

## Health Plan of Michigan Clinical Practice Guideline Management of Hyperlipidemia

The following guideline recommends risk assessment, stratification, education, counseling and pharmacological interventions for the management of LDL Cholesterol.

Eligible Population	Key Components	Recommendation and Level of Evidence			
Age $\geq$ 18 years	Risk Assessment	<ul style="list-style-type: none"> <li>Screening: Initial fasting lipid profile (i.e., total, LDL, HDL, triglycerides); If normal repeat at least every five years [D]</li> <li>Treatment is based on LDL, major risk factors and presence of CHD or equivalent.</li> </ul> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <b>Major Risk Factors:</b> <ul style="list-style-type: none"> <li>Cigarette smoking</li> <li>Hypertension (BP <math>\geq</math> 140/90)</li> <li>On antihypertensives, regardless of current BP levels</li> <li>HDL: <math>&lt;</math> 40 (HDL <math>\geq</math> 60 = negative risk factor)</li> <li>Family history (first degree) of premature CHD (men <math>&lt;</math> 55 years; women <math>&lt;</math> 65 years)</li> <li>Age (men <math>\geq</math> 45 years; women <math>\geq</math> 55 years)</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <b>CHD Risk Equivalents:</b> <ul style="list-style-type: none"> <li>Other clinical forms of atherosclerotic disease (e.g., peripheral arterial disease, abnormal aortic aneurysm, and/or symptomatic carotid artery disease)</li> <li>Diabetes</li> <li>Multiple risk factors confer a 10-year risk for CHD <math>&gt;</math> 20%</li> <li>CHD and CHD risk equivalents give a <math>&gt;</math>20% risk of CHD event within 10 years</li> </ul> </td> </tr> </table>	<b>Major Risk Factors:</b> <ul style="list-style-type: none"> <li>Cigarette smoking</li> <li>Hypertension (BP <math>\geq</math> 140/90)</li> <li>On antihypertensives, regardless of current BP levels</li> <li>HDL: <math>&lt;</math> 40 (HDL <math>\geq</math> 60 = negative risk factor)</li> <li>Family history (first degree) of premature CHD (men <math>&lt;</math> 55 years; women <math>&lt;</math> 65 years)</li> <li>Age (men <math>\geq</math> 45 years; women <math>\geq</math> 55 years)</li> </ul>	<b>CHD Risk Equivalents:</b> <ul style="list-style-type: none"> <li>Other clinical forms of atherosclerotic disease (e.g., peripheral arterial disease, abnormal aortic aneurysm, and/or symptomatic carotid artery disease)</li> <li>Diabetes</li> <li>Multiple risk factors confer a 10-year risk for CHD <math>&gt;</math> 20%</li> <li>CHD and CHD risk equivalents give a <math>&gt;</math>20% risk of CHD event within 10 years</li> </ul>	
	<b>Major Risk Factors:</b> <ul style="list-style-type: none"> <li>Cigarette smoking</li> <li>Hypertension (BP <math>\geq</math> 140/90)</li> <li>On antihypertensives, regardless of current BP levels</li> <li>HDL: <math>&lt;</math> 40 (HDL <math>\geq</math> 60 = negative risk factor)</li> <li>Family history (first degree) of premature CHD (men <math>&lt;</math> 55 years; women <math>&lt;</math> 65 years)</li> <li>Age (men <math>\geq</math> 45 years; women <math>\geq</math> 55 years)</li> </ul>	<b>CHD Risk Equivalents:</b> <ul style="list-style-type: none"> <li>Other clinical forms of atherosclerotic disease (e.g., peripheral arterial disease, abnormal aortic aneurysm, and/or symptomatic carotid artery disease)</li> <li>Diabetes</li> <li>Multiple risk factors confer a 10-year risk for CHD <math>&gt;</math> 20%</li> <li>CHD and CHD risk equivalents give a <math>&gt;</math>20% risk of CHD event within 10 years</li> </ul>			
	Risk Stratification	<ul style="list-style-type: none"> <li>Calculate short-term risk for patients with 2+ risk factors using Framingham projection of 10-year absolute risk [D]:</li> </ul> <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;"><u>Categorical Risk</u></th> <th style="text-align: left;"><u>Goal for LDL</u></th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>CHD or CHD risk equivalents 10-year risk: <math>\geq</math> 20%</li> <li>2+ risk factors 10-year risk: <math>\leq</math> 20%</li> <li>0 – 1 risk factor</li> </ul> </td> <td> <ul style="list-style-type: none"> <li><math>&lt;</math> 100 mg/dl</li> <li><math>&lt;</math> 130 mg/dl</li> <li><math>&lt;</math> 160 mg/dl</li> </ul> </td> </tr> </tbody> </table>	<u>Categorical Risk</u>	<u>Goal for LDL</u>	<ul style="list-style-type: none"> <li>CHD or CHD risk equivalents 10-year risk: <math>\geq</math> 20%</li> <li>2+ risk factors 10-year risk: <math>\leq</math> 20%</li> <li>0 – 1 risk factor</li> </ul>
<u>Categorical Risk</u>	<u>Goal for LDL</u>				
<ul style="list-style-type: none"> <li>CHD or CHD risk equivalents 10-year risk: <math>\geq</math> 20%</li> <li>2+ risk factors 10-year risk: <math>\leq</math> 20%</li> <li>0 – 1 risk factor</li> </ul>	<ul style="list-style-type: none"> <li><math>&lt;</math> 100 mg/dl</li> <li><math>&lt;</math> 130 mg/dl</li> <li><math>&lt;</math> 160 mg/dl</li> </ul>				
Education and risk factor modification	Educate patient/family regarding Therapeutic Lifestyle Changes (TLC): <ul style="list-style-type: none"> <li>Reduce saturated fats and cholesterol [A], increase plant stanols/sterol (e.g. cholesterol lowering margarines), increase viscous soluble fiber (e.g. oats, barley, lentils, beans)</li> <li>Decrease weight and increase exercise to moderate level of activity for 30 minutes, most days of the week [A].</li> </ul>				
	Pharmacologic interventions	<ul style="list-style-type: none"> <li>TLC and/or drug therapy may be initiated based on the LDL level and/or presence of CHD risk or CHD risk factors</li> <li>Consider drug therapy when the LDL is not at goal by 6 – 8 weeks after TLC has begun in earnest</li> <li>Statins are the most commonly used lipid-lowering agents. Liver function test monitoring is recommended for 12 weeks following treatment initiation, or dosage increases, of any statin.</li> <li>Evaluate and adjust drug therapy at 6 – 8 week intervals.</li> <li>For patients who do not reach LDL goal, consider referral to lipid specialist.</li> </ul>			

**Levels of Evidence for the most significant recommendations:** A=randomized controlled trials; B=controlled trials, no randomization; C=observational studies; D=opinion of expert panel

This guideline represents core management steps. It is based on the 2001 National Cholesterol Education Program (NCEP) Expert Panel Report on Detection, Evaluation and Treatment of High Blood Cholesterol In Adults (Adult Treatment Panel III) ([www.nhlbi.nih.gov](http://www.nhlbi.nih.gov)). Individual patient considerations and advances in medical science may supersede or modify these recommendations.

Approved by MQIC Medical Directors 08/05