Implement lifestyle interventions (continue through management) including:

Physical activity 30m/d | DASH; dietary Na 1.8-2.4g/d | Tobacco cessation

Weight control; BMI <25 | Limit ETOH

BP Goals[1] (in mm/ Hg)	**Conventional Office**	**AOBP or Avg**[2] **Home Reading**
All Adults Strong Rec.	**≤ 139 / 89**	**≤ 134 / 84**
If: ≥ 75 yrs, eGFR 20 – 59 mL/min, ASCVD or ≥10% 10-yr ASCVD risk	Consider ≤ 129/89	Consider ≤ 129 / 84

If BP above goal

Start ACEI + Diuretic

Lisinopril - HCTZ

20 - 25mg

½ → 1 → 2 tabs daily

See CAUTION/INFO: **verify contraception** & eGFR.

Titrate to BP goal.

Optional: Replace ACEI w/ ARB if ACEI intolerant

Losartan

25mg daily → 25mg twice daily → 50mg twice daily

Titrate to BP goal.

Add Calcium Channel Blocker

Amlodipine

2.5 → 5 → 10mg daily

Titrate 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:

Bisoprolol[3]

2.5 → 5 → 10 mg daily

Titrate 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 unobserved using an AOBP device.

Statin Goals

Atorvastatin 40-80 mg:

- Clinical ASCVD[5] Age < 75 + any LDL
- DM: Age < 75 + LDL ≥ 190

Atorvastatin 10-20 mg:

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

DM Age < 75 LDL ≥ 190 → **Start Statin** **Atorvastatin** 80mg daily. See CAUTION/INFO **Verify contraception**

Clinical ASCVD[5] → Age <75 / Age ≥75 → **Start Statin** **Atorvastatin** 20 mg daily. See CAUTION/INFO **Verify contraception**

DM Age ≥ 40 LDL 70 – 189* → *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]*

Optional: LDL monitoring to ensure appropriate response

* For DM w/ LDL <70, see primary prevention guidelines.

[3] Beta Blockers, independent of their mild anti-hypertensive effect, are sometimes indicated for secondary cardio-protection

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

Contact: **Jonathan Lee**, Sr Consulting Assoc., Regional Health Ed.
Design: **Vince Rowell**, Quality and Operations Support

A1c Goals

≤ 7.9%: ≥ 65 yrs or clinical factors[6]
≤ 6.9%: < 65 yrs w/o clinical factors

PHASE on a Page Rev. 30 (2/19)

Type 2 DM A1C ≥ 2% above goal

Yes → **Add Metformin + NPH OR Basal Long-Acting Insulin**

No → **Add Metformin**[7]

Start Metformin

500mg: ½ tablet bid → 1 tablet bid → 2 tablets bid

Contraindicated: eGFR <30 or HF NY class 3–4 or LFTs >3 x ULN
Start not recommended: If baseline eGFR < 45
Assess risk/ benefits: If eGFR falls < 45

If GFR 30–45, 1000mg = max.
Titrate every 1-2 weeks aiming for AM SMBG target
(≤ 6.9: 70–130; ≤ 7.9: 100–160)

At goal

No → **Risk of Severe Hypoglycemia**[8]

Yes → **Monitor**

Start / Add NPH OR Basal Long-Acting Insulin

10 units SQ at hs
↑ 2 units every 2 days until at target.

Risk of Severe Hypoglycemia[8]

Yes → **Add Alternate agent**[9]

No → **Add Glipizide**

Add Glipizide

5mg: ½ tablet bid → 1 tablet bid → 2 tablets bid

Contraindicated: severe sulfa allergy

Titrate every two weeks until at target.

A1C ≥ 1% of goal?

Yes → **Add NPH OR Basal Long-Acting Insulin**

No → **Add NPH OR Basal Long-Acting Insulin or Alternate agent**[9]

Thiazoladinedione
- Oral
- Wt: Avg 1-3 kg gain
- Risk: CHF , Fx
- Formulary,
- generic co-pay

DPP-4 Inhibitor
- Oral
- Wt: Neutral
- Non-formulary; brand co-pay

GLP-1 R Agonist
- SQ Injection (Needs Endocrine approval)
- Wt: Avg 1-3 kg loss
- Risk: Nausea / vomiting
- Non-formulary; brand co-pay

SGLT2 Inhibitor
- Oral
- Wt: Avg 1-3 kg loss
- Risk: Genital yeast infections, DKA
- Non-formulary; brand co-pay

[5] Clinical Atherosclerotic Cardiovascular Disease (ASCVD), e.g. CAD, TIA/CVA, Symptomatic PAD.
[6] Individualize A1c goal based on hypoglycemia risk, duration of DM, life expectancy, co-morbidities, vascular complications, member resources and support system.
[7] If intolerant to immediate release metformin, ***strongly*** consider sustained release metformin.
[8] **Severe Hypoglycemia** = Hypoglycemia resulting in / likely to result in seizures, loss of consciousness, or needing help from others. **Mild to moderate hypoglycemia** = Symptoms of neuro-glycopenia such as hunger or sweating that the patient can effectively self-treat.
[9] A1C above goal 3+ months despite non-insulin agents, ***strongly*** consider discontinuing ineffective medications and initiating **insulin + metformin**.

PHASE
PREVENT HEART ATTACKS AND STROKES EVERYDAY

v3 updated 4/17/2019

Cardiovascular Risk Management Medications and Lab Chart Rev. 27 (07/18)

PHASE POPULATIONS

CAD Symptomatic **PAD**

CVA/TIA Ischemic

DM ASA: If 10 y CV risk > 10% ages 50-59 ASA recommended; if 10 y CV risk > 10% ages 60-69 consider ASA

PHASE MEDICATIONS & CAUTIONS

ASA

ASA	81mg daily

CAUTION/INFO If ASA intolerant: Clopidogrel : CAD, Sx PAD

ACEI

Lisinopril	10mg daily

CAUTION/INFO Verify effective contraception in women of childbearing potential: Use Chlorthalidone or HCTZ.
Use ACEI with caution: eGFR <30, K >5.5
ARB may be inappropriate : Hx of Angioedema, renal failure or hyperkalemia on ACEI.

STATIN

- Clinical ASCVD[3] Age < 75 + any LDL
- DM: Age < 75 + LDL ≥ 190

Atorvastatin	40–80mg daily

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

Atorvastatin *OR*	10-20mg daily
Rosuvastatin	10-20mg daily

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

BETA BLOCKER – FOR CAD/Sx PAD

Atenolol	25mg daily

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

** For DM w/ LDL <70, see primary prevention guidelines.

BP	Preferred Dosage Forms	Max. Rec. Dose	Optimal Titration Interval	Baseline Labs	Titration
ACE Inhibitor - Diuretic Lisinopril - HCTZ (Prinzide®) F	Tab 20 / 25mg	40 / 50mg daily	2 weeks	K+ and SCr. < 6 months (Na+ optional)	K+ and SCr. 1 week after initiation or dosage change (Na+ optional)
Thiazide Diuretics HCTZ (Hydrodiuril®, Esidrix®) F	Tab 25mg	HCTZ 50mg daily	2 weeks	K+ and SCr. < 6 months (Na+ optional)	K+ and SCr 1 week after initiation or dosage change (Na+ optional)
Chlorthalidone (Hygroton®) F	Tab 25mg	25mg daily	2 weeks	K+ and SCr. < 6 months (Na+ optional)	K+, SCr 1 week after initiation or dosage change (Na+ optional)
ACE Inhibitor Lisinopril (Prinivil®) F	Tab 5, 10, 20mg	40mg daily	1 week	K+ and SCr. < 6 months	K+ and SCr 1 week after initiation. K+ 2 weeks after dosage change
ARB Losartan (Cozaar®) F	Tab 25, 50mg	100mg daily or 50mg BID	1 week	K+ and SCr. < 6 months	K+ and SCr 1 week after initiation. K+ 2 weeks after dosage change
Calcium Channel Blocker Amlodipine (Norvasc®) F	Tab 2.5, 5, 10mg	10mg daily	1 week	None	None
Potassium Sparing Diuretic Spironolactone (Aldactone®) F	Tab 25mg	25mg daily	1 week	K+, SCr. < 1 month	K+ and SCr 1 week after initiation & 2 weeks after dosage change
Beta 1 blocker Bisoprolol (Zebeta®) F	Tab 5, 10mg	10mg daily	1 week	None	Maintain pulse ≥ 55

DM 2 (non-insulin agents)	Preferred Dosage Forms	Max. Rec. Dose	Optimal Titration Interval	Baseline Labs	Cautions / Contraindications
Biguanide Metformin (Glucophage®) F	Tab 500, 1000mg	1000mg BID	2 weeks	SCr. (CBC optional)	Contraindicated: eGFR <30 or HF NY class 3–4 or LFTs >3 x ULN; Not recommended: baseline eGFR < 45; Assess R/B: If eGFR falls < 45
Sulfonylurea Glipizide (Glucotrol®) F	Tab 2.5, 5, 10mg	20mg BID ac	2 weeks	None	Contraindicated: severe sulfa allergy
Thiazoladinedione Pioglitazone (Actos®) F	Tab 15,30,45 mg	45 mg daily	2 months	ALT,(AlkP ,T bili optional)	Contraindicated: CHF stage III or IV
DPP-4 inhibitor Linagliptin (Tradjenta®) NF*	Tab 5 mg	5 mg daily	N/A	None	N/A
SGLT2 inhibitor Empagliflozin (Jardiance®) NF**	Tab 10, 25 mg	25 mg daily	2 weeks	SCr.	Contraindicated: eGFR <45
GLP-1 receptor agonist Exenatide ER inj (Bydureon®) NF***	SQ Inj 2 mg	2 mg weekly	N/A	SCr.	Contraindicated: personal or FH Medullary thyroid CA or MEN2

Statins	Preferred Dosage Forms	Max. Rec. Dose	Optimal Titration Interval	Baseline Labs*	Titration
Atorvastatin (Lipitor®) F	Tab 40, 80mg	80mg daily hs	N/A	ALT, SCr	N/A
Rosuvastatin (Crestor®) F	Tab 10, 20mg	20mg daily hs	N/A	ALT, SCr	N/A

F: Formulary
NF: Non-formulary

*Do not routinely measure CK. Consider baseline CK if increased risk for adverse muscle events (such as personal or family history of statin intolerance or muscle disease, clinical presentation, or concomitant drug therapy that might increase the risk for myopathy).

Formulary Alternatives: *Alogliptin (Nesina), **Ertugliflozin (Steglatro), ***Liraglutide (Victoza)

Drug info site: http://pharmacy.kp.org