

Clinical overview

Definition

Chronic kidney disease (chronic renal failure) is longstanding, progressive deterioration of renal function.

Background

The kidneys maintain health by removing wastes and fluid from the body. The kidneys also perform these other important functions:

- Regulate body water and other chemicals in the blood, such as sodium, potassium, phosphorus and calcium
- Remove drugs and toxins
- Release hormones into the blood to regulate blood pressure, make red blood cells and promote strong bones

Causes

The main causes of CKD are hypertension and diabetes mellitus. Some of the other causes include:

- Glomerulonephritis – a group of diseases that cause inflammation and damage to the glomeruli (the filtering units of the kidney)
- Inherited diseases, such as polycystic kidney disease or sickle cell disease
- Congenital malformations (present at birth)
- Diseases of the immune system, such as lupus
- Obstructions caused by problems such as kidney stones, tumors or enlarged prostate gland in men
- Repeated urinary tract infections
- Lead poisoning
- Long-term use of medicines that damage the kidneys – for example, nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen and naproxen

Note: Sometimes the cause is not known.

Signs and symptoms

There may be no symptoms in the early stages of CKD. As kidney function decreases, symptoms may include:

- Abnormal laboratory values (e.g., increased serum creatinine, blood urea nitrogen [BUN] or certain electrolytes)
- High blood pressure that is difficult to control
- Changes in urine output (e.g., urinating less or more frequently than normal)
- Swelling due to fluid buildup in the tissues (edema)

Signs and symptoms – continued

- Fatigue and weakness
- Loss of appetite
- Weight loss
- Nausea and/or vomiting
- Excessive sleepiness or inability to sleep
- Headaches
- Decreased mental sharpness, trouble concentrating
- Dry, itchy skin

Diagnostic tools

- Laboratory testing to check kidney function (urinalysis, blood testing for creatinine, urea, electrolytes, etc.)
- Glomerular filtration rate (GFR) – best test to measure level of kidney function and determine stage of kidney disease
- Imaging tests to evaluate for cause or type of CKD, including ultrasound, computed tomography (CT) scanning, magnetic resonance imaging (MRI)
- Renal biopsy (in some cases)

Treatment

Chronic kidney failure (disease) has no cure, but treatment can help control signs and symptoms, reduce complications and slow the progress of the disease. The first priority is controlling the condition responsible for the kidney failure and its complications (e.g., controlling diabetes or high blood pressure). Other treatments include:

- Proper diet (protein management along with salt, potassium and phosphorus restrictions may help slow disease progression)
- Daily exercise
- Avoidance of dehydration
- Avoidance of smoking and other tobacco products, alcohol and illegal drugs
- Avoidance of substances that are toxic to the kidneys, such as nonsteroidal anti-inflammatory drugs
- Treating complications

In end-stage kidney disease (when kidney function is reduced to 10-15 percent or less of capacity), conservative measures as outlined above are no longer enough. Dialysis or kidney transplant become the only options to support life.

Documentation tips for physicians

Abbreviations

A good rule of thumb for any medical record is to limit – or avoid altogether – the use of abbreviations. While CKD is a commonly accepted medical abbreviation for chronic kidney disease, best practice is as follows:

- The initial notation of an abbreviation should be spelled out in full with the abbreviation in parentheses: “chronic kidney disease (CKD).” Subsequent mention of the CKD can be made using the abbreviation.

Subjective

- In the subjective section of the office note, document the presence or absence of any current symptoms related to chronic kidney disease (e.g., fatigue, weakness, changes in urine output, etc.).

Objective

In the objective section of the office note, document:

- Any current associated physical exam finding (e.g., elevated blood pressure, edema, weight loss, etc.)
- Related diagnostic test results
- Presence of a surgically placed arteriovenous shunt for the purpose of dialysis, along with related exam findings (e.g., presence of a thrill or bruit)

Final assessment/impression

- Document the specific stage of chronic kidney disease. Remember that medical coders are not allowed to calculate the stage of CKD based on documentation of the GFR; the specific stage must be stated in the medical record.
- Include the current status of CKD (stable, worsening, improved, etc.).
- State the cause of CKD, if known. Use linking terms or descriptors that clearly show cause and effect (see “Chronic kidney disease and associated conditions” in the coding section on pages 3 and 4).

Treatment plan

- Document a specific, concise treatment plan for CKD.
- Include specific details of current dialysis status (hemodialysis, peritoneal dialysis, frequency, etc.).
- If referrals are made or consultations requested, the office note should indicate to whom or where the referral of consultation is made or from whom consultation advice is requested.

Treatment plan – continued

Document when the patient will be seen again, even if only on an as-needed basis.

Associated conditions

When no other cause is specified, ICD-10-CM presumes a cause-and-effect relationship between:

- Hypertension and chronic kidney disease
- Hypertension and heart disease
- Diabetes and chronic kidney disease

It remains the physician’s responsibility, however, to document every diagnosis clearly, concisely and to the highest level of specificity. Further, if the physician does not want these conditions to be coded as related, the medical record must specifically state they are unrelated.

The physician should clearly document cause-and-effect relationships through the use of linking terms, such as “with,” “due to,” “secondary to,” “associated with,” “related to,” etc. Best practice is to use descriptors such as “hypertensive” or “diabetic.” For example:

- “Diabetic chronic kidney disease, stage 4”
- “Diabetic and hypertensive chronic kidney disease, stage 3”

Documentation and coding examples

Example 1	
Final diagnosis	Renal disease
ICD-10-CM code	N28.9 Disorder of kidney and ureter, unspecified
Comment	A vague and nonspecific diagnostic statement leads to assignment of a vague and nonspecific ICD-10 code.

Example 2	
Final diagnosis	Chronic kidney disease, GFR 40
ICD-10-CM code	N18.9 Chronic kidney disease, unspecified
Comment	GFR is documented, but since the specific stage of CKD is not specified, code N18.9 must be assigned.

Example 3	
Final diagnosis	Stage 5 CKD on hemodialysis
ICD-10-CM code(s)	N18.6 End-stage renal disease Z99.2 Dependence on renal dialysis
Comment	CKD requiring chronic dialysis codes to N18.6 even when not described as end-stage renal disease (ESRD).

ICD-10-CM tips and resources for coders

Coding basics

For accurate and specific diagnosis code assignment:

- Review the entire medical record to verify CKD is a current condition.
- Note the exact description of CKD documented in the medical record; then, in accordance with ICD-10-CM official coding conventions and guidelines:
 - Search the alphabetic index for that specific description.
 - Verify the code in the tabular list, carefully following all instructional notes.

Coding CKD

CKD classifies to category N18. This category includes instructional notes advising to:

Code first any associated:

Diabetic chronic kidney disease (E08 – E13 with .22)

Hypertensive chronic kidney disease (I12.-, I13.-)

Use additional code to identify kidney transplant status, if applicable (Z94.0).

ICD-10-CM classifies CKD based on the severity of the condition, designated by stages 1-5.

- CKD stage 1 N18.1
- CKD stage 2 N18.2 (mild)
- CKD stage 3 N18.3 (moderate)
- CKD stage 4 N18.4 (severe)
- CKD stage 5 N18.5

Excludes1 CKD stage 5 requiring chronic dialysis (N18.6)*

- End-stage renal disease N18.6

Includes CKD requiring chronic dialysis*

Use additional code to identify dialysis status (Z99.2)

*These instructional notes indicate CKD requiring chronic dialysis classifies to N18.6 even when the condition is not specifically documented as end-stage renal disease.

Chronic kidney disease, unspecified, codes to N18.9, which includes:

- Chronic renal disease
- Chronic renal failure not otherwise specified (NOS)
- Chronic renal insufficiency
- Chronic uremia not otherwise specified (NOS)
- Diffuse sclerosing glomerulonephritis not otherwise specified (NOS)

If both a stage of CKD and ESRD are documented, assign code N18.6 only.

Glomerular filtration rate (GFR)

GFR is a laboratory blood test used to measure the level of kidney function and determine the stage of kidney disease. It is calculated based on the patient's blood creatinine level, age, body size and gender.

- Note: It is not appropriate to code the stage of CKD based on GFR alone. Rather, the physician must specifically document the stage of CKD.
- If a physician documents the GFR but does not document the stage of CKD (or current chronic hemodialysis), unspecified code N18.9 is assigned.

Renal (kidney) dialysis

Renal dialysis status classifies to code Z99.2, Dependence on renal dialysis. Code Z99.2:

Includes:

- Hemodialysis status
- Peritoneal dialysis status
- Presence of arteriovenous shunt for dialysis
- Renal dialysis status NOS (not otherwise specified)

Excludes1:

- Encounter for fitting and adjustment of dialysis catheter (Z49.0-)

Excludes2:

- Noncompliance with renal dialysis (Z91.15)

Chronic kidney disease and associated conditions

According to the ICD-10-CM Official Guidelines for Coding and Reporting (section I.A.15), the word "with" should be interpreted to mean "associated with" or "due to" when it appears in a code title, the alphabetic index or an instructional note in the tabular list.

- The classification presumes a causal relationship between the two conditions linked by these terms in the alphabetic index or tabular list.
- These conditions should be coded as related even in the absence of physician documentation explicitly linking them, unless the documentation clearly indicates the conditions are unrelated.
- For conditions not specifically linked by these relational terms in the classification, physician documentation must link the conditions to code them as related.
- The word "with" in the alphabetic index is sequenced immediately following the main term, not in alphabetical order.

ICD-10-CM tips and resources for coders

CKD and associated conditions – continued

Based on section I.A.15 of the official guidelines concerning the word “with” – when no other cause is specified in the medical record, the ICD-10-CM classification presumes a cause-and-effect relationship between:

- Hypertension and chronic kidney disease
- Hypertension and heart disease
- Diabetes and chronic kidney disease.

Hypertensive chronic kidney disease

- Assign codes from category I12, hypertensive chronic kidney disease, when both hypertension and a condition classifiable to category N18, chronic kidney disease, are present (unless the medical record indicates hypertension is not the cause of CKD).
- Use an additional code to identify the stage of chronic kidney disease (category N18).
- If a patient has hypertensive chronic kidney disease and acute renal failure, an additional code for acute renal failure is required.

Hypertensive heart and chronic kidney disease

- When a medical record supports both hypertensive heart disease and hypertensive kidney disease, assign a code from category I13, hypertensive heart and chronic kidney disease.
 - If heart failure is present, use an additional code to identify the type of heart failure (category I50).
 - Assign an additional code from category N18 to identify the stage of chronic kidney disease.
- The codes in category I13 are combination codes that include all three conditions: hypertension, heart disease and chronic kidney disease.
 - Category I13 specifies that the conditions included at I11 (hypertensive heart disease) and I12 (hypertensive CKD) are included in I13.
 - If a patient has hypertensive heart disease and hypertensive chronic kidney disease, use a code from combination category I13 rather than individual codes for hypertension, heart disease and chronic kidney disease or codes from categories I11 or I12.

Diabetes and chronic kidney disease

As noted, diabetes and chronic kidney disease are linked by the term “with” in the alphabetic index. Therefore, these two conditions should be coded as related even in the absence of physician documentation explicitly linking them, unless the documentation clearly indicates the conditions are unrelated.

When a medical record documents CKD as coexisting with both diabetes and hypertension, CKD should be coded as both diabetic CKD and hypertensive CKD, unless documentation specifies CKD is not caused by hypertension and/or diabetes.

Diabetes mellitus (DM), hypertension (HTN) and CKD

When the medical record documents current diagnoses of CKD, HTN and DM but does not document cause-and-effect linkage between any combination of the three:

- Presume CKD is linked to both conditions and code both hypertensive CKD and diabetic CKD.

When the medical record documents DM coexisting with hypertensive CKD with no cause-and-effect linkage between DM and CKD:

- Code only hypertensive CKD; do not code diabetic CKD. The descriptor “hypertensive” specifically identifies hypertension as the cause of CKD. CKD should not be coded as diabetic because the physician has specifically documented a different cause (HTN).

When the medical record documents HTN coexisting with diabetic CKD with no cause-and-effect linkage between HTN and CKD:

- Code only diabetic CKD; do not code hypertensive CKD. The descriptor “diabetic” specifically identifies diabetes as the cause of CKD. CKD should not be coded as hypertensive because the physician has specifically documented a different cause (DM).

In accordance with ICD-10-CM Official Guidelines for Coding and Reporting, when the cause of CKD is documented with terms of uncertainty, do not code the cause as if it is confirmed. Example: Chronic kidney disease stage 4 “likely” due to diabetes – do not code diabetic CKD because the documentation indicates it is not certain that diabetes is the cause.

ICD-10-CM tips and resources for coders

CKD and kidney transplant status

Patients who have undergone kidney transplant still may have some form of CKD because the kidney transplant may not fully restore kidney function. Therefore, the presence of CKD alone does not constitute a transplant complication. When there is no documentation of kidney transplant complication:

- Assign the appropriate code from category N18 for the patient's stage of CKD and code Z94.0, kidney transplant status.

If a transplant complication – such as failure, rejection or other transplant complication – is specifically documented, assign a code from subcategory T86.1-, complications of kidney transplant.

- A code from subcategory T86.1- should not be assigned for post-kidney transplant patients who have CKD unless a transplant complication, such as transplant failure or rejection, is specifically documented.
- If the documentation is unclear as to whether the patient has a complication of the kidney transplant, query the physician for clarification.
- Conditions that affect the function of the transplanted kidney, other than CKD, should be assigned a code from subcategory T86.1- and a secondary code that identifies the complication.

References: American Hospital Association Coding Clinic; ICD-10-CM Official Guidelines for Coding and Reporting; Mayo Clinic; Merck Manual; National Kidney Foundation; WebMD