Guideline Summary NGC-10040

Guideline Title

Screening and management of hypercholesterolemia.

Bibliographic Source(s)

Michigan Quality Improvement Consortium. Screening and management of hypercholesterolemia. Southfield (MI): Michigan Quality Improvement Consortium; 2013 Aug. 1 p.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Michigan Quality Improvement Consortium. Screening and management of hypercholesterolemia. Southfield (MI): Michigan Quality Improvement Consortium; 2011 Aug. 1 p.

Scope

Disease/Condition(s)

Hypercholesterolemia

Guideline Category

Management

Risk Assessment

Screening

Treatment

Clinical Specialty

Cardiology

Family Practice

Internal Medicine

Intended Users

Advanced Practice Nurses

Health Plans

Physician Assistants

Physicians

Guideline Objective(s)

- To achieve significant, measurable improvements in the screening and management of hypercholesterolemia through the development and implementation of common evidence-based clinical practice guidelines
- To design concise guidelines that are focused on key management components of hypercholesterolemia to improve outcomes

Target Population

- Males ≥35 years of age
- Females ≥45 years of age
- Males and females ≥18 years of age with risk factors

Interventions and Practices Considered

Screening/Risk Assessment

1. Initial fasting lipid profile (i.e., total cholesterol, low-density lipoprotein cholesterol [LDL-C], high-density lipoprotein cholesterol [HDL-C], triglycerides)
2. Assessment of major risk factors and coronary heart disease (CHD) risk factors
3. Calculation of short-term risk using Framingham projection of 10-year absolute risk

Management/Treatment

1. Patient/family education including risk factor modification by therapeutic lifestyle changes (TLC)
2. Pharmacologic intervention (statin therapy), with regular evaluation and dosage adjustment
3. Evaluation of liver function

Major Outcomes Considered

Not stated

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The Michigan Quality Improvement Consortium (MQIC) health care analyst conducts a search of current literature in support of the guideline topic. Computer database searches are used to identify published studies, existing protocols and/or national guidelines on the selected topic developed by organizations such as the American Diabetes Association, American Heart Association, American Academy of Pediatrics, etc. If available, clinical practice guidelines from participating MQIC health plans and Michigan health systems are also used to develop a framework for the new guideline.

For this guideline update, the University of Michigan Health System, Institute for Clinical Systems Improvement (ICSI), National Heart, Lung and Blood Institute (NHLBI), United States Preventive Services Task Force (USPSTF), and PubMed databases were searched from 2011 to 2013. No inclusion/exclusion criteria or time limitation were used. Specific search terms included Framingham, lipid screening, HDL, and LDL.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

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

Methods Used to Analyze the Evidence

Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Using information obtained from literature searches and available health plan guidelines on the designated topic, the Michigan Quality Improvement Consortium (MQIC) health care analyst prepares a draft guideline to be reviewed by the Medical Directors' Committee at one of their scheduled meetings. Priority is given to recommendations with [A] and [B] levels of evidence (see the "Rating Scheme for the Strength of the Evidence" field).

The initial draft guideline is reviewed, evaluated, and revised by the committee resulting in draft two of the guideline. Additionally, the Michigan Academy of Family Physicians participates in guideline development at the onset of the process and throughout the guideline development procedure. The MQIC guideline feedback form and draft two of the guideline are distributed to the medical directors, as well as the MQIC measurement and implementation group members, for review and comments. Feedback from members is collected by the MQIC health care analyst and prepared for review by the Medical Directors' Committee at their next scheduled meeting. The review, evaluation, and revision process with several iterations of the guideline may be repeated over several meetings before consensus is reached on a final draft guideline.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

When consensus is reached on the final draft guideline, the medical directors approve the guideline for external distribution to practitioners with review and comments requested via the Michigan Quality Improvement Consortium (MQIC) health plans (health care analyst distributes final draft to Medical Directors' Committee, measurement and implementation groups to solicit feedback).

The MQIC health care analyst also forwards the approved guideline draft to appropriate state medical specialty societies and physicians with expertise in the related field for their input. After all feedback is received from external reviews, it is presented for discussion at the next scheduled committee meeting. Based on feedback, subsequent guideline review, evaluation, and revision may be required prior to final guideline approval.

The MQIC Medical Directors approved this updated guideline in August 2013.

Recommendations

Major Recommendations

The level of evidence grades (**A**–**D**) are provided for the most significant recommendations and are defined at the end of the "Major Recommendations" field.

Risk Assessment

- Screening: Initial fasting lipid profile (i.e., total, low-density lipoprotein cholesterol [LDL-C], high-density lipoprotein cholesterol [HDL-C], triglycerides); if in normal range, repeat at least every five years. **[D]**
- Treatment is based on LDL-C, major risk factors, and presence of coronary heart disease (CHD) or equivalent.

Major Risk Factors

- Cigarette smoking
- Diabetes mellitus
- Hypertension (blood pressure [BP] ≥140/90), or on antihypertensives
- HDL-C: <40 (HDL-C ≥60=negative risk factor)
- Family history (first degree) of premature CHD
- 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)
- 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 the Framingham projection of 10-year absolute risk **[D]** (http://cvdrisk.nhlbi.nih.gov/calculator.asp):

Categorical Risk	Goal for LDL-C
CHD or ≥2 risk factors and 10-year risk: >10%	<100 mg/dL
≥2 risk factors and 10-year risk: ≤10%	<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

- 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 alanine transaminase (ALT).
- Liver function tests (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. If statins not tolerated or ineffective, consider alternate medical therapy.

Definitions:

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

Clinical Algorithm(s)

None provided

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence is provided for the most significant recommendations (see the "Major Recommendations" field).

This guideline is based on several sources, including: Lipid Management in Adults, Institute for Clinical Systems Improvement, Twelfth Edition, November 2011 (www.icsi.org).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Through a collaborative approach to developing and implementing common clinical practice guidelines and performance measures for hypercholesterolemia, Michigan health plans will achieve consistent delivery of evidence-based services and better health outcomes. This approach also will augment the practice environment for physicians by reducing the administrative burdens imposed by compliance with diverse health plan guidelines and associated requirements.

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

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

Implementation of the Guideline

Description of Implementation Strategy

Approved Michigan Quality Improvement Consortium (MQIC) guidelines are disseminated through email, U.S. mail, and websites.

The MQIC health care analyst prepares approved guidelines for distribution. Portable Document Format (PDF) versions of the guidelines are used for distribution.

The MQIC health care analyst distributes approved guidelines to MQIC membership via email.

The MQIC health care analyst submits request to website vendor to post approved guidelines to MQIC website (www.mqic.org).

The MQIC health care analyst completes an annual statewide postcard mailing to physicians in all areas of medicine including primary care and specialties. The postcard provides the complete list of MQIC guidelines and includes which guidelines have been recently revised, which are coming up for revision, and any new published guidelines.

The statewide mailing list is derived from the Blue Cross Blue Shield of Michigan (BCBSM) provider database. Approximately 95% of the state's M.D.'s and 96% of the state's D.O.'s are included in the database.

The MQIC health care analyst submits request to the National Guideline Clearinghouse (NGC) to post approved guidelines to NGC website (www.guideline.gov).

Implementation Tools

Mobile Device Resources

Quick Reference Guides/Physician Guides

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

This guideline is based on several sources, including: Lipid Management in Adults, Institute for Clinical Systems Improvement, Twelfth Edition, November 2011 (www.icsi.org).

Date Released

2003 Aug (revised 2013 Aug)

Guideline Developer(s)

Michigan Quality Improvement Consortium - Professional Association

Source(s) of Funding

Michigan Quality Improvement Consortium

Guideline Committee

Michigan Quality Improvement Consortium Medical Directors' Committee

Composition of Group That Authored the Guideline

Physician representatives from the 13 participating Michigan Quality Improvement Consortium health plans, Michigan State Medical Society, Michigan Osteopathic Association, Michigan Association of Health Plans, Michigan Department of Community Health, Michigan Peer Review Organization, and the University of Michigan Health System

Financial Disclosures/Conflicts of Interest

Standard disclosure is requested from all individuals participating in the Michigan Quality Improvement Consortium (MQIC) guideline development process, including those parties who are solicited for guideline feedback (e.g., health plans, medical specialty societies). Additionally, members of the MQIC Medical Directors' Committee are asked to disclose all commercial relationships as well.

Guideline Status

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This guideline updates a previous version: Michigan Quality Improvement Consortium. Screening and management of hypercholesterolemia. Southfield (MI): Michigan Quality Improvement Consortium; 2011 Aug. 1 p.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the Michigan Quality Improvement Consortium Web site.

Availability of Companion Documents

The following are available:

- Adult treatment panel (ATP) III cholesterol management implementation tool for Palm OS. Electronic version: Available from the Michigan Quality Improvement Consortium (MQIC) Web site.
- ATP III guidelines at-a-glance quick desk reference. National Institutes of Health (NIH). 2001 May. 6 p. Electronic version: Available from the MQIC Web site.
- National Heart, Lung, and Blood Institute (NHLBI) assessment tool: estimating your 10-year risk of having a heart attack. Electronic version: Available from the MQIC Web site.

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI on April 14, 2004. The information was verified by the guideline developer on July 27, 2004. This NGC summary was update by ECRI on November 28, 2005. The updated information was verified by the guideline developer on December 19, 2005. This NGC summary was updated by ECRI Institute on March 4, 2008. The updated information was verified by the guideline developer on March 12, 2008. This NGC summary was updated by ECRI Institute on June 3, 2010. The updated information was verified by the guideline developer on June 28, 2010. This summary was updated by ECRI Institute on June 27, 2011 following the U.S. Food and Drug Administration advisory on Zocor (simvastatin). This NGC summary was updated by ECRI Institute on December 22, 2011. The updated information was verified by the guideline developer on January 9, 2012. This summary was updated by ECRI Institute on April 13, 2012 following the U.S. Food and Drug Administration advisories on Statin Drugs and Statins and HIV or Hepatitis C drugs. This NGC summary was updated by ECRI Institute on January 15, 2014. The updated information was verified by the guideline developer on February 11, 2014.

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