

KIDNEY DISEASE—PROTEINURIA (PROTEIN IN THE URINE)

Overview:

Among the most common abnormal laboratory findings relating to kidney functions is the detection of “*protein in the urine*”, often called *proteinuria* or *albuminuria*. The latter refers to a specific protein commonly found in abnormal urine studies. Healthy kidneys generally do not allow proteins to pass through their filtering mechanism into the urine, although *minute* levels of protein sometimes pass into the urine and are not uncommon. When kidney disease is present, certain membranes of the kidneys may increase in permeability, allowing larger molecules normally held back (including certain proteins) to leak into the urine. Sometimes the *type* of protein found can hint at possible disease, but often the evidence is inconclusive. Albumin is the most common protein reported in insurance company laboratory study - this is why some laboratory studies refer to *albuminuria*, rather than proteinuria, indicating the specific protein detected.

Conditions which can cause proteinuria include: acute or chronic glomerulonephritis; nephrosis; arteriolar nephrosclerosis; Kimmelstiel Wilson’s disease (diabetic nephropathy); collagen disease (e.g. lupus erythematosus); kidney stone; kidney tumor; kidney infection (as in tuberculosis); hydronephrosis; Polycystic Kidney Disease (PKD); heart disease; hypertension; congenital abnormalities; drug use/abuse. Proteinuria does not necessarily mean there is kidney disease; there are certain other conditions, some of them of genetic origin, that can result in protein secretions in the urine. But significant findings of proteinuria of unknown origin normally warrant further investigation.

Impact on Life Underwriting:

In healthy individuals there is little or no protein in the urine. Most laboratories only report a level of protein in the urine over a certain maximal “acceptable” level (typically 10 to 12 mg/dl of urine) as a “positive test” to the insurance company. Once determined the test is positive (i.e. it is above the maximum allowable threshold) the level of protein is reported in a quantifiable way (e.g. 30 mg/dl urine).

Positive findings of protein in the urine typically generate requests for two additional urine specimens taken on different days to see if the condition has resolved. Should both these additional test come back negative, the proposed insured will be considered to have had “*transient*” or “*intermittent*” *proteinuria*. These conditions are often the result of a variety of temporary factors, including highly concentrated urine, exercise, stress, exposure to cold, or a host of non-serious illnesses. These “functional” types of proteinuria will generally lead to an offer as applied for, including preferred.

Protein findings in one or both of the additional specimen will typically result in a rated offer or a postponement subject to further investigation. “*Constant proteinuria*”, as determined by at least two positive tests of the three, indicates the *possibility* for a more serious kidney function abnormality. Glomerular, tubular interstitial, or vascular renal diseases are common in individuals with constant proteinuria, as are certain disorders not related to the kidneys. Further investigation by the proposed insured with their personal physician is often required before offers of insurance are made. Additional testing normally includes testing for presence of red blood cells (*hematuria*), the presence of white blood cells (*pyuria*), and the level of the waste products, including *creatinine* and *blood urea nitrogen (BUN)*. Sometimes the combination of findings can point toward a likely diagnosis and treatment can be attempted. The most definitive method for identifying the exact nature of kidney problems is a kidney biopsy. However, due to the unpleasant nature of the test and the risks involved, some doctors and their patients decide against immediate kidney biopsy - perhaps pending further urine studies and treatment attempts over time. For those cases, an underwriter will consider the level and types of protein found in the urine and all related testing to determine what offer can be made.

Absent specific diagnosis an underwriter will rate higher for high levels of protein. If available, the *protein to creatinine ratio* is calculated. Here too, the higher the ratio, the higher the rating. The table below indicates an approximate guide to underwriting action based on laboratory findings without specific diagnosis. With diagnosis, underwriters will rate based on the mortality statistics available for the condition identified. SB 04/25/2001

Level of protein/albumin	Alternate grading of protein in the urine	Approximate Rating Schedule
10 - 30 mg/dl	1+	Standard to Table 2
31 - 50 mg/dl	1+	Table 2 to Table 3
51 - 100 mg/dl	2+	Table 4 to Table 6
101 - 150 mg/dl	3+	Table 8 to Table 10
151 - 200 mg/dl	4+	Table 12 + Individual consideration
201 mg/dl +	4+	Individual consideration/uninsurable