# **Complete Summary**

#### **GUIDELINE TITLE**

American Association of Clinical Endocrinologists medical guidelines for clinical practice for the management of diabetes mellitus. Screening and diagnosis.

# **BIBLIOGRAPHIC SOURCE(S)**

AACE Diabetes Mellitus Clinical Practice Guidelines Task Force. AACE diabetes mellitus guidelines. Screening and diagnosis. Endocr Pract 2007 May-Jun;13(Suppl 1):10-2. [5 references]

## **GUIDELINE STATUS**

This is the current release of the guideline.

This guideline updates a previously published version: American Association of Clinical Endocrinologists, American College of Endocrinology. Medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update. Endocr Pract 2002 Jan-Feb;8(Suppl 1):40-82.

# **COMPLETE SUMMARY CONTENT**

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# **SCOPE**

## DISEASE/CONDITION(S)

Diabetes mellitus, including:

- Type 1 diabetes
- Type 2 diabetes
- Gestational diabetes

## **GUIDELINE CATEGORY**

Diagnosis Risk Assessment Screening

## **CLINICAL SPECIALTY**

Cardiology
Endocrinology
Family Practice
Internal Medicine
Nursing
Nutrition
Obstetrics and Gynecology
Preventive Medicine

## **INTENDED USERS**

Advanced Practice Nurses Dietitians Nurses Physician Assistants Physicians

# **GUIDELINE OBJECTIVE(S)**

To provide clinicians with clear and accessible guidelines to care for patients with diabetes mellitus

## **TARGET POPULATION**

Children, adolescents, and adults with or at risk of developing diabetes mellitus

## INTERVENTIONS AND PRACTICES CONSIDERED

- 1. Assessment of risk factors for prediabetes, diabetes mellitus and gestational diabetes
- 2. Screening for prediabetes, diabetes mellitus and gestational diabetes (fasting plasma glucose or 2-hour oral glucose tolerance test)

# **MAJOR OUTCOMES CONSIDERED**

- Plasma glucose concentration: fasting, 2-hour postchallenge load
- Incidence of prediabetes, diabetes mellitus and gestational diabetes mellitus

## **METHODOLOGY**

## METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)

# **DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE**

References were obtained by performing a computerized search of the literature using PubMed and other search engines; scanning incoming journals in the medical library; and reviewing references in publications relevant to diabetes including review articles, leading textbooks, and syllabi from national and international meetings.

## **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 Substantiation in Evidence-Based Medicine<sup>a</sup>

Level-of- Evidence Category <sup>b</sup>	Study Design or Information Type	Comments
1	Randomized controlled trials	Well-conducted, well-controlled trials at 1 or more medical centers
	Multicenter trials  Large meta-analyses  with quality ratings	Data derived from a substantial number of trials with adequate power; substantial number of subjects and outcome data  Consistent pattern of findings in the population for which the recommendation is made – generalizable results  Compelling nonexperimental, clinically obvious evidence (e.g., use of insulin in diabetic ketoacidosis); "all or none" evidence
2	Randomized controlled trials  Prospective cohort studies  Meta-analyses of cohort studies  Case-control studies	Limited number of trials, small number of subjects  Well-conducted studies  Inconsistent findings or results not representative for the target population

Level-of- Evidence Category <sup>b</sup>	Study Design or Information Type	Comments
3	Methodologically flawed randomized controlled trials	Trials with 1 or more major or 3 or more minor methodologic flaws
	Nonrandomized	Uncontrolled or poorly controlled trials
	controlled trials	Retrospective or observational data
	Observational studies	Conflicting data with weight of evidence unable to support a final recommendation
	Case series or case reports	
4	Expert consensus	Inadequate data for inclusion in level-of- evidence categories 1, 2, or 3; data
	Expert opinion based on experience	necessitates an expert panel's synthesis of the literature and a consensus
	Theory-driven conclusions	
	Unproven claims	
	Experience-based information	

<sup>&</sup>lt;sup>a</sup>Adapted from the American Association of Clinical Endocrinologists Protocol for the Standardized Production of Clinical Practice Guidelines.

### METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

# **DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE**

The American Association of Clinical Endocrinologists (AACE) Task force members reviewed selected reports and studies and rated the clinical evidence from these sources.

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

**Expert Consensus** 

# DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

When possible, clinical recommendations put forth in the clinical practice guideline have been assigned a letter grade (A-D) based on the level of scientific

<sup>&</sup>lt;sup>b</sup>Level-of-evidence categories 1 through 3 indicate scientific substantiation or proof; level-of-evidence category 4 indicates unproven claims.

substantiation (see "Rating Scheme for the Strength of the Recommendations"). However, when task force members determined that clinical judgment regarding a recommendation outweighed study findings or a recommendation lacked supporting studies, they assigned the final grade based on their extensive clinical experience and expertise in diabetes management. An A grade is the strongest recommendation, and a D grade is the weakest recommendation. These recommendations include subjective components such as: (a) judgment regarding whether results from a particular study are conclusive; (b) the relative weighing of positive and negative conclusive study results; (c) assignment of evidence rating when certain study methodologies are controversial; (d) the impact of risk-benefit analysis; (e) the impact of cost-effectiveness; (f) assessment of geographical differences in practice standards and availability of certain technologies; (g) assessment of ethnic, racial, and genetic differences in pathophysiology; (h) incorporation of patient preferences; and (i) incorporation of physician preferences.

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

#### Recommendation Grades in Evidence-Based Medicine<sup>a</sup>

Grade	Description
	Homogeneous evidence from multiple well-designed randomized controlled trials with sufficient statistical power
	Homogeneous evidence from multiple well-designed cohort controlled trials with sufficient statistical power
	≥1 conclusive level of evidence category 1 publications demonstrating benefit >> outweighs risk
	Evidence from at least one large well-designed clinical trial, cohort or case-controlled analytic study, or meta-analysis
	No conclusive level of evidence category 1 publication; $\geq$ 1 conclusive level of evidence category 2 publications demonstrating benefit $>>$ risk
	Evidence based on clinical experience, descriptive studies, or expert consensus opinion
	No conclusive level 1 or 2 publication; $\geq 1$ conclusive level of evidence category 3 publications demonstrating benefit $>>$ risk
	No conclusive risk at all and no conclusive benefit demonstrated by evidence
D	Not rated
	No conclusive level of evidence category 1, 2, or 3 publication demonstrating benefit >> risk
	Conclusive level of evidence category 1, 2, or 3 publication demonstrating risk >> benefit

<sup>&</sup>lt;sup>a</sup>Adapted from the American Association of Clinical Endocrinologists Protocol for the Standardized Production of Clinical Practice Guidelines.

## **COST ANALYSIS**

Published cost analyses were reviewed.

#### METHOD OF GUIDELINE VALIDATION

Peer Review

## **DESCRIPTION OF METHOD OF GUIDELINE VALIDATION**

A separate panel composed of American Association of Clinical Endocrinologists members with expertise in diabetes reviewed the compiled report. Final recommendations included in this clinical practice guideline represent a consensus among the task force members and have been approved by reviewers, the AACE Publications and Executive Committees, and the AACE Board of Directors.

# **RECOMMENDATIONS**

## **MAJOR RECOMMENDATIONS**

The levels of evidence (1 to 4) and the recommendation grades (A to D) are defined at the end of the "Major Recommendations" field.

- Annually screen all individuals 30 years or older who are at risk for having or developing type 2 diabetes mellitus (*grade B*) (See Table 2.1 below for a list of risk factors and Table 2.2 for clinical interpretations of plasma glucose concentrations)
- Use 1 of the 3 diagnostic criteria presented in the Table 2.3 to diagnose diabetes mellitus (*grade B*)
- American College of Endocrinology/American Association of Clinical Endocrinologists does not recommend using HbA<sub>1c</sub> measurement to diagnose diabetes mellitus (grade C)
- Screen all pregnant women for gestational diabetes mellitus (GDM) (grade A); women at low risk should be screened at 24 to 28 weeks' gestation; women at high risk should be screened at 20 weeks' gestation (grade B) (See Table 2.4 for Gestational Diabetes Mellitus (GDM) risk factors and Table 2.5 for diagnostic criteria using a 75-g oral glucose tolerance test).

## Table 2.1 Risk Factors for Prediabetes and Diabetes Mellitus

Risk Factors
Family history of diabetes
Cardiovascular disease
Overweight or obese state
Sedentary lifestyle
Latino/Hispanic, Non-Hispanic black, Asian American, Native American, or Pacific

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Islander ethnicity

Previously identified impaired glucose tolerance or impaired fasting glucose

Hypertension

Increased levels of triglycerides, low concentrations of high-density lipoprotein cholesterol, or both

History of gestational diabetes

History of delivery of an infant with a birth weight >9 pounds

Polycystic ovary syndrome

Psychiatric illness

**Table 2.2 Clinical Interpretations of Plasma Glucose Concentrations** 

Glucose Concentration, mg/dL	Clinical Interpretation
Fasting	
<100	Within the reference range
100-125	Impaired fasting glucose/prediabetes mellitus
<u>&gt;</u> 126	Overt diabetes mellitus
2-hour postchallenge load (75-g o	ral glucose tolerance test)
<140	Within the reference range
140-199	Impaired fasting glucose/prediabetes mellitus
<u>&gt;</u> 200	Overt diabetes mellitus

Table 2.3 Diagnostic Criteria for Diabetes Mellitus<sup>a</sup>

Diagnostic Criteria
Symptoms of diabetes (polyuria, polydipsia, unexplained weight loss) plus casual plasma glucose concentration ≥200 mg/dL
or
Fasting plasma glucose concentration ≥126 mg/dL
or
2-hour postchallenge glucose concentration ≥200 mg/dL during a 75-g oral glucose tolerance test

<sup>a</sup>One of the 3 criteria listed is sufficient to establish the diagnosis of diabetes mellitus. These assessments should be confirmed by repeated testing on a subsequent day in the absence of unequivocal hyperglycemia.

Table 2.4 Risk Factors for Gestational Diabetes Mellitus

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> 25 years of age

Overweight or obese state

Family history of diabetes mellitus (i.e., in a first-degree relative)

History of abnormal glucose metabolism

History of poor obstetric outcome

History of delivery of an infant with a birth weight >9 pounds

History of polycystic ovary syndrome

Latino/Hispanic, non-Hispanic black, Asian American, Native American, or Pacific Islander ethnicity

Fasting (no energy intake for at least 8 hours) plasma glucose concentration >85 mg/dL or 2-hour postprandial glucose concentration >140 mg/dL (indicates need to perform a 75-g oral glucose tolerance test)

Table 2.5 Diagnostic Criteria for Gestational Diabetes Mellitus Using a 75g Oral Glucose Tolerance Test<sup>a</sup>

State at Plasma Glucose Measurement	Plasma Glucose Concentration, mg/dL
Fasting	>95
1-hour postglucose administration	>180
2-hour postglucose administration	>155

 $<sup>^{\</sup>circ}$ Two or more of the listed venous plasma glucose concentrations must be met or exceeded for a positive diagnosis. The test should be performed after an overnight fast of 8 to 14 hours and after at least 3 days of unrestricted diet (i.e.,  $\geq$ 150 g carbohydrate per day) and unlimited physical activity.

## **Definitions:**

# Levels of Substantiation in Evidence-Based Medicine<sup>a</sup>

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Level-of-	Study Design or	Comments
Evidence	Information Type	
Category <sup>b</sup>	/ /	
1	Randomized controlled trials	Well-conducted, well-controlled trials at 1 or more medical centers
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Level-of- Evidence Category <sup>b</sup>	Study Design or Information Type	Comments
		Consistent pattern of findings in the population for which the recommendation is made – generalizable results
		Compelling nonexperimental, clinically obvious evidence (e.g., use of insulin in diabetic ketoacidosis); "all or none" evidence
2	Randomized controlled trials	Limited number of trials, small number of subjects
	Prospective cohort studies	Well-conducted studies
		Inconsistent findings or results not representative for the target population
	Case-control studies	
3	Methodologically flawed randomized controlled trials	Trials with 1 or more major or 3 or more minor methodologic flaws
	Nonrandomized	Uncontrolled or poorly controlled trials
	controlled trials	Retrospective or observational data
	Observational studies	Conflicting data with weight of evidence unable to support a final recommendation
	Case series or case reports	
4	Expert consensus	Inadequate data for inclusion in level-of- evidence categories 1, 2, or 3; data
	Expert opinion based on experience	necessitates an expert panel's synthesis of the literature and a consensus
	Theory-driven conclusions	
	Unproven claims	
	Experience-based information	

<sup>&</sup>lt;sup>a</sup>Adapted from the American Association of Clinical Endocrinologists Protocol for the Standardized Production of Clinical Practice Guidelines.

# Recommendation Grades in Evidence-Based Medicine<sup>a</sup>

<sup>&</sup>lt;sup>b</sup>Level-of-evidence categories 1 through 3 indicate scientific substantiation or proof; level-of-evidence category 4 indicates unproven claims.

Grade	Description
	Homogeneous evidence from multiple well-designed randomized controlled trials with sufficient statistical power
	Homogeneous evidence from multiple well-designed cohort controlled trials with sufficient statistical power
	≥1 conclusive level of evidence category 1 publications demonstrating benefit >> outweighs risk
В	Evidence from at least one large well-designed clinical trial, cohort or case-controlled analytic study, or meta-analysis
	No conclusive level of evidence category 1 publication; $\geq$ 1 conclusive level of evidence category 2 publications demonstrating benefit $>>$ risk
С	Evidence based on clinical experience, descriptive studies, or expert consensus opinion
	No conclusive level 1 or 2 publication; $\geq 1$ conclusive level of evidence category 3 publications demonstrating benefit $>>$ risk
	No conclusive risk at all and no conclusive benefit demonstrated by evidence
	Not rated
	No conclusive level of evidence category 1, 2, or 3 publication demonstrating benefit >> risk
	Conclusive level of evidence category 1, 2, or 3 publication demonstrating risk >> benefit

<sup>&</sup>lt;sup>a</sup>Adapted from the American Association of Clinical Endocrinologists Protocol for the Standardized Production of Clinical Practice Guidelines.

# **CLINICAL ALGORITHM(S)**

None provided

# **EVIDENCE SUPPORTING THE RECOMMENDATIONS**

# TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

# BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

# **POTENTIAL BENEFITS**

Intensive treatment of diabetes mellitus and conditions known to be risk factors can significantly decrease the development and/or progression of chronic complications.

## **POTENTIAL HARMS**

Not stated

# **QUALIFYING STATEMENTS**

## **QUALIFYING STATEMENTS**

- Criticism that purely evidence-based clinical practice guidelines do not reflect
  real life because subjective input is stifled or precluded is addressed to some
  extent by the American Association of Clinical Endocrinologists (AACE)
  methodology for developing the guidelines. When the task force members
  judged that subjective factors influenced the grade of a recommendation to
  an extent that outweighed the available best evidence, this logic was explicitly
  described in the detailed discussion that follows each topic section's executive
  summary. Thus, the process of developing evidence-based recommendations
  and the incorporation of subjective components are transparent to the reader.
- These methods, nevertheless, have the following shortcomings: (a) reliance on some subjective measures, which compromises reproducibility; (b) dependence on the best available evidence, even if only one study is used to formulate a recommendation grade; and (c) dependence on task force primary authors to perform a comprehensive literature search. Multiple levels of review by both AACE-credentialed and non-AACE-credentialed experts from academia and clinical practice backgrounds serve to address these predicted shortcomings.

## **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**

Living with Illness Staying Healthy

# **IOM DOMAIN**

Effectiveness Patient-centeredness

## **IDENTIFYING INFORMATION AND AVAILABILITY**

## **BIBLIOGRAPHIC SOURCE(S)**

AACE Diabetes Mellitus Clinical Practice Guidelines Task Force. AACE diabetes mellitus guidelines. Screening and diagnosis. Endocr Pract 2007 May-Jun;13(Suppl 1):10-2. [5 references]

#### **ADAPTATION**

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

# **DATE RELEASED**

2000 Jan (revised 2007)

# **GUIDELINE DEVELOPER(S)**

American Association of Clinical Endocrinologists - Medical Specialty Society American College of Endocrinology - Medical Specialty Society

# **SOURCE(S) OF FUNDING**

American Association of Clinical Endocrinologists (AACE)

## **GUIDELINE COMMITTEE**

American Association of Clinical Endocrinologists (AACE) Diabetes Mellitus Clinical Practice Guidelines Task Force

## COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Task Force Members: Helena W. Rodbard, MD, FACP, MACE (Chairperson) Medical Director, Endocrine and Metabolic Consultants Past President, American Association of Clinical Endocrinologists Past President, American College of Endocrinology, Rockville, Maryland; Lawrence Blonde, MD, FACP, FACE, Director, Ochsner Diabetes Clinical Research Unit; Section on Endocrinology, Diabetes, and Metabolic Diseases Associate Residency Program Director, Department of Internal Medicine, New Orleans, Louisiana; Susan S. Braithwaite, MD, FACP, FACE, Clinical Professor of Medicine, University of North Carolina, Division of Endocrinology, Chapel Hill, NC; Elise M. Brett, MD, FACE, Assistant Clinical Professor of Medicine; Division of Endocrinology, Diabetes, and Bone Disease; Mount Sinai School of Medicine, New York, New York; Rhoda H. Cobin, MD, MACE, Clinical Professor of Medicine; Division of Endocrinology, Diabetes, and Bone Disease; Mount Sinai School of Medicine, Immediate Past President, American College of Endocrinology, Past President, American Association of Clinical Endocrinologists, New York, New York; Yehuda Handelsman, MD, FACP, FACE, Medical Director, Metabolic Institute of America, Senior Scientific Consultant, Metabolic Endocrine Education Foundation, Tarzana, California; Richard Hellman, MD, FACP, FACE, Clinical Professor of Medicine, University of Missouri-Kansas City School of Medicine, President, American Association of Clinical Endocrinologists, North Kansas City, Missouri; Paul S. Jellinger, MD, MACE, Professor of Medicine and Voluntary Faculty, University of Miami School of Medicine, Past President, American College of Endocrinology Past President, American Association of Clinical Endocrinologists, Hollywood, Florida; Lois G. Jovanovic, MD, FACE, CEO & Chief Scientific Officer,

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# FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Dr. Lawrence Blonde reports that he has received grant/research support from Amylin Pharmaceuticals, Inc.; AstraZeneca LP; Bristol-Myers Squibb Company; Eli Lilly and Company; MannKind Corporation; Merck & Co., Inc.; Novo Nordisk Inc.; Novartis Corporation; Pfizer Inc.; and sanofi-aventis U.S. He has received speaker and consultant honoraria from Abbott Laboratories; Amylin Pharmaceuticals, Inc.; Eli Lilly and Company; GlaxoSmithKline; LifeScan, Inc.; Merck & Co., Inc.; Novartis, Novo Nordisk Inc.; Pfizer Inc.; and sanofi-aventis U.S. He has received consultant honoraria from Kos Pharmaceuticals, Inc. and U.S. Surgical. Dr. Blonde has also disclosed that his spouse is a stock shareholder of Amylin Pharmaceuticals, Inc. and Pfizer Inc., in an account that is not part of their community property.

Dr. Susan S. Braithwaite reports that she does not have any financial relationships with any commercial interests.

Dr. Elise M. Brett reports that her spouse is an employee of Novo Nordisk Inc.

Dr. Rhoda H. Cobin reports that she has received speaker honoraria from GlaxoSmithKline; Pfizer Inc.; sanofi-aventis U.S.; and Novartis and consultant honoraria from Abbott Laboratories.

Dr. Yehuda Handelsman reports that he has received speaker honoraria from Abbott Laboratories; Amylin Pharmaceuticals, Inc.; AstraZeneca LP; Bristol-Myers Squibb Company; GlaxoSmithKline; Merck & Co., Inc.; Novartis; and sanofiaventis U.S. and consultant honoraria from Abbott Laboratories; Daiichi Sankyo, Inc.; Novartis; and sanofiaventis U.S.

Dr. Richard Hellman reports that he has received speaker honoraria from Daiichi Sankyo, Inc. and Pfizer Inc. and research grants for his role as an independent contractor from Abbott Laboratories; Pfizer Inc.; and Medtronic, Inc.

Dr. Paul S. Jellinger reports that he has received speaker honoraria from Eli Lilly and Company; Merck & Co., Inc.; Novartis; Novo Nordisk Inc.; and Takeda Pharmaceuticals North America, Inc.

Dr. Lois G. Jovanovic reports that she has received research grants for her role as investigator from Eli Lilly and Company; DexCom Inc.; LifeScan, Inc.; Novo Nordisk Inc.; Pfizer Inc.; Roche Pharmaceuticals; sanofi-aventis U.S.; and Sensys Medical, Inc.

Dr. Philip Levy reports that he has received speaker honoraria from Abbott Laboratories; Amylin Pharmaceuticals, Inc.; GlaxoSmithKline; Eli Lilly and Company; Merck & Co., Inc.; Novo Nordisk Inc.; Novartis; Pfizer Inc.; and sanofiaventis U.S. and research grants from Amylin Pharmaceuticals, Inc.; MannKind Corporation; Novo Nordisk Inc.; Pfizer Inc.; and sanofiaventis U.S.

Dr. Jeffrey I. Mechanick reports that he does not have any financial relationships with any commercial interests.

Dr. Helena W. Rodbard reports that she has received consultant honoraria from Ortho-McNeil, Inc.; Pfizer Inc.; sanofi-aventis U.S.; and Takeda Pharmaceuticals North America, Inc.; speaker honoraria from Abbott; GlaxoSmithKline; Merck & Co., Inc.; Novo Nordisk; Pfizer Inc.; and sanofi-aventis U.S. and research support from Biodel, Inc. and sanofi-aventis U.S.

Dr. Farhad Zangeneh reports that he has received speaker honoraria from Eli Lilly and Company; GlaxoSmithKline; Novartis; Novo Nordisk Inc.; Pfizer Inc.; Roche Pharmaceuticals; sanofi-aventis U.S.; and Takeda Pharmaceuticals North America, Inc.

# **GUIDELINE STATUS**

This is the current release of the guideline.

This guideline updates a previously published version: American Association of Clinical Endocrinologists, American College of Endocrinology. Medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update. Endocr Pract 2002 Jan-Feb;8(Suppl 1):40-82.

## **GUIDELINE AVAILABILITY**

Electronic copies: Available in Portable Document Format (PDF) from the American Association of Clinical Endocrinologists (AACE) Web site.

Print copies: Available from the American Association of Clinical Endocrinologists (AACE), 1000 Riverside Avenue, Suite 205, Jacksonville, FL 32204.

## **AVAILABILITY OF COMPANION DOCUMENTS**

The following is available:

 American Association of Clinical Endocrinologists protocol for standardized production of clinical practice guidelines. Endocrine Pract 2004 Jul-Aug; 10(4):353-61.

Electronic copies: Available in Portable Document Format (PDF) from the American Association of Clinical Endocrinologists (AACE) Web site.

Print copies: Available from the American Association of Clinical Endocrinologists (AACE), 1000 Riverside Avenue, Suite 205, Jacksonville, FL 32204.

#### **PATIENT RESOURCES**

None available

## **NGC STATUS**

This NGC summary was completed by ECRI on March 1, 2000. The summary was verified by the guideline developer as of March 8, 2000. This summary was updated on April 16, 2002. The information was verified by the guideline developer on November 11, 2002. This summary was updated by ECRI Institute on September 27, 2007. The updated information was verified by the guideline developer on November 12, 2007.

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Date Modified: 11/3/2008

