

# Chronic Kidney Disease

Risk Adjustment Programs for Provider  
Engagement and Education

2023

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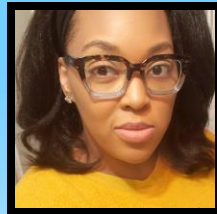
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# Housekeeping



This Presentation will be available on the Blue Cross NC Provider's Risk Adjustment webpage for educational purposes only.



Please submit questions in the chat box webinar



If we cannot answer your question during the session, the response will be emailed to you after the Webinar.



This presentation is intended for both physicians and office staff. The information contained in this presentation and responses to the questions are not intended to serve as official coding or legal advice.



All Coding should be considered case by case basis and should be supported by medical necessity and the appropriate documentation reflected within the medical record.

# Agenda

## Chronic Kidney Disease Coding

Chronic Kidney Disease Overview

Common Symptoms & Risk Factors

Chronic Kidney Disease Testing

- Screening Tests
- Diagnostic Tests

Chronic Kidney Disease Diagnosing

- Stages of Kidney Disease

Treatment Options

- Treatment Side Effects
- Prophylactic Treatment
- Post Treatment Examinations

CKD Coding Stages

Q&A

# Objectives

## After this webinar participants will have:

- ✓ A foundational level of Chronic Kidney Disease including the disease process, treatment available, and potential complications
- ✓ Knowledge of frequently used ICD-10 coding sets related to Chronic Kidney Disease Coding
- ✓ Demonstrate knowledge of ICD-10 coding guidelines



On a scale from 1-5, How comfortable are you with Chronic Kidney Disease Coding?

1  
Not  
comfortable

2  
Familiar

3  
Neutral

4  
Proficient

5  
Expert

# Chronic Kidney Disease- Overview



# Chronic Kidney Disease Overview, Diagnosing, Management and Treatment



## Kidney Structure

- The kidneys are two bean-shaped organs in the renal system.
- They help the body pass waste as urine. They also help filter blood before sending it back to the heart

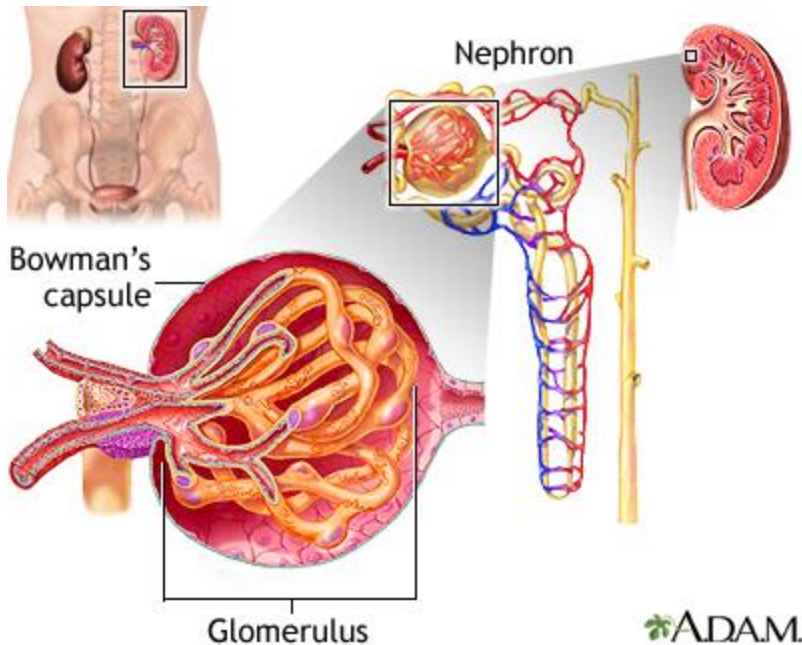
## Kidney Function

- Maintaining overall fluid balance
- Regulating and filtering minerals from blood
- Filtering waste materials from food, medications, and toxic substances
- Creating hormones that help produce red blood cells, promote bone health, and regulate blood pressure

# Chronic Kidney Disease Overview, Diagnosing, Management and Treatment

## How do the Kidneys Filter Waste?

- Each kidney contains about one million tiny units called nephrons. Each nephron is made up of a very small filter, called a glomerulus, which is attached to a tubule. As blood passes through the nephron, fluid and waste products are filtered out.
- While the kidneys are filtering out waste, they are keeping chemicals, such as potassium and sodium, and water in balance.



# Chronic Kidney Disease Overview, Diagnosing, Management and Treatment

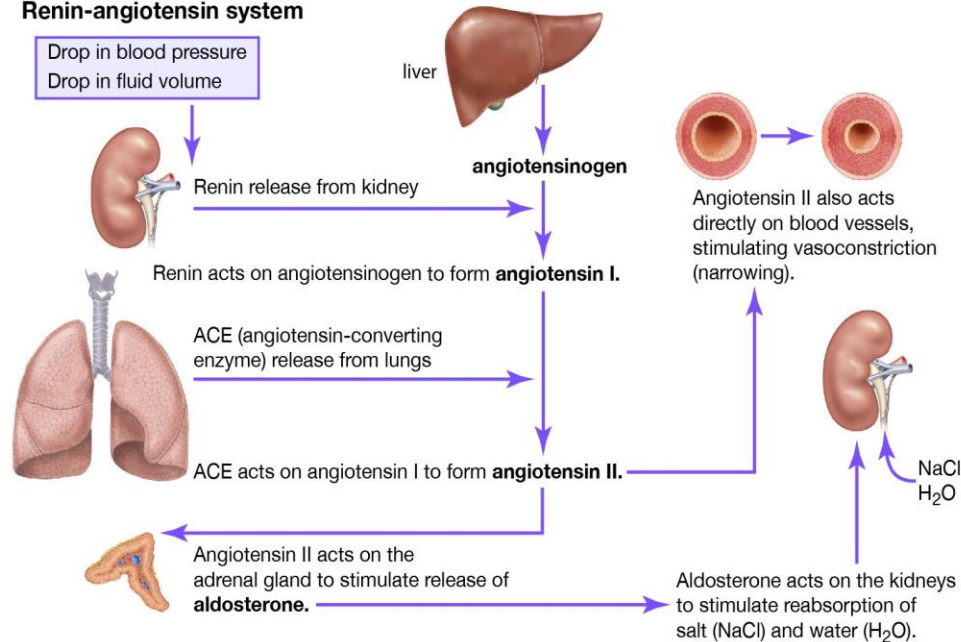
## How do the Kidneys Maintain Water Balance?



- Water balance is achieved in the body by ensuring that the amount of water consumed in food and drink (and generated by metabolism) equals the amount of water excreted. The consumption side is regulated by behavioral mechanisms, including thirst and salt cravings. While almost a liter of water per day is lost through the skin, lungs, and feces, the kidneys are the major site of **regulated** excretion of water.
- One way the kidneys can directly control the volume of bodily fluids is by the amount of water excreted in the urine. Either the kidneys can conserve water by producing urine that is concentrated relative to plasma, or they can rid the body of excess water by producing urine that is dilute relative to plasma.

# Chronic Kidney Disease Overview, Diagnosing, Management and Treatment

## Renin-angiotensin system



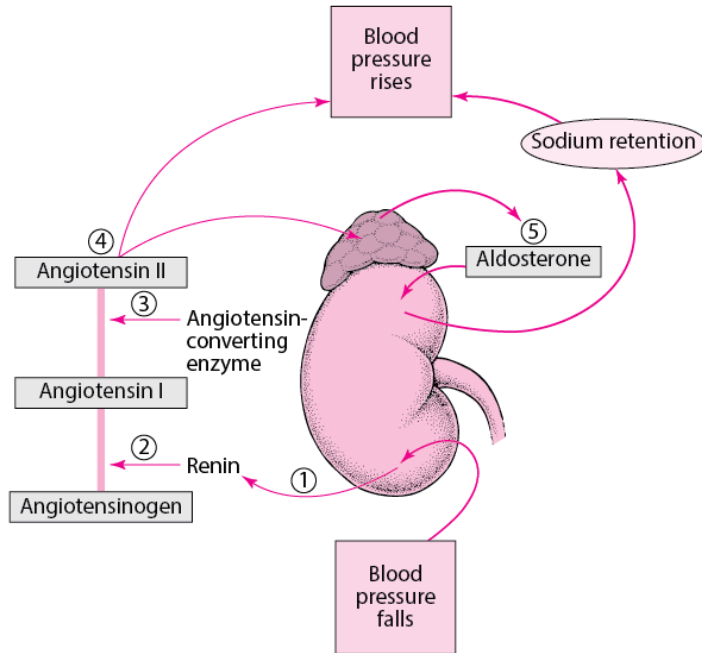
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## How do the Kidneys Influence Blood Pressure?

- The kidney plays a major role in the maintenance of blood pressure under the hormonal control of the renin–angiotensin–aldosterone system.
- The Renin-Angiotensin-Aldosterone System (RAAS) is a hormone system within the body that is essential for the regulation of blood pressure and fluid balance. The system is mainly comprised of the three hormones **renin**, **angiotensin II** and **aldosterone**.

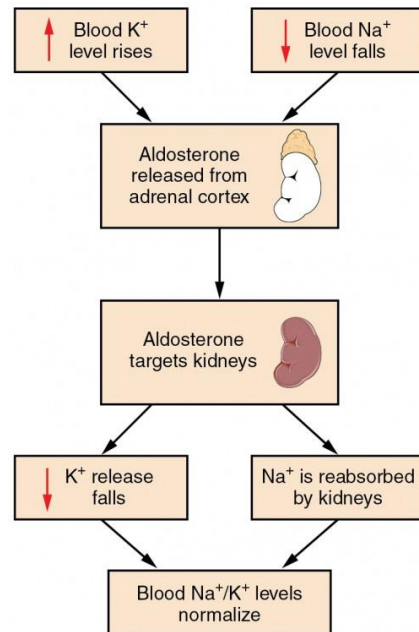
# Chronic Kidney Disease Overview, Diagnosing, Management and Treatment

## How do the Kidneys Influence Blood Pressure?



- When blood pressure falls (for systolic, to 100 mm Hg or lower), the kidneys release renin into the bloodstream.
- Renin splits angiotensinogen into angiotensin I.
- Angiotensin I splits to form angiotensin II
- Angiotensin II causes the muscular walls of small arteries (arterioles) to constrict, increasing blood pressure.

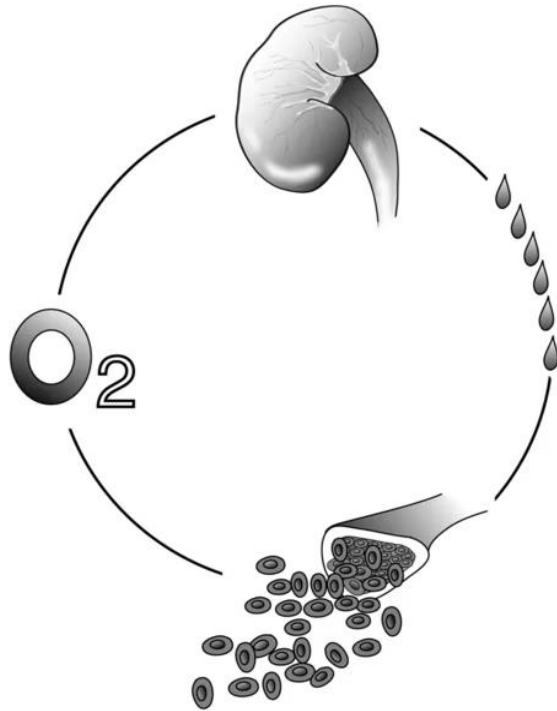
# Chronic Kidney Disease Overview, Diagnosing, Management and Treatment



## How do the Kidneys Regulate Electrolytes?

- Electrolytes are small minerals found in your blood which are involved in many cellular functions. In a healthy person, the balances of these minerals are maintained through urination and sweating. The kidneys regulate what electrolytes we need through a process called reabsorption. Reabsorption works by pulling needed electrolytes from the nephron tubules back into our blood, along with water and other small sized particles. When we have too much of a particular mineral the kidneys release the excess minerals into the tubule, to be released as waste. This process is called excretion.

# Chronic Kidney Disease Overview, Diagnosing, Management and Treatment



## How do the Kidneys Influence Red Blood Cells?

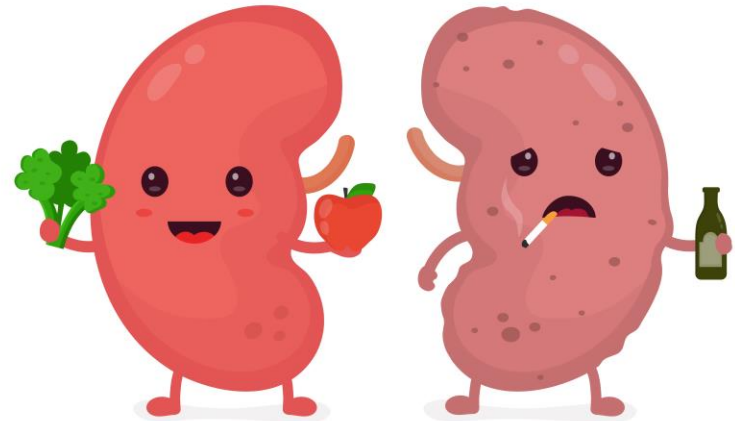
- Healthy kidneys produce a hormone called erythropoietin or EPO, which stimulates the bone marrow to make red blood cells needed to carry oxygen ( $O_2$ ) throughout the body.
- This illustration shows a kidney producing erythropoietin to stimulate red blood cell production in bone marrow.



# Chronic Kidney Disease Overview, Diagnosing, Management and Treatment

## What Can Cause Healthy Kidneys to Become Damaged?

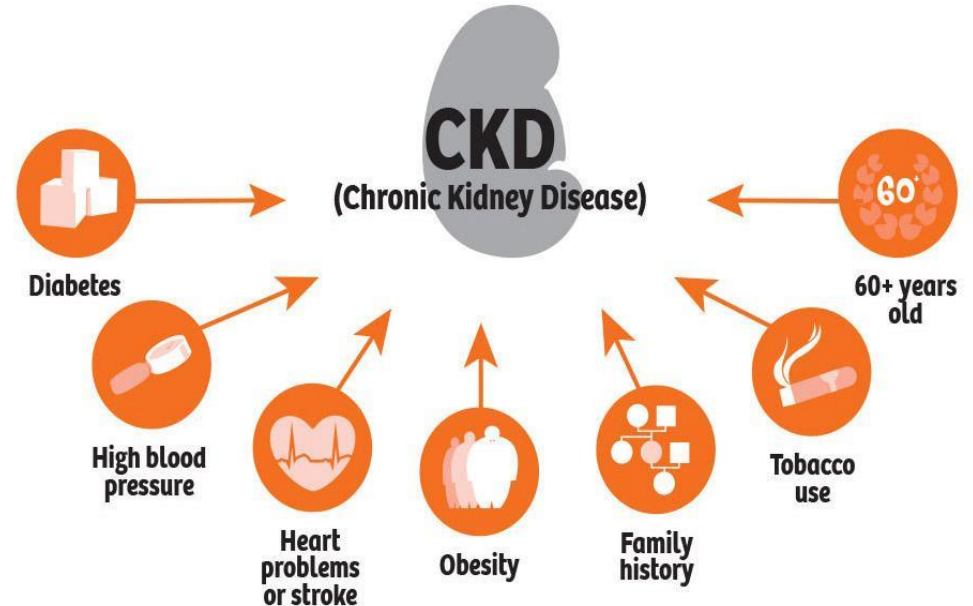
- Kidney Diseases
  - Glomerulonephritis
  - Polycystic Kidney Disease
  - Autoimmune diseases
  - Structural Malformations
  - Stones or tumors





## Common Risk Factors

- Diabetes
- High Blood Pressure
- Heart Disease
- Obesity
- Family History of Kidney Disease
- Tobacco Use
- Over 60 Years Old



# Diagnosing Chronic Kidney Disease

# Chronic Kidney Disease: Symptoms

## Common Symptoms

Fatigue

Dry or itchy Skin

Swelling of Extremities

Muscle Cramps

Sleep Problems



## Types of Screening Tests



**Urine test to check for albumin. Albumin is a protein that can pass into the urine when the kidneys are damaged**



**Blood test for GFR. GFR stands for glomerular filtration rate, and it checks how well the kidneys are filtering waste products out of blood.**

## Urine Test for Albumin

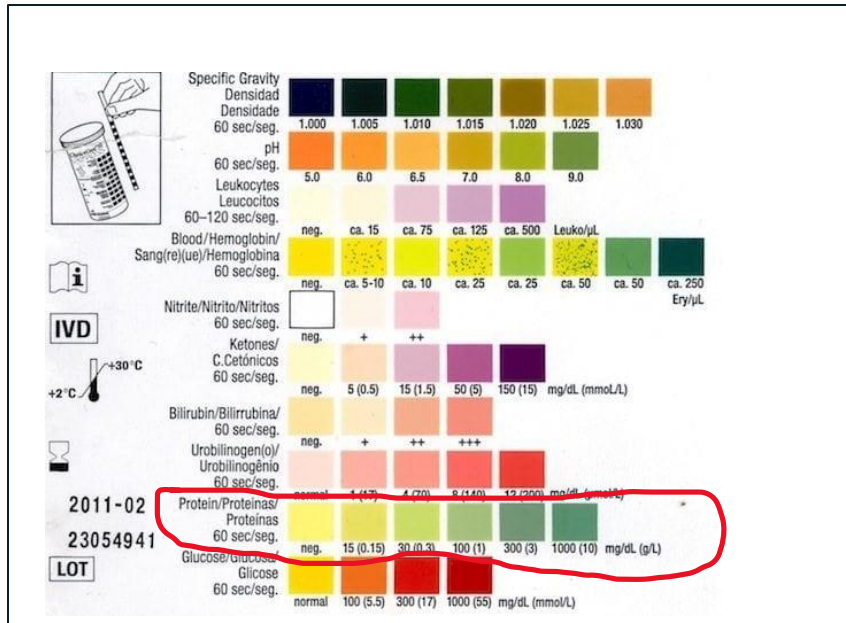
Providers can check for albumin in urine in two ways.

- Dipstick test for albumin: a urine sample is collected in a container and a strip of chemically treated paper is placed in the urine. The strip changes color if albumin is present



# Chronic Kidney Disease: Test Results

## Dipstick Urinalysis Results



- The urine dipstick test is a widely used screening tool for albuminuria, a CKD marker.
- For a random urine sample, normal values are 0 to 14 mg/dL.

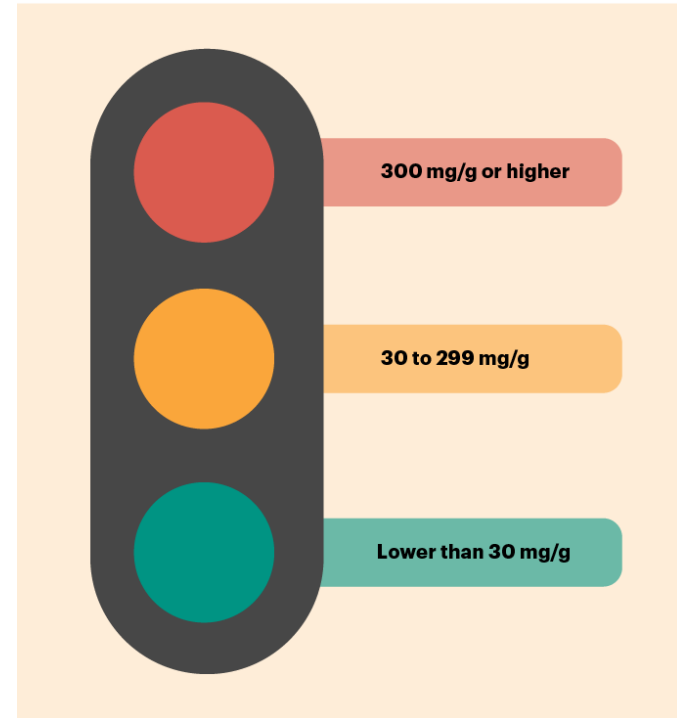
## Urine Albumin-to-Creatinine Ratio (UACR)

- This test measures and compares the amount of albumin with the amount of creatinine (a normal occurring waste product) in urine. Urine collection takes place over a 24 hour period.



## Urine Albumin-to-Creatinine Ratio (UACR) Results

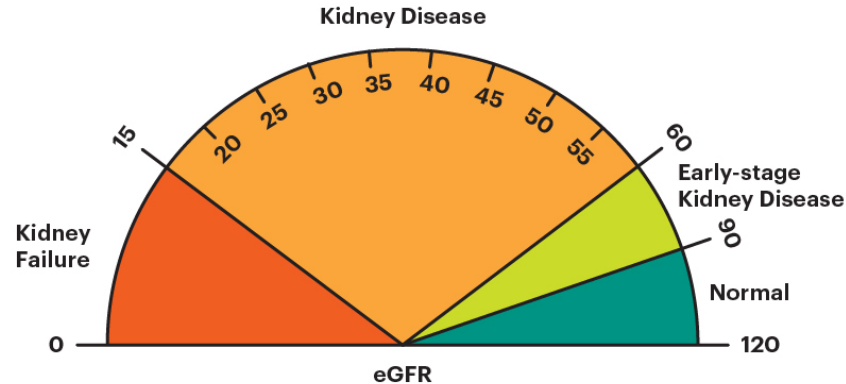
- A lower number is better for this test, ideally lower than 30. A value of 30 or higher suggests you may be at a higher risk for kidney failure, a cardiovascular event (heart attack or stroke), heart failure, and even a shorter life expectancy (early death). The higher the number, the higher the risk.





## Blood Test for GFR

- eGFR of 90 or higher is in the normal range
- eGFR of 60 -89 may mean early-stage kidney disease
- eGFR of 15 -59 may mean kidney disease
- eGFR below 15 may mean kidney failure



# Chronic Kidney Disease Management, Stages and Coding

## Ten Ways to Manage Kidney Disease

Control blood pressure	Exercise 150 minutes a week
Control blood sugar if diabetic	Aim for a healthy weight
Monitor kidney health by working with health care team	Get enough sleep
Take medicines as prescribed	Stop smoking
Work with a dietician	Manage stress and mental health

# Chronic Kidney Disease: Stages

Stage of CKD	eGFR result	What it means
Stage 1	90 or higher	<ul style="list-style-type: none"><li>- Mild kidney damage</li><li>- Kidneys work as well as normal</li></ul>
Stage 2	60-89	<ul style="list-style-type: none"><li>- Mild kidney damage</li><li>- Kidneys still work well</li></ul>
Stage 3a	45-59	<ul style="list-style-type: none"><li>- Mild to moderate kidney damage</li><li>- Kidneys don't work as well as they should</li></ul>
Stage 3b	30-44	<ul style="list-style-type: none"><li>- Moderate to severe damage</li><li>- Kidneys don't work as well as they should</li></ul>
Stage 4	15-29	<ul style="list-style-type: none"><li>- Severe kidney damage</li><li>- Kidneys are close to not working at all</li></ul>
Stage 5	less than 15	<ul style="list-style-type: none"><li>- Most severe kidney damage</li><li>- Kidneys are very close to not working or have stopped working (failed)</li></ul>

**Stage 1 of CKD** means having a normal eGFR of 90 or greater and mild damage to kidneys. The kidneys are still working well, so there might not be any apparent symptoms. There may be other signs of kidney damage, such as protein in urine known as proteinuria.

Source: <https://www.kidneyfund.org/all-about-kidneys/stages-kidney-disease>

# Chronic Kidney Disease: Stages

Stage of CKD	eGFR result	What it means
Stage 1	90 or higher	<ul style="list-style-type: none"><li>- Mild kidney damage</li><li>- Kidneys work as well as normal</li></ul>
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Stage 5	less than 15	<ul style="list-style-type: none"><li>- Most severe kidney damage</li><li>- Kidneys are very close to not working or have stopped working (failed)</li></ul>

**Stage 2 of CKD** means eGFR has gone down to between 60 and 89, and there is mild damage to the kidneys. Most of the time, the kidneys are still working well, so there might not be any symptoms. There may be other signs of kidney damage, such as protein in your urine or physical damage to the kidneys.

Source: <https://www.kidneyfund.org/all-about-kidneys/stages-kidney-disease>

# Chronic Kidney Disease: Stages and Codes



## CKD Stages 1 and 2 and Corresponding Codes

CKD Stage	ICD10 Code
CKD Stage 1 involves some kidney damage but with normal or slightly increased GFR. >90	<b>N18.1</b>
CKD Stage 2 (mild) involves a mild decrease in renal function. The GFR value is usually 60-89	<b>N18.2</b>

# Chronic Kidney Disease

Stage of CKD	eGFR Result	What it means
Stage 1	90 or higher	- Mild kidney damage Kidney works as well as normal
Stage 2	60-89	- Mild kidney damage - Kidneys still work well
Stage 3	45-59	- Mild to moderate damage - Kidneys do not work as well as they should
Stage 3b	30-44	- Moderate to severe damage - Kidneys do not work as well as they should
Stage 4	15-29	- Severe kidney damage - Kidneys are close to not working at all
Stage 5	Less than 15	- Most severe kidney damage - Kidneys are very close to not working or have stopped working (failed)

## Stage 3 of CKD

Split into two substages based on your eGFR.

- Stage 3a means an eGFR between 45 and 59
- Stage 3b means an eGFR between 30 and 44

With treatment and healthy life changes, many people in Stage 3 do not move to Stage 4 or Stage 5.

A coding note that we will talk about a little bit later is we do not use GFR to code Stage 1,2, or 3. It can only be used to code Stage 4, 5, or ESRD.

# Chronic Kidney Disease: Stages and Codes



## CKD Stage 3 and Corresponding Codes

CKD Stage	ICD10 Code
Chronic kidney disease, stage 3 unspecified. Stage 3 CKD is defined by a GFR value of 30-59	<b>N18.30</b>
Stage 3 CKD is further separated into two stages: 3a indicates a GFR between 45 and 59,	<b>N18.31</b>
3b indicates a GFR between 30 and 44.	<b>N18.32</b>



## Coding Clinic 2020 4th Quarter pg. 35:

- Code N18.3 CKD Stage 3 (Moderate), has been expanded to capture additional stage 3 detail and differentiate chronic kidney disease (CKD) stage 3 unspecified (N18.30), CKD stage 3a (N18.31), and CKD stage 3b (N18.32).
- Current clinical practice for renal function monitoring is to calculate estimated glomerular filtration rate (GFR), using inputs of serum creatinine concentration and several other parameters including height, weight, gender, and ethnicity. Stage 3 CKD involves an eGFR between 30 and 59. Stage 3 is further subdivided based on the eGFR into stage 3a (eGFR between 45 and 59), and stage 3b (eGFR between 30 and 44).

**Code assignment should be based on provider documentation of the stage.**



# Chronic Kidney Disease: Stages

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Source: <https://www.kidneyfund.org/all-about-kidneys/stages-kidney-disease>

**Stage 4 of CKD** means an eGFR of between 15 and 29 and moderate to severe damage to the kidneys. The kidneys do not work as well as they should to filter waste out of blood. This waste can build and cause other health problems, such as high blood pressure, bone disease and pericarditis. Symptoms can include fatigue, nausea, itching, confusion, body swelling most commonly in the legs. This is the last stage before kidney failure.

# Chronic Kidney Disease: Stages

Stage of CKD	eGFR result	What it means
Stage 1	90 or higher	<ul style="list-style-type: none"><li>- Mild kidney damage</li><li>- Kidneys work as well as normal</li></ul>
Stage 2	60-89	<ul style="list-style-type: none"><li>- Mild kidney damage</li><li>- Kidneys still work well</li></ul>
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Stage 4	15-29	<ul style="list-style-type: none"><li>- Severe kidney damage</li><li>- Kidneys are close to not working at all</li></ul>
Stage 5	less than 15	<ul style="list-style-type: none"><li>- Most severe kidney damage</li><li>- Kidneys are very close to not working or have stopped working (failed)</li></ul>

**Stage 5 of CKD** means a eGFR less than 15 and severe damage to the kidneys. Kidneys are getting very close to failure or have already failed (stopped working). Because the kidneys have stopped working to filter waste out of blood, waste products build up in your body, which can make people very sick and cause other health problems. When kidneys fail, treatment options to survive include dialysis or a kidney transplant.

Source: <https://www.kidneyfund.org/all-about-kidneys/stages-kidney-disease>

# Chronic Kidney Disease: Stages and Codes



## CKD Stage 4, 5 and Corresponding Codes

CKD Stage	ICD10 Code
Stage 4 CKD is characterized by a GFR value of 15 to 29. At this stage, a nephrologist is required to manage the disease.	N18.4
Stage 5 CKD is defined by a GFR value of less than 15. <b>Management of the disease is not to the point of dialysis</b> or transplant but the conversation and preparation for renal replacement therapies is starting, and nephrologist intervention is essential.	N18.5

# Chronic Kidney Disease: Stages and Codes

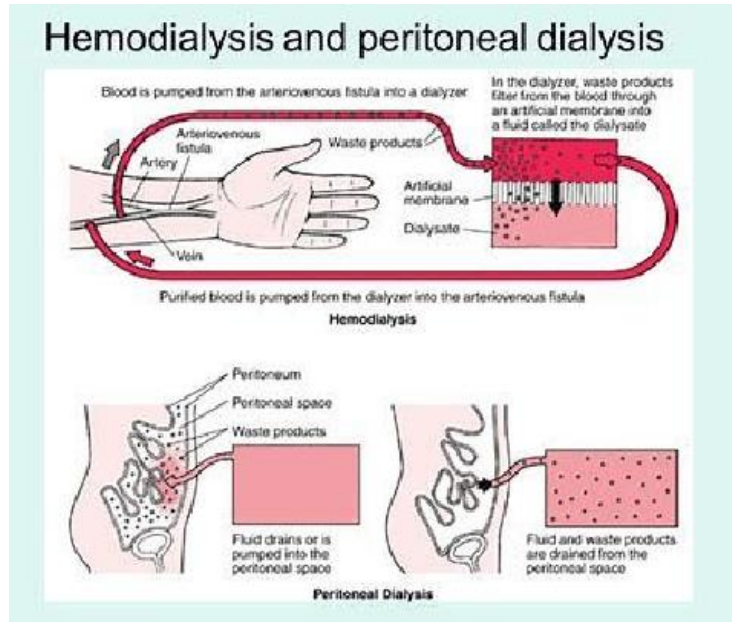
## CKD Stage 5\*, ESRD, Unspecified and Corresponding Codes

CKD Stage	ICD10 Code
Stage 5 CKD (GFR value of less than 15) requiring dialysis*	N18.6
End stage renal disease (ESRD) Chronic kidney disease requiring chronic dialysis.	N18.6
Use additional Z code to identify dialysis status.	Z99.2

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

# Z99.2 Dependence on Renal Dialysis

## Examples of Kidney Dialysis



- Hemodialysis status
- Peritoneal Dialysis status
- Presence of arteriovenous shunt for dialysis
- Renal dialysis status NOS

# Chronic Kidney Disease: Stages and Codes



## Additional Codes

CKD Stage	ICD10 Code
Unspecified kidney failure (Uremia NOS)	N19
Anuria and oliguria	R34
Chronic kidney disease, unspecified or Chronic renal insufficiency	N18.9
Traumatic anuria, initial encounter	T79.5XXA

# How to Code Chronic Kidney Disease



## When CKD is Associated with Other Diseases

Diabetic Chronic Kidney Disease	
Diabetes mellitus due to underlying condition with diabetic chronic kidney disease	E08.22
Drug or chemical induced diabetes mellitus with diabetic chronic kidney disease	E09.22
Type 1 diabetes mellitus with diabetic chronic kidney disease	E10.22
Type 2 diabetes mellitus with diabetic chronic kidney disease	E11.22
Other specified diabetes mellitus with diabetic chronic kidney disease	E13.22



# How to Code Chronic Kidney Disease



## Coding Tips Reviewed



If CKD is documented as Stage 3/Stage 4, the lower stage is captured.



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



Chronic kidney disease, unspecified or Chronic renal insufficiency use **N18.9**. Please note that N28.9 Renal insufficiency excludes chronic renal insufficiency.



When coding CKD with other chronic conditions code the chronic condition first.

# Coding Scenario

Mrs. Davis has been living with chronic kidney disease stage 5 for almost 6 months. At a recent visit with her PCP, her eGFR came back at 13. Her provider documented the need for chronic dialysis as next steps in her care.

How would you code this scenario?

N18.5



# How to Code Chronic Kidney Disease



## When CKD is Associated with Other Diseases

### Hypertensive Chronic Kidney Disease

Hypertensive chronic kidney disease with stage 1 through 4 chronic kidney disease or unspecified chronic kidney disease

I12.9 +  
CKD  
stage dx  
(N18 –  
N18.9)

Hypertensive Heart and Chronic Kidney Disease

I13.0 –  
I13.2

## Assessment and Planning

Mr. Johnson has seen his cardiologist, Dr. Scone for his routine follow up. Dr. Scone's assessment and planning are as follows:

### *A/P*

*CKD stage 3, return next week for CMP Hypertension controlled by medication*

What would you code?

I12.9

N18.30



# Coding CKD

Mr. Landis suffers from Type 2 Diabetes Mellitus. His recent bloodwork with his primary physician shows CKD. His primary did not specify a stage.

How would you code?

E11.22



Thank you for joining our education session today!



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Thank You!

[bcbsncriskadj@bcbsnc.com](mailto:bcbsncriskadj@bcbsnc.com)

# References

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- <https://www.mayoclinic.org/diseases-conditions/chronic-kidney-disease/symptoms-causes/syc-20354521>
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- <https://mcb.berkeley.edu/courses/mcb135e/kidneyfluid.html#:~:text=One%20way%20the%20the%20kidneys,is%20dilute%20relative%20to%20plasma.>
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- <https://hiacode.com/blog/education/chronic-kidney-disease-coding>