VA/DoD CLINICAL PRACTICE GUIDELINE

Management of Chronic Kidney Disease in Primary Care

KEY ELEMENTS OF THE CKD GUIDELINE

• Diagnostic criteria and identification of early disease.
• Identification of susceptibility factors (adult patients at increased risk for developing CKD).
• Identification of progression factors (adult patients at high risk for worsening kidney damage and subsequent loss of kidney function).
• Prevention of conditions that exacerbate chronic kidney disease.
• Evaluation of patients with kidney disease (estimate of GFR, blood pressure, and assessment of albuminuria as a marker of kidney damage).
• Slowing the progression of CKD.
• Management of comorbidities.
• Indication for consultation and referral to a nephrologist.
• Outline of patient education and preparation for kidney replacement therapy.


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### Table 7: Recommended Dosage for ACEIs and ARBs in patients with CKD

<table>
<thead>
<tr>
<th>Drug</th>
<th>Usual Dose Range</th>
<th>Comments/Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benazepril</strong></td>
<td>10-40 mg divided once or twice daily</td>
<td>Start with lower or less frequent doses in patients with CKD (except fosinopril or partial compensation by hypotensive elimination) or in patients currently being treated with a diuretic.</td>
</tr>
<tr>
<td><strong>Captopril</strong></td>
<td>25-110 mg divided 2-3 times daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Enalapril</strong></td>
<td>5-40 mg divided once or twice daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Fosinopril</strong></td>
<td>10-40 mg once daily</td>
<td>Start with lower or less frequent doses in patients with CKD (except fosinopril or partial compensation by hypotensive elimination) or in patients currently being treated with a diuretic.</td>
</tr>
<tr>
<td><strong>Lisinopril</strong></td>
<td>5-40 mg once daily</td>
<td>Concomitant therapy with potassium-sparing diuretics, potassium supplements, and/or additional RAAS blockers may result in hyperkalemia.</td>
</tr>
<tr>
<td><strong>Losartan</strong></td>
<td>50-150 mg divided once or twice daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Olmesartan</strong></td>
<td>5-40 mg divided once or twice daily</td>
<td>Start with lower or less frequent doses in patients with CKD (except fosinopril or partial compensation by hypotensive elimination) or in patients currently being treated with a diuretic.</td>
</tr>
<tr>
<td><strong>Quinapril</strong></td>
<td>10-40 mg divided once or twice daily</td>
<td>Concomitant therapy with potassium-sparing diuretics, potassium supplements, and/or additional RAAS blockers may result in hyperkalemia.</td>
</tr>
<tr>
<td><strong>Ramipril</strong></td>
<td>1.25-2.5 mg divided once or twice daily</td>
<td>Concomitant therapy with potassium-sparing diuretics, potassium supplements, and/or additional RAAS blockers may result in hyperkalemia.</td>
</tr>
<tr>
<td><strong>Trandolapril</strong></td>
<td>1.0-2.0 mg once daily</td>
<td>Concomitant therapy with potassium-sparing diuretics, potassium supplements, and/or additional RAAS blockers may result in hyperkalemia.</td>
</tr>
<tr>
<td><strong>Azilsartan</strong></td>
<td>15-45 mg once daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Candesartan</strong></td>
<td>8-12 mg once daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Eprosartan</strong></td>
<td>400-600 mg divided once or twice daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Irbesartan</strong></td>
<td>150-500 mg once daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Losartan</strong></td>
<td>25-150 mg divided once or twice daily</td>
<td>Start with lower or less frequent doses in patients with CKD (except fosinopril or partial compensation by hypotensive elimination) or in patients currently being treated with a diuretic.</td>
</tr>
<tr>
<td><strong>Olmesartan</strong></td>
<td>20-40 mg once daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Telmisartan</strong></td>
<td>20-40 mg once daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Valsartan</strong></td>
<td>30-120 mg once daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
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### Table 8: Select Medications Requiring Dose Adjustments or to be Used with Caution in Patients with CKD

<table>
<thead>
<tr>
<th>Drug</th>
<th>Usual Dose Range</th>
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<tr>
<td><strong>Most antibiotics (macrolides, clindamycin, and metronidazole) and antivirals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Multiple anti-cancer therapies (cytotoxic drugs, targeted agents, biologics)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hypoglycemic agents</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acarboside</strong></td>
<td>300-1200 mg divided once or twice daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Miglitol</strong></td>
<td>50-200 mg once daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Gluconamide</strong></td>
<td>250-1000 mg divided once or twice daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Insulin</strong></td>
<td>10-400 U divided once or twice daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Sildenafil</strong></td>
<td>25-150 mg divided 2-3 times daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>RAL blockers</strong></td>
<td>1-4 mg once daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
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<tr>
<td><strong>ACEIs</strong></td>
<td>10-400 U divided once or twice daily</td>
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<tr>
<td><strong>ARBs</strong></td>
<td>10-400 U divided once or twice daily</td>
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</tr>
<tr>
<td><strong>Alogliptin</strong></td>
<td>25-150 mg divided 2-3 times daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Repaglinide</strong></td>
<td>25-150 mg divided 2-3 times daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Sitagliptin</strong></td>
<td>25-150 mg divided 2-3 times daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Alogliptin</strong></td>
<td>2.5-10 mg once daily</td>
<td>Use with caution in patients with renal artery stenosis.</td>
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<tr>
<td><strong>Repaglinide</strong></td>
<td>2.5-10 mg once daily</td>
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<tr>
<td><strong>Sitagliptin</strong></td>
<td>2.5-10 mg once daily</td>
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*Note this is not a comprehensive list; consult individual product information or alternate sources elsewhere.