Chronic Kidney Disease Care Path

**Assessment**

**Is patient at risk for CKD?**

- Susceptibility: Age > 60 years, Family history of CKD
- Direct Risk Factors: Diabetes, High blood pressure, Autoimmune diseases, Lower urine tract obstruction, Acute renal failure
- Progressive Risk Factors: Systemic infections, Urinary tract infection, Urinary stones, Drug toxicity, Exposure drugs/procedures

**Yes**

- Consult nephrology

**No**

**Perform routine screening for CKD for patients at increased risk**

- Serum creatinine to determine estimated GFR
- Urinalysis for presence of white & red blood cells

**Yes**

- Does patient have abnormal GFR > 3 months?

**No**

- Does patient have protein to creatinine ratio > 1.0 gm?

**Yes**

**Identify risks associated with CKD**

- Evaluate type of kidney disease
- Complications of kidney disease: anemia, hypertension, malnutrition, bone disease, metabolic acidosis, congestive heart failure, hypokalemia, edema determined to fluid overload, neuropathy
- Evaluate risk for loss of kidney function
- Evaluate comorbidity conditions
- Evaluate risk for cardiovascular disease

**Follow Up CKD Monitoring**

- Test patients at risk for CKD annually
- Counsel patients at risk for CKD but found not to have CKD to reduce risk factors when possible

**Begin CKD Treatment: Develop Clinical Action Plan**

- Collaborate with nephrologist to develop action plan to include:
  - Evaluate and manage comorbid conditions (Primary care, all stages)
  - Slow the loss of kidney function (Co-management, all stages)
  - Prevent & treat cardiovascular disease (Primary care, all stages)
  - Prepare for kidney failure and replacement therapy (Nephrology, stage 4)
  - Replace kidney function (Nephrology, stage 5)

- Consult nephrology if action plan cannot be performed or carried out or when GFR < 60

**Assess barriers to treatment adherence**

- Family and social support
- Depression
- Income & unemployment concerns
- Stress and coping mechanisms
- Limited access to medications and/or care

**Review medication usage at follow-up visits**

- Evaluate for necessary dose adjustments based on level of kidney function
- Evaluate for adverse effects of medications on kidney function (NSAIDs, IV contrast)
- Evaluate for drug interactions
- Counsel patient to avoid nephrotoxic drugs and IV contrast
- Evaluate appropriateness for ACE/ARB agents with diagnosis of hypertension
- Evaluate need for therapeutic drug monitoring

**Consult/Refer to Nephrologist**

- Consult nephrologist at Stage 1 if hematuria or significant proteinuria present
- Consult nephrologist at Stage 2 if GFR declines > 4mL/min/yr
- Consult nephrologist at Stage 3 for all patients with CKD
- Refer patient to nephrologist for evaluation when GFR < 30 mL/min/1.73²

**Monitor CKD Progression**

- Does patient have GFR < 60 for > 3 months or proteinuria > 3 gm?
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GFR value requires the following data variables:
- race
- sex
- age
- serum creatinine

**Note:** Change package will incorporate primary care provider assessment for CKD-associated complications for Stages 1 and 2 and nephrology assessment for CKD-associated complications for Stages 3-5.

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