



Complete Summary

GUIDELINE TITLE

ACR Appropriateness Criteria™ for iliac angioplasty.

BIBLIOGRAPHIC SOURCE(S)

Levy JM, Duszak RL, Akins EW, Bakal CW, Denny DF, Martin LG, Van Moore A, Pentecost MJ, Roberts AC, Vogelzang RL, Kent KC, Perler BA, Resnick MI, Richie J. Iliac angioplasty. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun; 215(Suppl):999-1013. [43 references]

COMPLETE SUMMARY CONTENT

- SCOPE
- METHODOLOGY - including Rating Scheme and Cost Analysis
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SCOPE

DISEASE/CONDITION(S)

Iliac artery stenosis

GUIDELINE CATEGORY

Treatment

CLINICAL SPECIALTY

Radiology
Surgery

INTENDED USERS

Health Plans
Hospitals
Managed Care Organizations

Physicians
Utilization Management

GUIDELINE OBJECTIVE(S)

To evaluate the appropriateness of percutaneous transluminal iliac angioplasty in the treatment and management of patients with iliac artery stenosis

TARGET POPULATION

Patients with iliac artery stenosis

INTERVENTIONS AND PRACTICES CONSIDERED

Iliac angioplasty

MAJOR OUTCOMES CONSIDERED

- Morbidity or mortality associated with iliac artery stenosis
- Improved care

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of recent peer-reviewed medical journals, primarily using the National Library of Medicine's MEDLINE database. The developer identified and collected the major applicable articles.

NUMBER OF SOURCE DOCUMENTS

The total number of source documents identified as the result of the literature search is not known.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Delphi Method)
Weighting According to a Rating Scheme (Scheme Not Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed to reach agreement in the formulation of the Appropriateness Criteria. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed by the participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the least to the most appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty (80) percent agreement is considered a consensus. If consensus cannot be reached by this method, the panel is convened and group consensus techniques are utilized. The strengths and weaknesses of each test or procedure are discussed and consensus reached whenever possible.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

Costs of angioplasty have been reported to be between 33% and 75% of the costs of equivalent surgical procedures.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria and the Chair of the American College of Radiology Board of Chancellors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

ACR Appropriateness Criteria™

Interventional Procedure: Iliac Angioplasty

Variant 1: Acute ischemia: viable extremity.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
<ul style="list-style-type: none"> Ambulatory prior to present illness 	8	
<ul style="list-style-type: none"> Cigarette smoker 	8	
<ul style="list-style-type: none"> Diabetes 	8	
<ul style="list-style-type: none"> Bedridden 	7	
Physical Findings		
<ul style="list-style-type: none"> Acceptable anesthetic risk 	8	
<ul style="list-style-type: none"> Chronic ischemic changes other leg 	8	
<ul style="list-style-type: none"> Not a surgical candidate 	8	
<ul style="list-style-type: none"> Blue toes affected extremity 	7	
Objective Tests		
<ul style="list-style-type: none"> Ankle-brachial index (ABI) >0.5 	8	

• Ankle-brachial index <0.5	8	
• Resting gradient ≥ 16 mm Hg (severe stenosis)	8	
• Resting gradient ≥ 7 mm Hg (moderate stenosis)	7	
Angiogram		
• Short (<5 cm) stenosis	8	
• Long stenosis (>5 cm)	8	
• Tandem lesion external iliac artery	8	
• Short occlusion (<5 cm)	7	
• Abdominal aortic aneurysm	4	
• Long occlusion (>5 cm)	No Consensus	
Angiogram-Runoff		
• Patent SFA, popliteal, 2 vessel runoff	8	
• Patent SFA, 1 vessel runoff	8	
• Patent SFA, no runoff visualized	8	
• Occluded SFA, patent profunda and runoff	8	
• Occluded SFA, patent profunda	8	

1 vessel runoff		
• Pre-op to peripheral surgical procedure	8	
• Occluded SFA, no runoff (collateral)	6	
<u>Appropriateness Criteria Scale</u> 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 2: Acute ischemia: threatened extremity.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
• Ambulatory prior to present illness	8	
• Bedridden	8	
• Diabetes	8	
• Cigarette smoker	8	
Physical Findings		
• Acceptable anesthetic risk	8	
• Not a surgical candidate	8	
• Chronic ischemic changes other leg	8	

• Blue toes affected extremity	6	
Objective Tests		
• Thigh-brachial index (TBI) >0.5	8	
• Thigh-brachial index <0.5	8	
• Resting gradient \geq 16 mm Hg (severe stenosis)	8	
• Resting gradient \geq 7 mm Hg (moderate stenosis)	8	
Angiogram		
• Short (<5 cm) stenosis	8	
• Long stenosis (>5 cm)	8	
• Tandem lesion external iliac artery	8	
• Short occlusion (< 5 cm)	8	
• Abdominal aortic aneurysm	4	
• Long occlusion (>5 cm)	No Consensus	
Angiogram-Runoff		
• Patent SFA, popliteal, 2 vessel runoff	8	
• Patent SFA, 1 vessel runoff	8	
• Patent SFA, no runoff	8	

visualized		
<ul style="list-style-type: none"> Occluded SFA, patent profunda 1 vessel runoff 	8	
<ul style="list-style-type: none"> Pre-op to peripheral surgical procedure 	8	
<ul style="list-style-type: none"> Occluded SFA, patent profunda and runoff 	8	
<ul style="list-style-type: none"> Occluded SFA, no runoff (collateral) 	6	
<u>Appropriateness Criteria Scale</u> 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 3: Chronic ischemia: mild claudication.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
<ul style="list-style-type: none"> Significantly affects lifestyle 	7	
<ul style="list-style-type: none"> Diabetes 	7	
<ul style="list-style-type: none"> Cigarette smoker-will not quit 	5	
<ul style="list-style-type: none"> No lifestyle limitations- occasional pain 	3	
<ul style="list-style-type: none"> Will follow medical regimen 	3	
Physical Findings		

• Hypertension	7	
• Not a surgical candidate	7	
• Bilateral disease	No Consensus	
Objective Tests		
• Resting gradient ≥ 16 mm Hg (severe stenosis)	8	
• Ankle-brachial index < 0.5	7	
• Ankle-brachial index > 0.5	No Consensus	
• Resting gradient ≥ 7 mm Hg (moderate stenosis)	No Consensus	
Angiogram-Abdominal Aorta		
• Aneurysm	3	
• Severe stenosis	No Consensus	
Angiogram-Iliac Artery		
• Short (< 5 cm) stenosis	7	
• Tandem lesion external iliac artery	7	
• Patent SFA, popliteal 2 vessel runoff	7	
• Patent SFA, 1 vessel runoff	7	
• Occluded SFA, patent profunda	7	

and runoff		
<ul style="list-style-type: none"> • Occluded SFA, patent profunda, 1 vessel 	7	
<ul style="list-style-type: none"> • Long stenosis (>5 cm) 	5	
<ul style="list-style-type: none"> • Short occlusion (<5 cm) 	5	
<ul style="list-style-type: none"> • Long occlusion (>5 cm) 	3	
<u>Appropriateness Criteria Scale</u> 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 4: Chronic ischemia: moderate claudication.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
<ul style="list-style-type: none"> • Significantly affects lifestyle 	8	
<ul style="list-style-type: none"> • Will follow medical regimen 	8	
<ul style="list-style-type: none"> • Diabetes 	8	
<ul style="list-style-type: none"> • Cigarette smoker-will not quit 	7	
<ul style="list-style-type: none"> • No lifestyle limitations-occasional pain 	4	
Physical Findings		
<ul style="list-style-type: none"> • Hypertension 	8	

• Not a surgical candidate	8	
• Bilateral disease	8	
Objective Tests		
• Ankle-brachial index >0.5	8	
• Ankle-brachial index <0.5	8	
• Resting gradient ≥ 16 mm Hg (severe stenosis)	8	
• Resting gradient ≥ 7 mm Hg (moderate stenosis)	7	
Angiogram-Abdominal Aorta		
• Severe stenosis	7	
• Aneurysm	4	
Angiogram-Iliac Artery		
• Short (<5 cm) stenosis	8	
• Long stenosis (>5 cm)	8	
• Tandem lesion external iliac artery	8	
• Short occlusion (<5 cm)	7	
• Long occlusion (>5 cm)	No Consensus	
Angiogram-Runoff		
• Patent SFA, popliteal 2 vessel	8	

runoff		
• Patent SFA, 1 vessel runoff	8	
• Occluded SFA, patent profunda and runoff	8	
• Occluded SFA, patent profunda, 1 vessel	8	
• Pre-op to peripheral surgical bypass	8	
<u>Appropriateness Criteria Scale</u> 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 5: Chronic ischemia: severe claudication.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
• Diabetes	8	
• Cigarette smoker – will not quit	8	
Physical Findings		
• Hypertension	8	
• Not a surgical candidate	8	
• Bilateral disease	8	
Objective Tests		

• Ankle-brachial index >0.5	8	
• Ankle-brachial index <0.5	8	
• Resting gradient \geq 16 mm Hg (severe stenosis)	8	
• Resting gradient \geq 7 mm Hg (moderate stenosis)	8	
Angiogram-Abdominal Aorta		
• Severe stenosis	8	
• Aneurysm	4	
Angiogram-Iliac Artery		
• Short (<5 cm) stenosis	8	
• Long stenosis (>5 cm)	8	
• Short occlusion (<5 cm)	8	
• Tandem lesion external iliac artery	7	
• Long occlusion (>5 cm)	No Consensus	
Angiogram-Runoff		
• Patent SFA, popliteal 2 vessel runoff	8	
• Patent SFA, 1 vessel runoff	8	
• Patent SFA, multiple	8	

trifurcation occlusion		
<ul style="list-style-type: none"> Occluded SFA, patent profunda and runoff 	8	
<ul style="list-style-type: none"> Occluded SFA, patent profunda, 1 vessel 	8	
<ul style="list-style-type: none"> Pre-op to peripheral surgical bypass 	8	
<ul style="list-style-type: none"> Occluded SFA, no runoff (collateral) 	7	
<u>Appropriateness Criteria Scale</u> 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 6: Chronic ischemia: rest pain.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
<ul style="list-style-type: none"> Ambulatory 	8	
<ul style="list-style-type: none"> Bedridden-medications control pain 	8	
Physical Findings		
<ul style="list-style-type: none"> Not a surgical candidate 	8	
<ul style="list-style-type: none"> Bilateral disease 	8	
Objective Tests		

• Thigh-brachial index >0.5	8	
• Thigh-brachial index <0.5	8	
• Resting gradient ≥ 16 mm Hg (severe stenosis)	8	
• Resting gradient ≥ 7 mm Hg (moderate stenosis)	7	
Angiogram-Abdominal Aorta		
• Severe stenosis	8	
• Aneurysm	4	
Angiogram-Iliac Artery		
• Short stenosis (<5 cm)	8	
• Long stenosis (>5 cm)	8	
• Short occlusion (<5 cm)	8	
• Tandem lesion external iliac artery	8	
• Long occlusion (>5 cm)	No Consensus	
Angiogram-Runoff		
• Patent SFA, popliteal 2 vessel runoff	8	
• Patent SFA, 1 vessel runoff	8	
• Patent SFA, multiple	8	

trifurcation occlusion		
<ul style="list-style-type: none"> Occluded SFA, patent profunda and runoff 	8	
<ul style="list-style-type: none"> Occluded SFA, patent profunda, 1 vessel 	8	
<ul style="list-style-type: none"> Occluded SFA, no runoff (collateral) 	8	
<ul style="list-style-type: none"> Pre-op to peripheral surgical bypass 	8	
<ul style="list-style-type: none"> Potential to avoid amputation in bedridden patient 	8	
<u>Appropriateness Criteria Scale</u> 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 7: Chronic ischemia: tissue loss.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
<ul style="list-style-type: none"> Ambulatory 	8	
<ul style="list-style-type: none"> Bedridden-medications control pain 	8	
Physical Findings		
<ul style="list-style-type: none"> Not a surgical candidate 	8	

• Bilateral disease	8	
Objective Tests		
• Thigh-brachial index >0.5	8	
• Thigh-brachial index <0.5	8	
• Resting gradient \geq 16 mm Hg (severe stenosis)	8	
• Resting gradient \geq 7 mm Hg (moderate stenosis)	8	
Angiogram-Abdominal Aorta		
• Severe stenosis	8	
• Aneurysm	4	
Angiogram-Iliac Artery		
• Short stenosis (<5 cm)	8	
• Long stenosis (>5 cm)	8	
• Short occlusion (<5 cm)	8	
• Tandem lesion external iliac artery	8	
• Long occlusion (>5 cm)	No Consensus	
Angiogram-Runoff		
• Patent SFA, popliteal 2 vessel runoff	8	

• Patent SFA, 1 vessel runoff	8	
• Occluded SFA, patent profunda and runoff	8	
• Occluded SFA, patent profunda, 1 vessel runoff	8	
• Pre-op to peripheral surgical bypass	8	
• Potential to change level of amputation	8	
• Patent SFA, multiple trifurcation occlusion	8	
• Occluded SFA, no runoff (collateral)	7	
• Potential to avoid amputation in bedridden patient	7	
<u>Appropriateness Criteria Scale</u> 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 8: Occluded iliac artery thrombolysis with subsequent percutaneous transluminal angioplasty.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
• Ambulatory prior to present illness	8	

• Bedridden	8	
• Acute onset/exacerbation of symptoms	8	
• Chronic symptoms	5	
• Recent surgery or bleed	2	
Physical Findings		
• Acceptable anesthetic risk	8	
• Not a surgical candidate	8	
• Chronic changes other leg	8	
Angiogram		
• Short (<5 cm) occlusion	8	
• Long (>5 cm) occlusion	7	
• Absent common femoral artery	4	
Intervention		
• Guide wire will cross lesion	8	
• Guide wire will won't cross lesion	3	
• Guide wire crosses-stent without thrombolysis	No Consensus	
Angiogram-Runoff		
• Patent SFA, popliteal 2 vessel	8	

runoff		
• Patent SFA, 1 vessel runoff	8	
• Patent SFA, no runoff seen	8	
• Occluded SFA, patent profunda and runoff	8	
• Occluded SFA, patent profunda, 1 vessel	8	
• Pre-op to peripheral surgical bypass	8	
• Occluded SFA, no runoff (collateral)	7	
<u>Appropriateness Criteria Scale</u>		
1 2 3 4 5 6 7 8 9		
1=Least appropriate 9=Most appropriate		

Summarized by the National Guideline Clearinghouse (NGC)

All patients who might benefit from iliac angioplasty present with acute or chronic lower limb ischemia. A small number (1% to 5%) of patients have narrowed arteries due to fibromuscular hyperplasia, and a like number present with anastomotic stenoses due to previous surgery. The great majority (>90%) of lesions are due to atherosclerotic disease.

Acute Ischemia

Patients with acute ischemia should be evaluated for potential angioplasty or surgery.

Chronic Ischemia

Chronic limb ischemia can be divided into seven categories: asymptomatic, mild, moderate and severe claudication, rest pain, minor and major tissue loss (see Table 2 titled "Clinical Categories of Chronic Limb Ischemia" in the original guideline document). Most patients with mild claudication and without significant

lifestyle disruption should not be offered angioplasty, as exercise and medical therapy obviate the need for invasive procedures in these cases. Patients in the remaining five categories should be further evaluated.

History and Physical Examination

The history obtained from the patient determines the severity of intermittent claudication or rest pain. Diastolic hypertension and diabetes have been shown to be factors that decrease the success rate of angioplasty.

Physical examination of patients presenting with lower extremity ischemia should include careful evaluation of peripheral pulses.

Noninvasive Testing

Both ankle-brachial indices and ultrasound can be used to assess the results of angioplasty, and to follow patients for progression of disease.

Degree of Stenosis—Pressure Gradients

Most decisions to perform angioplasty are based on symptoms, but lesion morphology and pressure gradients have been used to document medical necessity. Obviously, a mildly stenotic lesion in a patient with severe claudication should prompt a search for inflow or outflow compromise. Oblique views can often add information, as many iliac atheromatous lesions arise on the posterior wall of the vessel. Direct measurement of pressure gradients is performed in some centers and not in others. It has been shown that a resting mean pressure gradient of ≥ 16 mm Hg corresponds to a high grade (75%) iliac stenosis, while a resting mean gradient ≥ 7 mm Hg indicates moderate stenosis (50%).

Symptomatic and Anatomic Indications for Angioplasty

See the original guideline document.

CLINICAL ALGORITHM(S)

Algorithms were not developed from criteria guidelines.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate management of iliac artery stenosis with percutaneous transluminal iliac angioplasty may improve overall survival, provide freedom from acute or chronic lower limb ischemia, and improve quality of life.

POTENTIAL HARMS

Not stated

CONTRAINDICATIONS

CONTRAINDICATIONS

Patients requiring aortoiliac surgery due to aneurysm or aortic occlusive disease and patients with iliac artery aneurysms are not candidates for iliac angioplasty. Blue toe syndrome has been considered a contraindication, but angioplasty may alleviate the syndrome in some cases. Long and/or recent occlusions of the artery have been considered contraindications to angioplasty in the past, but recent evidence suggests that results in these circumstances are acceptable in many cases. Even though lists of indications and contraindications have been developed, it is important to assess each patient on an individual basis, given the specific risk/benefit of the procedure, as well as the wishes of the patient.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

Even though lists of indications and contraindications have been developed, it is important to assess each patient on an individual basis, given the specific risk/benefit of the procedure, as well as the wishes of the patient.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Levy JM, Duszak RL, Akins EW, Bakal CW, Denny DF, Martin LG, Van Moore A, Pentecost MJ, Roberts AC, Vogelzang RL, Kent KC, Perler BA, Resnick MI, Richie J. Iliac angioplasty. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun; 215(Suppl):999-1013. [43 references]

ADAPTATION

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

DATE RELEASED

1996 (revised 1999)

GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

SOURCE(S) OF FUNDING

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria™.

GUIDELINE COMMITTEE

American College of Radiology Appropriateness Criteria™ Committee, Expert Panel on Interventional Radiology.

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Panel Members: Jonathan M. Levy, MD; Richard L. Duszak, Jr., MD; E. William Akins, MD; Curtis W. Bakal, MD; Donald F. Denny, Jr., MD; Louis G. Martin, MD; Arl Van Moore, Jr., MD; Michael J. Pentecost, MD; Anne C. Roberts, MD; Robert L. Vogelzang, MD; K. Craig Kent, MD; Bruce A. Perler, MD; Martin I. Resnick, MD; Jerome Richie, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline. It is a revision of a previously issued version (Appropriateness Criteria for iliac angioplasty. Reston [VA]: American College of Radiology [ACR]; 1996. 15 p.)

An update is not in progress at this time.

The American College of Radiology Appropriateness Criteria™ are reviewed after five years, if not sooner, depending upon introduction of new and highly significant scientific evidence. The next review date for this topic is 2004.

GUIDELINE AVAILABILITY

Electronic copies: Available (in Portable Document Format [PDF]) from the [American College of Radiology \(ACR\) Web site](#).

Print copies: Available from ACR, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on March 28, 2002. The information was verified by the guideline developer on May 28, 2002.

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Date Modified: 11/8/2004

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