Review of Best Practices:
Chronic Kidney Disease (CKD) Screening for Individuals with Diabetes
Chronic Disease Management/Prevention

Chronic kidney disease (CKD) affects 15% of U.S. adults. It is most common in people aged 65 years or older. Diabetes is the leading cause of CKD. It accounts for over 50% of new cases and one in three people with diabetes will develop CKD. As the leading cause of end-stage renal disease (ESRD) in the U.S., CKD can lead to dialysis or kidney transplantation. Additionally, CKD is associated with a significantly elevated risk for cardiovascular events and death. The following tips can help your team prevent and manage this disease in your patient population.

Description:

The two key markers for CKD are urine albumin and estimated glomerular filtration rate (eGFR). Albuminuria is used to diagnose and monitor kidney disease. Change in albuminuria may reflect response to therapy and risk for progression. A decrease in urine albumin may be associated with improved renal and cardiovascular outcomes. Albuminuria is usually a marker of nephropathy and CKD, but not all kidney disease is caused by diabetic nephropathy.

Assessing Urine Albumin/Creatinine Ratio (UACR) and eGFR in Type 1 & 2 Diabetes

1. **UACR and eGFR screening at diagnosis and annually**
   a. Patients with Type 1 diabetes with duration of ≥ 5 years
   b. All patients with type 2 diabetes regardless of treatment
2. **UACR >30mg/g** CPT Code 82043/82570 Albuminuria1 is present when UACR is greater than 30 mg/g and is a marker for CKD
3. **eGFR <60 mL/min/1.73 m^2** CPT Code 82565 CKD is present when eGFR is less than 60 ml/min/1.73 m^2
4. More frequent monitoring may be needed in patients with changing clinical status or after therapeutic interventions
   a. Use a spot (UACR). UACR estimates 24-hour urine albumin excretion (24-hour collection and timed specimens are not necessary).
   b. Exception: do not monitor in dialysis patients

Important Note: Do not screen if symptoms of urinary tract infection (UTI) or a urine analysis (UA) that is positive for leukocytes, nitrite or RBC. Address these issues first, then screen for urine protein once resolved. Causes of false positives include strenuous exercise within 24 hours, infection, fever, CHF, marked hyperglycemia, pregnancy, marked hypertension, UTI and hematuria.

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Albuminuria Management*

The following strategies should be implemented to reduce albuminuria, prevent/slow nephropathy progression and lower the risk of CVD:

- Maximize ACE inhibitor/ARB
- Smoking cessation
- BP control
- Lipid control
- Glucose control
- Protein restriction (later stages)

Repeat UACR to monitor effectiveness of intervention; a decrease in urine albumin is therapeutically significant.

American Diabetes Association Treatment Recommendations**

- Optimize blood pressure control to reduce the risk or slow the progression of chronic kidney disease
- Do not discontinue renin-angiotensin system blockade for minor increases in serum creatinine (< 30%) in the absence of volume depletion
- Patients should be referred for evaluation by a nephrologist if they have an estimated glomerular filtration rate of 30 mL/min/1.73 m2
- For people with non-dialysis dependent chronic kidney disease, dietary protein intake should be approximately 0.8 g/kg body weight per day (the recommended daily allowance)
- For patients on dialysis, higher levels of dietary protein intake should be considered, since malnutrition is a major problem in some dialysis patients

Tools and Resources

Clinician Education

- Microvascular Complications and Foot Care: Standards of Medical Care in Diabetes22020 (American Diabetes Association)
- National Kidney Disease Education Program Clearinghouses & Health Information Center (National Kidney Disease Education Program)
- Urine Albumin-to-Creatinine Ratio (UACR) In Evaluating Patients with Diabetes for Kidney Disease
- Chronic Kidney Disease Change Package (National Kidney Foundation)
- Kidney International Supplements: KDIGO 2017 Clinical Practice Guideline Update for the Diagnosis, Evaluation, Prevention, and Treatment of Chronic Kidney Disease–Mineral and Bone Disorder (CKD-MBD)
- Chronic Kidney Disease Disparities: Educational Guide for Primary Care (CMS)
- Diabetes Journals (American Diabetes Association)
- Chronic Kidney Disease (Mayo Clinic)
- Chronic Kidney Disease Initiative: Chronic Kidney Disease in the United States, 2021 (Centers for Disease Control and Prevention)
- Chronic Kidney Disease in the United States, 2021 (CDC)
- Chronic Kidney Disease Initiative: Features and Educational Resources (Centers for Disease Control and Prevention)

Patient Education

- Effectively Managing Chronic Kidney Disease Video (Mayo Clinic)
- National Kidney Foundation: Kidney Basics
- Chronic Kidney Disease (National Institute of Diabetes and Digestive and Kidney Diseases)
- Patient Education and Outreach Materials - English (National Institute of Diabetes and Digestive and Kidney Diseases)
- Patient Education and Outreach Materials - Spanish (National Institute of Diabetes and Digestive and Kidney Diseases)
- Diabetes and Your Kidneys (Centers for Disease Control and Prevention)
- Take Care of Your Kidneys and They Will Take Care of You (CDC)

Supporting Clinical References

- Matsushita, K., et al. (2015). Estimated glomerular filtration rate and albuminuria for prediction of cardiovascular outcomes: a collaborative meta-analysis of individual participant data. *Lancet Diabetes Endocrinol.* 2015 Jul;3(7):514-25. doi: 10.1016/S2213-8587(15)00040-6. Epub 2015 May 28. PMID: 26028594; PMCID: PMC4594193.
- Powe, N. R., & Boulware, L. E. (2009). Population-Based Screening for CKD. *American Journal of Kidney Diseases: the official journal of the National Kidney Foundation, 53*(3 Suppl 3), S64.

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