Michigan Quality Improvement Consortium Guideline

Lipid Screening and Management

July 2021

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 ≥ 20 years of age if risk factors	Risk Assessment	Screening: Initial fasting lipid profile (i.e., total, LDL-C, HDL-C, triglycerides); If in normal range, repeat at least every 4-6 years. **[D]** Treatment is based on presence of clinical atherosclerotic cardiovascular disease (ASCVD), and ASCVD risk factors. **[A]**	
		Clinical ASCVD: TIA, Stroke Angina, MI Acute Coronary Syndrome Peripheral arterial disease, aortic aneurysm Revascularization procedure	**ASCVD Risk Factors:** LDL-C ≥ 190 mg/dL and age ≥ 20, not caused by drugs or underlying medical condition Diabetes mellitus type 1 or 2, age 40-75 years of age with LDL-C 70-189 mg/dL 10-year ASCVD risk ≥ 7.5% for ages 40-75 years
	Risk Stratification	**Calculate[1] 10-year ASCVD risk for patients 40-75 years of age without clinical ASCVD, diabetes mellitus (type 1 or 2) or LDL-C ≥ 190 mg/dL [D]**	
		Statin treatment benefit group	**Statin dosing intensity**[2]
		Clinical ASCVD: Age ≤ 75 years In very high risk ASCVD (multiple events or 1 main event and multiple risk factors), if LDL-C remains ≥ 70 mg/dL, consider addition of ezetimibe to statin	High-intensity **[A]**
		Clinical ASCVD: Age > 75 years	Moderate-intensity **[D]**
		LDL-C ≥ 190 mg/dL, age ≥ 21 years If LDL-C remains ≥ 100 mg/dL, consider addition of ezetimibe to statin	High-intensity **[A]**
		Diabetes mellitus (type 1 or 2) and age 40-75 years with LDL-C 70-189 mg/dL	Moderate-intensity **[A]**, can consider high-intensity if 10-year ASCVD risk ≥ 7.5% **[D]**
		10-year ASCVD risk ≥ 7.5% and age 40-75 years	Moderate-to-high intensity **[A]**
	Education and risk factor modification	Promote a healthy lifestyle throughout life. If indicated: smoking cessation, reduce excessive alcohol **[A]** Recommend a dietary pattern that emphasizes intake of vegetables, fruits, and whole grains; includes low-fat dairy products, poultry, fish, legumes, non-tropical vegetable oils and nuts; and limits intake of sweets, sugar-sweetened beverages and red meats **[A]** Engage in at least 150 minutes per week of accumulated moderate-intensity physical activity or 75 minutes per week of vigorous-intensity **[B]**	
	Pharmacologic interventions	Women of childbearing age who are treated with statins should be counseled to use a reliable form of contraception and to stop the statin 1-2 months before pregnancy is attempted. Assess adherence and LDL-C percentage response to therapy with repeat lipid measurement 4-12 weeks after statin initiation or dose adjustment. Obtain baseline ALT. If normal, no routine monitoring for patients on statin therapy is required. LFT at physician discretion for patients with abnormal baseline ALT, liver disease or risk factors. For prolonged myalgias, consider dosage reduction or statin change. Check creatine kinase (CK) only if symptomatic muscle aches/weakness. For patient > 75 years, statin use should be at patient/physician discretion. If statins not tolerated, consider alternate medical therapy including ezetimibe or PCSK9 inhibitor.	

[1]ACC/AHA ASCVD Risk Estimator Tool

[2]University of Michigan Ambulatory Adult Screening Management of Lipids Guidelines Table 6. Statin Dose Intensity and Equivalency Chart Table

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 Grundy SM, et.al. 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA guideline on the management of blood cholesterol: executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation*. 2019; 139:e1046-e1081. and based on Arnett DK, et.al., 2019 ACC/AHA guideline on the primary prevention of cardiovascular disease: executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Clinic Practice Guidelines. Circulation. 2019; 140:e563-e595. Individual patient considerations and advances in medical science may supersede or modify these recommendations.