



Guideline for Disease Management in Correctional Settings

HYPERLIPIDEMIA

Recommended Resources to Support Evidence-Based Practice and Quality Improvement

NCCHC issues guidelines to assist correctional health care clinicians in evidence-based decision making. For specific clinical practice guidelines and recommendations, please see the resources listed on page 3.

Introduction

Although clinical guidelines are important decision support for evidence-based practice, to leverage the potential of guidelines to improve patient outcomes and resource use, NCCHC recommends that health care delivery systems also have components including primary care teams, other decision support at the point of care (such as reminders), disease registries, and patient self-management support. These components have been shown to improve outcomes for patients with chronic conditions. In addition, we recommend establishment of a strategic quality management program that supports ongoing evaluation and improvement activities focused on a set of measures that emphasize outcomes as well as process and practice. For information on the chronic care model, model for improvement, and outcomes measures, see the resources listed on page 3.

Hyperlipidemia Care in Corrections

The general approach to the management of hyperlipidemia is organized into four components:

- Assessment and monitoring of disease severity and control to reduce cardiovascular risk
- Patient education and self-management about the disease process, lifestyle modifications, and medication use
- Mitigation of comorbidities that increase cardiovascular risk such as diabetes, hypertension, smoking, and HAART treatment of HIV disease, as well as management of existing coronary artery disease, stroke, and peripheral vascular disease
- Medications including statins

Screening for early detection of high blood lipids is recommended by two major national organizations, the National Cholesterol Education Program (NCEP) and the U.S. Preventive Services Task Force (USPSTF). The USPSTF recommends routine screening for hyperlipidemia for men aged 35 years and older and women aged 45 years and older. The NCEP recommends baseline screening at age 20 years, then screening every 5 years thereafter. The recommended screening test is a blood lipid panel obtained after at least a 9-hour fast, and includes total cholesterol, HDL cholesterol (HDL-C), triglycerides, and LDL cholesterol (LDL-C). Screening using either the USPSTF or NCEP algorithm is appropriate.

The target of hyperlipidemia treatment is LDL-C levels. Assessment of disease severity or risk and degree of control is based on the LDL-C level in conjunction with the presence of other cardiovascular risk factors including prior history of cardiovascular disease, diabetes mellitus, hypertension, smoking, low HDL-C (less than 40 mg/dL), age above 45 years for men and above 55 years for women.

There are five risk or severity groups defined by the NCEP/ATP III (see Table 1). Classification into the two highest risk groups and the low-risk group is straightforward. The two highest risk groups almost always require at least one medication, which is usually a statin on formulary, and the low-risk group usually does not require medications unless the LDL-C is elevated (greater than 190 mg/dL).

Table 1. Risk or Severity Groups and When to Start Drug Treatment (Based on LDL-C)

Use of the NCEP classification system requires use of the Framingham risk tables. Since some clinicians may lack access to or prefer not to use those tables, we offer this simplification. We have tried to remain as consistent with NCEP recommendations as possible while making this variation of the NCEP guidelines useful to a broad range of clinicians.

Risk Status	Risk Status Criteria	When to Start Drug Treatment	Good Control/ Target Goal
Very high	<u>Coronary equivalent</u> ¹ AND one or more of: 1. Multiple major risk factors (especially diabetes mellitus) 2. Severe and poorly controlled coronary risk factors ² (especially continued smoking) 3. Multiple risk factors of the metabolic syndrome ³ 4. Acute coronary syndrome	> 100 mg/dL	< 100 mg/dL (good) < 70 mg/dL (target)
High	<u>Coronary equivalent</u> ¹ OR 3 or more coronary risk factors ²	> 100 mg/dL	< 100 mg/dL
Moderate	2 coronary risk factors ²	> 130 mg/dL	< 130 mg/dL
Low	0 or 1 coronary risk factor ²	> 190 mg/dL	< 160 mg/dL

¹ Defined as prior myocardial infarction, unstable angina, coronary artery procedure, abdominal aneurysm, carotid artery disease (CVA or TIA), diabetes mellitus
² Defined as cigarette smoking, hypertension, HDL < 40 mg/dL, male > 45 years, female > 55 years, and family history of premature CHD (CHD in first-degree relatives < 55 years if male or < 65 years if female)
³ The metabolic syndrome consists of central obesity, elevated triglycerides, low HDL-C, hypertension, and fasting hyperglycemia

Moderately high- and moderate-risk groups include persons with two risk factors, but the two groups are differentiated based on the Framingham calculated risk of a cardiovascular event in a 10-year time frame. This calculation includes total cholesterol, HDL-C, age, gender, smoking status, and blood pressure. (See Table 1 for the Framingham risk calculation table.)

As with all chronic conditions, self-management is paramount to improve outcomes and reduce morbidity and mortality. Some correctional systems are now smoke-free and provide dietary choices that have less salt, fewer calories, and less fat (total fat content less than 35%, saturated fat less than 7%). It also is important that patients are educated about healthier foods available in the commissary, regular exercise, maintenance of normal weight, smoking cessation, and adherence to medications.

Management of hyperlipidemia in the context of comorbidities such as coronary artery disease or diabetes requires a more aggressive approach to ensure that LDL-C levels remain below 100 mg/dL, and in diabetic patients below 70 mg/dL if possible. In addition, elevated LDL-C or triglyceride levels should prompt further evaluation to rule out secondary causes such as diabetes mellitus, liver disease, renal disease, hypothyroidism, and steroid drugs.

Statin medications are recommended by the NCEP as a first-line drug for elevated LDL-C and are usually sufficient to reduce LDL-C levels by at least 30% to 40% or to reach goal.

Quality Improvement Measures

The following quality improvement measures are suggested, but they are not intended to be a complete list necessary to ensure a successful hyperlipidemia management program in a correctional setting. We

recommend that the improvement measures for a patient population be reported at a facility level and at a provider or team level. These indicators should be compared over time to correlate improvement.

- Percentage of inmate-patients who have a screening fasting lipid profile that is consistent with USPSTF or NCEP recommendations
- Percentage of patients with cardiovascular disease or its equivalent (e.g., diabetes or end-stage kidney disease) on statin medications who are at their target LDL-C less than 100 mg/dL
- Percentage of patients on statin medication whose overall therapy is guided by risk factor assessment

Recommended Resources to Support Evidence-Based Practice and Quality Improvement

- RESOURCE Third Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) (May 2001)
SOURCE National Cholesterol Education Program; National Heart, Lung, and Blood Institute; National Institutes of Health
URL <http://www.nhlbi.nih.gov/guidelines/cholesterol>
- RESOURCE Health Care Guideline: Lipid Management in Adults (October 2009)
SOURCE Institute for Clinical Systems Improvement, 2007
URL http://www.icsi.org/lipid_management_3/lipid_management_in_adults_4.html
- RESOURCE Screening for Lipid Disorders in Adults (June 2008)
SOURCE U.S. Preventive Services Task Force, Agency for Healthcare Research and Quality
URL <http://www.uspreventiveservicestaskforce.org/uspstf/uspsschol.htm>
- RESOURCE Treating Cholesterol With Combination Therapy: Clinician Guide (November 2009)
SOURCE Agency for Healthcare Research and Quality
URL <http://effectivehealthcare.ahrq.gov/ehc/products/11/352/Lipids.pdf>
- RESOURCE Chronic Care Model (1998)
SOURCE Developed by Ed Wagner MD, MPH, MacColl Institute for Healthcare Innovation, Group Health Cooperative of Puget Sound, and the Improving Chronic Illness Care program; available from the Institute for Healthcare Improvement
URL <http://www.ihl.org/IHI/Topics/ChronicConditions/AllConditions/Changes>
- RESOURCE Model for Improvement (1997)
SOURCE Associates in Process Improvement; available from the Institute for Healthcare Improvement
URL <http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/HowToImprove>
- RESOURCE Measures
SOURCE Institute for Healthcare Improvement
URL <http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/Measures>
- RESOURCE HEDIS & Quality Measurement
SOURCE National Committee for Quality Assurance
URL <http://www.ncqa.org/tabid/59/Default.aspx>

<p>Last reviewed: May 2011 Updated: May 2011 Next scheduled review: May 2012 For the latest version, go to http://www.ncchc.org/resources</p>
--