

CHRONIC KIDNEY DISEASE INFORMATION TOOL

Definition of Chronic Kidney Disease (National Kidney Foundation, 2002):

1. Kidney damage for 3 months or more, as defined by structural or functional abnormalities of the kidney with or without decreased GFR, manifest by:
 - a). Pathologic abnormalities OR
 - b). Markers of kidney damage including abnormalities in the composition of blood or urine, or abnormalities in imaging tests
2. GFR < 60 ml/min/1.73m² for 3 months or more, with or without kidney damage

CKD stages, action plan and ICD-9 Codes

National Kidney Foundation CKD classification and stratification (National Kidney Foundation, 2002)

STAGE	DESCRIPTION	GFR (M/MIN) ²	ACTION	ICD-9 CODES
	Increased risk for CKD	>90	Screen for CKD risk factors	
STAGE 1	Kidney damage with normal or increased GFR	90	<ul style="list-style-type: none"> • Diagnose cause of CKD & treat • Screen and treat progression risk factors • Treat co-morbid conditions • Screen and treat cardiovascular risk factors 	585.1
STAGE 2	Kidney damage with mildly decreased GFR	60-89	<ul style="list-style-type: none"> • Estimate progression of GFR decline 	585.2
STAGE 3	Moderately decreased GFR	30-59	<ul style="list-style-type: none"> • Referral to nephrology, if not already done • Twice a year (minimum) GFR assessment • Screen for complications every 3 months and treat if present • Adjustment of medications to current GFR 	585.3
STAGE 4	Severely decreased GFR	15-29	<ul style="list-style-type: none"> • Refer for preparation for kidney replacement therapy, if not already done 	585.4
STAGE 5	Kidney failure	<15	<ul style="list-style-type: none"> • Begin replacement therapy if uremic 	585.5

CKD RISK FACTORS

- Hypertension
- Diabetes
- Age > 60
- Cardiovascular disease
- Autoimmune disease
- Systemic infection
- Family history of CKD or end-stage renal disease
- Nephrotoxic exposure, including NSAIDS
- Urologic disorders
- History of acute renal failure
- Cancer
- Ethnic minority

SCREENING

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| <ul style="list-style-type: none"> • Serum creatinine to obtain GFR • Urine microalbumin test • Assessment of blood pressure • Spot urine albumin to creatinine ratio (UACR) | In selected cases: <div style="font-size: 2em; vertical-align: middle;">}</div> | <ul style="list-style-type: none"> • Renal ultrasound • Serum electrolytes • Urinary pH • Urinary concentration/dilution |
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INDICATORS OF KIDNEY DAMAGE (USE GFR RATHER THAN SERUM CREATININE¹)

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| <ul style="list-style-type: none"> • GFR < 60 ml/min/1.73m (use GFR rather than serum creatinine) • Proteinuria/albuminuria | <ul style="list-style-type: none"> • Structural {imaging} abnormalities • Hematuria • Other urine sediment abnormalities | ¹ GFR calculator: www.kidney.org |
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STRATEGIES TO DELAY PROGRESSION

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| <ul style="list-style-type: none"> • Use of ACE-I or ARB, irrespective of hypertension • Blood pressure control (CKD stages 1-4, BP < 130/80 mmHg) • A1c control | <ul style="list-style-type: none"> • Management of CV risk factors: smoking cessation, lipid control, heart disease • Slow proteinuria/albuminuria |
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MANAGEMENT WITH NEPHROLOGY

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| <ul style="list-style-type: none"> • Early referral to establish etiology and Rx plan • Consult at Stage 1 if hematuria or significant proteinuria present • Consult at Stage 2 if GFR declines >4mL/min/year | <ul style="list-style-type: none"> • Consult at Stage 3 for all patients with CKD • Routine follow-up by nephrology during CKD stages 4-5 to prepare for and manage kidney replacement therapy |
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EDUCATING PATIENTS ABOUT CHRONIC KIDNEY DISEASE

Four Key Concepts and Answers to Questions Your Patients May Ask

1. Talk to patients about their kidneys, CKD and their risk.

What is CKD? CKD (chronic kidney disease) means the kidneys are damaged and may no longer filter blood well. This damage happens over many years. As more damage occurs, the kidneys are unable to keep the body healthy—then dialysis or a kidney transplant may be needed.

How can I lower my risk for CKD? Managing your diabetes and high blood pressure also helps protect your kidneys. Diet, exercise and quitting smoking are all important steps.

2. Communicate the importance of testing and how CKD is diagnosed.

What are the symptoms of CKD? Most people with CKD have no symptoms until their kidneys are about to fail. Testing is the only way to know if you have kidney disease. The sooner kidney disease is found, the sooner you can take steps to begin treatment and keep your kidneys healthier longer.

How do you check for CKD? A blood test and a urine test are used to find kidney disease. Because you are at risk, you should get these tests regularly:

- **GFR**—A blood test measures how much blood your kidneys filter each minute, which is known as your glomerular filtration rate (GFR).
- **Urine Protein**—A urine test checks for protein in your urine. Protein can leak into the urine when the filters in the kidneys are damaged.

3. Explain the progressive nature of CKD and the basics of treatment.

Can CKD get better? CKD usually will not get better and is likely to get worse. Treatment helps slow kidney disease and keep the kidneys healthier longer.

How is CKD treated? Treatment includes keeping blood pressure below 130/80 mmHg, diet counseling to reduce salt and excessive protein, and controlling blood sugar if you have diabetes.

Are there medications for CKD? People with CKD often take medicines to lower blood pressure, control blood sugar and lower blood cholesterol. Two types of blood pressure medications—ACE inhibitors and ARBs—can slow CKD and delay kidney failure, even in people who do not have high blood pressure.

4. Begin to speak about dialysis and transplantation.

Will I ever need dialysis? With proper management, you may never need dialysis or, at least, not for a very long time. But if your kidneys fail, we will need to choose a treatment that can replace the job of your kidneys. There are two types of dialysis—one is done at home daily and the other is done in a dialysis center three times a week.

Is kidney transplant an option? You may be able to receive a kidney transplant. The donated kidney can come from an anonymous donor who has recently died or from a living person. A kidney transplant is a treatment—not a cure.