

## SummaCare CVD Guidelines 2009

Risk Intervention	Recommendations															
<b>Smoking:</b> Goal Complete Cessation	Smoking status should be determined. Strongly encourage patient and family to stop smoking. Provide counseling, nicotine replacement, and formal cessation programs as appropriate.															
<b>Blood pressure control:</b> Goal ≤ 130/80 mm Hg (CAD w/ CoMorbidity)  ≤ 140/90 mm Hg (CAD alone)	Blood pressure should be measured at every routine visit. Nonpharmacological therapy is recommended and may include weight reduction, decreased Sodium and alcohol intake and exercise.															
	Initial Pharmacological choices															
	<table border="1" style="width: 100%;"> <tr> <th style="width: 50%;">CVD alone</th> <th style="width: 50%;">CVD with co-morbidity</th> </tr> <tr> <td> <b>Stage 1 SBP 140-159 or DBP 90 – 99</b>            Thiazide-type diuretics            May consider ACE, ARB, BB, or CCB   <b>Stage 2 SBP &gt; 160 or DBP &gt; 100</b>            2 drug combination for most, usually            Thiazide-type diuretic and ACE, or ARB,            or BB, or CCB         </td> <td> <b>HF</b> – Thiazide-type Diuretics, BB, ACE, ARB, Aldosterone Antagonists  <b>Post MI</b> – BB, ACE, Aldosterone Antagonists  <b>High Risk CVD</b> – Thiazide-type diuretics, AA, ACE, ARB, CCB  <b>Diabetes</b> - Thiazide-type diuretics, AA, ACE, ARB, CCB  <b>Chronic Kidney Disease</b> – ACE, ARB  <b>Stroke Prevention</b> - Thiazide-type Diuretics, ACE         </td> </tr> </table>	CVD alone	CVD with co-morbidity	<b>Stage 1 SBP 140-159 or DBP 90 – 99</b> Thiazide-type diuretics May consider ACE, ARB, BB, or CCB  <b>Stage 2 SBP &gt; 160 or DBP &gt; 100</b> 2 drug combination for most, usually Thiazide-type diuretic and ACE, or ARB, or BB, or CCB	<b>HF</b> – Thiazide-type Diuretics, BB, ACE, ARB, Aldosterone Antagonists <b>Post MI</b> – BB, ACE, Aldosterone Antagonists <b>High Risk CVD</b> – Thiazide-type diuretics, AA, ACE, ARB, CCB <b>Diabetes</b> - Thiazide-type diuretics, AA, ACE, ARB, CCB <b>Chronic Kidney Disease</b> – ACE, ARB <b>Stroke Prevention</b> - Thiazide-type Diuretics, ACE											
	CVD alone	CVD with co-morbidity														
<b>Stage 1 SBP 140-159 or DBP 90 – 99</b> Thiazide-type diuretics May consider ACE, ARB, BB, or CCB  <b>Stage 2 SBP &gt; 160 or DBP &gt; 100</b> 2 drug combination for most, usually Thiazide-type diuretic and ACE, or ARB, or BB, or CCB	<b>HF</b> – Thiazide-type Diuretics, BB, ACE, ARB, Aldosterone Antagonists <b>Post MI</b> – BB, ACE, Aldosterone Antagonists <b>High Risk CVD</b> – Thiazide-type diuretics, AA, ACE, ARB, CCB <b>Diabetes</b> - Thiazide-type diuretics, AA, ACE, ARB, CCB <b>Chronic Kidney Disease</b> – ACE, ARB <b>Stroke Prevention</b> - Thiazide-type Diuretics, ACE															
Ongoing Pharmacological choices																
	Optimize dosages or add additional drugs until goal BP is achieved. Consider consultation with hypertension specialist. After initiation or initial therapy, a follow-up visit is recommended within 1 – 2 months to assess hypertension control, patient compliance to treatment, and adverse effects.															
<b>Lipid Management:</b>  <u>Primary goal</u> LDL <100 mg/dL  <u>Secondary goals</u> If TG ≥ 200, then non-HDL <sup>1</sup> should be < 130 mg/dL	Annually assess fasting lipid profile in all patients. Profile should include total cholesterol, high-density lipoprotein, low-density lipoprotein, and triglycerides. Add drug therapy according to the following guide:  Order liver function tests before starting statin therapy, 12 weeks after initiation, with any dose increase, and periodically for long-term maintenance therapy (C).															
	Primary Goal															
Consider fibrate or niacin if low HDL or high TG.	<table border="1" style="width: 100%;"> <tr> <td style="width: 33%;">LDL &lt;100mg/dL</td> <td style="width: 33%;">LDL 100 to 129 mg/dL Intensify LDL-lowering therapy (statin or resin<sup>#</sup>); Consider combined drug therapy (statin + fibrate or niacin) LDL &gt;130 mg/dL Intensify LDL-lowering therapy (Statin or resin<sup>#</sup>); ADD or increase drug therapy.</td> <td style="width: 33%;">HDL &lt;40mg/dL  Emphasize weight management and physical activity.</td> </tr> <tr> <td colspan="3" style="text-align: center;">Secondary Goal</td> </tr> <tr> <td style="width: 33%;">TG &lt;150 mg/dL</td> <td style="width: 33%;">TG 150 - 499 mg/dL</td> <td style="width: 33%;">TG &gt;500 mg/dL</td> </tr> <tr> <td>Emphasize weight management and physical activity.</td> <td>Fibrate or Niacin</td> <td>Fibrate or Niacin Before LDL-lowering therapy</td> </tr> <tr> <td colspan="3" style="text-align: center;">Consider omega – 3 fatty acids as adjunct for high TG</td> </tr> </table>	LDL <100mg/dL	LDL 100 to 129 mg/dL Intensify LDL-lowering therapy (statin or resin <sup>#</sup> ); Consider combined drug therapy (statin + fibrate or niacin) LDL >130 mg/dL Intensify LDL-lowering therapy (Statin or resin <sup>#</sup> ); ADD or increase drug therapy.	HDL <40mg/dL  Emphasize weight management and physical activity.	Secondary Goal			TG <150 mg/dL	TG 150 - 499 mg/dL	TG >500 mg/dL	Emphasize weight management and physical activity.	Fibrate or Niacin	Fibrate or Niacin Before LDL-lowering therapy	Consider omega – 3 fatty acids as adjunct for high TG		
	LDL <100mg/dL	LDL 100 to 129 mg/dL Intensify LDL-lowering therapy (statin or resin <sup>#</sup> ); Consider combined drug therapy (statin + fibrate or niacin) LDL >130 mg/dL Intensify LDL-lowering therapy (Statin or resin <sup>#</sup> ); ADD or increase drug therapy.	HDL <40mg/dL  Emphasize weight management and physical activity.													
	Secondary Goal															
	TG <150 mg/dL	TG 150 - 499 mg/dL	TG >500 mg/dL													
Emphasize weight management and physical activity.	Fibrate or Niacin	Fibrate or Niacin Before LDL-lowering therapy														
Consider omega – 3 fatty acids as adjunct for high TG																
	Secondary Goal															
	<table border="1" style="width: 100%;"> <tr> <td style="width: 33%;">TG &lt;150 mg/dL</td> <td style="width: 33%;">TG 150 - 499 mg/dL</td> <td style="width: 33%;">TG &gt;500 mg/dL</td> </tr> <tr> <td>Emphasize weight management and physical activity.</td> <td>Fibrate or Niacin</td> <td>Fibrate or Niacin Before LDL-lowering therapy</td> </tr> </table>	TG <150 mg/dL	TG 150 - 499 mg/dL	TG >500 mg/dL	Emphasize weight management and physical activity.	Fibrate or Niacin	Fibrate or Niacin Before LDL-lowering therapy									
TG <150 mg/dL	TG 150 - 499 mg/dL	TG >500 mg/dL														
Emphasize weight management and physical activity.	Fibrate or Niacin	Fibrate or Niacin Before LDL-lowering therapy														
	Consider omega – 3 fatty acids as adjunct for high TG															
<b>Asymptomatic Carotid Stenosis</b>	Endarterectomy may be considered in patients with high grade (> 60% but < 100%) asymptomatic carotid stenosis, performed by a surgeon with < 3% morbidity/mortality. Careful patient selection should be guided by comorbid conditions.															

<b>Physical activity:</b> <b>Minimum goal</b> 30 minutes 4 to 5 times per week	Assess risk, preferably with exercise test, to guide prescription. Encourage minimum of 30 to 60 minutes of moderate-intensity activity 4 or 5 times weekly (walking, jogging, cycling, or other aerobic activity) supplemented by an increase in daily lifestyle activities (eg, walking breaks at work, using stairs, gardening, household work). Maximum benefit 5 to 6 hours a week. Advise medically supervised programs for moderate- to high- risk patients.
<b>Atrial Fibrillation</b>	Antithrombotic therapy should be considered for patients with nonvalvular atrial fibrillation based on an assessment of their risk of embolism and risk of bleeding complications.
<b>Antiplatelet agents/anti-coagulants</b>	Consider beginning aspirin therapy (81–325 mg/day) for primary prevention in patients $\geq 40$ years of age. Do not use aspirin in patients $< 21$ years of age because of the increased risk of Reye's syndrome. Consider clopidogrel 75 mg/d or warfarin if aspirin is contraindicated.
<b>ACE inhibitors post MI</b>	Start early post-MI in stable high-risk patients (anterior MI, previous MI, Killip class II [ $S^3$ gallop, rales, radiographic CHF]). Continue indefinitely for all with LV dysfunction (ejection fraction $\leq 40\%$ ) or symptoms of failure. Use as needed to manage blood pressure or symptoms in all other patients.
<b>Beta-blockers post MI</b>	Beta Blocker therapy is recommended for all patients with prior MI, in absence of contraindications for a minimum of 6 months.
<b>Immunization</b>	Annually provide an influenza vaccine to all patients with CVD. Provide at least one lifetime pneumococcal vaccine for adults with CVD. A one-time revaccination is recommended for individuals $> 64$ years of age previously immunized when they were $< 65$ years of age if the vaccine was administered $> 5$ years ago. Other indications for repeat vaccination include nephrotic syndrome, chronic renal disease, and other immunocompromised states, such as post organ transplantation.
<b>Therapeutic Lifestyle Changes (TLC)</b>	Attain and maintain recommended metabolic outcomes, including glucose and HbA1c levels; LDL cholesterol, HDL cholesterol, and triglyceride levels; blood pressure; and body weight. Diet suggestions: <ol style="list-style-type: none"> <li>1. DASH diet for hypertension.</li> <li>2. Increase soluble fiber (10-25 g/day) and plant sterols/stenols (2 g/day) for dyslipidemia.</li> <li>3. ADA diet for diabetes and obesity.</li> </ol> Improve health through healthy food choices and physical activity. Address individual nutritional needs, taking into consideration personal and cultural preferences and lifestyle while respecting the individual's wishes and willingness to change.
<b>Hormone Replacement Therapy (HRT)</b> <sup>†</sup>	Risk of stroke associated with HRT appears low but requires further study. Until more data are available, the use of HRT should be guided by factors other than stroke risk.
<b>Oral Contraceptives</b>	In women, the risk of stroke associated with the use of low dose oral contraceptives without additional risk factors appears low. Oral contraceptives should be avoided in women with additional risk factors.
<b>Self-Management Education</b>	Assess educational needs and provide self-management education. Provide access to an interdisciplinary team (RN, PCP, Cardiologist). Develop individualized educational plans and reassess periodically during assessment contacts.

<sup>†</sup> Non-HDL cholesterol= total cholesterol minus HDL cholesterol

<sup>‡</sup> The use of a resin is relatively contraindicated when TG  $> 200$  mg/dL

<sup>†</sup> HRT is not well documented in the literature.

JNC VII 2003;42:1206

American Heart Association (2004) Implications of recent clinical trials for NCEP ATP III guidelines. *Circulation*; 110:227-2329 American Heart Association / American College of Cardiology. Hypertension clinical performance measures. Practice Guidelines. Accessed March 10, 2009. [www.acc.org](http://www.acc.org) 2009

American Heart Association / American College of Cardiology. Chronic stable coronary artery disease clinical performance measures. Practice guidelines. Accessed March 9, 2009 [www.acc.org](http://www.acc.org) 2009

American Diabetes Association: Standards of Medical Care in diabetes, *Diabetes Care* 28 (Suppl 1): S4-S41, January 2007

Primary prevention of ischemic stroke: A statement for healthcare professionals from the stroke council of the American Heart Association. (AHA Scientific Statement) *Stroke*, 32(1) January 2001: 280-299

Revision date 8/2004, 9/2005, 1/2007, 3/2009