### Cholesterol Recommended Guidelines
**Quick Reference Toolkit**

<table>
<thead>
<tr>
<th>Organization Resources</th>
<th>Guideline Objectives</th>
<th>Target Population</th>
<th>Evaluation</th>
<th>Recommended Treatment</th>
</tr>
</thead>
</table>
| **Organization:** AHRQ – Agency for Healthcare Research & Quality  
**Resource:** National Guideline Clearinghouse  
http://guideline.gov/content.aspx?id=36062  
**Guideline developer:** Institute for Clinical Systems Improvement (ICSI) | Increase the percent of high risk CAD patients who are maintained on statin therapy or who have an LDL < 70mg/dl | Adults, age 20 or older who are dyslipidemic | 1. Measure triglycerides, total cholesterol, HDL, & LDL  
2. Calculate 10 yr. risk for CAD  
3. Evaluate for diabetes and secondary causes  
4. Establish lipid goals based on risks | • Diet  
• Aerobic exercise  
• Weight management  
• Smoking cessation  
• Assess alcohol consumption  
• Sterol / stanol supplement  
• Fish oil  
• Vitamin E - **not** recommended  
• Statin /ASA /Niacin /Other Rx  
• Follow up assessment & care  
• Patient education |
| **Organization:** American Academy of Family Physicians  
**Resource:** U.S. Preventive Services Task Force | Screening for lipid disorders:  
- Men 35 & older  
- Women 45 & older  
- Men 20-35 if increased risk CAD  
- Women 20-45 if increased risk CAD | Adults, age 20 or older who are dyslipidemic | 1. Preferred screening tests for dyslipidemia are total cholesterol and HDL-C on non-fasting or fasting samples  
2. Calculated LDL (total cholesterol minus HDL minus TG/5) is the validated measurement used in trials for risk assessment and treatment decisions  
3. Treatment decisions should take into account a person's overall risk of heart disease rather than lipid levels alone. Overall risk assessment includes the presence & severity of the following risk factors: age, gender, diabetes, elevated BP, family history, & smoking | • Drug therapy - usually more effective than diet alone in improving lipid profiles  
• Lifestyle modifications – diet, activity, smoking cessation  
• Treatment of high BP, obesity & diabetes  
• Patient education on long term adherence to therapy |
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<td><strong>Organization:</strong></td>
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<td><strong>American Diabetes Association</strong></td>
<td>LDL Cholesterol • Less than 100 mg/dL • In individuals with overt CVD: LDL of less than 70mg/dL</td>
<td>Adults – with Type 1 or Type 2 Diabetes</td>
<td>1. Fasting lipid profile, including total, LDL and HDL cholesterol and triglycerides – yearly 2. In adults with low-risk lipid values lipid assessments may be repeated every 2 years.</td>
<td>Lifestyle modification focusing on the reduction of saturated fat, trans fat, and cholesterol intake ▪ Increased of n-3 fatty acids, viscous fiber, and plant stanols/sterols ▪ Weight loss if indicated ▪ Increased physical activity ▪ Statin therapy regardless of baseline lipid levels for pts. with CVD or without CVD over age 40 and with one or more risk factors ▪ Other – fibric acid derivative, niacin, fish oil ▪ Smoking cessation</td>
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<td><strong>Resource:</strong></td>
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<tr>
<td><strong>Standards of Medical Care in Diabetes – 2013 (PDF)</strong></td>
<td>HDL Cholesterol • Men greater than 40 mg/dL • Women greater than 50 mg/dL</td>
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<td></td>
<td>Triglycerides • Less than 150 mg/dL</td>
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| **Organization:** American Association of Clinical Endocrinologists | LDL-C - Less than 100 mg/dL  
- Less than 70 mg/dL in all patients at very high risk | Young Adults every 5 years  
- Men 20-45  
- Women 20-55  
Middle Aged at least 1-2 years  
- Men 45-65  
- Women 55-65  
Yearly Screens Adults over 65 & Diabetics | 1. Determine the 10-year risk (high, intermediate, low) of a coronary event using the Framingham Risk Assessment Tool or Reynolds Risk Score  
2. Categorize lipid-related risks as optimal/near-optimal, borderline, and high risk  
3. Fasting Lipid Profile to include total cholesterol, LDL-C, triglycerides, and HDL-C  
4. Rule out secondary causes of dyslipidemia  
5. Assess markers of inflammation in patients where further stratification of risk is necessary | Implementation of lifestyle changes, including physical activity (30 minutes 5-6 days a week) and medical nutrition therapy (decrease saturated fat & trans fat, increase plant stanols esters, soluble fiber and omega-3 fatty acids)  
Address associated metabolic abnormalities and modifiable risk factors such as hypertension, diabetes, obesity, and cigarette smoking  
Pharmacotherapy – Statins, Fibrates, Combination therapy  
Patient education programs, to promote further risk reduction through smoking cessation and weight loss.  
Follow up monitoring |
| **Resource:** AACE Guidelines for Management of Dyslipidemia and Prevention of Atherosclerosis 2012 (PDF) | HDL-C - Men greater than 40 mg/dL  
- Women greater than 50 mg/dL  
Triglycerides - Less than 150 mg/dL  
Apolipoprotein B - Less than 90 mg/dL – pts at risk of CAD  
- Less than 80 mg/dL – pts with established CAD or Diabetes plus additional risk factor | | | |
| **Organization:** American Heart Association | LDL-C level less than 100 mg/dL  
HDL-C - greater than 40 mg/dL  
Triglyceride - Less than 150 mg/dL | Adults 20 years of age and older | 1. Focus on multiple risk factors  
2. Identify people with CHD equivalents (secondary causes)  
3. Lipid panel screening  
4. Modifications of lipid and lipoprotein goals based | Dietary Recommendations:  
- Limit foods high in saturated fats  
- Replace saturated fats with lower-fat foods  
- Increase type of foods with unsaturated fat  
- Carefully monitor intake of... |
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<td><strong>Managing Abnormal Blood Lipids</strong>&lt;br&gt;Circulation. <strong>2005; 112:</strong> 3184-3209 doi: 10.1161/CIRCULATIONAHA.105.169180 (PDF)</td>
<td>• LDL-C less than 100 mg/dL&lt;br&gt;• LDL-C greater than 100 mg/dL <strong>and</strong> Statin therapy prescribed or plan of care in place&lt;br&gt;• LDL-C goal of less than 70 mg/dL is a therapeutic option, especially for patients at very high risk</td>
<td>Diabetes: Patients 18 – 75 year of age&lt;br&gt;CAD &amp; IVD: Patients aged 18 years and older</td>
<td>upon risk factors</td>
<td>food high in cholesterol&lt;br&gt;• Severely limit foods containing trans fatty acids&lt;br&gt;• Increase foods rich in viscous fiber&lt;br&gt;• Increase foods containing stanol/sterol esters (special margarines, fortified orange juice)&lt;br&gt;<strong>Other Recommendations:</strong>&lt;br&gt;• High-intensity exercise&lt;br&gt;• Drug Therapy – Statins, niacin, fibrates&lt;br&gt;• Patient Education&lt;br&gt;• Address adherence issues</td>
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**Organization:**<br>American Medical Association

**Resources:**<br>2014 PQRS Measure Specification Manual<br>Physician Quality Reporting System clinical measures related to Hypertension and Blood Pressure Measurement. (You will need to accept the license agreement in order to access the zipped files)
- PQRS #316 – Preventive Care & Screening: Cholesterol<br>- eCQM: 61v3 and CMS 64v3

1. A fasting lipid profile should be obtained during an initial assessment, each follow-up assessment, and annually<br>2. Statins should be considered as first-line drugs when LDL-lowering drugs are indicated to achieve LDL treatment goals<br>3. Apply the NCEP’s ATP III recommendations to patients at increased cardiovascular risk due to lipid derangements. (See PDF at left)<br>4. Stratify cardiovascular risk to guide treatment interventions<br>• Lifestyle modification focusing on the reduction of saturated fat, trans fat, and cholesterol intake<br>• Increase of n-3 fatty acids, viscous fiber and plant stanols/sterols<br>• Weight loss (if indicated)<br>• Increased physical activity<br>• Statin therapy
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<td>Third Report of the Expert Panel on Detection, Evaluation, &amp; Treatment of High Blood Cholesterol in Adults</td>
<td>Preventive Care and Screening: Cholesterol – Fasting Low Density Lipoprotein (LDL-C) Test Performed: AND Risk-Stratified Fasting LDL-C: Percentage of patients aged 20 through 79 years whose risk factors* have been assessed and a fasting LDL test has been performed AND percentage of patients aged 20 through 79 years who had a fasting LDL-C test performed and whose risk-stratified fasting LDL-C is at or below the recommended LDL-C goal.</td>
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*There are three criteria for this measure based on the patient’s risk category.
1. Highest Level of Risk: Coronary Heart Disease (CHD) or CHD Risk Equivalent
2. Moderate Level of Risk: Multiple (2+) Risk Factors
3. Lowest Level of Risk: 0 or 1 Risk Factor
## Organization

**Organization:**
National Heart, Lung & Blood Institute

**Resource:**
Third Report of the Expert Panel on Detection, Evaluation, & Treatment of High Blood Cholesterol in Adults (PDF)

## Guideline Objectives

### Optimal Levels:
- **LDL-C** less than 100 mg/dL
- **Triglyceride** less than 150 mg/dL
- **HDL-C**
  - Low = Less than 40 mg/dL
  - High = Greater than 60 mg/dL

## Target Population

Adults 20 years of age and older

## Evaluation

1. Identification of risk categories for setting of LDL cholesterol goals – Framingham scoring
2. Fasting lipoprotein profile including total cholesterol, LDL, HDL, and triglyceride, obtained at least once every 5 years in adults age 20 and over
3. More frequent measurements are required for persons with multiple risk factors
4. Determine secondary dyslipidemia causes

## Recommended Treatment

- Therapeutic lifestyle changes to address metabolic syndrome
- Dietary therapy - reduced intakes of saturated fats & trans fats; Increased plants stanols/sterols and viscous fiber
- Weight control
- Increased and regular physical activity
- Drug therapy
- Smoking cessation
- Monitor Blood Pressure
- Patient education and adherence to therapy

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