If BP above goal (≥130/80mm Hg)

Start ACEI + Diuretic

Lisinopril - HCTZ

20 – 25mg daily if eGFR ≥ 20
¼ 1 → 2 tabs daily

See CAUTION/INFO: verify contraception & eGFR.
Titrated to BP goal.

Optional: Replace ACEI w/ ARB if ACEI intolerant
Losartan

25mg daily → 25mg twice daily → 50mg twice daily
Titrated to BP goal.

Add Calcium Channel Blocker

Amlodipine

2.5 → 5 → 10mg daily
Titrated to BP goal.

Replace HCTZ w/ Chlorthalidone

Chlorthalidone

25mg daily (max rec. dose)

Add Spironolactone*

Spironolactone

12.5 → 25mg daily

*If on thiazide AND eGFR ≥ 60 AND K < 4.5

If Spironolactone eligibility criteria not met:

Bisoprolol1

2.5 → 5 → 10mg daily
Titrated to BP goal. Maintain pulse of 55 or greater

1 BP algorithm applies if eGFR ≥ 20 and if LVEF ≥ 40%.
2 Automated Office BP (AOBP) avg. is the avg. of 3 readings measured with the patient unobstructed using an AOBP device.

Statin Goals

Atorvastatin 40-80mg:

• ASCVD: Age < 75 + any LDL
• DM: Age < 75 + LDL ≥ 190

Atorvastatin 10-20mg:

• ASCVD: Age ≥ 75 + any LDL
• DM: Age ≥ 40 + LDL 70-189*

If recommended dose of statin not tolerated, switch to a different statin (such as rosuvastatin). If that doesn’t work, reduce to highest tolerated dose. [update SIG w/ dosing changes]

If BP above goal

Start Statin

Atorvastatin

80mg daily

See CAUTION/INFO Verify contraception

Optional: 10 yr CV risk ≥ 7.5%

If Spironolactone eligibility criteria not met:

Bisoprolol1

2.5 → 5 → 10mg daily
Titrated to BP goal.

* Beta Blockers, independent of their mild anti-hypertensive effect, are sometimes indicated for secondary cardio-protection
* Atherosclerotic Cardiovascular Disease (ASCVD), including acute coronary syndrome (ACS), myocardial infarction (MI), stable or unstable angina, coronary or other arterial revascularization, ischemic stroke, transient ischemic attack (TIA), or symptomatic peripheral artery disease (PAD), all of atherosclerotic origin.

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If Spironolactone eligibility criteria not met:

Bisoprolol1

2.5 → 5 → 10mg daily
Titrated to BP goal. Maintain pulse of 55 or greater

If BP above goal

Start Statin

Atorvastatin

20 mg daily

See CAUTION/INFO Verify contraception

Optional: 10 yr CV risk ≥ 7.5%

If recommended dose of statin not tolerated, switch to a different statin (such as rosuvastatin). If that doesn’t work, reduce to highest tolerated dose. [update SIG w/ dosing changes]

If Spironolactone eligibility criteria not met:

Bisoprolol1

2.5 → 5 → 10mg daily
Titrated to BP goal.

* Beta Blockers, independent of their mild anti-hypertensive effect, are sometimes indicated for secondary cardio-protection
* Atherosclerotic Cardiovascular Disease (ASCVD), including acute coronary syndrome (ACS), myocardial infarction (MI), stable or unstable angina, coronary or other arterial revascularization, ischemic stroke, transient ischemic attack (TIA), or symptomatic peripheral artery disease (PAD), all of atherosclerotic origin.

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If BP above goal

Start Statin

Atorvastatin

20 mg daily

See CAUTION/INFO Verify contraception

Optional: 10 yr CV risk ≥ 7.5%

If recommended dose of statin not tolerated, switch to a different statin (such as rosuvastatin). If that doesn’t work, reduce to highest tolerated dose. [update SIG w/ dosing changes]

If Spironolactone eligibility criteria not met:

Bisoprolol1

2.5 → 5 → 10mg daily
Titrated to BP goal.

* Beta Blockers, independent of their mild anti-hypertensive effect, are sometimes indicated for secondary cardio-protection
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### Cardiovascular Risk Management Medications and Lab Chart Rev. 28 (11/19)

#### PHASE POPULATIONS

**CAD** Symptomatic PAD  
ASA: If 10 y CV risk > 10% ages 50-59 ASA recommended; if 10 y CV risk > 10% ages 60-69 consider ASA

**CVA/TIA** Ischemic

**DM** 59 ASA recommended; if 10 y CV risk > 10% ages 60-69 consider ASA

#### PHASE MEDICATIONS & CAUTIONS

<table>
<thead>
<tr>
<th>BP</th>
<th>Preferred Dosage Forms</th>
<th>Max. Rec. Dose</th>
<th>Optimal Titration Interval</th>
<th>Baseline Labs</th>
<th>Titration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACE Inhibitor - Diuretic</strong></td>
<td>Tab 20 / 25mg</td>
<td>40 / 50mg daily</td>
<td>2 weeks</td>
<td>K+ and Scr. &lt; 6 months (Na+ optional)</td>
<td>K+ and Scr. 1 week after initiation or dosage change (Na+ optional)</td>
</tr>
<tr>
<td>Lisinopril - HCTZ (Prinzide®) F</td>
<td>Tab 25mg</td>
<td>HCTZ 50mg daily</td>
<td>2 weeks</td>
<td>K+ and Scr. &lt; 6 months (Na+ optional)</td>
<td>K+ and Scr. 1 week after initiation or dosage change (Na+ optional)</td>
</tr>
<tr>
<td><strong>Thiazide Diuretics</strong></td>
<td>Tab 25mg</td>
<td>HCTZ 50mg daily</td>
<td>2 weeks</td>
<td>K+ and Scr. &lt; 6 months (Na+ optional)</td>
<td>K+ and Scr. 1 week after initiation or dosage change (Na+ optional)</td>
</tr>
<tr>
<td>HCTZ (Hydrodiuril®, Esidrix®) F</td>
<td>Tab 25mg</td>
<td>25mg daily</td>
<td>2 weeks</td>
<td>K+ and Scr. &lt; 6 months (Na+ optional)</td>
<td>K+ and Scr. 1 week after initiation or dosage change (Na+ optional)</td>
</tr>
<tr>
<td>Chlorothalidone (Hygroton®) F</td>
<td>Tab 25mg</td>
<td>25mg daily</td>
<td>2 weeks</td>
<td>K+ and Scr. &lt; 6 months (Na+ optional)</td>
<td>K+ and Scr. 1 week after initiation or dosage change (Na+ optional)</td>
</tr>
<tr>
<td><strong>ACE Inhibitor</strong></td>
<td>Tab 5, 10, 20mg</td>
<td>40mg daily</td>
<td>1 week</td>
<td>K+ and Scr. &lt; 6 months</td>
<td>K+ and Scr. 1 week after initiation, K+ 2 weeks after dosage change</td>
</tr>
<tr>
<td>Lisinopril (Prinivil®) F</td>
<td>Tab 50mg</td>
<td>100mg daily or 50mg BID</td>
<td>1 week</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>ARB</strong></td>
<td>Tab 2.5, 5, 10mg</td>
<td>10mg daily</td>
<td>1 week</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Losartan (Cozaar®) F</td>
<td>Tab 25mg</td>
<td>25mg daily</td>
<td>1 week</td>
<td>K+ and Scr. &lt; 6 months</td>
<td>K+ and Scr. 1 week after initiation, K+ 2 weeks after dosage change</td>
</tr>
<tr>
<td>Calcium Channel Blocker</td>
<td>Tab 10, 20mg</td>
<td>10mg daily</td>
<td>1 week</td>
<td>K+, Scr. &lt; 1 month</td>
<td>K+ and Scr. 1 week after initiation &amp; 2 weeks after dosage change</td>
</tr>
<tr>
<td>Amlodipine (Norvasc®) F</td>
<td>Tab 25mg</td>
<td>25mg daily</td>
<td>1 week</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Potassium Sparing Diuretic</strong></td>
<td>Tab 5mg</td>
<td>10mg daily</td>
<td>1 week</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Spironolactone (Aldactone®) F</td>
<td>Tab 2, 5, 10mg</td>
<td>10mg daily</td>
<td>1 week</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Beta blocker</strong></td>
<td>Tab 5mg</td>
<td>10mg daily</td>
<td>1 week</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Bisoprolol (Zebeta®) F</td>
<td>Tab 5mg</td>
<td>10mg daily</td>
<td>1 week</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

#### DM 2 (non-insulin agents)

<table>
<thead>
<tr>
<th>BP</th>
<th>Preferred Dosage Forms</th>
<th>Max. Rec. Dose</th>
<th>Optimal Titration Interval</th>
<th>Baseline Labs</th>
<th>Cautions / Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biguanide</strong></td>
<td>Tab 500, 1000mg</td>
<td>1000mg BID</td>
<td>2 weeks</td>
<td>Scr. (CBC optional)</td>
<td>Contraindicated: eGFR &lt;30, HF NY class 3-4, LFTs &gt;3 x ULN</td>
</tr>
<tr>
<td>Metformin (Glucophage®) F</td>
<td>Tab 500, 750mg</td>
<td>750mg BID</td>
<td>2 weeks</td>
<td>K+ and Scr. &lt; 6 months (Na+ optional)</td>
<td>K+ and Scr. 1 week after initiation or dosage change (Na+ optional)</td>
</tr>
<tr>
<td>Metformin SR (Glucophage XR®) F</td>
<td>Tab 2, 5, 10mg</td>
<td>20mg BID ac 8 mg daily</td>
<td>2 weeks</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Sulfonylurea</strong></td>
<td>Tab 1, 2, 4 mg</td>
<td>2mg daily</td>
<td>2 weeks</td>
<td>None</td>
<td>Contraindicated: severe sulfa allergy</td>
</tr>
<tr>
<td>Glipizide (Glucotrol®) F</td>
<td>Tab 15, 30, 45 mg</td>
<td>45mg daily</td>
<td>2 months</td>
<td>ALT (Akp, T bili optional)</td>
<td>Contraindicated: CHF stage III or IV</td>
</tr>
<tr>
<td>Glimepiride (Amaryl®) F</td>
<td>Tab 5mg</td>
<td>5mg daily</td>
<td>N/A</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Thiazolidinedione</strong></td>
<td>Tab 2mg weekly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pioglitazone (Actos®) F</td>
<td>Tab 5mg</td>
<td>5mg daily</td>
<td>N/A</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>DPP-4 inhibitor</strong></td>
<td>Tab 25mg (1/2 tab)</td>
<td>25mg daily</td>
<td>2 weeks</td>
<td>Scr.</td>
<td>Contraindicated: eGFR &lt;30</td>
</tr>
<tr>
<td>Linagliptin (Tradjenta®) NF</td>
<td>Tab 5mg</td>
<td>5mg daily</td>
<td>N/A</td>
<td>None</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>SGLT2 inhibitor</strong></td>
<td>Tab 25mg</td>
<td>25mg daily</td>
<td>2 weeks</td>
<td>Scr.</td>
<td>Contraindicated: personal or FH Medullary thyroid CA or MEN2, eGFR &lt;30 (exenatide ER only)</td>
</tr>
<tr>
<td>Empagliflozin (Jardiance®) F</td>
<td>Tab 10mg</td>
<td>10mg daily</td>
<td>2 weeks</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Liraglutide (Victoza®) NF</td>
<td>Tab 1.8 mg daily</td>
<td>1.8 mg daily</td>
<td>1 week</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Exenatide ER inj (Bydureon®) NF</td>
<td>Tab 2mg weekly</td>
<td>2mg weekly</td>
<td>2 weeks</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### Statins

<table>
<thead>
<tr>
<th>BP</th>
<th>Preferred Dosage Forms</th>
<th>Max. Rec. Dose</th>
<th>Optimal Titration Interval</th>
<th>Baseline Labs*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atorvastatin (Lipitor®) F</td>
<td>Tab 40, 80mg</td>
<td>80mg qhs</td>
<td>N/A</td>
<td>ALT, Scr</td>
</tr>
<tr>
<td>Rosuvastatin (Crestor®) F</td>
<td>Tab 10, 20mg</td>
<td>20mg qhs</td>
<td>N/A</td>
<td>ALT, Scr</td>
</tr>
</tbody>
</table>

**Drug info site:** [http://pharmacy.kp.org](http://pharmacy.kp.org)  
**F:** Formulary  
**NF:** Non-formulary

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**CAUTION/INFO:** Use with caution: HR <55, asthma, hypotension.

**CAUTION/INFO:** Verify effective contraception in women of childbearing potential.

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**Max. Rec. Dose:** 
- 80mg: 80mg qhs
- 100mg: 100mg qhs
- 20mg: 20mg qhs
- 250mg: 250mg qhs

**Max. Rec. Dose:** 
- 80mg: 80mg qhs
- 100mg: 100mg qhs
- 20mg: 20mg qhs
- 250mg: 250mg qhs

---

**Optimal Titration Interval:** 
- 1 week
- 2 weeks
- 3 weeks
- 4 weeks
- 5 weeks

**Optimal Titration Interval:** 
- 1 week
- 2 weeks
- 3 weeks
- 4 weeks
- 5 weeks

---

**Baseline Labs:** 
- ALT, Scr
- K+, Scr.
- K+, Scr.
- K+ and Scr.
- K+, Scr.
- K+ and Scr.

**Baseline Labs:** 
- ALT, Scr
- K+, Scr.
- K+, Scr.
- K+ and Scr.
- K+, Scr.
- K+ and Scr.

---

**Titration:** 
- K+ and Scr. 1 week after initiation or dosage change (Na+ optional)
- K+ and Scr. 1 week after initiation or dosage change (Na+ optional)
- K+ and Scr. 1 week after initiation or dosage change (Na+ optional)
- K+ and Scr. 1 week after initiation or dosage change (Na+ optional)
- K+ and Scr. 1 week after initiation or dosage change (Na+ optional)
- K+ and Scr. 1 week after initiation or dosage change (Na+ optional)

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**Adapted from KPNC CPG for CAD, DM, Cholesterol, HTN, HF and Stroke. Complete guidelines, including updated guidelines on the Dx of HTN, can be found in the Clinical Library at [http://cl.kp.org](http://cl.kp.org).**