

Clinical Practice Guideline: Chronic Kidney Disease (CKD)

Release Date: August 2016

Next Review Date: 2017

This Clinical Practice Guideline (CPG) was developed by the Quality workgroup of St. Luke's Health Partners Clinical Integration Committee based on feedback and review from Idaho primary and specialty care providers and subject matter experts. It summarizes current medical literature, and where clear evidence is lacking, provides expert advice on the diagnosis and treatment of hypertension. St. Luke's Health Partners recognizes that the responsibility and decision making about care will be made by the healthcare provider in collaboration with his or her patient, taking into account the patient's entire clinical situation, needs, and goals. Practice variation from these guidelines may be appropriate when clinical circumstances arise or when individual patient characteristics indicate that such changes are in the best interest of the patient.

Recommendation Summary:

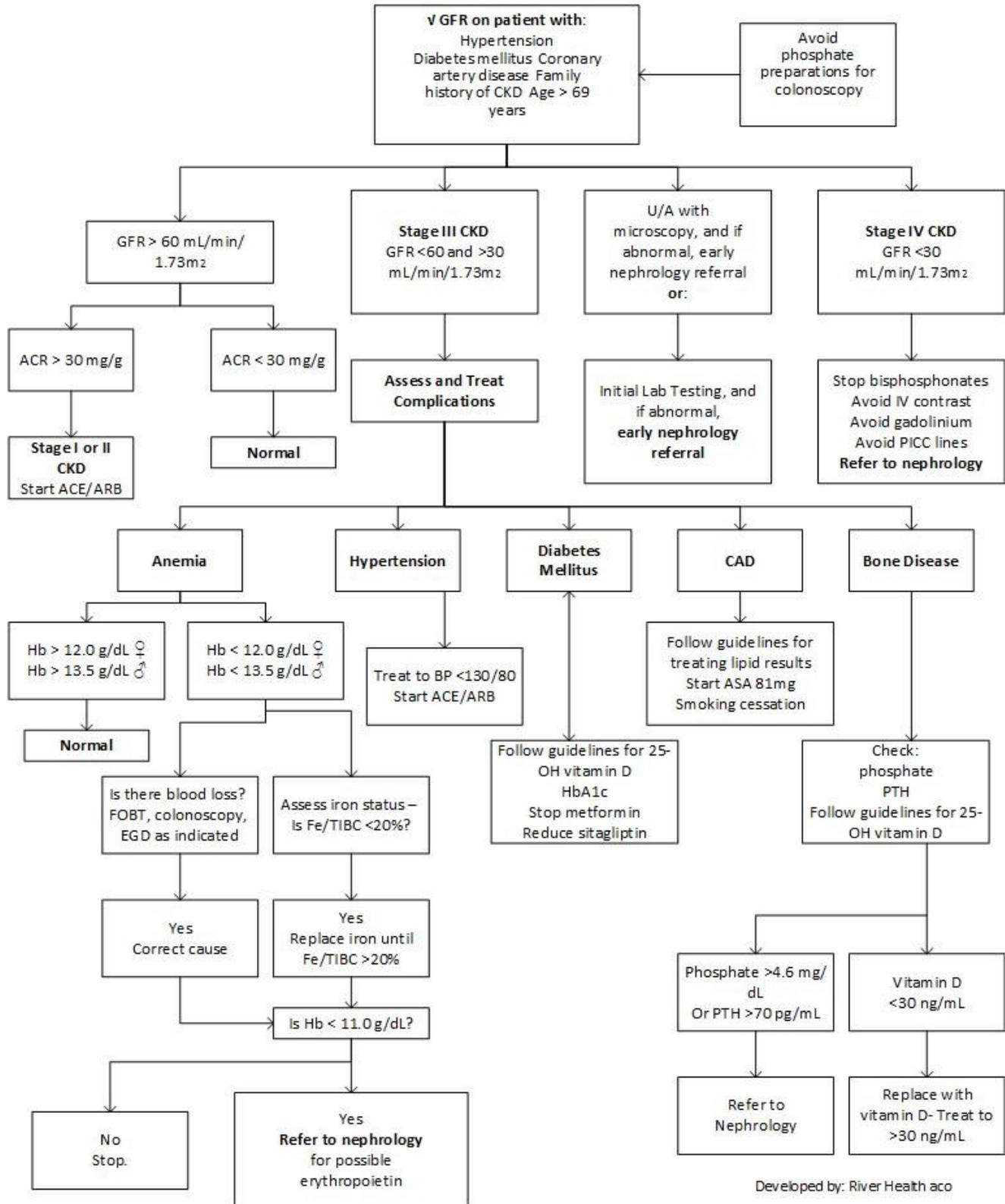
SLHP supports the current recommendations from the National Kidney Foundation Kidney Disease Outcomes Quality Initiative (KDOQI) with additional guideline recommendations from Kidney Disease Improving Global Outcomes (KDIGO) for the treatment and care of patients with Chronic Kidney Disease (CKD).

Sources:

1. Clinical Practice Guidelines for Chronic Kidney Disease: Evaluation, Classification and Stratification. *National Kidney Foundation DOQI*. (2002). https://www.kidney.org/sites/default/files/docs/ckd_evaluation_classification_stratification.pdf
2. Kidney Foundation, Guidelines and Commentaries. https://www.kidney.org/professionals/guidelines/guidelines_commentaries
3. KDOQI US Commentary on the 2012 KDIGO Clinical Practice Guideline for the Evaluation and Management of CKD. *American Journal of Kidney Diseases* (2014). 63(5): 713-735. [http://www.ajkd.org/article/S0272-6386\(14\)00491-0/pdf](http://www.ajkd.org/article/S0272-6386(14)00491-0/pdf)
4. VA/DoD Clinical Practice Guideline for Management of Chronic Kidney Disease in Primary Care. *Department of Veterans Affairs*. (2007). Version 2.0. <http://www.healthquality.va.gov/guidelines/CD/ckd/>
5. Improving Chronic Kidney Disease Care in Primary Care Practices: An Upstate New York Practice-based Research Network (UNYNET) Study. November-December 2008. Vo. 21 no.6 522-530. <http://www.jabfm.org/content/21/6/522.full.pdf+html>
6. ACP Releases Guideline on Screening, Monitoring and Treatment of Stage 1 to 3 Chronic Kidney Disease. <http://www.aafp.org/afp/2014/0715/p121.pdf>

Medical Management

Screening Algorithm/CKD Guideline



Developed by: River Health aco

Abbreviations: GFR, glomerular filtration rate; ACR, albumin/creatinine ratio; ACE, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; U/A, urinalysis; PICC, peripherally inserted central catheter; Hb, hemoglobin, PTH, parathyroid hormone; FOBT, fecal occult blood testing; EGD, esophagogastroduodenoscopy; Fe/TIBC, iron/total binding capacity.

Initial Testing

- Patients with \geq Stage 3 CKD
 - Upon Initial diagnosis of Stage 3 CKD, lab work should include:
 - * Complete Blood Count (CBC)
 - * Comprehensive Metabolic Panel (CMP)
 - * Fasting Lipid Profile (FLP)
 - * Hemoglobin A1c (HbA1C)
 - * Calcium
 - * Glomerular filtration rate (GFR)
 - * Phosphorus
 - * Urine micro albumin/creatinine ratio
 - * Parathyroid Hormone (PTH)
 - * 25-hydroxy Vitamin D
 - * Other testing, such as renal ultrasound may be indicated for some patients with TKD

Initial History of Present Illness to Consider Including

- Risk factors for Kidney Disease
 - Primary Risk Factors
 - * Diabetes
 - * Hypertension
 - * Family history of CKD and 60y/o or older
 - * History of acute kidney injury
 - Secondary Risk Factors:
 - * Minorities and CKD
 - * Imaging Contrast
 - * Medications
 - * Overutilization of anti-inflammatory medications
- A clinical diagnosis of CKD should be considered in any patient who has abnormalities of kidney structure or function, present for > 3 months, with implications for

Follow Up-Visits

- Office visits every 2-6 months depending on level of severity

Referrals to Nephrologist

- All CKD Stage 4
- Some CKD Stage 3 based on:
 - PCP Comfort level
 - Multiple comorbidities (e.g. cancer, diabetes, and heart failure)
 - Gross Proteinuria: Microalbumin-to-Creatine ratio (>300mg/gm)
 - Nephritic Syndrome
 - Microscopic hematuria with (-) negative GU Evaluation
 - Uncontrolled hypertension

F1 "Heat map" for diagnosis and classification of CKD based on GFR and urine albumin excretion (reproduced with kind permission of KDIGO)

Prognosis of CKD by GFR and Albuminuria Category

| Prognosis of CKD by GFR and Albuminuria Categories: KDIGO 2012 | | | | Persistent albuminuria categories Description and range | | |
|---|-----|----------------------------------|-----------|--|--|--|
| | | | | A1 Normal to mildly increased <30 mg/g <3 mg/mmol | A2 Moderately increased 30-300 mg/g 3-30mg/mmol | A3 Severely increased >300 mg/g >30 mg/mmol |
| GFR categories (ml/min/1.73 m ²) Description and range | G1 | Normal or high | ≥ 90 | | | |
| | G2 | Mildly decreased | 60-89 | | | |
| | G3a | Mildly to moderately decreased | 45-59 | | | |
| | G3b | Moderately to severely decreased | 30-44 | | | |
| | G4 | Severely decreased | 15-29 | | | |
| | G5 | Kidney failure | <15 | | | |

Green: low risk (if no other markers of kidney disease, no CKD); Yellow: moderately increased risk; Orange: high risk; Red, very high risk.

Specialty Referrals

- Cardiology
- Endocrinology
- Diabetology
- Palliative Care
 - Consider Advance Directives/ Physician Orders for Scope of Treatment (POST) Form/ Medical Durable Power of Attorney as needed

Referral back to PCP

- Transitions of care visit with PCP within 7 days of hospital discharge

Medication Guideline

- Discontinue unsafe medication:
 - Avoid NSAIDS, especially in patients with GFR <30.
 - No Metformin in men with creatinine ≥ 1.5 mg/dL and women creatinine ≥ 1.4 mg/dL
 - Reduce allopurinol dose to 100 mg/day in general, adjusting for kidney function
 - Use caution with bisphosphonates
 - * Avoid if GFR <30
 - No oral phosphate preps (e.g. Fleet Visicol) for colonoscopy
 - Caution using intravenous contrast and gadolinium
- Start ACE inhibitor or ARB (unless contraindicated)
 - Safe and effective at preventing progression of CKD at least up to a creatinine of 2.0 mg/dL
 - * Above 2.0 mg/dL level, a nephrologist should be involved in care
 - There may be a decrease of 25% in GFR after initiating ACEI/ARB
 - * Recheck GFR 5 days after initiation
 - Stop if GFR decrease exceeds 25% and consider urgent nephrology referral

Key Continual Testing

- Blood Pressure control. Maintain BP <130/80 or goal determined by provider

Optimize Medical/Pharmacologic Therapy

- Influenza vaccine (annually)
- Pneumococcal vaccine

Clinical Care Management

Consider Including the Following Individuals on Care Team

- Social Worker
- Care Manager
- Pharmacist
- Dietitian
- Behavioral Health Consultant
- Mental Health Provider as needed

Lifestyle Modifications

- Tobacco cessation
- Weight Management
- Dietary
- Exercise

Guiding Patient Behavior Change

- Use Motivational Interviewing strategies (see Tools and Resources section)
 - Patient-centered (discuss patient agenda and goals)
 - Guiding style -encourage self-based problem solving
 - * *“dancing not wrestling, guiding not directing, consulting not instructing”*
 - Active listening – more listening and less talking; reflect what you hear
 - Open ended questions to evoke patient’s desires, concerns and reactions
 - Affirm and acknowledge positive effort and steps
 - Share information in a concise and potent manner (*not lengthy and comprehensive*)- *Evoke, Offer, Evoke pattern*
 - Remember **provider empathy** is key to patient behavior change
- Goal Setting
 - Focus on where they are *not where they should be*
 - Start with one behavior at a time
 - Help plan small, achievable steps towards goal– think shaping

Reference Material

Guideline Adoption and Recommendation

This guideline has been adopted based on nationally and recognized evidenced-based sources. This guideline is based on the most recent medical evidence at the time of the report or on a consensus of panel experts. SLHP adopts guidelines to help providers and patients make decisions about health care for specific conditions, but are not a substitute for professional medical advice.

CKD Stages

| Stage | GFR* | Description | Treatment |
|-------|--------------------|--|---|
| 1 | 90+ | Normal kidney function but urine findings or structural abnormalities or genetic trait point to kidney disease | Observation, control of blood pressure. More on management of stages 1 and 2 CKD |
| 2 | 60-89 | Mildly reduced kidney function, and other findings (as for stage 1) point to kidney disease | Observation, control of blood pressure and risk factors. More on management of Stages 1 and 2 CKD |
| 3A | 45-59 | Moderately reduced kidney function | Observation, control of blood pressure and risk factors. More on management of Stage 3 CKD. |
| 3B | 30-44 | | |
| 4 | 15-26 | Severely reduced kidney function | Planning for end stage renal failure. More on management of Stages 4 and 5 CKD |
| 5 | <15 or on dialysis | Very severe, or end stage kidney failure (sometimes called established renal failure) | Treatment choices. More on management of Stages 4 and 5 CKD |

* All GFR values are normalized to an average surface area (size) of 1.73m²

Measure to Guide Performance

- **Controlling High Blood Pressure:** Percentage of patients aged 18-85 years of age with a diagnosis of hypertension whose blood pressure was adequately controlled (<140/90) during measurement period.

SLHP Tools and Resources

- Haley WE, et al. Am J Kidney Dis.2014. [Improving care coordination between nephrology and primary care: A quality improvement initiative using the renal physicians association toolkit](#)
- Miller, W & Rollnick (2013). *Motivational Interviewing: Helping People Change (3rd Ed)*. Guilford Press, New York

Pearls for Chronic Kidney Disease

- Screening for CKD in asymptomatic adults without risk factors is not recommended
- Evaluate risk factors—diabetes, high blood pressure, heart disease, family history of kidney failure, and ethnicity (African Americans, Hispanics, American Indians)
- ACE inhibitors and ARBs are the preferred therapies for patients with hypertension and stage 1 to 3 CKD
- Statin therapy should be used to manage elevated low-density lipoprotein cholesterol levels in patients with stage 1 to 3 CKD. Monitoring for proteinuria in adults already taking an ACE inhibitor or an ARB is not indicated.
- Base goals for hypertension on age, race, and comorbidities
- Strongly consider nephrology referral at stage 4 disease
- Consider structured patient education regarding pros and cons of dialysis at stage 3b-4 disease
- Given the complex nature of this disease, look for opportunities to involve care team members such as behavioral health providers and care coordinators/managers, especially at the time of diagnosis
- Optimize workflows to track key elements of continued care such as: diabetic eye exam results in your EMR
- Consider cost, side effects, and comorbidities in selection of therapy
- Continuously stress lifestyle modification
- Utilize a disease registry and pre-visit planning to enhance care
- Consider routine testing for depression (PhQ-9) and anxiety (GAD-7) with appropriate referral as indicated
- Consider referral to Behavioral Health Consultant
- Consider advance directives discussions early on in the diagnosis with appropriate supporting documentation