Lippincott® NursingCenter®

November 2024
www.nursingcenter.com

Dyslipidemia: AACE/ACE Guidelines for the Management of Dyslipidemia and Prevention of Cardiovascular Disease (2017)

About the Guideline

- This guideline was authorized by the American Association of Clinical Endocrinologists (AACE) Board of Directors and the American College of Endocrinology (ACE) Board of Trustees.
- The guidelines adhere to the protocols published by the AACE and include 87 recommendations; 45 are Grade A, 18 are Grade B, 15 are Grade C, and 9 are Grade D.
- Dyslipidemia is a major risk factor for atherosclerotic cardiovascular disease (ASCVD) and ischemic cerebrovascular disease.
- This guideline is intended to assist in the diagnosis and treatment of dyslipidemia and to prevent cardiovascular disease (CVD) by providing guidance on screening, assessment of risk, and recommendations for treatment of dyslipidemia.

Key Clinical Considerations

Become familiar with the recommendations and best-practice statements provided in this guideline, especially if you work in an acute care setting.

Who should be screened?

- Screen patients for dyslipidemia by identifying their risk factors for ASCVD.
- Individuals with type 2 diabetes should be considered as high, very high, or extremely high-risk for ASCVD.
- Individuals who have had type 1 diabetes for more than 15 years or who have two other major risk factors (e.g., chronic kidney disease, intensive control for more than 5 years, poorly controlled A1C, or insulin resistance) should be considered as having high-risk type 1 diabetes.
- Determine the 10-year risk of a coronary event using either the Framingham Risk Assessment Tool, the Multi-Ethnic Study of Atherosclerosis, the Reynolds Risk Score, or the United Kingdom Prospective Diabetes Study risk engine, and perform screening annually.
- Carefully assess women's 10-year risk using the Reynolds Risk Score or the Framingham Risk Assessment Tool.
- Include elevated triglycerides in the risk assessment.
- A high-density lipoprotein cholesterol (HDL-C) greater than 60 mg/dL should reduce the risk factor by one.
- Screen for familial hypercholesterolemia when there is a history of premature myocardial infarction (MI) or death, or if family members have elevated cholesterol.
- Screen all adults over 20 years old every 5 years for dyslipidemia.
- Men over 45 and women over 55 without risk factors for ASCVD should be screened every 1 to 2 years.
- In men and women over 65 with 0 to 1 risk factor, ASCVD should be screened annually.
- The frequency of lipid testing should be based on the licensed independent practitioner's best judgment, as well as the patient's individual clinical circumstances.

Screening tests

- The fasting lipid profile is the preferred test and should include total cholesterol, low-density lipoprotein cholesterol (LDL-C), HDL-C, non-HDL-C, and triglycerides.
- Evaluation of the apolipoprotein B (apo B) and or an apo B/apo A1 ratio calculation may be useful in assessing individuals at risk and in evaluating their response to lipid-lowering therapy.
    - Apolipoprotein measurements reflect the particle concentration of LDL and all other atherogenic lipoproteins.
- Measure high-sensitivity C-reactive protein (hsCRP) to evaluate ASCVD risk in those with borderline risk and in those with intermediate or high risk who have an LDL-C of less than 130 mg/dL.
- Measure lipoprotein-associated phospholipase A2 (Lp-PLA2) to evaluate risk. This may be more specific than hsCRP.
- The measurement of inflammatory markers such as homocysteine, uric acid, and plasminogen activator inhibitor-1 have not proven beneficial.
- Measuring coronary artery calcification (CAC) may help to determine the need for aggressive treatment.
- Evaluating carotid intima media thickness (CIMT) may evaluate risk and determine need for aggressive treatment.

Treatment goals and recommendations

- Treat individuals with dyslipidemia and ASCVD risk using lifestyle changes, patient education, and medications to achieve the following goals:
    - LDL-C goal:
        - Less than 130 mg/dL for patients with low ASCVD risk.
        - Less than 100 mg/dL for patients with moderate to high ASCVD risk.
        - Less than 70 mg/dL for patients with very high ASCVD risk.
        - Less than 55 mg/dL for patients with extreme ASCVD risk.
    - HDL-C goal: greater than 40 mg/dL but as high as possible with lifestyle interventions and medications.
    - Non-HDL-C goal: 30 mg/dL higher than LDL-C goals; 25 mg/dL higher than LDL-C goals if at extreme ASCVD risk.
    - Apolipoproteins goal:
        - Less than 90 mg/dL for patients at increased risk for ASCVD.
        - Less than 80 mg/dL for those with diabetes, or those with an established ASCVD risk.
        - Less than 70 mg/dL for those at extreme risk for ASCVD.
    - Triglycerides goal: less than 150 mg/dL.
- Lifestyle changes: 30 minutes daily physical activity; muscle strengthening two times a week; diet with fruits and vegetables, grains, fish, lean meats, fiber, and limiting fats and cholesterol; smoking cessation.
- Statins: primary agent to achieve LDL-C goals.
- Fibrates: treat triglycerides greater than or equal to 500 mg/dL.
- Omega 3 fish oil: treat triglycerides greater than or equal to 500 mg/dL.
- Niacin is used as an adjunct therapy to treat elevated triglycerides.
- Bile acid sequestrants (BAS) may be considered for reducing LDL-C and apo B and increasing HDL-C, however they may increase triglycerides.
- Cholesterol absorption inhibitors: ezetimibe may be used alone or with statins.

- PCSK9 inhibitors may be used with statins to lower LDL-C in familial hypercholesterolemia.
- Combination therapy may be used if LDL-C/non-HDL-C is markedly increased or if monotherapy does not achieve the patient's goal.
- Women should be provided with treatment based on their risk, if lifestyle changes are insufficient to achieve their goal; hormone replacement therapy (HRT) is not recommended post-menopause.

Follow up

- Re-assess lipid levels 6 weeks after initiation of therapy and every 6 weeks until goals are met; continue re-assessments every 6-12 months or more thereafter.
- Assess liver transaminase levels before treatment, 3 months after niacin or fibric acid therapy is initiated, and then every 6-12 months.
- Assess creatinine kinase levels and stop statin for complaints of myalgias or muscle weakness.

Cost-effectiveness of therapy

- The most cost-effective options are dietary management and smoking cessation.
- Medications are a cost-effective option for moderate to high-risk patients when lifestyle modifications fail.
- Cost-effectiveness of medications varies by age and gender in low-risk patients.
- Statins are cost-effective in moderate to high-risk patients and in those at low risk with LDL-C greater than or equal to 190 mg/dL.
- Fibrates are cost-effective in moderate to high-risk patients.
- Ezetimibe with statins has not been evaluated for cost-effectiveness in the United States.
- BAS are not cost-effective alternatives to statins.

Reference

Jellinger, P. S., Handelsman, Y., Rosenblit, P. D., Bloomgarden, Z. T., Fonseca, V. A., Garber, A. J., Grunberger, G., Guerin, C. K., Bell, D. S. H., Mechanick, J. I., Pessah-Pollack, R., Wyne, K., Smith, D., Brinton, E. A., Fazio, S., & Davidson, M. (2017). AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS AND AMERICAN COLLEGE OF ENDOCRINOLOGY GUIDELINES FOR MANAGEMENT OF DYSLIPIDEMIA AND PREVENTION OF CARDIOVASCULAR DISEASE. *Endocrine practice : official journal of the American College of Endocrinology and the American Association of Clinical Endocrinologists*, *23*(Suppl 2), 1–87. https://doi.org/10.4158/EP171764.APPGL. Accessed September 2018 via the Web at https://www.aace.com/files/lipid-guidelines.pdf