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
Males ≥ 35 years of age Females ≥ 45 years of age Males and Females age ≥ 18 years of age if risk factors	Risk Assessment	◆ 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. **Major Risk Factors:** ◆ 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) **CHD Risk Equivalents:** ◆ 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
	Risk Stratification	◆ **Calculate short-term risk for patients with 2+ risk factors using Framingham projection of 10-year absolute risk [D] (hp2010.nhlbihin.net/atpiii/calculator.asp?usertype=prof):** Categorical Risk — Goal for LDL-C ◆ CHD or CHD risk equivalents, 10-year risk: > 20% — < 100 mg/dL ◆ 2+ risk factors, 10-year risk: ≤ 20% — < 130 mg/dL ◆ 0 - 1 risk factor — < 160 mg/dL
	Education and risk factor modification	Educate patient/family regarding Therapeutic Lifestyle Changes (TLC): ◆ 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]**.
	Pharmacologic interventions	◆ 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.