Complete Summary

GUIDELINE TITLE

Long-term complications of antiretroviral therapy.

BIBLIOGRAPHIC SOURCE(S)

New York State Department of Health. Long-term complications of antiretroviral therapy. New York (NY): New York State Department of Health; 2007 May. 23 p. [45 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: New York State Department of Health. Long-term complications of antiretroviral therapy. New York (NY): New York State Department of Health; 2004. 17 p.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory information has been released.

- March 2, 2005, Crestor (rosuvastatin calcium): Revisions to the WARNINGS, DOSAGE AND ADMINISTRATION, CLINICAL PHARMACOLOGY, and PRECAUTIONS sections of the labeling.

COMPLETE SUMMARY CONTENT

** REGULATORY ALERT **
SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
CONTRAINDICATIONS
IMPLEMENTATION OF THE GUIDELINE
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

- Human immunodeficiency virus (HIV) infection
- Long-term complications of antiretroviral therapy including:
    - Metabolic complications, such as insulin resistance, impaired glucose tolerance, and diabetes; dyslipidemia; body fat changes; lactic acidosis
    - Musculoskeletal complications such as osteopenia/osteoporosis; HIV-associated avascular necrosis; myopathy/myositis

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Risk Assessment
Screening
Treatment

CLINICAL SPECIALTY

Allergy and Immunology
Endocrinology
Family Practice
Infectious Diseases
Internal Medicine
Orthopedic Surgery

INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Physician Assistants
Physicians
Public Health Departments

GUIDELINE OBJECTIVE(S)

To develop guidelines for diagnostic assessment and management of long-term complications of antiretroviral therapy

TARGET POPULATION

Human immunodeficiency virus (HIV)-infected patients with long-term complications of antiretroviral therapy

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Assessment/Screening

Metabolic Complications

1. Fasting blood glucose or random blood glucose; 2-hour glucose tolerance test; screening for diabetes
2. Fasting lipid profile
3. Depression screening; assessment for gynecomastia in men receiving highly active antiretroviral (HAART) therapy
4. Arterial or venous lactate, serum bicarbonate, arterial blood gas

Musculoskeletal Complications

1. Bone mineral density (DEXA scan); screening for other known medical causes
2. Radiographic evaluation of joint and contralateral joint
3. Serum creatinine phosphokinase (CPK) level

Management/Treatment

Metabolic Complications

Diabetes in HIV-Infected Patients

1. Lifestyle modifications including weight loss for overweight patients
2. Referral to an endocrinologist
3. Metformin and thiazolidinediones
4. Discussing risks and benefits of treatment

Dyslipidemia

1. Lifestyle modifications, such as exercise, weight loss, nutrition therapy, smoking cessation, drug addiction treatment
2. Statins (pravastatin, atorvastatin, rosuvastatin), fibrates (gemfibrozil and fenofibrate), nicotinic acid, bile sequestrants (colesevelam, ezetimibe)
3. Alternative treatments, including combination therapy

Body Fat Changes

1. Patient education
2. Good nutrition and regular exercise
3. Psychological support
4. Alternative treatment strategies

Lactic Acidosis

1. Temporary discontinuation of the entire ARV regimen
2. Consultation with HIV Specialist to determine an appropriate ARV regimen

Musculoskeletal Complications

Osteopenia and Osteoporosis

1. Counseling patients about safe home environment
2. Standard treatment including adequate dietary calcium and vitamin D, bisphosphonates, calcitonin, raloxifene, and/or estrogens

HIV-Associated Avascular Necrosis

1. Analgesic therapy
2. Referral to orthopedic surgeon
3. Surgery

Myopathy/Myositis

Serum creatinine phosphokinase (CPK) measurement if patient is symptomatic

MAJOR OUTCOMES CONSIDERED

- Risk for and incidence of complications of antiretroviral therapy
- Efficacy of management/treatment recommendations at reducing morbidity and mortality associated with long-term complications of antiretroviral therapy
- Side effects of treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)
Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Quality of Evidence for Recommendation

I. Evidence from one or more properly randomized, controlled trial

II. Evidence from one or more well-designed clinical trial without randomization; from cohort or case-controlled studies
III. Evidence from opinions of respected authorities based on clinical experience, descriptive studies, or reports of expert committees

METHODS USED TO ANALYZE THE EVIDENCE

Review
Review of Published Meta-Analyses

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

AIDS Institute clinical guidelines are developed by distinguished committees of clinicians and others with extensive experience providing care to people with HIV infection. Committees* meet regularly to assess current recommendations and to write and update guidelines in accordance with newly emerging clinical and research developments.

The Committees* rely on evidence to the extent possible in formulating recommendations. When data from randomized clinical trials are not available, Committees rely on developing guidelines based on consensus, balancing the use of new information with sound clinical judgment that results in recommendations that are in the best interest of patients.

* Current committees include:

- Medical Care Criteria Committee
- Committee for the Care of Children and Adolescents with HIV Infection
- Dental Standards of Care Committee
- Mental Health Committee
- Women's Health Committee
- Substance Use Committee
- Physician's Prevention Advisory Committee
- Pharmacy Committee

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

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

All guidelines developed by the Committee are externally peer reviewed by at least two experts in that particular area of patient care, which ensures depth and quality of the guidelines.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The quality of evidence (I-III) is defined at the end of the "Major Recommendations" field.

Clinicians should discuss with patients the potential side effects associated with highly active antiretroviral therapy (HAART) and human immunodeficiency virus (HIV) infection.

Metabolic Complications Associated with Antiretroviral (ARV) Therapy

Disorders of Glucose Metabolism: Insulin Resistance, Impaired Glucose Tolerance, and Diabetes

Clinicians should assess fasting blood glucose before initiating HAART, 3 to 6 months after initiation, and at least annually thereafter (**III**).

Clinicians should administer 75 g of oral glucose (2-hr glucose tolerance test) to distinguish between impaired glucose tolerance (glucose level $\geq$140 mg/dL 2 hours after oral glucose) and diabetes (glucose level $\geq$200 mg/dL after oral glucose) in patients with repeated borderline fasting glucose values (**III**).

Clinicians should initiate recommended treatment and lifestyle management for HIV-infected patients with glucose intolerance or diabetes (**III**).

When possible, clinicians should prescribe alternatives to a protease inhibitor (PI)-based HAART regimen in patients with preexisting glucose intolerance or diabetes.

Refer to Table 1 in the original guideline document for the risk factors for type 2 diabetes mellitus in HIV-infected patients and Table 2 for the criteria for the diagnosis of diabetes mellitus.

Key Point:

If fasting blood glucose tests are not feasible, random blood glucose values may be used as an alternative screening method. Patients with random glucose consistently <100 mg/dL do not require follow-up testing. A random glucose >140 mg/dL should prompt use of a standardized diagnostic test, such as glucose tolerance test. A random plasma glucose ≥200 mg/dL, either repeated on a subsequent day or in the presence of unequivocal hyperglycemia, meets the threshold for the diagnosis of diabetes.

Management Considerations for Diabetes in HIV-Infected Patients

Primary care clinicians should refer diabetic patients who are not responsive to medical intervention or who have symptoms and signs of worsening diabetes to an endocrinologist and/or a diabetes specialist (**III**).

Primary care clinicians who lack experience in treating diabetic patients should refer patients for evaluation by a clinician experienced in managing diabetes (**III**).

The preferred treatment for disorders of glucose metabolism in HIV-infected patients is insulin-sensitizing agents (metformin and thiazolidinediones) (**III**).

Because insulin-sensitizing agents may complicate liver function, clinicians should discuss the risks and benefits with patients (**III**).

Metformin should not be used in patients with renal failure or a history of lactic acidosis. Thiazolidinediones should be used with caution in patients with pre-existing liver disease (**I**).

Switching to a PI-sparing regimen in clinically stable patients is not recommended unless standard therapies for diabetes are unsuccessful or a change is indicated because of loss of virologic suppression.

Table
Recommendations for Patients with Diabetes

- Patient education regarding symptoms of hyperglycemia and hypoglycemia
- Maintain glycosylated hemoglobin (HbA1c) <7%
- Annual assessment for microalbuminuria*
- Maintain triglyceride levels <150 mg/dL
- Maintain low-density lipoprotein cholesterol <100 mg/dL
- Maintain blood pressure <130/80 mmHg
- Annual retinal examination by an experienced ophthalmologist
- Annual oral health examination
- Lifestyle modification (smoking and alcohol cessation, increased exercise, weight loss, and expert nutritional counseling**)
- Annual foot examination with referral to a foot specialist (orthopedic surgeon, podiatrist, vascular surgeon, or rehabilitation) when indicated and visual foot inspection at every visit for patients at high risk for developing foot conditions (e.g., patients with prior ulcer, amputation, or diabetic neuropathy)
- Aspirin therapy for patients with evidence of macrovascular disease, a family history of coronary heart disease (CHD), or a history of cigarette smoking,

Table Recommendations for Patients with Diabetes
and as secondary prevention after vascular events

For additional information, see the American Diabetes Association guidelines.

*Measurement of the albumin-to-creatinine ratio by random spot urine is preferred.

**When possible, patients should develop and maintain a nutrition plan with a Registered Dietician or Certified Diabetes Educator.

Lipid Abnormalities (Dyslipidemia)

Clinicians should monitor patients receiving ARV therapy for dyslipidemia by obtaining a fasting lipid profile before initiation of ARV therapy, between 3 and 6 months after starting or changing ARV treatment, and at least annually thereafter (**I**). More frequent monitoring may be indicated by the presence of persistent lipid elevation, cardiovascular risk factors, or cardiovascular symptoms (**III**).

If a regimen including a PI is considered for patients with preexisting hyperlipidemia or CHD, clinicians should use a PI with a low risk profile for lipid abnormalities when possible.

Clinicians should recommend lifestyle modifications, such as increased exercise, weight loss, nutrition therapy, smoking cessation, and drug addiction treatment for patients with dyslipidemia (**I**).

When a statin is indicated, clinicians should avoid using simvastatin and lovastatin in patients who are concurrently receiving PIs (**I**).

Clinicians should obtain serum liver enzymes at baseline and 4 to 6 weeks after initiating statin therapy.

Pharmacologic treatment of dyslipidemia should be guided by currently available clinical guidelines (**I**).

Refer to Table 4 in the original guideline document for major risk factors that modify low-density lipoprotein (LDL) goals.

Table Low-Density lipoprotein (LDL) and Non-High-Density Lipoprotein (HDL) Cholesterol Goals and Thresholds for Therapeutic Lifestyle Changes and Drug Therapy in Different Risk Categories				
Risk Category	**LDL Goal (mg/dL)**	**LDL Level at Which to Initiate Lifestyle Changes (mg/dL)**	**LDL Level at Which to Consider Drug Therapy (mg/dL)**	**Non-HDL Goal (mg/dL)***
Coronary heart disease (CHD)	<100	>100	≥130 (100 to	<130

Table Low-Density lipoprotein (LDL) and Non-High-Density Lipoprotein (HDL) Cholesterol Goals and Thresholds for Therapeutic Lifestyle Changes and Drug Therapy in Different Risk Categories				
Risk Category	**LDL Goal (mg/dL)**	**LDL Level at Which to Initiate Lifestyle Changes (mg/dL)**	**LDL Level at Which to Consider Drug Therapy (mg/dL)**	**Non-HDL Goal (mg/dL)***
or CHD risk equivalents: diabetes mellitus, atherosclerotic disease (coronary artery disease [CAD] or stroke), or multiple risk factors (10-year risk >20%)			129: drug optional)**	
2+ risk factors: HDL <40 mg/dL, strong family history, age >45 years, and smoking (10-year risk >20%)	<130	≥130	10-year risk: 10 to 20%: ≥130 10-year risk: <10%: ≥160	<160
0-1 risk factor***	<160	≥160	≥190 (160 to 189: LDL-lowering drug optional)	<190

Modified from the Executive Summary of the Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). Available at: www.nhlbi.nih.gov/guidelines/cholesterol/

* Non-HDL cholesterol = (total cholesterol - HDL). When LDL cannot be measured because the triglyceride level is >200 mg/dL, non-HDL cholesterol may be used as a secondary goal. The non-HDL cholesterol goal is 30 mg/dL higher than the LDL cholesterol goal.

** Some authorities recommend use of LDL-lowering drugs in this category if an LDL cholesterol level of <100 mg/dL cannot be achieved by therapeutic lifestyle changes (dietary and exercise intervention). Others prefer use of drugs that primarily modify triglycerides and HDL (e.g., nicotine acid or fibrate). Clinical judgment also may suggest deferring drug therapy in this subcategory.

*** Almost all people with 0 or 1 risk factors have a 10-year risk <10%; therefore, 10-year risk assessment in people with 0 or 1 risk factors is not necessary.

Table Choice of Drug Therapy for Dyslipidemia in HIV-Infected Patients Receiving HAART			
Lipid Abnormality	**First Choice**	**Second Choice (or if additional treatment is needed)**	**Comments**
Isolated high LDL	Statin*	Fibrate	Start with low doses of statins, and titrate upward.

Table Choice of Drug Therapy for Dyslipidemia in HIV-Infected Patients Receiving HAART			
Lipid Abnormality	**First Choice**	**Second Choice (or if additional treatment is needed)**	**Comments**
			Patients receiving PIs may be at increased risk of statin-induced myopathy.
Combined hyperlipidemia (high cholesterol and high triglycerides)	Fibrate or statin*	• If starting with fibrate, add statin* • If starting with statin*, add fibrate	Combining statin and a fibrate may increase risk for myopathy.
Isolated hypertriglyceridemia	Fibrate	Statin*	Combining statin and a fibrate may increase risk for myopathy.

Adapted, with permission, from Dube MP, Sprecher D, Henry WK, et al. Preliminary guidelines for the evaluation and management of dyslipidemia in adults infected with human immunodeficiency virus and receiving antiretroviral therapy: Recommendations of the Adult AIDS Clinical Trial Group Cardiovascular Disease Focus Group. *Clin Infect Dis* 2000;31:1216-1224.

*Statins should be dosed at bedtime. Simvastatin and lovastatin should be avoided in patients receiving PIs.

Body Fat Changes

Clinicians should educate patients receiving ARV therapy about signs and symptoms of body fat changes.

Clinicians should recommend good nutrition and regular exercise to their patients.

Clinicians should screen patients who develop changes in body fat for depression at every visit and should provide psychological support for patients who experience mood disorders secondary to body habitus changes.

Clinicians should include an assessment for gynecomastia in the physical examination of men who are receiving HAART.

Treatment of body fat changes in the absence of metabolic complications is not routinely recommended.

Lactic Acidosis

Clinicians should monitor serum lactate levels every 4 weeks for at least 3 months in patients with lactic acidosis syndrome. Routine monitoring of serum lactate levels is not indicated in asymptomatic patients.

For patients who develop symptoms of lactic acidosis syndrome and have a confirmed, elevated arterial or venous lactate level (>5 mmol/L) with normal to decreased serum bicarbonate (<20 mmol/L), clinicians should temporarily discontinue the entire ARV regimen while a diagnostic evaluation is conducted. This evaluation should include arterial blood gas determination, serum amylase and lipase levels, and serum liver enzyme levels.

Patients who are asymptomatic and experience an unexplained decrease in serum bicarbonate level (<20 mmol/L) should be re-evaluated promptly with a venous or arterial lactate level and re-determination of the serum bicarbonate level.

If the patient has a mildly elevated lactate level (2.1 to 5.0 mmol/L), the clinician should obtain a repeat lactate level and an arterial blood gas and should re-assess the patient for the presence of symptoms associated with lactic acidosis.

If the lactate level is persistently elevated (>10 mmol/L), the arterial pH is abnormal, or the patient has become symptomatic, the clinician should discontinue ARV therapy until these conditions are resolved.

When ARV therapy is restarted, the clinician should consult with an HIV Specialist to determine an appropriate regimen.

Musculoskeletal Complications Associated with ARV Therapy

Osteopenia/Osteoporosis

Routine screening of asymptomatic HIV-infected patients without traditional risk factors for osteopenia or osteoporosis is not recommended.

Clinicians should evaluate patients who are suspected of having osteoporosis with a bone mineral density test (DEXA scan).

When a patient presents with an unexpected or unusual fracture, the clinician should promptly evaluate the patient for osteopenia/osteoporosis.

Clinicians should counsel patients at risk for osteoporosis about structuring a safe home environment.

Clinicians should initiate standard treatment for HIV-infected patients with osteopenia and/or osteoporosis.

HIV-Associated Avascular Necrosis

Clinicians should radiographically evaluate patients who present with moderate to severe bone/joint pain. The contralateral joint should also be assessed.

Clinicians should prescribe analgesic therapy for patients with avascular necrosis.

Clinicians should refer patients with avascular necrosis to an orthopedic surgeon for consultation and to physical and/or occupational therapists for ongoing therapy. Surgical treatment is the only effective therapy.

Myopathy/Myositis

Measurement of serum creatinine phosphokinase (CPK) is not routinely indicated.

HIV infection may be associated with asymptomatic elevation of CPK. In this setting, serial monitoring is not indicated.

If the patient becomes symptomatic (e.g., muscle pain or weakness), CPK should be measured.

Definitions:

Quality of Evidence for Recommendation

I. Evidence from one or more properly randomized, controlled trial
II. Evidence from one or more well-designed clinical trial without randomization; from cohort or case-controlled studies
III. Evidence from opinions of respected authorities based on clinical experience, descriptive studies, or reports of expert committees

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is classified for selected recommendations (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

General Benefits

Appropriate diagnostic assessment and management of long-term complications of antiretroviral therapy in human immunodeficiency virus (HIV)-infected patients

POTENTIAL HARMS

Adverse Effects of Medication

- Lactic acidosis is a rare, yet potentially fatal, side effect associated with *metformin*. The development of metformin-related lactic acidosis is increased in patients with renal insufficiency, cardiac disease, chronic pulmonary disease, dehydration, sepsis, hypoperfusion, and advanced age. Contrast materials may temporarily compromise renal function; therefore, metformin

should be temporarily discontinued before, and withheld for at least 48 hours after, intravascular contrast administration.
- *Thiazolidinediones* have the potential to cause hepatitis and should be used with caution in patients with preexisting liver disease. Patients receiving thiazolidinediones may experience weight gain compared to patients receiving metformin.
- Combination therapy with a *statin* and *fibrate* should be used with extreme caution because of overlapping toxicity (rhabdomyolysis) profiles; the combination may also increase risk for myopathy.
- *Nicotinic acid* may cause hepatotoxicity and elevated serum glucose levels.
- *Bile acid sequestrants* (e.g., *colesevelam* or *ezetimibe*) may interfere with absorption of oral medications.

CONTRAINDICATIONS

CONTRAINDICATIONS

- *Metformin* is contraindicated in patients with serum creatinine levels above the upper limit of normal (ULN) for their age or lactic acidemia. Metformin is relatively contraindicated in the presence of hepatitis and active liver disease.
- Use of *thiazolidinediones* is contraindicated in patients with increased liver enzymes.
- Use of statins is contraindicated in patients with cholestasis or active liver disease. *Lovastatin* and *simvastatin* are contraindicated during concurrent protease inhibitor (PI) therapy.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The AIDS Institute's Office of the Medical Director directly oversees the development, publication, dissemination and implementation of clinical practice guidelines, in collaboration with The Johns Hopkins University, Division of Infectious Diseases. These guidelines address the medical management of adults, adolescents and children with HIV infection; primary and secondary prevention in medical settings; and include informational brochures for care providers and the public.

Guidelines Dissemination

Guidelines are disseminated to clinicians, support service providers and consumers through mass mailings and numerous AIDS Institute-sponsored educational programs. Distribution methods include the HIV Clinical Resource website, the Clinical Education Initiative, the AIDS Educational Training Centers (AETC) and the HIV/AIDS Materials Initiative. Printed copies of clinical guidelines are available for order from the NYSDOH Distribution Center for providers who lack internet access.

Guidelines Implementation

The HIV Clinical Guidelines Program works with other programs in the AIDS Institute to promote adoption of guidelines. Clinicians, for example, are targeted through the Clinical Education Initiative (CEI) and the AIDS Education and Training Centers (AETC). The CEI provides tailored educational programming on site for health care providers on important topics in HIV care, including those addressed by the HIV Clinical Guidelines Program. The AETC provides conferences, grand rounds and other programs that cover topics contained in AIDS Institute guidelines.

Support service providers are targeted through the HIV Education and Training initiative which provides training on important HIV topics to non-physician health and human services providers. Education is carried out across the State as well as through video conferencing and audio conferencing.

The HIV Clinical Guidelines Program also works in a coordinated manner with the HIV Quality of Care Program to promote implementation of HIV guidelines in New York State. By developing quality indicators based on the guidelines, the AIDS Institute has created a mechanism for measurement of performance that allows providers and consumers to know to what extent specific guidelines have been implemented.

Finally, best practices booklets are developed through the HIV Clinical Guidelines Program. These contain practical solutions to common problems related to access, delivery or coordination of care, in an effort to ensure that HIV guidelines are implemented and that patients receive the highest level of HIV care possible.

IMPLEMENTATION TOOLS

Personal Digital Assistant (PDA) Downloads

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

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

New York State Department of Health. Long-term complications of antiretroviral therapy. New York (NY): New York State Department of Health; 2007 May. 23 p. [45 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2004 (revised 2007 May)

GUIDELINE DEVELOPER(S)

New York State Department of Health - State/Local Government Agency [U.S.]

SOURCE(S) OF FUNDING

New York State Department of Health

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: New York State Department of Health. Long-term complications of antiretroviral therapy. New York (NY): New York State Department of Health; 2004. 17 p.

GUIDELINE AVAILABILITY

Electronic copies: Available from the New York State Department of Health AIDS Institute Web site.

AVAILABILITY OF COMPANION DOCUMENTS

This guideline is available as a Personal Digital Assistant (PDA) download from the New York State Department of Health AIDS Institute Web site.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on January 14, 2005. This NGC summary was updated by ECRI Institute on September 17, 2007.

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