

## Chronic Kidney Disease Checklist

### ***Control Blood Pressure and Manage Cardiovascular (CV) Disease***

- Slow progression of chronic kidney disease (CKD) by controlling blood pressure.<sup>2</sup>
  - A goal of **<140/90 mmHg** is appropriate for many patients with CKD.<sup>2,3,10</sup>
  - Some experts recommend a goal of **<130/80 mmHg** for CKD patients with albuminuria (all patients with diabetes [Canada]).<sup>1,10</sup>
  - An ACEI or ARB is preferred for CKD patients with high blood pressure AND albuminuria.<sup>4,10</sup>
- Manage cholesterol with a statin and use daily aspirin 81 mg, especially in patients with CV disease, unless otherwise contraindicated.<sup>2</sup>

### ***Reduce Albuminuria***

- Reduce albuminuria (defined as  $\geq 300$  mg/g creatinine [Canada: albumin-to-creatinine ratio  $\geq 2$  mg/mmol]), especially in patients with diabetes.<sup>2,4,17</sup>
- Use an angiotensin-converting enzyme inhibitor (ACEI) or angiotensin receptor blocker (ARB).<sup>3,4,10</sup>
  - Avoid combining an ACEI with an ARB in the same patient.<sup>3,10</sup>
  - Monitor patients taking an ACEI or ARB for hyperkalemia (potassium  $[K^+] > 5$  mEq [mmol]/L).<sup>8</sup>
  - Limit dietary potassium intake and consider diuretics or potassium binders to keep  $K^+ < 5$  mEq (mmol)/L.<sup>2,8,9</sup>
- Discuss weight loss goals with patients, as weight loss may slightly reduce albuminuria.<sup>2,6</sup>
  - Provide our patient handout, *Tips for Getting to a Healthy Weight*.

### ***Manage Diabetes***

- Individualize A1C goals for patients by considering age, life expectancy, history of cardiovascular (CV) disease, risk for hypoglycemia, and comorbidities.<sup>5,11</sup> Adjust goals over time as appropriate.
  - Aim for a goal A1C  $< 7\%$  ( $\leq 7\%$  [Canada]) in many patients.<sup>5,11</sup>
  - A1C goals  $< 8\%$  may be appropriate for some patients (e.g., advanced diabetes-related complications, life expectancy  $< 5$  years, recent history of severe hypoglycemia).<sup>5,11</sup>
- Adjust diabetes medications and doses appropriately as renal function declines.
  - Insulin sensitivity rises (e.g., increased response to the same dose) as renal function declines.<sup>7</sup>
  - If a sulfonylurea is used, give preference to glipizide (U.S.), glimepiride, or gliclazide (Canada) to limit risk of hypoglycemia.<sup>11,16</sup>

### ***Limit Nephrotoxins and Adjust Med Doses***

- Avoid high doses or chronic use of nonsteroidal anti-inflammatory drugs (NSAIDs).<sup>12,13</sup> Consider topicals for pain (e.g., capsaicin, arnica).<sup>13</sup>
  - If short-term NSAIDs are needed for acute pain, limit risk by using short-acting NSAIDs (e.g., ibuprofen, salsalate) at the lowest effective dose and encouraging adequate hydration.<sup>13</sup>
- Consider temporarily holding diuretics, ACEIs, ARBs, and NSAIDs during periods of dehydration (e.g., acute gastrointestinal illness).<sup>15</sup>
- Reduce doses (e.g., some antibiotics, allopurinol, gabapentin, etc) or avoid some meds (e.g., metformin, bisphosphates, fozins, some anticoagulants, etc) with severe renal disease (e.g., CrCl  $< 30$  mL/min).<sup>7</sup>
- Weigh risks and benefits of tests involving contrast.<sup>2</sup> Consider imaging options without contrast.<sup>2</sup>

### ***Monitor for and Manage Complications***

- Monitor vitamin D, calcium, parathyroid hormone (PTH), and serum phosphorus levels.<sup>2</sup>
- Consult with a nephrologist to manage CKD complications (e.g., hyperparathyroidism, anemia).<sup>2</sup>

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- Involve a dietician for dietary counseling and use phosphate binders to lower phosphate levels.<sup>2</sup>
- Use vitamin D derivatives and analogs (calcitriol, doxercalciferol, paricalcitol) alone or in combination with a calcimimetics (e.g., cinacalcet, etelcalcetide).<sup>14</sup>
- Review iron studies in patients with anemia to see if iron supplementation is needed.<sup>2</sup>
- Avoid erythropoietin stimulating agents (ESAs) if asymptomatic AND hemoglobin  $\geq 10$  g/dL (100 g/L).<sup>2,18,19</sup>

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*Users of this resource are cautioned to use their own professional judgment and consult any other necessary or appropriate sources prior to making clinical judgments based on the content of this document. Our editors have researched the information with input from experts, government agencies, and national organizations. Information and internet links in this article were current as of the date of publication.*

**Project Leader in preparation of this clinical resource (340806):** Beth Bryant, Pharm.D., BCPS, Assistant Editor

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*Cite this document as follows: Clinical Resource, Chronic Kidney Disease Checklist. Pharmacist's Letter/Prescriber's Letter. August 2018.*

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