



Michigan Quality Improvement Consortium Guideline

Screening and Management of Hypercholesterolemia

The following guideline recommends risk assessment, stratification, education, counseling and pharmacological interventions for the management of low-density lipoprotein cholesterol (LDL-C).

Eligible Population	Key Components	Recommendation and Level of Evidence									
<p>Males ≥ 35 years of age</p> <p>Females ≥ 45 years of age</p> <p>Males and Females age ≥ 18 years of age if risk factors</p>	<p>Risk Assessment</p>	<ul style="list-style-type: none"> ◆ Screening: Initial fasting lipid profile (i.e., total, LDL-C, HDL-C, triglycerides); If normal, repeat at least every five years. [D] ◆ Treatment is based on LDL-C, major risk factors and presence of CHD or equivalent. <p>Major Risk Factors:</p> <ul style="list-style-type: none"> ◆ Cigarette smoking ◆ Hypertension (BP ≥ 140/90) ◆ On antihypertensives, regardless of current BP levels ◆ HDL-C: < 40 (HDL-C ≥ 60 = negative risk factor) ◆ Family history (first degree) of premature CHD (men < 55 years; women < 65 years) ◆ Age (men ≥ 45 years; women ≥ 55 years) 	<p>CHD Risk Equivalents:</p> <ul style="list-style-type: none"> ◆ Other clinical forms of atherosclerotic disease (e.g., peripheral arterial disease, abdominal aortic aneurysm, and/or symptomatic carotid artery disease) ◆ Diabetes plus one additional risk factor* ◆ Multiple risk factors confer a 10-year risk for CHD > 20% ◆ CHD and CHD risk equivalents give a > 20% risk of a CHD event within 10 years 								
	<p>Risk Stratification</p>	<ul style="list-style-type: none"> ◆ Calculate short-term risk for patients with 2+ risk factors using Framingham projection of 10-year absolute risk [D] (hp2010.nhlbi.nih.net/atpiii/calculator.asp?usertype=prof): <table border="1" data-bbox="562 808 2022 992"> <thead> <tr> <th data-bbox="562 808 1230 841">Categorical Risk</th> <th data-bbox="1230 808 2022 841">Goal for LDL-C</th> </tr> </thead> <tbody> <tr> <td data-bbox="562 841 1230 899"> <ul style="list-style-type: none"> ◆ CHD or CHD risk equivalents 10-year risk: > 20% </td> <td data-bbox="1230 841 2022 899"> <p>< 100 mg/dL</p> </td> </tr> <tr> <td data-bbox="562 899 1230 958"> <ul style="list-style-type: none"> ◆ 2+ risk factors 10-year risk: ≤ 20% </td> <td data-bbox="1230 899 2022 958"> <p>< 130 mg/dL</p> </td> </tr> <tr> <td data-bbox="562 958 1230 992"> <ul style="list-style-type: none"> ◆ 0 - 1 risk factor </td> <td data-bbox="1230 958 2022 992"> <p>< 160 mg/dL</p> </td> </tr> </tbody> </table>		Categorical Risk	Goal for LDL-C	<ul style="list-style-type: none"> ◆ CHD or CHD risk equivalents 10-year risk: > 20% 	<p>< 100 mg/dL</p>	<ul style="list-style-type: none"> ◆ 2+ risk factors 10-year risk: ≤ 20% 	<p>< 130 mg/dL</p>	<ul style="list-style-type: none"> ◆ 0 - 1 risk factor 	<p>< 160 mg/dL</p>
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	<p>Education and risk factor modification</p>	<p>Educate patient/family regarding Therapeutic Lifestyle Changes (TLC):</p> <ul style="list-style-type: none"> ◆ 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), consider increasing fish consumption (Omega-3 fatty acids). ◆ Decrease weight and increase exercise to moderate level of activity for 30 minutes, most days of the week [A]. 									
	<p>Pharmacologic interventions</p>	<ul style="list-style-type: none"> ◆ Therapeutic Lifestyle Changes (TLC) for all. Drug therapy based on the LDL-C level. ◆ Statin therapy based on risks and goals, or if the LDL-C is not at goal by 3 months after TLC have begun in earnest. ◆ Statin therapy for all patients with CHD, CHD risk equivalents, regardless of baseline lipid level. When starting or raising dose, check ALT. ◆ LFT at physician discretion for patients with liver disease or risk factors. ◆ For prolonged myalgias, consider dosage reduction or statin change. ◆ Evaluate and adjust drug therapy every 3 months until goal achieved. 									

*Diabetes alone is not considered a risk equivalent. Not all national guidelines agree.

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 several sources, including: Lipid Management in Adults, Institute for Clinical Systems Improvement, 2009 (icsi.org).

Individual patient considerations and advances in medical science may supersede or modify these recommendations.

Approved by MQIC Medical Directors August 2009, 2011

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