



## ADULT CARDIOVASCULAR CLINICAL PRACTICE GUIDELINES

<b>Hypertension</b>	<b>Implement lifestyle interventions</b>	<ol style="list-style-type: none"> <li>1. Smoking cessation</li> <li>2. Maintain ideal weight or weight reduction if needed</li> <li>3. Exercise 40 min 3-4 times a week</li> <li>4. Heart Healthy Diet</li> </ol>			
	<b>Goal</b>	Age	Goal	Treatment—alone or in combo	
		18-59 Nonblack	<140/90	Thiazide diuretic Ace inhibitor (ACEI) Angiotensin Receptor Blocker (ARB) Calcium Channel Blocker (CCB) (Avoid ACEI-ACB Combination)	
		18-59 Black	<140/90	Thiazide diuretic CCB	•
		≥60 Nonblack	<150/90	Thiazide diuretic Ace inhibitor (ACEI) Angiotensin Receptor Blocker (ARB) (Avoid ACEI-ACB Combination)	•
	≥60 Black	<150/90	Thiazide diuretic CCB	First line pharmaceutical agent is an ACE inhibitor	

					<p>either alone or in conjunction with thiazide diuretic. ARB may be substituted for an ACE in cases where ACE is contraindicated or not tolerated.</p> <p>Blood pressure should be measured at every routine visit. Inquire about cardiovascular risk factors. Feel pulses and listen for bruits each visit.</p>
		<p>≥18 with diabetes Nonblack</p>		<p>Thiazide diuretic Ace inhibitor (ACEI) Angiotensin Receptor Blocker (ARB) Calcium Channel Blocker (CCB) (Avoid ACEI-ACB Combination)</p>	•
		<p>≥ 18 with diabetes Black</p>		<p>Thiazide diuretic CCB</p>	
		<p>≥18 with chronic kidney disease ± diabetes all races</p>		<p>Ace inhibitor(ACEI) Angiotensin Receptor Blocker (ARB) Calcium Channel Blocker (CCB) (Avoid ACEI-ACB Combination)</p>	
	<b>Treatment Strategy</b>	<ol style="list-style-type: none"> <li>1. Maximize Drug 1 before adding Drug 2</li> <li>2. Add Drug 2 before maximize Drug 1</li> <li>3. Start with 2 drugs (separate or fixed dose)</li> </ol>			

<b>Cholesterol Management</b>	<b>Statin Benefit Groups</b>	<b>Statin Dose</b>		
	Age 21-75 with clinical atherosclerotic cardiovascular disease	High	Atorvastatin 40-80 mg	
	Age ≥ 21 with LDL ≥ 190mg/dl	High	Rosuvastatin 20-40 mg	
	Age 40-75 with diabetes and LDL 70-189 mg/dl	Moderate	Atorvastatin 10-20 mg Fluvastatin 80 mg Lovastatin 40 mg Pitavastatin 2-4 mg Pravastatin 40-80 mg Rosuvastatin 5-10 mg	
	Age 40-75 without diabetes of atherosclerotic cardiovascular disease and estimated 10 year risk of ≥ 7.5%		Simvastatin 20-40 mg	
	The addition of non-statins does not reduce cardiovascular risk and should be reserved for patients with tolerability issues.			
	<b>Cardiovascular Risk Calculator</b> (Potential overestimation of risk)	Use every 4-6 years in patients 20-79		

	<b>Monitoring</b>	Lipids	Baseline and 4-12 weeks after initiation.  Every 3-12 months for ongoing monitoring	
		Liver function tests	Baseline and repeat only if clinically needed	
<b>Atrial Fibrillation</b>	<b>Etiology</b>	Cardiac structural abnormalities	Fibrosis Dilatation Ischemia Infiltration Hypertrophy	
		Atrial electrical abnormalities		
		Extra-cardiac Factors	Hypertension Obesity Sleep Apnea Hyperthyroidism Alcohol/drugs	
	<b>Treatment</b>	Anticoagulation	Based on CHA2DS2-VASc risk factors	
		LV Dysfunction	Beta Blocker Digoxin (not first line therapy)	
	<b>Rhythm Control</b>	Medications Catheter ablation Cardioversion Surgery		

<b>Antiplatelet agents/anti-coagulants</b>	<p>Consider the use of aspirin in men age 45-79 years for primary prevention of myocardial infarction and in women age 55-79 years for the primary prevention of strokes when the potential benefit outweighs the potential harm of an increase in gastrointestinal bleeding.</p> <p>For secondary prevention, consider aspirin 75-325 mg or clopidogrel 75 mg if aspirin contraindicated.</p>	
<b>Beta blockers post MI</b>	<p>Oral beta-blocker therapy should be initiated within the first 24 hours of myocardial infarction in the absence of contraindications and continued for a minimum of 6 months.</p>	
<b>ACE inhibitors post MI</b>	<p>Angiotensin converting enzyme (ACE) inhibitors should be started and continued indefinitely in all patients with left ventricular ejection fraction less than 0.40 and in those with those with hypertension, diabetes mellitus and chronic kidney disease unless contraindicated. ACE inhibitors may be reasonable in all other patients with cardiac or other vascular disease. Angiotensin receptor blockers are those with hypertension, diabetes mellitus and chronic kidney disease unless contraindicated. ACE inhibitors may be reasonable in all other patients who are ACE inhibitor intolerant.</p>	
<b>Immunizations</b>	<p>Pneumococcal polysaccharide vaccine (PCSV23) is recommended for all adults ≥65 years and those with chronic heart disease age 19 and older. Additional doses of this vaccine will be needed depending on the health status and age. In addition, all adults ≥65 and those with chronic heart disease should receive the pneumococcal conjugate vaccine (PCV13). Variable factors affect the interval and order of the pneumococcal vaccines.</p> <p>Influenza vaccine yearly for all patients.</p>	
<b>Self-Management Education</b>	<ol style="list-style-type: none"> <li>1. Assess educational needs and provide self-management education.</li> <li>2. Provide access to an interdisciplinary team</li> <li>3. Develop individualized educational plans and reassess periodically during assessment contacts.</li> </ol>	

**Sources:**

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Centers for Disease Control and Prevention 2015 immunization schedules.

**Guidelines reviewed/updated:**

Revision date 8/2004, 9/2005, 1/2007, 3/2009, 10/2010, 7/26/11, 8/1/2013, 8/6/2015