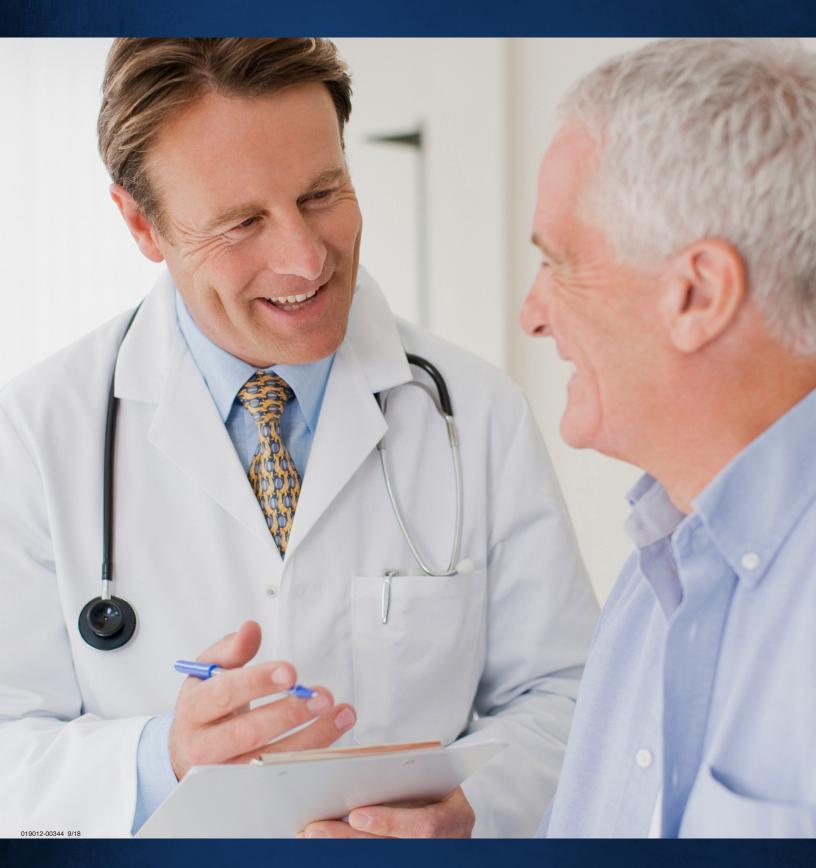


# SANFORD HYPERTENSION PRACTICE GUIDELINE

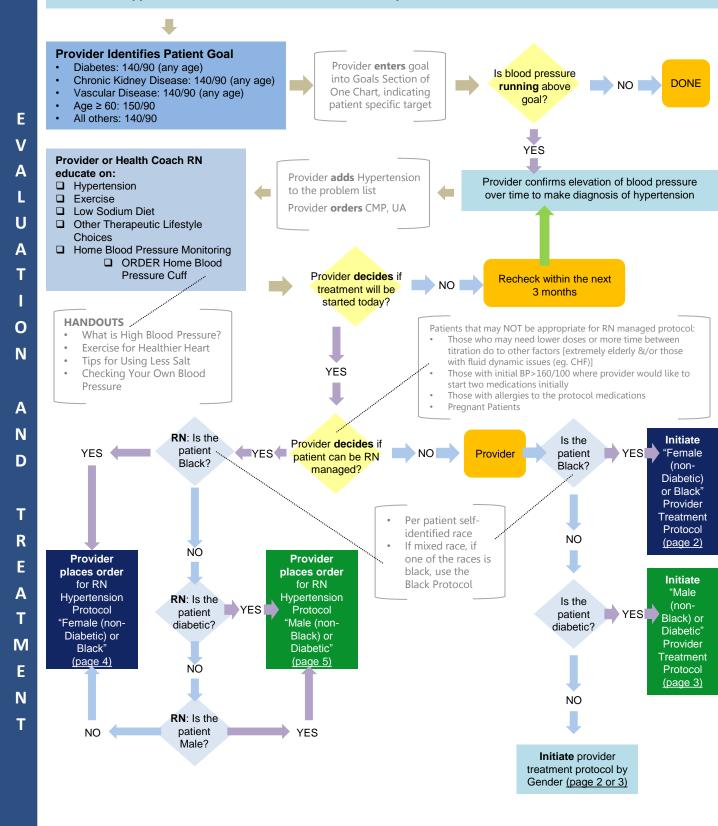


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## Sanford Health Hypertension Clinical Practice Guideline©

#### Hypertension Treatment Protocol (18+ Years)

#### Clinical support staff check Blood Pressure at each visit per Sanford Blood Pressure Measurement Standard



Revised 20150323 PM

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### Provider Hypertension Treatment Protocol – Female (non-diabetic) or Black

#### PAGE 2 • This protocol is used when the provider is managing the patient • PAGE 2

<ul> <li>Visit e</li> <li>Dose,</li> <li>Contr</li> <li>Asses</li> <li>If hom</li> </ul>	r <u>all</u> Blacks (even if Diabetic or mixed race) & Female with every two weeks until controlled /medication adjustment at every visit until controlled rolled defined as BP to goal on all readings, including in clinic value ss for non-adherence/medication understanding at each visit ne blood pressures are controlled, but clinic blood pressures are not, ilatory blood pressure monitoring	Other HANDOUTS as Needed
	Visit & Treatment Schedule     Start HCTZ 12.5mg daily in morning	<ul> <li>Walking for Fitness</li> <li>Low-Salt Choices</li> <li>Tips for Quitting Smoking</li> <li>Coping with Smoking</li> </ul>
1	<ul> <li>Give HCTZ handout</li> <li>BMP Today</li> <li>If not to goal, increase HCTZ to 25mg daily in</li> </ul>	Withdrawal
3	<ul><li>o BMP today</li></ul>	<ul> <li>Further evaluation of resistant hypertension</li> <li>If PCP is an APP, then APP will touch base with a doctor regarding the patient and the direction to proceed with</li> </ul>
4	<ul> <li>If not to goal, add amlodipine 5mg daily in evening</li> <li>Give amlodipine handout</li> <li>If not to goal, increase amlodipine to 10mg daily in evening</li> </ul>	Provider(s) should consider: 1) Further evaluation for secondary causes:
5	<ul> <li>evening</li> <li>If not to goal, add lisinopril 10mg daily</li> <li>Give lisinopril handout</li> </ul>	<ul> <li>a. Laboratory Studies including</li> <li>TSH</li> <li>PTH (if baseline Ca [prior to starting HCTZ] &gt; 10.7)</li> </ul>
6	<ul> <li>BMP Today</li> <li>If not to goal, increase lisnopril to 10mg twice daily</li> <li>If cough has developed, discontinue lisinopril, switch to losartan 25mg daily</li> <li>Give losartan handout</li> </ul>	<ul> <li>Renin (done in AM)</li> <li>Aldosterone</li> <li>b. Imaging with Renal Ultrasound with doppler</li> <li>c. Sleep Apnea evaluation</li> <li>2) Other Contributing Factors</li> </ul>
7	<ul> <li>BMP Today</li> <li>If not to goal, increase lisinopril to 20mg twice daily</li> <li>If using losartan and not controlled, increase to 50mg daily</li> </ul>	<ul> <li>a. Consider non-adherence or medication confusion</li> <li>Obtain dispensing history from Pharmacy</li> <li>Ask patient to bring in rill bottlos &amp; avalar</li> </ul>
8	<ul> <li>BMP Today</li> <li>If not to goal, consider further evaluation for underlying cause of resistant hypertension</li> <li>SEE SIDEBAR</li> </ul>	pill bottles & explain what they are taking & when b. Considering interfering agents (NSAIDs, allergy medications) c. Review alcohol, nicotine,
9	<ul> <li>If not to goal, start Metoprolol XL 50mg daily</li> <li>Do not initiate Metoprolol XL if:         <ul> <li>Patient has short gut or feeding tube (use non-XL formulation of beta blocker)</li> <li>Patient has heart rate of &lt;60</li> </ul> </li> <li>Give Metoprolol handout</li> </ul>	recreational drug usage d. Evaluate for depression e. Evaluation for patient activation or engagement f. Diet/exercise patterns 3) Medication adjustment a. Consider change of HCTZ to
10	<ul> <li>If not to goal, increase Metoprolol XL to 100mg daily</li> <li>Do not increase if heart rate is &lt;60</li> </ul>	Chlorthalidone if HCTZ does not seem to be achieving 24 hour coverage
11	<ul> <li>If not to goal, increase Metoprolol XL to 200mg daily</li> <li>Do not increase if heart rate is &lt;60</li> </ul>	<ol> <li>Referral to         <ol> <li>Behavioral health regarding activation</li> <li>Desirected here extension are significated.</li> </ol> </li> </ol>
12	<ul> <li>If not to goal, referral to hypertension specialty clinic or nephrology depending on local resources</li> </ul>	<ul> <li>b. Designated hypertension specialist (HTN clinic, nephology, etc., depending on local resources)</li> <li>c. Dietician</li> </ul>

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#### PAGE 3 • This protocol is used when the provider is managing the patient • PAGE 3

<ul> <li>Visit e</li> <li>Dose/</li> <li>Control</li> <li>Asses</li> <li>If horr</li> </ul>	ry two weeks until con edication adjustment a ed defined as BP to go or non-adherence/med	t every visit until controlled al on all readings, including in clinic va dication understanding at each visit ontrolled, but clinic blood pressures are	lue o not, consider • Controlling High Blood Pressure • Manage Stress with a Healthy Lifestyle
	Visit & Trea	tment Schedule	<ul> <li>Walking for Fitness</li> <li>Low-Salt Choices</li> <li>Tips for Quitting Smoking</li> </ul>
1	<ul><li>Start lisinopril 10</li><li>Give lisinopril ha</li></ul>		Coping with Smoking     Withdrawal
2			<ul> <li>Further evaluation of resistant hypertension</li> <li>If PCP is an APP, then APP will touch base with a doctor regarding the patient and the direction to proceed with</li> </ul>
3		rease lisinopril to 20mg twice daily and not controlled, increase to 50r	evaluation/treatment.
4	<ul> <li>BMP Today</li> <li>If not to goal, add</li> <li>Give amlodipine</li> </ul>	d amlodipine 5mg daily in evening handout	<ul> <li>TSH</li> <li>PTH (if baseline Ca [prior to starting HCTZ] &gt; 10.7)</li> <li>Renin (done in AM)</li> </ul>
5	<ul> <li>If not to goal, inc evening</li> </ul>	rease amlodipine to 10mg daily in	<ul> <li>Aldosterone</li> <li>b. Imaging with Renal Ultrasound with doppler</li> </ul>
6	<ul> <li>If not to goal, sta</li> <li>Give HCTZ hand</li> </ul>	rt HCTZ 12.5mg daily in morning lout	c. Sleep Apnea evaluation 2) Other Contributing Factors a. Consider non-adherence or
7	<ul> <li>BMP Today</li> <li>If not to goal, inc morning</li> </ul>	rease HCTZ to 25mg daily in	medication confusion <ul> <li>Obtain dispensing</li> <li>history from Pharmacy</li> <li>Ask patient to bring in</li> </ul>
8		nsider further evaluation for of resistant hypertension	pill bottles & explain what they are taking & when b. Considering interfering agents (NSAIDs, allergy medications) c. Review alcohol, nicotine,
9	<ul> <li>Do not initiate Me</li> <li>Patient non-XL</li> </ul>	has short gut or feeding tube (use formulation of beta blocker) has heart rate of <60	<ul> <li>recreational drug usage</li> <li>d. Evaluate for depression</li> <li>e. Evaluation for patient activation or engagement</li> <li>f. Diet/exercise patterns</li> <li>3) Medication adjustment</li> <li>a. Consider change of HCTZ to</li> </ul>
10		rease Metoprolol XL to 100mg dail f heart rate is <60	y Chlorthalidone if HCTZ does not seem to be achieving 24 hour coverage
11		rease Metoprolol XL to 200mg dail f heart rate is <60	<ul> <li>4) Referral to         <ul> <li>a. Behavioral health regarding activation</li> </ul> </li> </ul>
12		erral to hypertension specialty clini pending on local resources	c b. Designated hypertension specialist (HTN clinic, nephology, etc., depending on local resources) c. Dietician

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#### **RN Hypertension Treatment Protocol – Female (non-Diabetic) or Black**

#### PAGE 4 • This hypertension treatment protocol is used when the RN is managing the patient • PAGE 4

## Used for <u>all</u> Blacks (even if mixed race or Diabetic) & <u>all</u> Women (without Diabetes)

- RN blood pressure check visit or health coach visit scheduled every two weeks (12-17 days) until to goal (visits falling outside those parameters must be reviewed with provider). Two missed visits will result in provider discontinuation of protocol.
- Dose/medication adjustment at every visit until blood pressures are to goal.
- To goal defined as BP to goal on all readings, including in clinic value
- Place all orders "per protocol with cosign"

**Visit & Treatment Schedule** 

#### Assess for non-adherence/medication understanding at each visit Seek provider direction if...

- Patient develops weakness or
  - dizziness
    Patient is hospitalized during
    - Patient is hospitalized during the course of the protocol
  - Home blood pressures are controlled, but clinic blood pressures are not (consider ambulatory blood pressure monitoring)
  - New medications have been started by another provider since last appointment

- If patient becomes pregnant during course of protocol, discontinue protocol
- Link all visits through Hypertension Protocol Episode in One Chart
- When patient reaches goal: Schedule a nurse blood pressure check at one month and a provider follow up visit within three months

#### **Other HANDOUTS as Needed**

- Controlling High Blood Pressure
- Manage Stress with a Healthy Lifestyle
- Walking for Fitness
- Low-Salt Choices

Visit & Treatment Schedule

- Tips for Quitting Smoking
- Coping with Smoking Withdrawal

	1 2		Start Episode (Type: Multidiscipline. Name: Hypertension Protocol) in One Chart         Start HCTZ 12.5mg         • Order HCTZ 12.5mg by mouth once daily in morning #90 with 4 refills         Give HCTZ handout         Order BMP to be done today If not to goal, increase HCTZ to 25mg         • Order HCTZ 25mg by mouth once daily in morning #90 with 4 refills         Give dose adjustment handout per smart set		7	0 0 0	Order BMP to be done today If not to goal, increase lisinopril to 20mg twice daily o Order lisinopril 20mg twice daily by mouth #180 with 4 refills Give dose adjustment handout per smart set If using losartan and not controlled, increase to 50mg daily o Order losartan 50mg by mouth once daily #90 with 4 refills If on lisinopril & cough has developed, seek provider direction	
	3	0			8	0	Order BMP to be done today If not to goal, appointment with PCP or another provider in the department within one month	
		•	Give amlodipine handout per smart set			Provider visit for consideration of further evaluation or referral		
	4	0	If not to goal, increase amlodipine to 10mg  Order amlodipine 10mg by mouth once daily in evening #90 with 4 refills Give dose adjustment handout per smart set		If at provider visit, provider gives direction to continue with protocol, <b>advance</b> to Ninth Visit.			
	5	•	If not to goal, <b>add</b> lisinopril 10mg <ul> <li>Order lisinopril 10mg by mouth once daily</li> <li>#90 with 4 refills</li> <li>Give lisinopril handout</li> </ul>		9	0	If not to goal, <b>start</b> Metoprolol XL 50mg daily o <b>Order</b> Metoprolol XL 50mg by mouth once daily #90 with 4 refills <b>Do not</b> initiate Metoprolol XL if: Patient has short gut or feeding tube	
		0 0				•	(use non-XL formulation of beta blocker) Patient has heart rate of <60 Give Metoprolol handout	
	6	<ul> <li>#180 with 4 refills</li> <li>Give dose adjustment handout per smart set</li> <li>If cough has developed, discuss with provider for direction regarding switch to losartan 25mg daily &amp; discontinue lisinopril. <ul> <li>Obtain order from provider for change.</li> <li>Order losartan 25mg by mouth once daily #90 with 4 refills</li> <li>Give losartan handout</li> </ul> </li> </ul>		10	0	If not to goal, <b>increase</b> Metoprolol XL to 100mg daily • Order Metoprolol XL 100mg by mouth once daily #90 with 4 refills Do not increase if heart rate is <60		
				11	0	If not to goal, <b>increase</b> Metoprolol XL to 200mg daily • <b>Order</b> Metoprolol XL 200mg by mouth once daily #90 with 4 refills		
	<ul> <li>At any point when patient reaches goal:</li> <li>When patient reaches goal: Schedule a nurse blood pressure check at one month</li> <li>Provider follow up visit within three months</li> <li>Resolve Hypertension Protocol episode in One Chart</li> </ul>				0	<b>Do not</b> increase if heart rate is <60		
				12	0	If not to goal, <b>referral</b> to hypertension specialty clinic or nephrology depending on local resources		

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	RN Hypertension Treatment Protocol – Male (non-Black) or Diabetic (non-Black)						
F	PAGE 5 • This hypertension treatment protocol is used when the RN is managing the patient • PAGE 5						
& <u>a</u> • •	<ul> <li>Used for <u>all</u> Diabetics (except Blacks)</li> <li><u>A all Men (except Blacks)</u></li> <li>RN blood pressure check visit or health coach visit scheduled every two weeks (12-17 days) until to goal (visits falling outside those parameters must be reviewed with provider). Two missed visits will result in provider discontinuation of protocol.</li> <li>Dose/medication adjustment at every visit until blood pressures are to goal.</li> <li>To goal defined as BP to goal on all readings, including in clinic value</li> <li>understanding at each visit Sek provider direction if</li> <li>Patient develops weakness or dizziness</li> <li>Patient is hospitalized during the course of the protocol</li> <li>Home blood pressures are not (consider ambulatory blood pressure are not (consider ambulatory blood pressure monitoring)</li> <li>New medications have been started by another provider started by</li></ul>						
	Visit & Treatment Schedule		Visit & Treatment Schedule				
1	<ul> <li>Start Episode (Type: Multidiscipline. Name: Hypertension Protocol) in One Chart</li> <li>Start lisinopril 10mg         <ul> <li>Order lisinopril 10mg by mouth once daily</li> </ul> </li> </ul>	6	<ul> <li>If not to goal, add HCTZ 12.5mg</li> <li>Order HCTZ 12.5mg by mouth once daily in morning #90 with 4 refills</li> <li>Give HCTZ handout</li> </ul>				
	<ul> <li>#90 with 4 refills</li> <li>Give lisinopril handout per smart set</li> <li>Order BMP to be done today</li> </ul>	7	<ul> <li>Order BMP to be done today</li> <li>If not to goal, increase HCTZ to 25mg</li> <li>Order HCTZ 25mg by mouth once daily</li> </ul>				
	<ul> <li>If not to goal, increase lisnopril to 10mg twice daily</li> <li>Order lisinopril 10mg by mouth twice daily #180 with 4 refills</li> </ul>		in morning #90 with 4 refills o Give dose adjustment handout per smart set				
2	<ul> <li>Give dose adjustment handout per smart set</li> <li>If cough has developed, <b>discuss</b> with provider for direction regarding switch to <u>losartan 25mg</u> daily &amp;</li> </ul>	8	<ul> <li>Order BMP to be done today</li> <li>If not to goal, appointment with PCP or another provider in the department within one month</li> </ul>				
	<ul> <li>discontinue lisinopril.</li> <li>Obtain order from provider for change.</li> <li>Order losartan 25mg by mouth once daily</li> </ul>	Provid	Provider visit for consideration of further evaluation or referral				
	<ul> <li>#90 with 4 refills</li> <li>Give losartan handout per smart set</li> </ul>	If at	If at provider visit, provider gives direction to continue with protocol, <b>advance</b> to Ninth Visit.				
3	<ul> <li>Order BMP to be done today</li> <li>If not to goal, increase lisinopril to 20mg twice daily         <ul> <li>Order lisinopril 20mg by mouth twice daily #180 with 4 refills</li> <li>Give dose adjustment handout per smart set</li> <li>If using losartan and not controlled, increase to 50mg daily             <ul> <li>Order losartan 50mg by mouth once daily #90with 4 refills</li> <li>Order losartan 50mg by mouth once daily</li> <li>Order losartan 50mg by mouth once daily</li> </ul> </li> </ul> </li> </ul>	9	<ul> <li>If not to goal, start Metoprolol XL 50mg daily         <ul> <li>Order Metoprolol XL 50mg by mouth once daily #90with 4 refills</li> </ul> </li> <li>Do not initiate Metoprolol XL if:         <ul> <li>Patient has short gut or feeding tube (use non-XL formulation of beta blocker)</li> <li>Patient has heart rate of &lt;60</li> </ul> </li> <li>Give Metoprolol handout</li> </ul>				
	<ul> <li>If on lisinopril &amp; cough has developed, seek provider direction</li> <li>Order BMP to be done today</li> <li>If not to goal, add amlodipine 5mg once daily         <ul> <li>Order amlodipine 5mg by mouth once daily</li> <li>is avaniar 400 with 4 refile</li> </ul> </li> </ul>	10	<ul> <li>If not to goal, increase Metoprolol XL to 100mg daily</li> <li>Order Metoprolol XL 100mg by mouth</li> </ul>				
4			<ul> <li>once daily #90 with 4 refills</li> <li><b>Do not</b> increase if heart rate is &lt;60</li> </ul>				
	in evening #90 with 4 refills <ul> <li>Give amlodipine handout per smart set</li> </ul>		<ul> <li>If not to goal, increase Metoprolol XL to 200mg daily</li> </ul>				

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5	<ul> <li>If not to goal, increase amlodipine to 10mg</li> <li>Order amlodipine 10mg by mouth once dai in evening #90 with 4 refills</li> </ul>					
	~	Give dose adjustment handout per smart set				
	0	one dose adjustment nandout per smart set				

At any point when patient reaches goal:

· When patient reaches goal: Schedule a nurse blood pressure check at one month

- Provider follow up visit within three months.
- Resolve Hypertension Protocol episode in One Chart

 Order Metoprolol XL 200mg by mouth once daily #90 with 4 refills

Do not increase if heart rate is <60

o If not to goal, referral to hypertension specialty

clinic or nephrology depending on local resources

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#### **Hypertention Treatment Protocol**

References

1. James PA, Oparil S, Carter BL, et al. 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults: Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8). JAMA. 2014;311(5):507-520. doi:10.1001/jama.2013.284427