depending on the degree of narrowing, patients can develop high blood pressure called hypertension.

Renovascular Hypertension occurs when Renal Artery Stenosis produces a critical narrowing of the artery that supplies blood to one of the kidneys. Reduced blood flow through the renal artery causes the kidney to release increased amounts of hormone called Renin. Renin is the blood pressure regulating hormone released by the kidneys. Renovascular Hypertension can be severe and difficult to control.

The kidney with Renal Artery Stenosis suffers from the decreased blood flow and often shrinks in size (atrophies). This process is called ischemic nephropathy. On the other hand, the other kidney is at high risk for developing damage from high blood pressure.

Causes
Most Renal Artery Stenosis is caused by "hardening of the arteries" i.e. Atherosclerosis. This is the buildup of cholesterol deposits, or plaque, in the lining of the arteries.

Risk Factors
Risk factors associated with Renal Artery Stenosis are:

- Carotid artery disease
- Coronary artery disease
- Diabetes mellitus
- Hypertension (high blood pressure)
- Obesity
- Old age
- Smoking

Signs and symptoms
Conditions that may indicate Renal Artery Stenosis include:

- Different size and shaped kidneys seen on ultrasound
- Difficult to control high blood pressure
- New onset of high blood pressure in someone over 55

1597 Washington Pike, Suite A22, Bridgeville, PA 15017
P: 412-489-6919 F: 412-489-6279

Treatments

Medication is used to treat high blood pressure. Blood pressure medication that directly affects the renin pathway can be effective in blood pressure control.

Angioplasty and stenting may be used to improve blood flow. The goal is to restore the blood circulation to the kidney and prevent the release of excess renin, which can help decrease the blood pressure. This helps prevent shrinking of the kidney. Stenting is done because angioplasty alone by itself has a high incidence of restenosis of the artery.

Surgery to bypass the narrowing may be an option.

Back to top

Renal Osteodystrophy

Renal Osteodystrophy is a bone disease that occurs when your kidneys fail to maintain proper levels of calcium and phosphorus in your blood. It's a common problem in people with kidney disease.

Bone changes from renal osteodystrophy can begin many years before symptoms appear in adults with kidney disease. Older patients and women who have gone through menopause are at greater risk for this disease since they are already vulnerable to osteoporosis. If left untreated bones become thin and weak and you may begin to feel joint and bone pain. There is also an increased risk of bone fractures.

The kidney plays an important role in maintaining healthy bone mass and structure due to one of the kidneys job is to balance Calcium and phosphorus levels in the blood. Calcium is a mineral that builds and strengthens bones. Calcium is found in many foods, particularly dairy products. If calcium levels become too low in the blood four glands called the parathyroid glands release a hormone called parathyroid hormone (PTH). This hormone draws calcium from the bones and over time the removal of calcium weakens the bones.

Phosphorus, which is found in most foods, also helps regulate calcium levels in the bones. When the kidneys stop working normally, phosphorus levels in the blood can become too high, resulting in the loss of calcium from the bones.

Healthy Kidneys produce vitamin D to help the body absorb calcium into the blood and the bones. If vitamin D levels drop too low then the PTH increases and calcium is removed from the bones.

Diagnosis
To diagnose renal osteodystrophy the doctor may take a sample of your blood to measure levels of calcium, phosphorus and PTH.

Treatment
Controlling PTH levels prevents calcium from being withdrawn from the bones. Usually, overactive parathyroid glands are controllable with medication.

If your kidneys aren't making adequate amounts of vitamin D, you can take synthetic vitamin D as a pill.

Elevated phosphorus levels can be treated with changes in diet. Almost all foods contain phosphorus, but phosphorus content is especially high in milk, cheese, dried beans, peas, nuts and peanut butter. Limit drinks such as dark sodas and beer.

Exercise has been found to increase bone strength in some patients. It's important to consult a doctor or health care professional before beginning an exercise program.
Back to top

Simple Kidney Cysts

Simple Kidney Cysts are abnormal pouches containing fluid. Although its cause is not fully understood, it is known that the simple cyst is not inherited. There may be single or multiple cysts developed on small tubes in the kidneys.

Most often simple cysts do not cause harm to the kidneys.
Simple cysts are found by CT scan and Ultrasound of the kidneys. When simple cysts are found and there are no complications, no treatment is needed.
Back to top

TEREDESAI, McCANN & ASSOCIATES, P.C.
Hypertension and Kidney Specialists

P.R. TEREDESAI, M.D., F.A.C.P. M.G. PESACRETA, M.D. A. J. KARAMBELKAR, M.D.
J.E. McCANN, D.O. E.B. BAHTA, M.D. S. HE, M.D., Ph.D.
A.I. WOLFERT, M.D. J.C. SYSAK, D.O. E. KURTZ, M.D.
Q. XIE, M.D., Ph.D. N.D. PATEL, M.D. S. TOROK, CRNP

Urinary Tract Infection

Urinary Tract Infections are a common health problem affecting millions of people each year. UTI's are less common in men, but can be very severe when they do occur.

Normal urine is sterile. It contains fluid, salts and waste product, but it is normally free of bacteria. In most instances bacteria begins growing in the urethra and then moves on to the bladder, causing bladder infection. If the infection is not treated it is sometimes possible for bacteria to go up the ureters to infect the kidneys.

The urinary system is structured in a way that helps ward off infection. The Ureters and bladder normally prevent urine from backing up into the kidneys. In men, the prostate gland produces secretions that slow bacteria growth. But despite these safeguards, infections may still occur.

Some people are more prone to getting a UTI than others. Any abnormality of the urinary tract that obstructs the flow of urine (for example kidney stone) may cause an infection. Also, an enlarged prostate gland also can slow the flow of urine, raising the risk of infection. People with diabetes have a higher risk of a UTI because changes in the immune system.

Symptoms of UTI

- Frequent urge to urinate
- Painful, burning feeling in the area of the bladder during urination
- Tired, shaky and washed out
- Often women feel pressure above the pubic bone
- Men feel pressure in the rectum
- Pain in the back or side
- Nausea or Vomiting

In order for a UTI to be diagnosed the doctor will test a sample of urine for pus and bacteria. You may be asked to give a "clean catch" urine sample in a sterile container. Usually the urine sample is sent to a laboratory to be tested.

1597 Washington Pike, Suite A22, Bridgeville, PA 15017
P: 412-489-6919 F: 412-489-6279

UTIs are treated with antibacterial drugs. The choice of drug and length of treatment depends on the patient's history and the urine tests results that identify the bacteria. Often, a UTI can be cured with 1 or 2 days of treatment.

Still, many doctors ask the patients to take antibiotics for a week or two to ensure that the infection has been cured. A follow up urinalysis helps to confirm that the urinary tract is free of infection. It is very important to take the entire course of treatment because symptoms may disappear before the infection is fully cleared.

Back to top