

Kidney disease (Nephropathy)

The small blood vessels in kidneys filter about one quart of blood per minute removing waste products from the body that are then eliminated in the urine. If these waste products are not excreted in urine, they can build up in the body and cause kidney damage. If undetected and untreated, kidney damage can lead to the need for dialysis and kidney transplant.

As with diabetic retinopathy, it is damage to the small blood vessels caused by chronically high blood sugar levels that can lead to kidney damage. When blood vessels in the kidneys begin to leak, microscopic amounts of protein called albumin, leak out of the blood and into the urine. This can start a cascade of changes that over time will lead to permanent kidney damage. High blood pressure (hypertension) can also cause these small blood vessels to leak. We look for these early kidney changes by measuring the microscopic amounts of albumin in urine.

The ADA recommendations for screening for nephropathy are similar to those for retinopathy. Annual urine samples should be checked starting at age 10 once duration of 5 years of diabetes has been reached. Normal levels of albumin in the urine are less than 30. Once again, tight blood sugar control (and normal blood pressure) can prevent and reverse these very early changes in kidney function. If the amount of urine albumin exceeds 30, treatment with a type of blood pressure medication called an ACE Inhibitor will decrease the amount of protein in the urine and help protect kidney function.

**Remember, prevention and tight BG control are the BEST
TREATMENT!**