

Coding Chronic Kidney Disease

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Chronic kidney disease (CKD) affects 20 million Americans, or one in every nine adults, and another 20 million Americans are at risk of developing CKD, according to the National Kidney Foundation. With this prevalence, it is important for coding professionals to understand what CKD is, its underlying causes and risk factors, and treatment options for proper code assignment.

Defining CKD

CKD is defined by the National Kidney Foundation as either kidney damage or a glomerular filtration rate (GFR) less than 60 mL/min/1.73 m² for three months or more. Kidney damage is defined by pathological abnormalities or markers of kidney damage, including abnormalities in the composition of the blood or urine or abnormalities in imaging tests. CKD must be documented by the provider in order to be coded; coders should not assign CKD codes based on GFR alone.

Causes of CKD

There are numerous causes of CKD, ranging from inflammations such as glomerulonephritis to congenital abnormalities such as certain polycystic kidney diseases. However, the most common causes of CKD are diabetes and hypertension.

Diabetes may affect the kidneys in two ways. One is by damaging the blood vessels inside the kidneys; the other is through nerve damage. If the blood vessels in the kidney are damaged, they cannot properly filter all the waste products out of the blood appropriately. If diabetes damages the nerves of the bladder this may lead to increased pressure in the bladder due to incomplete emptying. The increased pressure in the bladder can back up and result in injury to the kidneys.

Hypertension is unique in that it can cause CKD or be the result of it. Hypertension can cause damage to the arteries resulting in insufficient blood flow to the kidneys, leading to CKD. One function of the kidney is to produce hormones to help regulate blood pressure. When CKD is present, hypertension may result due to a disruption to this process.

CKD can develop at any age; however, it is more common as a person ages. Other risk factors besides certain diagnoses are patients with a family history of CKD, African Americans, Hispanics, Pacific Islanders, and Native Americans. It is important for high-risk patients to be routinely evaluated for CKD, as the signs and symptoms of the disease may go undetected until the disease has progressed.

Signs, Symptoms, and Testing

Early symptoms of CKD can be vague, such as malaise and fatigue or nausea and vomiting. Other signs and symptoms include:

- Unintentional weight loss or weight gain
- Headache, trouble concentrating
- Pruritus, dry itchy skin, uremic frost
- Frequent hiccups, poor appetite, excessive thirst
- Nighttime muscle cramps, swollen ankles
- Oliguria, or increased urination, especially at night

GFR is the best measure of the kidneys' functioning level. It is calculated based on blood creatinine level, age, race, gender, and other contributing factors.

Creatinine is a chemical waste product that is released into the bloodstream from muscle activity. Dysfunctional kidneys are unable to filter out creatinine, leaving more of the waste product in the body and creating higher blood creatinine levels. GFR uses the creatinine level and additional factors to provide a better estimate of kidney function. Additional lab tests are commonly performed when detecting and monitoring CKD.

A blood urea nitrogen (BUN) test is one of the additional labs test that measures kidney function. BUN, a waste product, also is filtered out through the kidneys; when kidney function decreases, the BUN level increases.

Proteinuria is another indicator of kidney dysfunction. It reveals if protein has leaked into the urine. Proteinuria can provide a clue to the underlying etiology of CKD, such as diabetes or glomerular diseases. The higher the proteinuria, the faster the progression of CKD.

In addition to lab tests, radiological images such as MRIs, CT scans, ultrasounds, or contrast x-rays may be performed to visualize kidney damage. A renal biopsy may also be performed to determine the type and extent of kidney damage.

Stages, Treatment, and Complications

Chronic kidney disease and its severity are categorized in five stages:

- Stage I (code 585.1), kidney damage with normal or increased GFR (greater than or equal to 90)
- Stage II (code 585.2), kidney damage with mild decreased GFR (60–89)
- Stage III (code 585.3), moderate with decreased GFR (30–59)
- Stage IV (code 585.4), severe decreased GFR
- Stage V (code 585.5) and end-stage renal disease (ESRD, code 585.6), described as kidney failure

Kidney failure describes a GFR less than 15 mL/min/1.73 m² or dialysis. The difference between stage V and ESRD is that ESRD requires chronic kidney dialysis.

Treatment for the disease is dependent upon the patient's CKD stage. Treatment for each stage may include options from the previous stage. Universal precautions include controlling:

- Blood pressure
- Blood sugar
- Triglyceride and cholesterol levels
- Balance calcium and phosphorus levels
- Prevention of anemia with proper hemoglobin levels

Stage I and II treatments are directed at slowing the disease and treating applicable comorbid conditions, such as hypertension. Stage III evaluates and treats complications of chronic kidney disease. Stage IV includes dialysis and preparing for kidney replacement therapy (transplant). Stage V is kidney replacement therapy if uremia is present. The ultimate goal is to slow or stop the progression of CKD.

Many conditions may arise from CKD that require management and treatment. While this is not an all-inclusive list, some of the common conditions are:

- Anemia
- Hypertension
- Electrolyte imbalance, hyperparathyroidism
- Metabolic acidosis and alkalosis
- Congestive heart failure or pericarditis
- Infertility, impotence
- Encephalopathy, neuropathy

If CKD is severe enough to warrant dialysis, then complications can arise from the required vascular access, such as a clot or infection.

Coding CKD

Documenting the stage of CKD—not the GFR—is vital for accurate coding. If the stage is not documented, then code 585.9, Chronic kidney disease, is assigned. If a provider documents both a stage of CKD and ESRD, then only the code for ESRD (585.6) is assigned.

Anemia and Hypertension

One of the challenges with CKD coding is the relationship to other conditions. For example, anemia in CKD is assigned codes 285.21 and 585.x. The sequencing of the codes is dependent upon the reason for the encounter or admission. In order to assign these codes the provider must document the cause-and-effect relationship between CKD and anemia.

ICD-9-CM differs in regard to hypertension and CKD; a cause-and-effect relationship is assumed between the two conditions unless otherwise documented by the provider. The provider must specifically state that the CKD and hypertension are not related in order to not use the combination code.

When hypertension and CKD are documented without further specification, a category 403 code is assigned. The fifth digits and instructional notes reflect the stage of CKD and provide the coding professional with “use additional code” notes. For category 403, a fifth digit of 0 represents CKD, stages I through IV, or unspecified. A fifth digit of 1 represents CKD stage V or ESRD. If a code from category 403 is assigned, then an additional code from 585.x is also assigned to identify the stage of CKD.

Heart Disease

Hypertension may also cause problems with a patient’s heart. However, in this instance ICD-9-CM does not assume a relationship between hypertension and heart disease. This relationship must be stated by the provider. If the provider documents a relationship between the heart disease and hypertension, in addition to CKD, a combination code is assigned. Category 404 represents hypertensive heart disease and CKD.

The fifth digits in this category identify not only the stage of CKD but also the presence or absence of heart failure. Coding professionals should pay special attention to the wording of the fifth digits to ensure the appropriate digit is assigned. Additional codes are assigned to identify the type of heart failure (428.0–428.43) if applicable and to identify the stage of CKD.

Kidney Transplant

As noted earlier, one treatment for CKD is kidney transplant. A kidney transplant does not always restore full function of the kidney, leaving patients with some form of CKD. Coding professionals should not assume that this is a complication of the transplant. It is appropriate to assign 585.x and V42.0 for the same patient. However, if the provider documents a transplant complication, such as rejection, then code 996.81 would be assigned. If the documentation is unclear, the coding professional should query the provider.

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Article citation:

Bronnert, June. "Coding Chronic Kidney Disease" *Journal of AHIMA* 78, no.6 (June 2007): 82-84.
