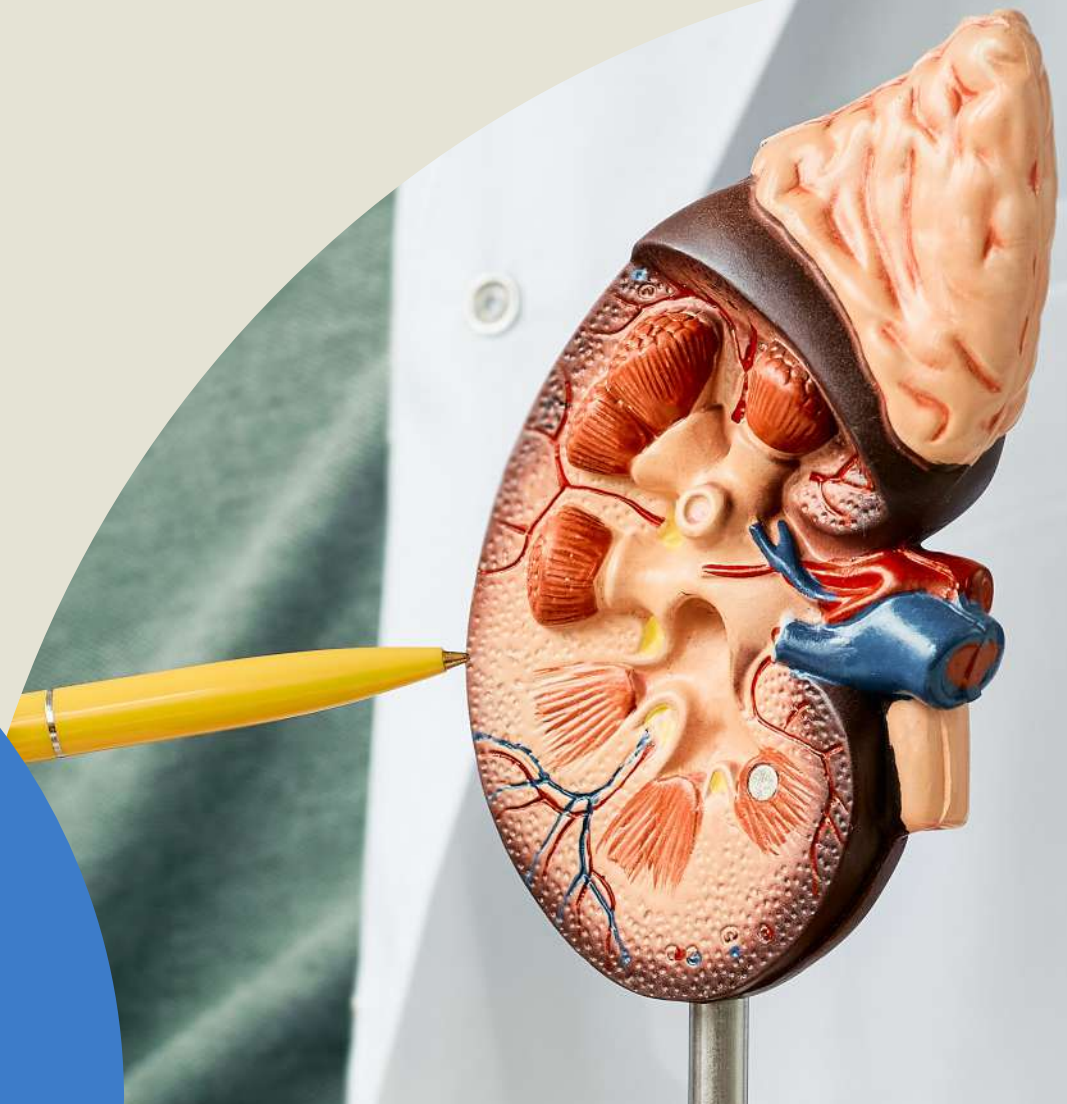


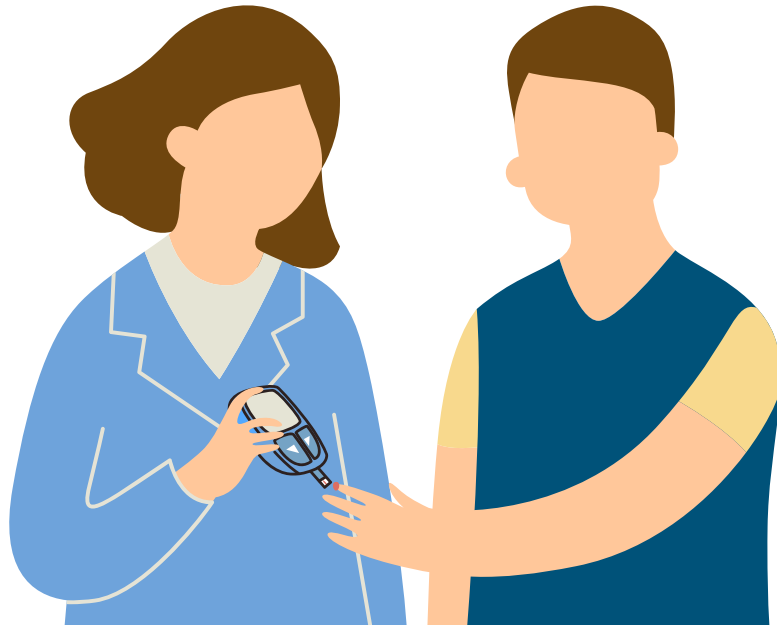
health+pedia

September 2023



UNDERSTANDING DIABETIC NEPHROPATHY

At a Glance: Diabetes



SYMPTOMS



fatigue and weakness



itchy skin



thirst



rapid weight loss



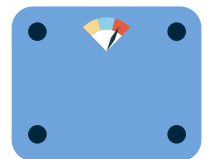
frequent urination



tingling fingertips



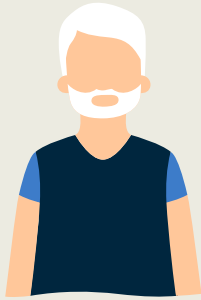
elevated glucose levels



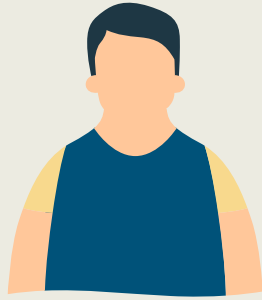
excess weight

At a Glance: Diabetes

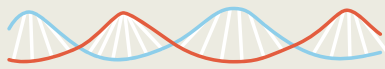
RISK FACTORS



people over 40



obesity



genetic inheritance



high cholesterol



arterial hypertension

PREVENTION



glucose control



healthy eating

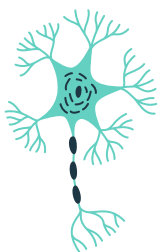


exercise

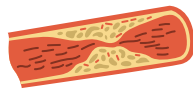


no smoking

COMPLICATION



nerve tissue damage



blood vessels damage



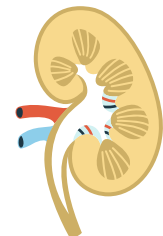
retina damage



diabetic foot



heart damage

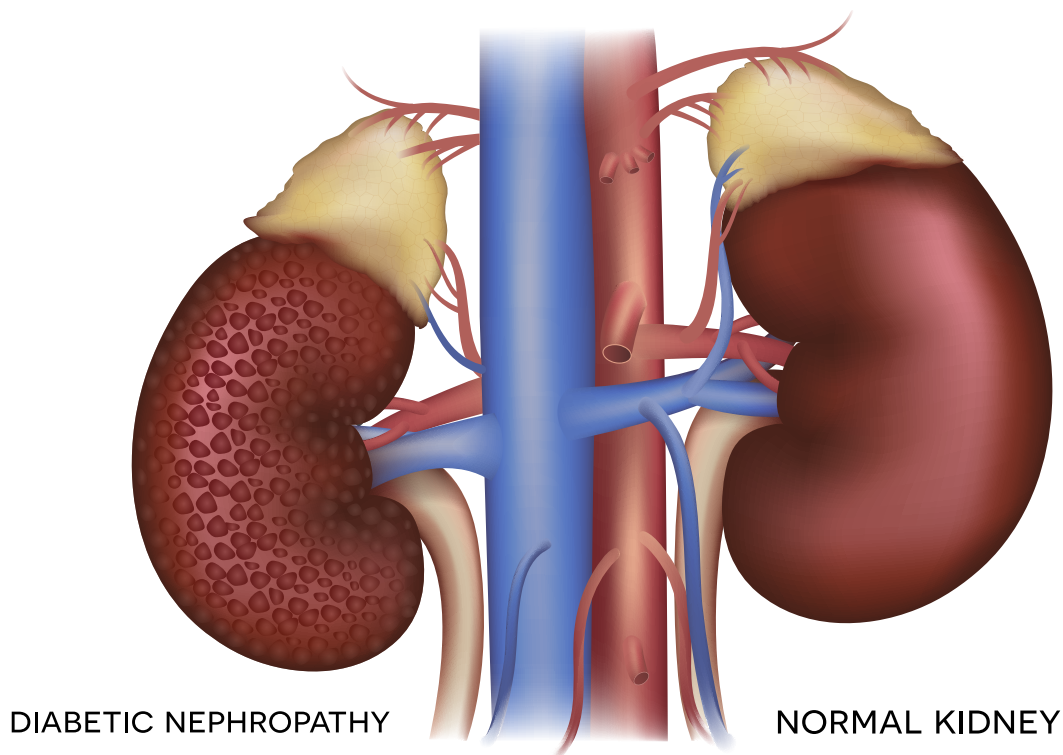


kidneys damage

Diabetic Nephropathy

Diabetic nephropathy, also known as Diabetic related Kidney Disease (DKD), is a major complication of diabetes and its associated condition, hypertension, that affects the kidney.

High blood glucose level associated with diabetes damages the blood vessels and filtration units in the kidneys. This causes kidney damage resulting in compromised kidney function, and as a consequence waste products build up in blood.

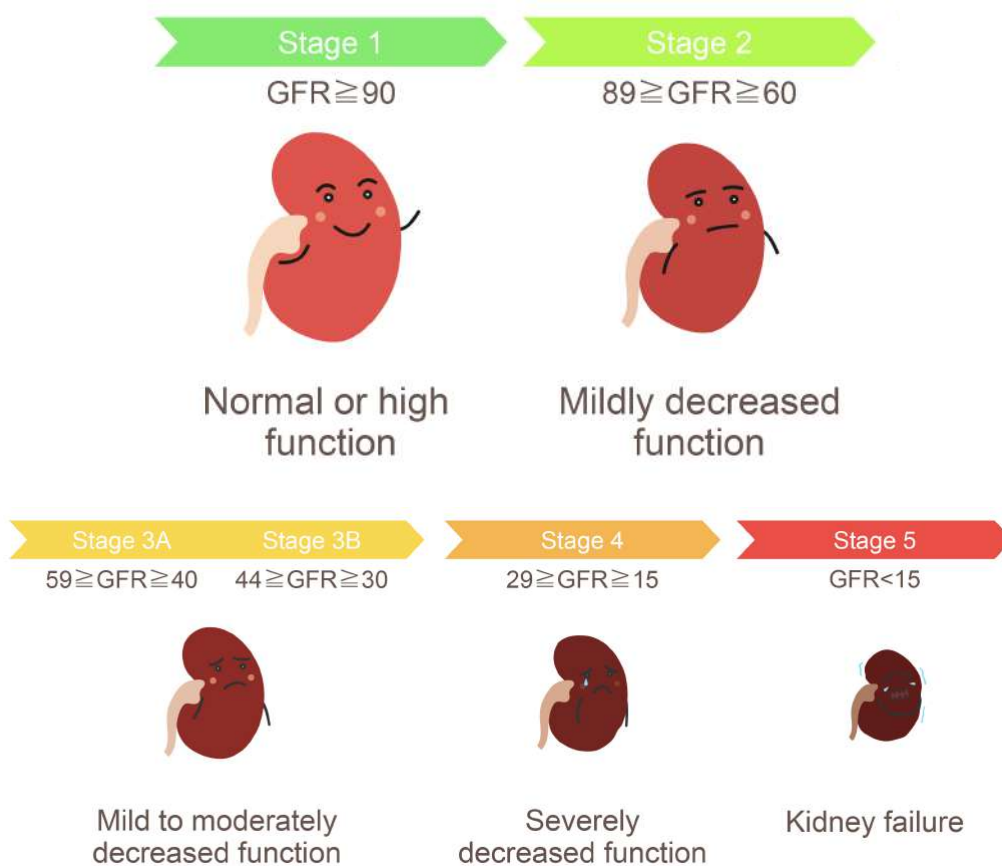


Diabetic Nephropathy

Hypertension (**High blood pressure**), a complication of diabetes, also contributes to diabetic nephropathy. High blood pressure narrows the blood vessels of the kidney, which eventually causes damage to the kidney blood vessel. Once kidney blood vessels are damaged, consequently kidney damage occurs and kidney function is impaired. This further leads to a buildup of waste products and fluid in blood. Extra fluid in the blood can further raise blood pressure even more and cause more damage leading to kidney failure.



Stages of Kidney Failure



Risk Factors

Factors that increase the risk of diabetic nephropathy in patient with diabetes include:

- ▶ Uncontrolled high blood sugar (hyperglycemia)
- ▶ Uncontrolled high blood pressure (hypertension)
- ▶ High blood cholesterol
- ▶ Obesity
- ▶ A family history of diabetes and kidney disease

Symptoms

During early stages, no symptoms of kidney disease are observed. At a more advanced stage, symptoms include:

- ▶ Weight loss and poor appetite
- ▶ Swollen ankles, feet or hands
- ▶ Shortness of breath
- ▶ Tiredness
- ▶ Blood in urine
- ▶ Increased need to pee, particularly at night
- ▶ Difficulty in sleeping
- ▶ Itchy skin
- ▶ Muscle cramps
- ▶ Feeling sick
- ▶ Headaches
- ▶ Erectile dysfunction in men

Diagnosis

- ▶ **Urine tests** to check for albumin, creatinine, blood and protein level.
- ▶ **Blood tests** to measure creatinine and estimate glomerular filtration rate (GFR).
- ▶ **Imaging tests** such as ultrasound, MRI scan or CT scan to assess kidney structure.
- ▶ **Biopsy** (in some cases) to evaluate kidney tissue for damage.

Prevention

- ▶ Monitor blood glucose level.
- ▶ Monitor blood pressure.
- ▶ Adopt a healthy diet, low in salt and processed foods.
- ▶ Limit alcohol intake.
- ▶ Avoid smoke and tobacco-related products.

Treatment

- ▶ Anti-diabetic medication to manage diabetes within acceptable range.
- ▶ Anti-hypertensive medication to control blood pressure.
- ▶ Other medications to manage complications such as anemia and for maintaining calcium and phosphorus levels.
- ▶ Dialysis (hemodialysis or peritoneal dialysis) to filter waste products from the blood, when kidney function severely declines.
- ▶ Kidney transplantation offers a better long-term solution for patients with end-stage renal disease.



Do's & Don'ts post-procedure

DO'S

Regular **medical check-ups**

Maintain **blood sugar level**

Control **blood pressure**

Take **prescribed medications** as directed

Adopt a **healthy diet, low in salt and processed foods**

DON'TS

Smoke. Don't consume alcohol and tobacco-related products

Skip medication

Ignore **any signs and symptoms**

Consume **high potassium and high phosphorus food**

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