These clinical guidelines (approved 02/13/07, updated April 2012) are adapted from AHA/ASA, NCEP ATPIII and JNC 7 ... and treatment algorithms. They are designed to assist clinicians in the screening and management of risk factors

for cardiovascular disease and stroke/TIA and are not intended to replace a clinician’s judgment or establish a protocol ... important updates, or additional copies of the guideline, go to www.healthteamworks.org or call (303) 446-7200.

Screening

Assess Global 10-year Cardiovascular Disease and Stroke/TIA Risk

(see Framingham risk assessment on reverse side)

Risk

Low <10%

- Normal BMI 18.5-24.9.
- Reduce trans and saturated fat/cholesterol intake.
- Aerobic physical activity 30 min/day, most days.

Moderate 10-20%

- Limited alcohol consumption - no more than 1-2 drinks/day.
- See HealthTeamWorks Tobacco Cessation and Secondhand Smoke Exposure guideline.

High >20%

- Identification and management of depression.
- See HealthTeamWorks Adult Obesity guideline.
- See HealthTeamWorks Tobacco Cessation and Secondhand Smoke Exposure guideline.
- See HealthTeamWorks Alcohol and Substance Use guideline.

Universal lifestyle targets

- See HealthTeamWorks Adult Obesity guideline.
- See HealthTeamWorks Tobacco Cessation and Secondhand Smoke Exposure guideline.
- See HealthTeamWorks Alcohol and Substance Use guideline.
- See HealthTeamWorks Depression guideline.

Aspirin

No

Yes, if benefits outweigh risk.

Yes, recommended dose range 81-325 mg.

Blood pressure

Assess blood pressure at every visit.

Treat to <140/90 mmHg.

Screen: ≥ 20 years old

LDL goal: <160 mg/dL

Lipids

Use moderate dose statin* for achieving LDL <130 mg/dL.

Assess annually.

Use high or moderate dose statin* for achieving LDL <100 mg/dL, consider <70 mg/dL for CHD or other atherosclerotic disease.

Assess every 6-12 months.

If patient has heart failure (HF), DM or chronic kidney disease: goal <130/80 mmHg, use angiotensin converting enzyme inhibitor (ACE-I), or angiotensin receptor blocker (ARB) if ACE-I intolerance.

If systolic >20 mmHg or diastolic >10 mmHg above goal, start 2 drugs. Usually diuretics plus ACE-I, ARB, β-blocker or calcium channel blocker.

If patient has HF or myocardial infarction, use ACE-I and β-blocker.

*Recent studies have shown benefits of statin use. No studies have tested treatment to LDL-C targets. The targets above are derived from the LDL-C levels achieved by patients showing benefit in several RCTs of statin treatment (AHA/ACCF Secondary Prevention and Risk Reduction Therapy for Patients with Coronary and other Atherosclerotic Vascular Disease: 2011 Update).

Coronary Heart Disease (CHD) or CHD Risk Equivalents:

- Diabetes mellitus (DM)
- Stroke/Transient ischemic attack (TIA)
- Peripheral arterial disease (PAD)
- Abdominal aortic aneurysm (AAA)
**Screening**

- **Family history:** Risk is greater if premature coronary heart disease (CHD) in a first-degree relative (males <55 years old, females <65 years old).
- **Metabolic syndrome:** Characterized by a cluster of the following risk factors: abdominal obesity, hyperglycemia, high triglycerides, low HDL, and elevated blood pressure. This cluster increases risk of CHD and DM. Treatment should emphasize weight loss and physical activity.
- **Age and frequency of screening:** Obtain total cholesterol and HDL (complete fasting lipid profile preferred) for males ≥35 yrs, females ≥45 yrs. every 5 years, or more often if risk factors change. LDL goal: <160 mg/dL.
- For assessment of peripheral artery disease (PAD), assess ankle-brachial index (ABI). This is also considered a reliable measure of pre-clinical atherosclerosis.

**Lifestyle**

- **Weight management:** Weigh and assess BMI at each visit. Assist with weight maintenance or 5-10% weight loss. See HealthTeamWorks Adult Obesity Guideline.
- **Nutrition:** Promote diet that emphasizes fruits, vegetables, whole grains, low-fat dairy, lean meats, poultry, fish, beans, and nuts; is low in saturated and trans fats, cholesterol, sodium, and added sugars such as the DASH diet (www.nhlbi.nih.gov/health/public/heart/hbp/dash/how_plan.html) or the American Heart Association dietary recommendations (www.americanheart.org).
- **Physical Activity:** To manage weight/prevent weight gain, encourage 30-60 minutes moderate-to-vigorous activity such as brisk walking most days of the week while not exceeding caloric intake requirements.
- **Tobacco cessation:** Screen for tobacco use, provide brief counseling and offer pharmacotherapy. Refer to Quitline (1-800-QUIT-NOW or 1-800-784-8669). See HealthTeamWorks Tobacco Cessation and Secondhand Smoke Exposure Guideline.
- **Alcohol consumption:** Assess excess alcohol consumption. No more than 1 per day for women, 2 per day for men. One drink = 12 oz of beer, 5 oz of wine, or 1.5 oz of liquor. Refer to Substance Abuse and Mental Health Services Administration for information on problem drinking (http://www.samhsa.gov). See HealthTeamWorks Alcohol and Substance Use Guideline.
- **Depression management:** Depression is an independent risk factor that increases relative risk for cardiovascular disease (CVD) 1.5-2.0 fold. Incidence of depression is 3-5 times higher in CVD patients vs. general population. Assess for and treat depression (see HealthTeamWorks Depression Guideline).
- **Stress management:** Emerging evidence links stress with CHD. Consider implementing stress management techniques.

**Aspirin**

- Aspirin is indicated in all high risk patients. There is less evidence for its use in moderate risk patients and since aspirin is not risk free, providers should weigh the risks and benefits before recommending.

**Blood pressure**

- Treat to <140/90 mmHg.

**Lipids**

- Consider LDL goal of <70 mg/dL in patients with known CHD and multiple or poorly controlled risk factors, or a recent myocardial infarction.

**Stroke/TIA**

- Control of blood pressure is the most effective way to reduce risk of stroke/TIA.
- Atrial fibrillation is a major risk factor for stroke/TIA. Recommend anticoagulation with warfarin, rivaroxaban or dabigatran for patients with CHAD2 (CHF, Hypertension, Age >75, Diabetes, prior Stroke) score ≥2.
- TIA’s,”warning strokes” that produce transient stroke symptoms, but no lasting damage, are strong predictors of major stroke (10-fold increased risk).
- While aspirin is an effective first-line antplatelet therapy for stroke/TIA prevention, clopidogrel and the combination of aspirin and sustained-release dipyridamole are effective alternatives.
- Carotid disease is a risk factor for stroke/TIA.
- For more information on stroke/TIA prevention, refer to AHA/ASA guidelines (2011): http://stroke.ahajournals.org/content/42/2/517

**Risk Assessment**

- **Global risk calculation** (especially in patients with 2 risk factors) provides more accurate determination of treatment intensity than counting isolated risk factors.
- **Risk factors:** cigarette smoking, BP >140/90 mmHg or on BP therapy, HDL <40 mg/dL, premature CHD in first-degree relative, age (men >45 yrs, women >55 yrs), obesity, and physical inactivity.
- Clinical judgment is required to estimate incremental risk based on additional emerging risk markers.
- For other validated risk assessment tools, go to www.healthteamworks.org.