



KAISER PERMANENTE

Los Angeles Medical Center Policies and Procedures

Location: AMBULATORY CARE	Old Policy Number:	On-Line Policy Number: 3006
Section: PRIMARY CARE - STANDARDIZED PROCEDURE	Effective Date: 03/2001	Page: 1 of 25
Title: STANDARDIZED PROCEDURE FOR HYPERTENSION MANAGEMENT	Review / Revise Date: 06/03- 06/10, 06/11, 06/12, 06/15, 10/18	
Approved by: AMBULATORY PRACTICE COMMITTEE – 08/18 INTERDISCIPLINARY PRACTICE COMMITTEE - 10/18 PHARMACY & THERAPEUTICS COMMITTEE – 09/19	<input type="checkbox"/> Medical Center Wide <input type="checkbox"/> Department Specific <input checked="" type="checkbox"/> Ambulatory <input type="checkbox"/> Hospital	<input type="checkbox"/> Non-Clinical <input checked="" type="checkbox"/> Clinical
Owner/Responsible Party: AMBULATORY CARE		

Workplace Safety Key Points (WSKP) are included in this document for your protection.

1. Always use Standard Precautions including Personal Protective Equipment (PPE) when handling any blood/body fluid, liquids, and chemicals (e.g. disinfectant) or when handling spills.
2. Handwashing is the single most effective means of controlling the spread of infection; remember to always **WASH YOUR HANDS.**
3. Use proper body mechanics and equipment during patient transfer and/or repositioning. When lifting, bend at the hips and/or knees and keep your back straight. Ensure your work area is ergonomically correct.
4. Dispose of Sharps according to policy and procedure. **NO NEEDLE RECAPPING**

REFERENCE:

- Adult Blood Pressure Clinician Guide -Kaiser Permanente National Clinical Practice Guidelines 2018
- KP Orange County Medical Center Service Area: Hypertension Protocol for Registered Nurses 2014
- SCPMG Regional Policy and Procedure: Blood Pressure Monitoring – Blood Pressure Check Visit 8/2016
- Title 22, Section 70706
- Nursing Practice Act, Business and Professions Code Section 2725
- LAMC P&P # 1026: Chronic Condition Treatment Monitoring Standing Order
- LAMC P&P # 1016: Standing Orders for Proactive Care Support
- LAMC P&P # 1021: Criteria for Development, Approval and Implementation of Standardized Procedures

PURPOSE:

1. To standardize the ordering of hypertension medication, monitoring and ordering of laboratory tests by Registered Nurses (RN) for patients with Hypertension.
2. To provide guidelines for RNs who are authorized to implement Standardized Procedures or changes in the treatment regime.

POLICY:

1. This protocol describes the functions, which shall be performed by RNs in managing uncomplicated hypertension in adults aged 18 years and older.
2. Definitions and criteria:
 - a. Hypertension: Patients who have been diagnosed by a physician with hypertension, systolic / diastolic blood pressure levels above 139/89.
 - b. Uncomplicated hypertension is without any of the following co-morbidities: Coronary Artery Disease, Stage 4 or greater Chronic Kidney Disease (CKD) with glomerular filtration rate (GFR) <30, Heart Failure, or pregnancy.
3. Blood Pressure Goal: For adults ≥ 18 the goal is < 140/90

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4. Patient Condition:
 - a. Inclusion criteria
 - 1) Uncomplicated hypertension and hypertension with stage 1-3 chronic kidney disease, diabetes mellitus, stroke, transient ischemic attack, peripheral vascular disease, or atherosclerosis of aorta.
 - 2) Adult, aged 18 and older
 - 3) On only one or two of the following medications at time of authorization: Hydrochlorothiazide, Lisinopril, Losartan, Lisinopril/Hydrochlorothiazide, Amlodipine or Atenolol. May be on other anti-hypertensive medications other than those listed which will not be titrated.
 - b. Referring physician is responsible for
 - 1) Initiating Hydrochlorothiazide, Lisinopril, Losartan or Lisinopril / Hydrochlorothiazide
 - 2) Evaluating for intolerance manifested by hyponatremia by ordering electrolytes and serum creatinine to be drawn 2 weeks after first dose.
 - 3) Ordering electrolytes, serum creatinine and blood pressure check to be done 1 week after conversion from Lisinopril monotherapy, Losartan monotherapy or Hydrochlorothiazide monotherapy to Lisinopril / Hydrochlorothiazide.
 - c. Exclusion criteria: Coronary artery disease, Stage 4 or greater chronic kidney disease (GFR<30), heart failure, or pregnancy.
 - d. NOTE: If currently on medication for hypertension outside this protocol, the Primary Care Physician shall consider taking patients off medications outside of this protocol and start medications that are on this protocol.
5. Procedure and Patient Education:
 - a. Patient Education
 - 1) Lifestyle Modifications
 - a) Exercise – at a moderate pace to achieve 150 min./week (i.e., 30 min./5 days /week)
 - b) Weight reduction – for patients with BMI \geq 25 kg/m²
 - c) Limiting alcohol consumption (not more than 1 drink for women, or not more than 2 drinks for men per day)
 - d) Consume a diet that is moderately low-sodium with a high intake of fruits, vegetables and no-fat dairy (DASH diet)
 - e) Sodium restriction (\leq 2.4 gm sodium daily)
 - f) Stop smoking and/or use of tobacco products
 - 2) Self-monitoring blood pressure and documentation with use of benchmark KP apparatus: Lifesource Advanced One Step Blood Pressure Monitor (UA-767 PV)
 - a) Instruct patient to take two (2) BP readings between 6 am – 10 am and another two (2) BP readings between 6 pm – 10 pm, for three days during the third (3rd) week following medication adjustment.
 - 3) Women of childbearing age: Reminder that Lisinopril and Losartan are contraindicated in pregnancy. Pregnant women or with child bearing potential (those actively using oral contraception, condoms, diaphragms, other barrier techniques, or withdrawal) are excluded from this protocol. Women with unexpected pregnancy on Lisinopril or Losartan are to discontinue Lisinopril/Hydrochlorothiazide, Lisinopril or Losartan and notify their physician.

PROCEDURE:

1. Subjective Assessment
 - a. Complaints consistent with symptomatic hypotension: dizziness, syncope
 - b. Side effects to medications: persistent cough and calcium channel blocker edema (See Antihypertensive Medications Quick Reference in Appendix H)
 - c. Adherence with medications and lifestyle modification
2. Objective Assessment

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- a. If sitting systolic BP is higher than target and the patient is 60 years of age or older, assess standing BP. If systolic BP is less than 110, assess standing BP. Base treatment on lowest BP, either sitting or standing.
 - b. Side effects to medications (See Antihypertensive Medication Quick Reference in Appendix H):
 - c. Electrolytes and creatinine results done after initiation or up titration of Lisinopril / Hydrochlorothiazide, Lisinopril, Losartan, Hydrochlorothiazide or Spironolactone.
 - d. Hypokalemia or hyponatremia from Hydrochlorothiazide
 - e. Angioedema, cough, hyperkalemia or hypotension from Lisinopril or Losartan
 - f. Significant peripheral edema on Amlodipine.
 - g. Bradycardia (HR< 55), active wheezing or severe COPD / Asthma on Atenolol
- Assessment / Plan
- h. Blood Pressure 160 - 179 systolic and/or 100 - 109 diastolic
 - 1) Notify Primary Care Provider or designee.
 - 2) Follow RN Hypertension protocol medication titration and schedule follow-up blood pressure check in 1 week instead of 2 weeks.
 - i. Blood Pressure greater than or equal to 180 systolic and/or 110 diastolic
 - 1) Refer to provider for immediate evaluation. Do not release the patient
 - j. Blood Pressure less than 90 systolic
 - 1) Consult with provider.
 - k. Symptomatic hypotension or asymptomatic with systolic BP 90 - 99
 - 1) Decrease medication dosage back to previous dosage and message physician if the patient has recently started the medication and there is no prior dose, hold the medication and message the physician.
 - 2) Recheck BP the following week, if hypotension continues, consult with physician.
 - l. Cough, rash or angioedema on Lisinopril / Hydrochlorothiazide
 - 1) Discontinue Lisinopril / Hydrochlorothiazide
 - 2) Document ACE-I Intolerance in medical record problem list, allergy / intolerance list and progress note.
 - m. Hypokalemia, serum potassium 3.2 – 3.4 mEq/L on Lisinopril / Hydrochlorothiazide
 - 1) ADD KCl 20 mEq po daily or increase KCl by 20 mEq po daily per physician order
 - 2) If no current prescription for potassium supplement, transmit order to pharmacy for: KCl 10 mEq, #200, sig: Take 2 tablets by mouth daily. Refills: 1 per physician order
 - 3) If new prescription transmitted, cosign order in KP HealthConnect order entry for physician order entry signoff
 - 4) Repeat serum potassium in 2 weeks
 - 5) If repeat serum potassium less than 3.2 mEq/L, notify physician.
 - n. Hyperkalemia, serum potassium greater than 5.0 on Lisinopril / Hydrochlorothiazide, Lisinopril or Losartan
 - 1) For potassium 5.0-5.5 mEq/L, remove all potassium supplementation, educate on low potassium diet and repeat K in one week; if not taking potassium supplementation, cut Lisinopril / Hydrochlorothiazide, Lisinopril or Losartan dose in half and repeat K in one week. If on lowest dosage of Lisinopril / Hydrochlorothiazide, Lisinopril or Losartan, discontinue medication and notify physician.
 - 2) If K remains 5.0-5.5 mEq/L refer to physician to determine either how frequently to monitor K or to discontinue Lisinopril
 - 3) For potassium greater than 5.5 mEq/L, notify physician.
 - o. Hyponatremia, serum sodium less than 134 mEq/L on Hydrochlorothiazide
 - 1) Notify physician.
 - 2) Physician may consider discontinuation for sodium < 130
 - 3) Physician may consider excessive water intake or other etiology for sodium 131 – 134.
 - p. Reduction in eGFR > 30% compared to the baseline eGFR
 - 1) Repeat serum creatinine in 2 weeks for any reduction in eGFR > 30% compared to the baseline eGFR.
 - 2) Formula for calculating eGFR change: (current GFR – baseline GFR) / baseline GFR
example: baseline GFR = 50; current GFR = 35: (34-50)/50 = -32%, therefore serum creatinine would be repeated.

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- q. Abnormal serum creatinine / GFR
 - 1) Evaluate for exclusion criteria and consult with physician.
- r. Pregnancy
 - 1) Discontinue Lisinopril, Lisinopril/Hydrochlorothiazide or Losartan and notify physician. Refer to OB GYN for management.
- s. Intolerance to Bisoprolol (due to active wheezing, severe COPD or Asthma, or bradycardia \leq 55 beats per minute [bpm])
 - 1) Discontinue Bisoprolol
 - 2) Notify physician.
- t. Intolerance to Amlodipine
 - 1) Discontinue Amlodipine
 - 2) Document Amlodipine Intolerance in problem list and in progress note.
 - 3) Notify physician.
 - 4) Proceed on medication titration protocol to ADD: Spironolactone or Bisoprolol per physician order.
- u. Drug-drug interaction with Amlodipine and simvastatin
 - 1) Notify physician if patient on more than 20 mg Simvastatin before adding Amlodipine. Physician may change lipid-lowering medication.
- v. Increase medication dosage per tables below if (1) patient compliant with medication regime (MRAR \geq 80% and DSR positive) and (2) clinic visit, sitting or standing SBP greater than goal OR sitting or standing DBP greater than goal.
 - 1) Order follow-up electrolytes and creatinine 2 weeks following each up-titration of Lisinopril / Hydrochlorothiazide, Lisinopril, Losartan or Hydrochlorothiazide (HCTZ). See Section 2.5: Patient follow up for further instructions on results.
 - 2) Repeat blood pressure 2 weeks after each medication adjustment, unless otherwise indicated. For elderly (age greater than 70), repeat blood pressure 4 weeks after each medication adjustment.
 - 3) Order electrolytes and creatinine with follow-up blood pressure check 1 week after conversion from Hydrochlorothiazide monotherapy, Lisinopril monotherapy or Losartan monotherapy to Lisinopril / Hydrochlorothiazide.
 - 4) When on multiple anti-hypertension medications that are not at maximum dosage, up-titrate medications in the following order: 1st Lisinopril/Hydrochlorothiazide to maximum dose of 20/25 x2 tablets daily or Hydrochlorothiazide to maximum dose of 50 mg daily; 2nd Amlodipine to maximum dose of 10 mg daily; 3rd Spironolactone to maximum dose of 25 mg daily or Bisoprolol to maximum dose of 10 mg daily.

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Table 1: Medication adjustment scale: Lisinopril / Hydrochlorothiazide (Appendix G: Medication Algorithm Diagrams No pregnancy potential and no cough intolerance to ACE-I)

Assessment: Current medication	Plan: ACTION
Lisinopril/Hydrochlorothiazide is less than 20 mg/25 mg daily and is on other hypertension medications	Titrate Lisinopril/Hydrochlorothiazide to maximum dosage first per physician order, maintain other medications at current dose
Lisinopril/Hydrochlorothiazide 10 mg/12.5 mg ½ tablet daily	<ul style="list-style-type: none"> • INCREASE: Lisinopril/Hydrochlorothiazide to 20 mg/25 mg ½ tablet daily per physician order • Edit/Reorder Lisinopril / Hydrochlorothiazide in KP HealthConnect to transmit prescription change to pharmacy for Lisinopril / Hydrochlorothiazide 20 mg/25 mg tablet, #50, sig: Take ½ tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes and creatinine in 2 weeks • Recheck BP in 2 weeks (age > 70, recheck in 4 weeks)
Lisinopril/Hydrochlorothiazide 20 mg/25 mg ½ tablet daily	<ul style="list-style-type: none"> • INCREASE: Lisinopril/Hydrochlorothiazide to 20 mg/25 mg 1 tablet daily per physician order • Edit/Reorder Lisinopril/Hydrochlorothiazide in KP HealthConnect to transmit prescription change to pharmacy for Lisinopril/Hydrochlorothiazide 20 mg/25 mg tablet, #100, sig: Take one tablet by mouth daily for high blood pressure. Refills: 1 Cosign to physician. • Check electrolytes and creatinine in 2 weeks • Recheck BP in 2 weeks (age > 70, recheck in 4 weeks)
Lisinopril/Hydrochlorothiazide 20 mg/25 mg 1 tablet daily	<ul style="list-style-type: none"> • INCREASE: Lisinopril/Hydrochlorothiazide to 20 mg/25 mg 2 tablets daily • Edit/Reorder Lisinopril/Hydrochlorothiazide in KP HealthConnect to transmit prescription change to pharmacy for Lisinopril/Hydrochlorothiazide 20 mg/25 mg tablet, #200, sig: Take two tablets by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes and creatinine in 2 weeks • Recheck BP in 2 weeks (age > 70, recheck in 4 weeks)
Lisinopril/Hydrochlorothiazide 20 mg/25 mg 2 tablets daily	<ul style="list-style-type: none"> • Continue Lisinopril/Hydrochlorothiazide 20 mg/25 mg 2 tablets daily • ADD: Amlodipine 5 mg ½ tablet daily per physician order • Enter order in KP HealthConnect to pharmacy for Amlodipine 5 mg tablet, #50, sig: Take ½ tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Recheck BP in 2 weeks (age > 70, recheck in 4 weeks)
Lisinopril/Hydrochlorothiazide 20 mg/25 mg 2 tablets daily and Amlodipine 5 mg ½ tablet daily	<ul style="list-style-type: none"> • Refer to Table 2: Medication Adjustment Scale: Amlodipine

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Table 2: Medication Adjustment Scale: Amlodipine (Appendix G: Medication Algorithm Diagrams)

Assessment: Current medication	Plan: ACTION
Amlodipine 5 mg ½ tablet daily	<ul style="list-style-type: none"> • Continue any current ACE-I, ARB and/or Hydrochlorothiazide medication dosages and • INCREASE: Amlodipine to 5 mg 1 tablet daily per physician order • Edit/Reorder Amlodipine in KP HealthConnect to transmit prescription change to pharmacy for Amlodipine 5 mg tablet, #100, sig: Take 1 tablet by mouth daily for high blood pressure. Refills: 1 Cosign to physician. • Recheck BP in 2 weeks (age ≥ 70, recheck in 4 weeks)
Amlodipine 5 mg 1 tablet daily	<ul style="list-style-type: none"> • Continue any current ACE-I, ARB and/or Hydrochlorothiazide medication dosages and • INCREASE: Amlodipine to 10 mg 1 tablet daily. • Edit/Reorder Amlodipine in KP HealthConnect to transmit prescription change to pharmacy for Amlodipine 10 mg tablet, #100, sig: Take 1 tablet by mouth daily for high blood pressure. Cosign to physician. • Recheck BP in 2 weeks (age > 70, recheck in 4 weeks)
<p>Amlodipine 10 mg daily and</p> <p>On thiazide AND GFR ≥60 ml/min AND K<4.5 (if any one of these criteria are not present, go to next step below e.g. if K is 4.5 or greater, go to next step below. If GFR is less than 30, exclude from this protocol)</p>	<ul style="list-style-type: none"> • Continue any current ACE-I, ARB and/or Hydrochlorothiazide medication dosages and • Continue Amlodipine 10 mg daily and • ADD: Spironolactone 12.5 mg 1 tablet daily per physician order • Enter order in KP HealthConnect to transmit prescription to pharmacy for Spironolactone 12.5 mg, #100, sig: Take one tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 1 week. • Recheck BP in 2 weeks (age ≥ 70, recheck in 4 weeks) • For further up-titration, refer to Spironolactone Table 4
<p>On thiazide AND GFR ≤59 ml/min OR potassium ≥4.5</p> <p>Amlodipine 10 mg daily and heart rate greater than 55 bpm, no active wheezing or severe COPD/Asthma</p>	<ul style="list-style-type: none"> • Continue any current ACE-I, ARB and/or Hydrochlorothiazide medication dosages and • Continue Amlodipine 10 mg daily and • ADD: Bisoprolol 2.5 mg 1 tablet daily • Enter order in KP HealthConnect to transmit prescription to pharmacy for Bisoprolol 2.5 mg, #100, sig: Take one tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Recheck BP in 2 weeks. (age ≥ 70, recheck in 4 weeks) • Further up-titration refer to Bisoprolol Table 3

Table 3: Medication Adjustment Scale: Bisoprolol (Appendix G: Medication Algorithm Diagrams)

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Assessment: Current medication	Plan: ACTION
Bisoprolol 2.5 mg daily and heart rate greater than 55 bpm, no active wheezing or severe COPD/Asthma	<ul style="list-style-type: none"> • Continue any current ACE-I, ARB, Hydrochlorothiazide and/or Amlodipine medication dosages and • INCREASE: Bisoprolol to 5 mg daily per physician order • Edit/Reorder in KP HealthConnect to transmit prescription change to pharmacy for Bisoprolol 5 mg, #100, sig: Take one tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Recheck BP in 2 weeks (age \geq 70, recheck in 4 weeks).
Bisoprolol 5.0 mg daily	<ul style="list-style-type: none"> • • INCREASE: Bisoprolol to 10 mg daily per physician order • Edit/Reorder in KP HealthConnect to transmit prescription change to pharmacy for Bisoprolol 10 mg, #100, sig: Take one tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Recheck BP in 2 weeks (age \geq 70, recheck in 4 weeks).
Bisoprolol with heart rate less than or equal to 55 bpm, active wheezing, severe COPD/Asthma	<ul style="list-style-type: none"> • Reduce to previous dose or discontinue. Refer patient to PCP for further medication management.

Table 4: Medication adjustment scale: Spironolactone

On Thiazide/ACE-I/ARB, Amlodipine and GFR \geq 60 ml/min AND K $<$ 4.5 (Appendix G: Medication Algorithm Diagram)

Assessment: Current medication	Plan: ACTION
Amlodipine 10 mg daily and On thiazide AND GFR \geq 60 ml/min AND potassium $<$ 4.5 (all three conditions are present)	<ul style="list-style-type: none"> • Continue any current ACE-I, ARB, Hydrochlorothiazide and/or Amlodipine medication dosages and • ADD: Spironolactone 12.5 mg 1 tablet daily per physician order. • Enter order in KP HealthConnect to transmit prescription to pharmacy for Spironolactone 12.5 mg, #100, sig: Take one tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 1 week. • Recheck BP in 2 weeks (age \geq 70, recheck in 4 weeks)
Spironolactone 12.5 mg daily	<ul style="list-style-type: none"> • Continue any current ACE-I, ARB, Hydrochlorothiazide and/or Amlodipine medication dosages and • INCREASE: Spironolactone to 25 mg daily per physician order • Edit/Reorder in KP HealthConnect to transmit prescription change to pharmacy for Spironolactone 25 mg, #100, sig: Take one tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 1 week. • Recheck BP in 2 weeks (age \geq 70, recheck in 4 weeks)
Spironolactone 25 mg daily	<ul style="list-style-type: none"> • Schedule appointment to follow-up with Primary Care Provider for further management within 4 weeks if blood

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Assessment: Current medication	Plan: ACTION
	pressure still not at goal, or in 6 months if blood pressure is at goal.

Table 5: Medication adjustment scale: Hydrochlorothiazide (Appendix G: Medication Algorithm Diagram
Pregnancy potential or cough intolerance to both ACE-I and ARB)

Assessment: Current medication	Plan: ACTION
Hydrochlorothiazide is less than 50 mg daily and is on other hypertension medications	Titrate Hydrochlorothiazide to maximum dosage first per physician order, maintain other medications at current dose
Hydrochlorothiazide 12.5 mg daily	<ul style="list-style-type: none"> • INCREASE: Hydrochlorothiazide to 25 mg 1 tablet daily per physician order • Edit/Reorder Hydrochlorothiazide in KP HealthConnect to transmit prescription change to pharmacy for Hydrochlorothiazide 25 mg tablet, #100, sig: Take 1 tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 2 weeks • Recheck BP in 2 weeks (age ≥ 70, recheck in 4 weeks)
Hydrochlorothiazide 25 mg daily	<ul style="list-style-type: none"> • INCREASE: Hydrochlorothiazide to 50 mg 1 tablet daily per physician order • Edit/Reorder in KP HealthConnect to transmit prescription change to pharmacy for Hydrochlorothiazide 50 mg tablet, #100, sig: Take 1 tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 2 weeks • Recheck BP in 2 weeks (age ≥ 70, recheck in 4 weeks)
Hydrochlorothiazide 50 mg daily	<ul style="list-style-type: none"> • Continue Hydrochlorothiazide 50 mg daily • ADD: Amlodipine 5 mg ½ tablet daily per physician order • Enter order in KP HealthConnect to pharmacy for Amlodipine 5 mg tablet, #50, sig: Take ½ tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 2 weeks • Recheck BP in 2 weeks (age ≥ 70, recheck in 4 weeks) • Refer to Amlodipine titration in Table 2 for further titration

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Table 6: Medication Adjustment Scale: Losartan and Hydrochlorothiazide (Appendix G: Medication Algorithm Diagram Cough intolerance to ACE-I)

Assessment: Current medication	Plan: ACTION
See Table 5: Medication Adjustment Scale: Hydrochlorothiazide adjustment	<ul style="list-style-type: none"> • Follow Hydrochlorothiazide medication adjustment
Hydrochlorothiazide 50 mg 1 tablet daily	<ul style="list-style-type: none"> • Continue Hydrochlorothiazide 50 mg 1 tablet daily and • ADD: Losartan 25 mg 1 tablet daily per physician order • Enter order in KP HealthConnect to transmit prescription to pharmacy for Losartan 25 mg, #100, sig: Take one tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 2 weeks • Recheck BP in 2 weeks (age \geq 70, recheck in 4 weeks)
Hydrochlorothiazide 50 mg 1 tablet daily AND Losartan 25 mg 1 tab daily	<ul style="list-style-type: none"> • INCREASE: Losartan to 50 mg 1 tab daily per physician order • Edit/Reorder Losartan in KP HealthConnect to transmit prescription change to pharmacy for Losartan 50 mg tablet, #100, sig: Take 1 tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 2 weeks • Recheck BP in 2 weeks (age \geq 70, recheck in 4 weeks)
Hydrochlorothiazide 50 mg 1 tablet daily AND Losartan 50 mg 1 tab daily	<ul style="list-style-type: none"> • INCREASE: Losartan to 100 mg 1 tab daily per physician order • Edit/Reorder Losartan in KP HealthConnect to transmit prescription change to pharmacy for Losartan 100 mg tablet, #100, sig: Take 1 tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 2 weeks • Recheck BP in 2 weeks (age \geq 70, recheck in 4 weeks)
Hydrochlorothiazide 50 mg 1 tab daily AND Losartan 100 mg 1 tab daily	<ul style="list-style-type: none"> • Continue Losartan 100 mg 1 tab mg daily AND Hydrochlorothiazide 50 mg 1 tab daily. • ADD: Amlodipine 5 mg ½ tablet daily per physician order (if patient also on Simvastatin greater than 20 mg, contact PCP for adjustment in lipid lowering medication) • Enter order in KP HealthConnect to pharmacy for Amlodipine 5 mg tablet, #50, sig: Take ½ tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes & creatinine in 2 weeks • Recheck BP in 2 weeks (age \geq 70, recheck in 4 weeks) • Refer to Amlodipine titration in Table 2 for further titration

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Table 7: Medication conversion: On Hydrochlorothiazide monotherapy, Lisinopril monotherapy or Losartan monotherapy dosage without contraindications to any of these medications (Appendix G: Medication Algorithm Diagram)

Assessment: Current medication	Plan: ACTION
Hydrochlorothiazide 12.5 mg 1 tablet daily OR Hydrochlorothiazide 25 mg 1 tab daily OR Lisinopril 10 mg 1 tablet daily OR Lisinopril 20 mg 1 tab daily OR Lisinopril 40 mg 1 tab daily OR Losartan 25 mg 1 tablet daily OR Losartan 50 mg 1 tablet daily OR Losartan 100 mg 1 tablet daily	<ul style="list-style-type: none"> • Change to: Lisinopril / Hydrochlorothiazide 20 mg/25 mg ½ tab daily per physician order • Edit/Reorder Lisinopril, Losartan or Hydrochlorothiazide in KP HealthConnect to transmit prescription change to pharmacy for Lisinopril / Hydrochlorothiazide 20 mg/25 mg tablet, #50, sig: Take ½ tablet by mouth daily for high blood pressure. Refills: 1. Cosign to physician. • Check electrolytes and creatinine in 1 week • Recheck BP in 1 week • Refer to Lisinopril/Hydrochlorothiazide Table 1 for further titration

MEDICATION MANAGEMENT:

1. Patient Follow-up:
 - a. After each medication change: Recheck BP in 2 weeks (age > 70, recheck in 4 weeks). If BP 160 - 179/100 - 109, follow medication titration procedure, notify provider and schedule BP recheck in 1 week. If BP greater than 180/110, notify provider for immediate intervention and schedule BP recheck in 2 days or per provider instruction.
 - b. Once the patient has reached BP goal, the patient will no longer require follow-up through this protocol and will be returned back to their Primary Care Provider for continued follow up in 6 months.
 - c. If the patient achieves maximum dosage of medications used in this protocol, and still does not achieve BP goal, the patient will be returned back to their Primary Care Provider for continued follow up in 2 weeks.
 - d. Order follow-up electrolytes and serum creatinine 2 weeks following each up titration of Lisinopril / Hydrochlorothiazide, Lisinopril, Losartan or Hydrochlorothiazide. Order follow-up electrolytes and serum creatinine 1 week following each up titration of Spironolactone. Order follow-up electrolytes and creatinine 1 week following conversion from Hydrochlorothiazide monotherapy, Lisinopril monotherapy or Losartan monotherapy to Lisinopril / Hydrochlorothiazide.
 - 1) Repeat serum creatinine in 2 weeks for any reduction in eGFR > 30% compared to the baseline eGFR
 - 2) Notify PCP for consideration of Lisinopril dose reduction or discontinuation for any reduction in eGFR > 30% from baseline.
 - 3) Formula for calculating eGFR change: $(\text{current GFR} - \text{baseline GFR}) / \text{baseline GFR}$
example: baseline GFR = 50; current GFR = 34: $(34-50)/50 = -32\%$, therefore serum creatinine would be repeated.

REQUIREMENTS FOR REGISTERED NURSES:

1. Education: Nurses working under this protocol shall be licensed in California as Registered Nurses.
2. Training: Nurses shall successfully complete a mentoring session focusing on hypertension, with a primary care physician. The program will include assessment, assessing mean blood pressure trends, hypertension medication, patient education, and protocol use and documentation on six patient cases related to hypertension. Nurses shall demonstrate competency in appropriate blood pressure measurement using both manual and automatic blood pressure apparatuses in both the sitting and standing patient positions which includes appropriate positioning and cuff size.
3. Experience: Experience using protocol with physician mentor on at least six patient cases.
4. Minimum requirement: Level 1 RN

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5. EVALUATION:

- a. Initial Evaluation
 - 1) Successful demonstration of clinical knowledge and skills required for the job as demonstrated by 6 cases followed and signed off by physician mentor as successfully completed per protocol.
 - 2) Evidence of successful completion will be documented and included in each individual nurse's personnel file. (See ATTACHMENT A)
- b. Ongoing Evaluation
 - 1) Physician mentor and Department Administrator or designee will conduct annual competency evaluations documenting the RN's ability to function appropriately under protocol including annual competency of clinical knowledge, skills/procedures, appropriate consultation and documentation.
 - 2) Evidence of ongoing competency will be included in each individual nurse's personnel file.
- c. Maintaining written records of those persons authorized to perform the functions
 - 1) All RNs working under procedure and protocols shall be provided with a copy of the Standardized Procedure, Protocols, and local operational policies. Each RN shall complete a Statement of Acceptance (ATTACHMENT B) acknowledging receipt of and agreeing to use the Standardized Procedure and Protocols. Local administration is responsible for maintaining documentation for each RN working under protocol in the RNs personnel file. A list of RNs authorized to use this protocol is on file with the Department Administrator. (ATTACHMENT C)

DEVELOPMENT AND APPROVAL OF THE STANDARDIZED PROCEDURE:

1. Internal Medicine RNs along with the appropriate mentor physician shall review clinical protocols every 2 years and obtain approval from the local SCPMG ambulatory care practice committee and the Interdisciplinary Practice Committee. The Hypertension Physician Champion or mentor physician presents revisions to the Pharmacy & Therapeutics Committee for approval.
2. Review Schedule: This standardized procedure is reviewed and approved every two years.
3. Signature of authorized personnel approving the standardized procedure and dates:
 - a. Ambulatory Practice Leader
 - b. Medical Staff Leader/Medical Executive Committee Chair
 - c. Administration/Department Administrator
 - d. Hypertension Physician Champion
 - e. Interdisciplinary Practice Committee Chair
 - f. Physician Champion/Chief of Service

IMPLEMENTATION:

1. All RNs working under Standardized Procedure (SP) shall be provided with a copy of the SP, Protocols and local operational policies. Each RN shall complete a Statement of Acceptance acknowledging receipt of, with date of receipt and agreement to use the SP and Protocols. (ATTACHMENT B)
2. The Department Administrator (DA) shall:
 - a. maintain records of all RNs authorized to use this SP (ATTACHMENT C)
 - b. be responsible for maintaining documentation for each RN working under the SP in the RNs personnel file. (ATTACHMENTS A and B)
 - c. send SP to AR&L Policy & Procedure Project Manager for upload to the Policy & Procedure website
 - d. send written communication to the affected ambulatory care personnel of new and/or revisions to the SP

SUPERVISION AND REVIEW:

1. Roles and Responsibilities of RNs working under Protocol
 - a. RNs shall verify that patients have a designated primary care provider and an established diagnosis that pertains to the protocol being used, and have been referred by a physician for management under protocols by RNs.
 - 1) The RN shall notify the primary care physician when someone other than the primary care physician identifies and refers new patients who meet protocol criteria. The primary care physician shall decide whether or not the

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patient is appropriate for RN protocol management. If the provider determines that the patient is not appropriate for RN protocol management, then they will assume the responsibility for the patient's care.

- b. RNs shall collaborate and work in partnership with mentoring physician(s) and individual patients' primary care physicians to provide care under protocol.
- c. RNs shall introduce themselves utilizing their correct title and explain their role.
- d. RN responsibilities: In accordance with protocol shall:
 - 1) Collect subjective data (obtain history)
 - 2) Collect objective data (perform physical examinations)
 - 3) Order and interpret labs
 - 4) Assess patient status
 - 5) Develop and implement treatment and educational plan of care
 - 6) RNs providing medication management shall:
 - a) Have primary care or mentoring physician initiate all new medication orders. This includes refills, which are considered new orders.
 - b) Ensure that each patient has program authorization from a physician. (Appendix E: Authorization Form)
 - c) Ensure that each patient has a patient specific, medication specific order from a prescribing physician, which includes dosage. The RN is then authorized to adjust patient specific protocol medication dosages per protocol. (Appendix F: Patient specific, Medication specific Authorization / Order)
 - i. Patient specific, medication specific orders will not be authorized by Advance Practice Nurse Practitioner or Physician's Assistants.
 - 7) Ensure appropriate follow-up

PHYSICIAN ROLES and RESPONSIBILITIES

1. Primary care mentoring physicians or primary care physician designated are responsible for patient management
 - a. Physicians are responsible for supervising RNs utilizing Standardized Procedure and Protocols.
 - b. Physicians shall be available for consultation and collaboration with the RN.
 - 1) When the patient is receiving care in the medical office, a physician must be on-site and readily available to provide assistance and direction.
 - c. The mentoring physician is responsible for ensuring there is a physician available when:
 - 1) The RN requests the physician to see the patient; e.g. the patient is not responding to therapy.
 - 2) The patient requests to see the physician.
 - 3) There is an onsite emergency situation.
 - 4) The RN needs to consult with a physician.
 - d. The physician shall see the patient or review the care at least once a year and renew the patient specific, medication specific order on an annual basis if the patient continues to be managed under this protocol.

CONSULTATION AND REFERRALS

1. Registered Nurses shall consult with mentoring physician, primary care provider or designated physician whenever situations arise that go beyond the Protocols or beyond the scope or experience of the RN.
2. The physician may determine whether the patient continues to be appropriate for protocol management.
3. Registered Nurses shall consult/refer to other team members for their expertise related to their scope of practice.

LIMITATIONS

1. Practice Setting
 - a. RNs shall be utilized in the provision of care to Kaiser Permanente Health Plan members.
 - b. Care is provided in Kaiser Permanente SCPMG medical offices.
 - c. RNs shall provide direct patient care to these patients as well as telephone advice and ongoing management in accordance with approved protocols.

6. DOCUMENTATION:

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- a. RNs are responsible for documentation of patient care, which may include: physician who established diagnosis and plan, subjective data, objective data, assessment of patient status, lab ordered/results, treatment plan including medication orders, patient/family education, physician consultation, referral, and follow-up plan.
- b. Specific Guidelines for Documentation
 - 1) Patients referred for management under protocol must have an established diagnosis, specific to the disease or condition being managed, documented in the chart.
 - 2) A patient specific, medication specific authorization which includes medication dosage shall be obtained from the physician responsible for the patient's care prior to medication protocol implementation. (Appendix E: Patient specific, Medication specific Authorization / Order)
 - 3) When patients receive telephonic care and advice, the plan of care and advice given to the patient will be documented. A copy of the telephonic chart note will made available to the primary care physician, mentor, referring physician or designee.
 - 4) When patients are seen for protocol care only by the RN, provided care will be documented and signed by the RN. No co-signature will be needed.
 - 5) When physician consultation is obtained verbally or when the physician re-examines the patient, the participation of each professional will be documented by the RN and the physician. If there is a treatment outside the protocol, the RN shall document the verbal order in the medical record.
 - 6) All prescription and non-prescription medication information must be documented in the chart including; name of medication, dosage, and frequency; adjustments of dosage per protocol; the name of the prescribing physician for new and refill medication orders.
 - 7) Primary care provider or mentor sign off medication orders.

DEVELOPMENT AND APPROVAL OF THE STANDARDIZED PROCEDURE

1. Internal Medicine RNs, along within the appropriate mentor physician shall review clinical protocols every 2 years and obtain approval from the local SCPMG ambulatory care practice committee and the Interdisciplinary Practice Committee. The Hypertension Physician Champion or mentor physician presents revisions to the Pharmacy & Therapeutics Committee for approval.
2. Review Schedule: This standardized procedure is reviewed and approved every two years.
3. Signature of authorized personnel approving the standardized procedure and dates:
 - a. Ambulatory Practice Leader
 - b. Medical Staff Leader/Medical Executive Committee Chair
 - c. Administration/Department Administrator
 - d. Interdisciplinary Practice Committee Chair
 - e. Physician Champion/Chief of Service

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Evidence of Successful Completion

Internal Medicine
DEPARTMENT

STANDARDIZED PROCEDURE FOR HYPERTENSION MANAGEMENT
NAME OF STANDARDIZED PROCEDURE & PROTOCOL

RN Name

Employee Number

The above named RN has successfully completed training in the management of hypertension. The following cases have been reviewed and the RN has demonstrated appropriate assessment, medication adjustment, medication adjustment, patient education and follow up protocol.

MRN	Date of Intervention
1.	
2.	
3.	
4.	
5.	
6.	

Approved: _____
Hypertension Physician Champion

Date: _____

Physician mentoring: One hour - Date: _____ Approved by: _____
Hypertension Physician Champion

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STATEMENT OF ACCEPTANCE AND PRACTICE APPROVAL Standardized procedure for Hypertension Management

By signing this statement of approval, I agree to utilize *Standardized Procedures for Hypertension Management* in theory and in practice.

Name: _____ RN _____
(Please print.) (Date)

(Signature)

Medical Center: _____ Location: _____

Department: _____

This RN is approved to provide care in accordance with Standardized Procedures and Protocols as indicated below:

Ambulatory RN Department Administrator: _____
(Signature)

Approving Physician: _____
(Signature)

I have received a copy of the following Orange County Protocols:

Hypertension Protocol for Registered Nurses

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Los Angeles Medical Center Standardized Procedure

Internal Medicine

Standardized Procedure for Hypertension Management

Department

Name of Standard Procedure

The following are staff authorized to perform this Standardized Procedure and Protocol and have completed annual competency verification within the past twelve (12) months.

1.	<u>Mayra Coriolan</u>	<u>Date: 08/29/2018</u>
2.	<u>Matthew Mariano</u>	<u>Date: 08/29/2018</u>
3.	<u>Lizeth Ramirez-Montes</u>	<u>Date: 08/29/2018</u>
4.	<u></u>	<u>Date:</u>
5.	<u></u>	<u>Date:</u>
6.	<u></u>	<u>Date:</u>
7.	<u></u>	<u>Date:</u>
8.	<u></u>	<u>Date:</u>

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**Kaiser Permanente Medical Care Program
Los Angeles Medical Center & Medical Office Buildings**

Standardized Procedure Approval Signatures

Hypertension Management
Standardized Procedure Name

Internal Medicine
Department

Chief of Service

Date

Department Administrator

Date

Hypertension Physician Champion

Date

Ambulatory Care Practice Leader

Date

Interdisciplinary Practice Committee Chair

Date

Medical Executive Committee Chair

Date

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ATTACHMENT E

(KP Health Connect Smart Text)

AUTHORIZATION Form: Order for RN Hypertension Standardized Procedure and Protocol

I authorize qualified Registered Nurse management using the established protocols for .name in the Nurse Clinic for uncomplicated hypertension and HTN in patient with Diabetes, CKD (stage 1-3) or H/O CVA/TIA.

.name will be enrolled in the program for up to twelve months. During this time, the Registered Nurse will follow established protocols to provide the following generalized interventions:

- Assessment of self-care skills and educational needs such as medication adherence, correct use of medications, self-monitoring of symptoms and blood pressure , smoking cessation and keeping appointments.
- Monitoring of the member's symptoms.
- Assessment of the member's personal barriers to adherence and evaluation of the member's readiness to make lifestyle changes, using motivational interviewing techniques.
- Clinical management, medication adjustment and laboratory monitoring according to established protocols.
- Copies of all intervention notes will be made available to me through progress notes.

When the member achieves blood pressure goal of < 140/90 or reaches maximum dosages of medications covered by the protocol, they will complete the program. At that time the .pcp will be notified and the patient will return to their PCP: .pcp for routine care.

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ATTACHMENT F

Patient Specific, Medication Specific Authorization/Order

Medication Allergies: _____

Patient Name:
MRN:
Kaiser card stamp

The following medications, doses and ranges are being ordered for the patient identified on this form for medication management associated with uncomplicated hypertension protocol. (Please check all that apply)

- Initial order / per protocol: Hydrochlorothiazide 25 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1
- Per protocol: Hydrochlorothiazide 50 mg tablets, #100. Sig: Take 1 tablet by mouth for high blood pressure. Refills: 1
- Initial order: Lisinopril 10 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refill: 1.
- Initial order/ per protocol: Lisinopril 20 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1
- Initial order/ per protocol: Losartan 25 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1
- Per protocol: Lisinopril 40 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1
- Initial order / per protocol: Lisinopril/Hydrochlorothiazide 20 mg/25 mg tablets, #50. Sig: Take 1/2 tablet daily by mouth for high blood pressure. Refills: 1
- Per protocol: Lisinopril/Hydrochlorothiazide 20 mg/25 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1
- Per protocol: Lisinopril/Hydrochlorothiazide 20 mg/25 mg tablets, #200. Sig: Take 2 tablets daily by mouth for high blood pressure.
- Per protocol: Losartan 50 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1
- Per protocol: Losartan 100 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1
- Per protocol: Amlodipine 5 mg tablets, #50. Sig: Take 1/2 tablet daily by mouth for high blood pressure. Refills: 1
- Per protocol Amlodipine 5 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1
- Per protocol Amlodipine 10 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1
- Per protocol: Bisoprolol 2.5 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1.

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- ❑ Per protocol: Bisoprolol 5 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure
- ❑ Per protocol: Bisoprolol 10 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1.
- ❑ Per protocol: Spironolactone 12.5 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1.
- ❑ Per protocol: Spironolactone 25 mg tablets, #100. Sig: Take 1 tablet daily by mouth for high blood pressure. Refills: 1.
- ❑ Per protocol: KCL 10mEq, #200. Sig: Take 2 tablets by mouth daily. Refills: 1

Medications may be advanced per protocol to the following

- ❑ **All medications are being ordered. If not, cross out unapproved meds:**

Lisinopril/Hydrochlorothiazide 20 mg/25 mg ½ - 2 tablet(s) daily

Hydrochlorothiazide 25 – 50 mg daily

Lisinopril 10 – 40 mg daily

Losartan 25 – 100 mg daily

Amlodipine 2.5 – 10 mg daily

Bisoprolol 2.5 – 10 mg daily

Spironolactone 12.5 – 25 mg daily

KCL 20 mEq – 40 mEq daily

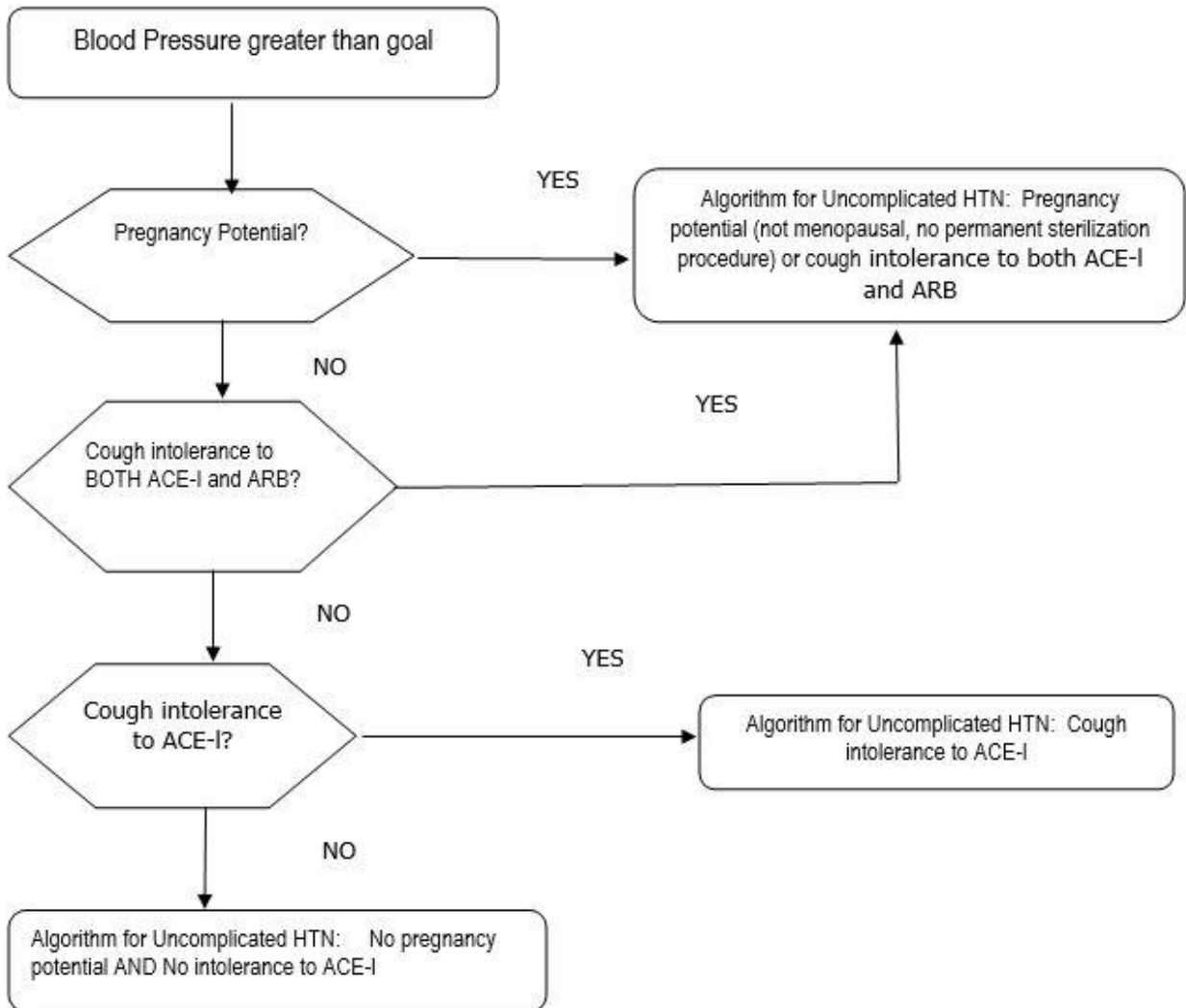
Other Instructions:

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ATTACHMENT G

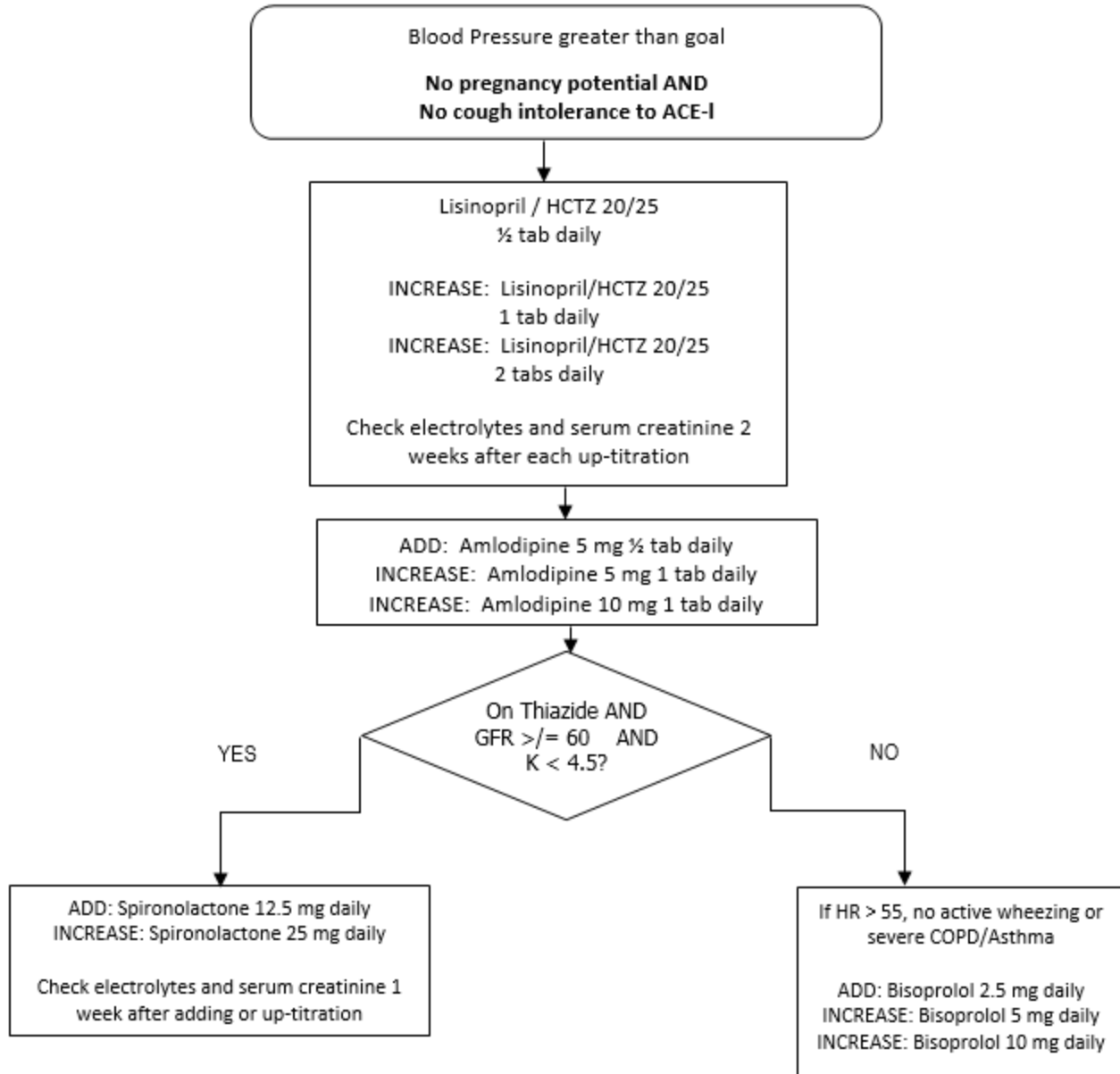
Algorithm Selection Guide for Uncomplicated HTN (excludes HF, Stage 4 or greater CKD [GRF < 30] or CAD)



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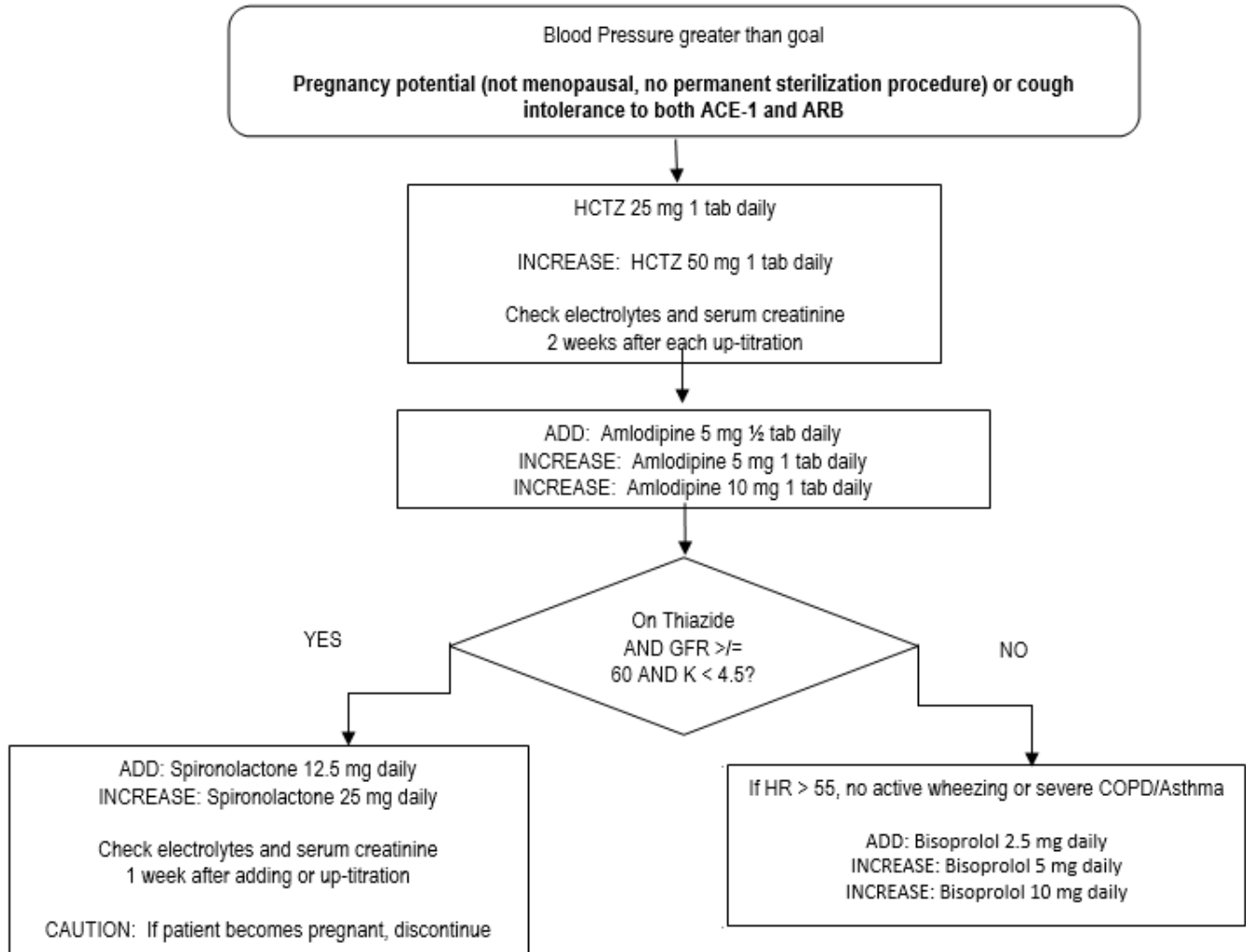
Algorithm for Uncomplicated HTN: No pregnancy potential, No cough intolerance to ACE-I (excludes HF, Stage 4 or greater CKD [GFR < 30] or CAD)



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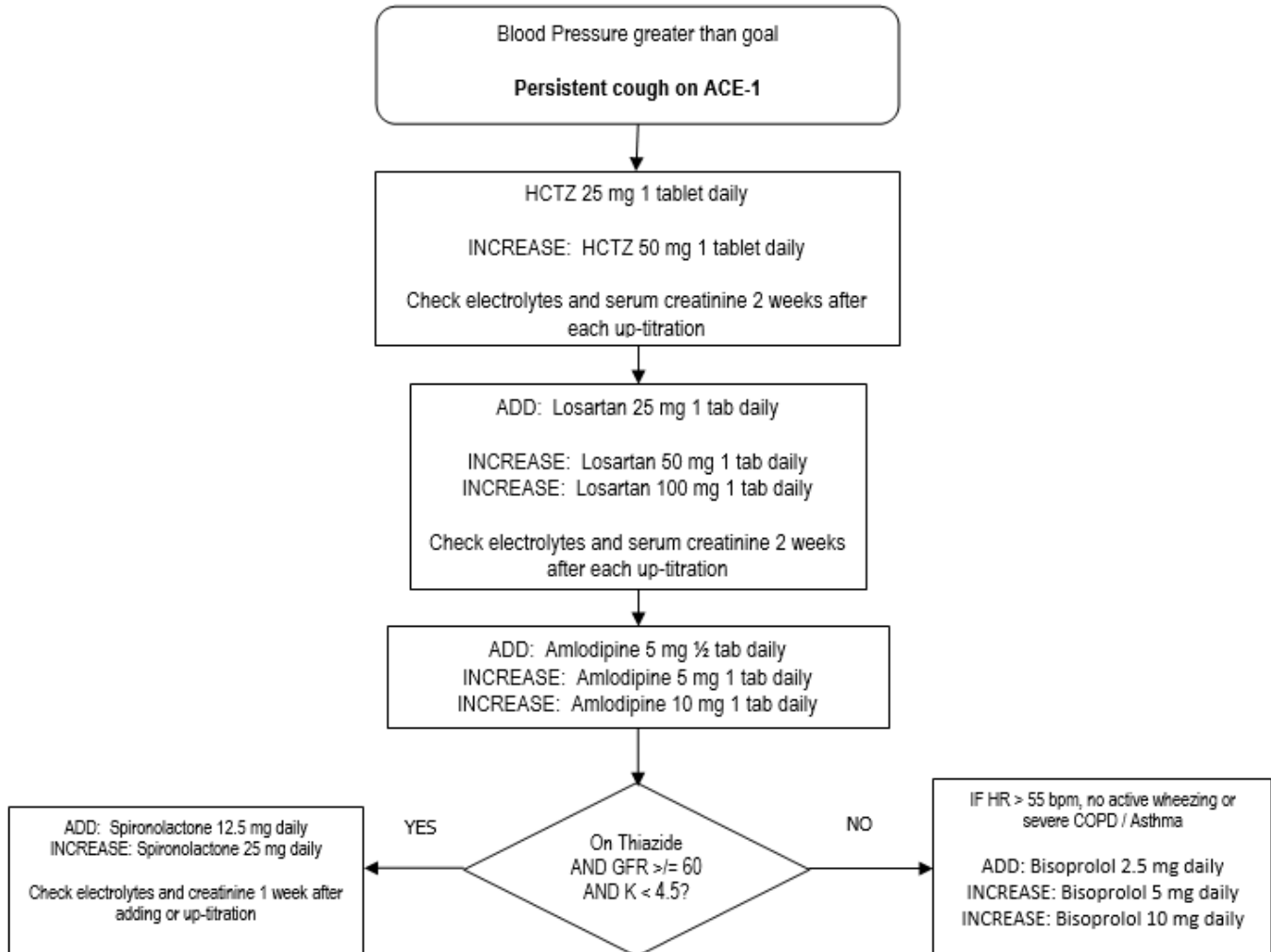
Algorithm for Uncomplicated HTN: Pregnancy potential or cough intolerance to both ACE-I and ARB (excludes HF, Stage 4 or greater CKD [GFR < 30] or CAD)



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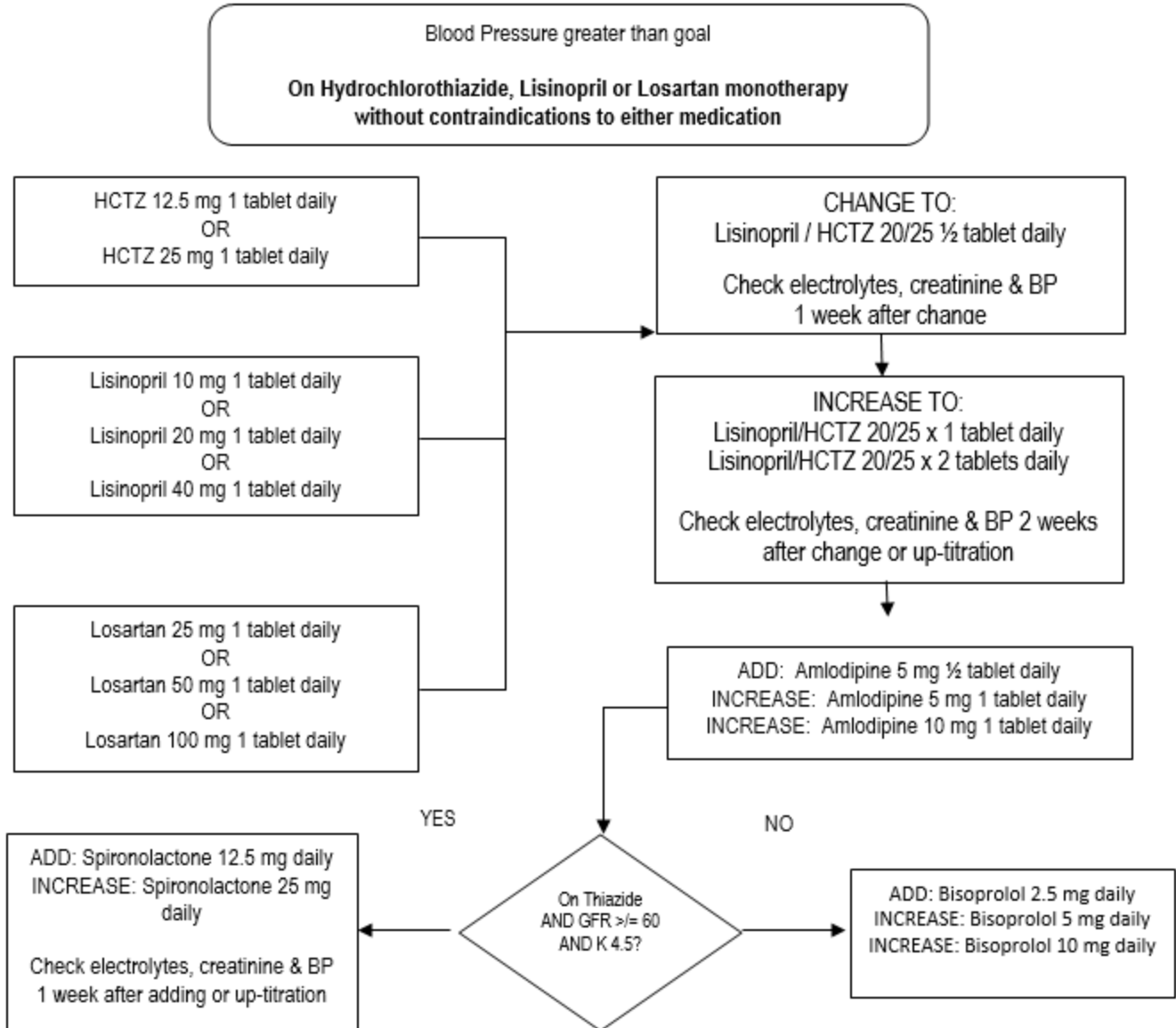
Algorithm for Uncomplicated HTN: Persistent cough on ACE-1 (excludes HF, Stage 4 or greater CKD [GFR < 30] or CAD)



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Algorithm for Uncomplicated HTN: Hydrochlorothiazide, Lisinopril or Losartan Monotherapy Conversion (excludes HF, Stage 4 or greater CKD [GFR < 30] or CAD)



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ATTACHMENT H ANTIHYPERTENSIVE MEDICATIONS- QUICK REFERENCE

DRUG	DOSING	CONTRAINDICATIONS / PRECAUTIONS	ADVERSE EFFECTS	MONITORING PARAMETERS	COMMENTS
<p>LISINOPRIL /HCTZ</p> <p>HCTZ</p>	<p>Initial Dose: 20 mg / 25 mg ½ - 1 tablet daily</p> <p>Max Dose: 20 mg/25 mg 2 tablets daily</p>	<p>HCTZ</p> <p>May not be effective in patients with GFR <30 ml/min</p>	<p>Hypokalemia</p> <p>Hyponatremia</p>	<p>Recheck BP 2 weeks (age > 70, recheck in 4 weeks) after initiation or dose increase</p> <p>Check Scr & lytes 2 weeks after initiation or dose increase</p>	<p>Take in the morning due to possible increase urination frequency</p> <p>Supplement with KCL 10meq as needed for K⁺ ≤ 3.5</p>
LISINOPRIL	<p>Initial Dose: 10 mg daily</p> <p>Max Dose: 40 mg daily</p>	<p>LISINOPRIL</p> <p>Patients with a history of angioedema</p> <p>Pregnancy Women with child-bearing potential</p> <p>Bilateral renal artery stenosis</p>	<p>Cough, hypotension</p> <p>Hyperkalemia K⁺ ≥ 5.5</p> <p>Angioedema</p>	<p>Recheck BP in 2 weeks (age > 70, recheck in 4 weeks) after initiation or dose increase</p> <p>Check lytes & K⁺ 2 weeks after initiation or dose increase</p>	<p>Persistent dry cough may occur, If cough is bothersome to patient, discuss with physician to consider switch to Losartan</p> <p>If repeat GFR decreases ≥ 30%, discontinue ACEI and repeat Scr in several days</p>
BISOPROLOL	<p>Initial Dose: 2.5 mg daily</p> <p>Max Dose*: 10 mg daily</p> <p>* For GRF <40 start bisoprolol at 2.5mg and advance with caution</p>	<p>2nd or 3rd degree heart block</p> <p>HR <55 bpm (symptomatic)</p> <p>Active Wheezing or severe COPD/Asthma – discuss with mentor physician prior</p>	<p>Bradycardia</p>	<p>Recheck BP 2 weeks after initiation or dose increase</p> <p>Recheck HR at every visit and notify physician if HR <55 bpm</p> <p>Advance if HR ≥ 55 bpm</p>	
AMLODIPINE	<p>Initial Dose: 2.5 mg daily</p> <p>Max Dose: 10 mg daily</p>	<p>Do not exceed 20 mg simvastatin</p>	<p>*Peripheral edema, dizziness</p>	<p>Recheck BP 2 weeks after initiation or dose increase</p>	<p>Notify physician if symptoms of *significant peripheral edema occur (i.e. swelling of hands and feet)</p>
SPIRONOLACTONE	<p>Initial Dose: 25mg ½ tab (12.5 mg) daily</p> <p>Max Dose: 25 mg daily</p>	<p>Pts not on thiazide, GFR <60, and/or K⁺ ≥4.6.</p> <p>Should not receive K⁺ supplement or increase dietary intake of K⁺</p>	<p>Hyperkalemia</p>	<p>Recheck BP 2 weeks after initiation or dose increase</p> <p>Check electrolytes & creatinine 2 weeks after initiation or dose increase</p>	<p>Appropriate to start Spironolactone if on thiazide, GFR ≥ 60, and K⁺ <4.5</p>
LOSARTAN	<p>Initial Dose: 25 mg daily</p> <p>Max Dose: 100 mg daily</p>	<p>Patients with a history of angioedema</p> <p>Pregnancy Women with child-bearing potential</p> <p>Bilateral renal artery stenosis</p>	<p>Cough, dizziness, and hypotension</p> <p>Hyperkalemia K⁺ ≥ 5.5</p>	<p>Recheck BP in 2 weeks (age > 70, recheck in 4 weeks) after initiation or dose increase</p> <p>Check electrolytes and creatinine 2 weeks after initiation or dose increase</p>	<p>Consider switch to Losartan if cough with Lisinopril.</p> <p>If GFR decreases ≥ 30%, repeat in 2 weeks and notify physician.</p>