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THE DISEASE OF THR RENAL SYSTEM

Kidney disease can affect the body's ability to clean the blood, filter extra water out of the blood, and help control the blood pressure. It can also affect red blood cell production and vitamin D metabolism needed for bone health.

Most kidney diseases attack the nephrons. This damage may leave kidneys unable to remove wastes. Causes can include genetic problems, injuries, or medicines. You have a higher risk of kidney disease if you have <u>diabetes</u>, <u>high blood pressure</u>, or a close family member with kidney disease. <u>Chronic kidney disease</u> damages the nephrons slowly over several years. Other kidney problems include

- <u>Cancer</u>
- <u>Cysts</u>

• <u>Stones;</u> (Kidney Stones)

This is a solid deposit (or mass) in the kidney-formed out of substances in urine. It can stay in the kidney or move throughout the system and cause a lot of pain in the urinary system. If it is too large it can get stuck in any area of the urinary system. The stones have to be broken up and pass out of the body for the system to return to normal function. A backup or inability to urinate can occur depending on where the stone is located

• Infections ;(Urinary Tract Infections)

The most common problem with the urinary system is an infection. This infection is called a UTI and is caused by bacteria. A UTI can occur in any part of the renal system. It can be in the bladder, the kidney or the urethra

- Amyloidosis
- Proteinuria

What Your Kidneys Do

Healthy kidneys:

- Keep a balance of water and minerals (such as sodium, <u>potassium</u>, and phosphorus) in your blood
- Remove waste from your blood after digestion, muscle activity, and exposure to chemicals or <u>medications</u>
- Make <u>renin</u>, which your body uses to help manage your blood pressure
- Make a chemical called erythropoietin, which prompts your body to make red blood cells
- Make an active form of vitamin D, needed for bone health and other things

Acute Kidney Problems

If your kidneys suddenly stop working, doctors call it acute kidney injury or <u>acute</u> <u>renal failure</u>. The main causes are:

- Not enough blood flow to the kidneys
- Direct damage to the kidneys themselves
- Urine backed up in the kidneys

Those things can happen when you:

• Have a traumatic injury with blood loss, such as in a car wreck

- Are dehydrated or your muscle tissue breaks down, sending too much protein into your bloodstream
- Go into shock because you have a severe infection called <u>sepsis</u>
- Have an <u>enlarged prostate</u> that blocks your urine flow
- Take certain drugs or are around certain toxins that directly damage the kidney
- Have complications during a <u>pregnancy</u>, such as <u>eclampsia</u> and preeclampsia

<u>Autoimmune diseases</u>, when your <u>immune system</u> attacks your body, can also cause an acute kidney injury.

People with severe heart or liver failure commonly go into acute kidney injury, as well.

Chronic Kidney Disease

When your kidneys don't work well for longer than 3 months, doctors call it <u>chronic kidney disease</u>. You may not have any symptoms in the early stages, but that's when it's simpler to treat.

<u>Diabetes</u> (types 1 and 2) and <u>high blood pressure</u> are the most common culprits. High blood sugar levels over time can harm your kidneys. And high blood pressure creates wear and tear on your blood vessels, including those that go to your kidneys.

Other conditions include:

- Immune system diseases (If you have kidney disease due to <u>lupus</u>, it is called <u>lupus nephritis</u>.)
- Long-lasting viral illnesses, such as <u>HIV</u>/AIDS, hepatitis B, and <u>hepatitis C</u>
- <u>Pyelonephritis</u>, a <u>urinary tract infections</u> within the kidneys, which can result in scarring as the infection heals. It can lead to kidney damage if it happens several times.
- <u>Inflammation</u> in the tiny filters (glomeruli) within your kidneys. This can happen after a strep infection.
- Polycystic kidney disease, a genetic condition where fluid-filled sacs form in your kidneys

Defects present at birth can block the urinary tract or affect the kidneys. One of the most common ones involves a kind of valve between the <u>bladder</u> and urethra. A urologist can often do surgery to repair these problems, which may be found while the baby is still in the womb.

Drugs and toxins, such as <u>lead poisoning</u>, long-term use of some medications including <u>NSAIDs</u> (nonsteroidal anti-inflammatory drugs) like <u>ibuprofen</u> and <u>naproxen</u>, and IV street drugs can permanently damage your

kidneys. So can being around some types of chemicals over time.